



# IBM Spectrum Protect V7.1.6 can now replicate big data over long distances more quickly using IBM Aspera technology; IBM Spectrum Protect Snapshot V4.1.6 provides automatic allocation for IBM Spectrum Protect Virtualize target volumes

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## At a glance

IBM Spectrum Protect™ V7.1.6 (formerly IBM® Tivoli® Storage Manager) now delivers the following capabilities:

- Wide area network (WAN) high speed data transfer using IBM Aspera® technology
- Converts data to a directory-container storage pool
- Tape library management in the Spectrum Protect Operations Center
- Extends native object storage support to IBM Cleversafe®
- Delivers server-side compression for container pools
- Supports VMware Virtual Volumes

IBM Spectrum Protect Snapshot V4.1.6 (formerly IBM Tivoli Storage FlashCopy® Manager) now delivers the following capabilities:

- Snapshot-based data protection for IBM Spectrum Scale™ environments
- Automatic allocation for IBM Spectrum Virtualize™ FlashCopy target volumes

## Overview

Spectrum Protect V7.1.6 includes the following features:

- By using high speed data transfer, administrators can replicate data rapidly from one Spectrum Protect server to another faster. This capability is particularly beneficial over long distances and impaired networks, and helps to achieve disaster recovery goals for rapid off-site replication of business data.
- Converts existing file and virtual tape library (VTL)-type deduplicated storage pools to Spectrum Protect directory-container storage pools. This automated conversion function enables organizations to take advantage of the space, management, and database improvements in the new storage pools.
- Administrators can view and respond to daily tape related management tasks from within the Operations Center with a real-time understanding of tape related actions.

- Extends native object storage support for Cleversafe with its reliable and scalable storage platform. Administrators can now define Cleversafe as a target for on premises object storage pools in Spectrum Protect server.
- Contains server-side compression that adds more capacity to Spectrum Protect container pools without adding more storage.
- Supports protected VMware virtual machine disk (VMDK) sizes that are increased from 2 terabytes (TB) to 8 TB.
- Supports dynamic Microsoft™ Exchange mailbox restore.
- Spectrum Protect Operations Center includes new customizable reporting features.
- Delivers enhanced support for clustered NetAPP storage arrays running Data ONTAP.
- Supports IBM Spectrum Protect for Enterprise Resource Planning in SAP HANA environments on IBM Power<sup>(R)</sup> systems.

Spectrum Protect Snapshot V4.1.6 improves ease of use and reduces administrative costs by delivering the following features:

- Snapshot-based data protection for Spectrum Scale environments
  - Administrators can set up Spectrum Scale snapshots with data offload into a Spectrum Protect server.
- Automatic allocation of IBM Spectrum Virtualize FlashCopy target volumes
  - Administrators can define storage pools containing target volumes where the snapshots should reside and at runtime the required target volumes are automatically allocated.
- Integrated capacity reporting of snapshots for licensing purposes
- Instant snapshot restore for non-IBM storage arrays on Microsoft Windows™
- Hardware-based snapshot protection for Oracle 12c single-tenant databases

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## Key prerequisites

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

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## Planned availability date

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- June 17, 2016: Electronic availability

Availability of programs with encryption algorithm in France is subject to French government approval.

Refer to the [Availability of national languages](#) section for national language availability.

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## Description

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### **IBM Spectrum Protect V7.1.6 (formerly IBM Tivoli Storage Manager) features and benefits**

#### **Accelerates wide area network (WAN) for high speed data transfer using Aspera technology**

By using high speed data transfer, administrators can replicate data from one Spectrum Protect server to another faster. This capability is particularly beneficial over long distances and impaired networks. Spectrum Protect High Speed Data Transfer helps to achieve disaster recovery goals for rapid off-site replication of business data. Spectrum Protect servers running Linux™ on Intel™ platforms can

use this technology to replicate data over long distances at accelerated speeds. High speed data transfer performance varies based on the network infrastructure.

### **Converts data to a directory-container storage pool**

Organizations can take advantage of Spectrum Protect's deduplication and compression technology to reduce costs, increase performance, and save space even for the data that was already ingested. They can convert existing file and Virtual Tape Library (VTL) type device classes deduplicated storage pools to Spectrum Protect's directory-container storage pools. This automated conversion function enables organizations to take advantage of the space, management, and database improvements in the new storage pools to increase resource utilization and reduce total cost of ownership. The new function enables administrators to perform the following actions:

- Control and monitor activities from the Operations Center
- Manage when the conversion occurs through schedules
- Efficiently reduce source storage pool utilization to facilitate in-place conversion
- Convert multiple legacy pools to a single container pool
- Update policy destinations to reference the new container pool
- Monitor damaged backup data and identify cleanup capabilities

### **Enhances tape library management in the Operations Center**

Organizations can ease device management for Spectrum Protect administrators. Administrators can view and respond to daily tape related management tasks from within the Operations Center with a real-time understanding of tape related actions. This feature lowers administration cost by increasing administrator productivity and by replacing media management spreadsheets with an intuitive visual interface.

It includes the following capabilities:

- Tape capacity management
- Tape capacity visibility
- Tape inventory management

### **Tags virtual machines for VMware data protection**

Administrators can manually assign prescribed VMware vSphere tags to VMware virtual machines to control whether a virtual machine is included in a backup operation and, furthermore, control its retention policy. This feature lowers administration cost by increasing the VMware administrator's productivity.

### **Contains VMware vSphere Web Client integration for backup operations**

VMware administrators can initiate the backup of one or more virtual machines from the VMware vSphere Web Client using a context sensitive menu. VMware administrators are more productive and can save time to help minimize operating costs.

### **Adds client-side compression**

Spectrum Protect introduces a new compression algorithm for client-side compression when storing data in a container storage pool. LZ4 compression, a lossless data compression algorithm, allows for faster compression and decompression speeds. Improved system availability is achieved because of faster compressed and uncompressed data transfer speeds.

### **Extends native object storage support for Cleversafe with its reliable and scalable storage platform**

Administrators can provision Cleversafe object storage for use as a target for Spectrum Protect container storage pools. Cleversafe's object storage delivers the

scalability, security, availability, and cost efficiency required by your enterprise data protection solution. Spectrum Protect's powerful software-defined inline data deduplication is combined with the scalability and efficiency of Cleversafe to create an unmatched data protection solution. Previously announced support for Spectrum Protect Server Cloud Object cloud-container storage pools (object store) includes IBM Softlayer and Spectrum Scale. Administrators can now define Cleversafe as a target for on premises object storage pools in Spectrum Protect server.

### **Delivers server-side compression for container pools**

Organizations can add more capacity to Spectrum Protect container pools without adding more storage. This is achieved by a new feature to turn on inline compression for container pools using LZ4 compression, a highly efficient lossless data compression algorithm. Utilizing data compression, in addition to data deduplication, allows for further data reduction to minimize storage space requirements and associated storage costs. Initial tests have shown negligible resource impact of this compression type. The new compression can be used on both types (cloud and directory) of Spectrum Protect container pools, enabling on premises and cloud use cases.

### **VMware Virtual Volume support**

VMware Virtual Environments, leveraging VMware Virtual Volume, can reduce costs by improving resource utilization, simplifying operational tasks, and allowing for more granular fulfillment of service-level agreements. Virtual Volume support of IBM Spectrum Protect for Virtual Environments enables organizations to take advantage of this new technology while providing enterprise class data protection.

### **Supports VMware Virtual Machine Disk (VMDK) size increase from 2 terabytes (TB) to 8 TB**

Lowering management costs by simplifying the administration of VMware Virtual Environments can be achieved by managing a small number of large VMDKs rather than a large number of small VMDKs. The increased maximum size of 8 TB per protected Virtual Machine Disk enables enterprise-class data protection for large virtualized applications and databases.

### **Delivers Operations Center enhancements**

The new customizable reports in the Operations Center allow administrators to create and email statistical reporting using the automated report feature. Furthermore, administrators, using network attached storage (NAS) filers, can view much more detailed information about full and differential backup schedules and per volume backup sizes. Both features reduce Spectrum Protect administration costs by simplifying operational tasks.

### **Delivers enhanced support for clustered NetApp storage arrays running Data ONTAP**

NetApp introduced Cluster-Mode in clustered Data ONTAP version 8 to allow for increased capacity and performance scaling in order to lower costs for managing large NetApp environments. In addition to previously announced snapshot difference incremental backup based data protection, Spectrum Protect now expands Network Data Management Protocol (NDMP) and snap-mirror-to-tape based data protection for clustered NetApp storage arrays. This allows organizations to unlock potential cost savings of NetAPP Cluster-Mode, while continuing to use Spectrum Protect proven data protection. Performance improvements are also available with the increase of the tape-block size from 64K to 256K.

### **Supports Microsoft Exchange Server 2016**

Spectrum Protect Snapshot and IBM Spectrum Protect for Mail now support data protection of Microsoft Exchange Server 2016 running on physical or virtual machines. The new platform support allows organizations to protect their Microsoft Exchange Server 2016 environments, increasing system availability and realizing cost savings.

Note: The Mailbox Restore Browser is not supported when running in the Microsoft Exchange Server 2016 environment.

### **Dynamic Microsoft Exchange Server mailbox restore**

Administrators can now run fully automated Microsoft Exchange Server mailbox restore operations from full VMware virtual machine level backups, even if the Microsoft Exchange databases were moved or deleted. This function eliminates manual steps for mailbox restore operations of moved or deleted databases, which increases administrator's productivity and lowers administration costs.

### **IBM Spectrum Protect for Enterprise Resource Planning supports SAP HANA Service Pack 11**

Spectrum Protect for Enterprise Resource Planning, which supports Linux on IBM Power and Intel platforms, supports SAP HANA Service Pack 11. With this Service Pack, SAP HANA incremental and differential backups can be leveraged to lower the total cost of ownership by optimizing storage resource utilization.

### **IBM Spectrum Protect Blueprint running Linux on Power accelerates time to value**

Spectrum Protect Blueprint consists of documents or cookbooks that describe detailed reference architectures to optimize performance as well as includes scripts to speed up installation and configuration. Spectrum Protect Blueprint describes a reference architecture for Spectrum Protect running Linux on Power that can accelerate time to value for Linux on Power systems, which reduces total cost of administration.

### **New platforms for Spectrum Protect clients:**

- IBM Spectrum Protect Backup/Archive Client V7.1.6:
  - Supports Ubuntu Linux Little Endian
  - Supports Spectrum Scale V4.2 for AIX<sup>(R)</sup> and x86
- IBM Spectrum Protect for Space Management (HSM) Client V7.1.6:
  - Supports IBM AIX V7.2, Red Hat Enterprise Linux 6.7 and 7.2, SUSE Linux Enterprise Server 11SP4 and 12SP1
- IBM Spectrum Protect for Mail -- Data Protection for Microsoft Exchange Server V7.1.6:
  - Supports Microsoft Exchange Server 2016
    - Individual item-level and mailbox-level restore is limited to Microsoft Outlook Data File (.PST) targets only.
- IBM Spectrum Protect Server supports AIX V7.2 and PowerHA<sup>(R)</sup> v7.2 on IBM Power Systems<sup>TM</sup>
- IBM Spectrum Protect for Space Management for UNIX<sup>TM</sup> and Linux support for IBM Spectrum Scale V4.1.2

### **IBM Spectrum Protect Snapshot V4.1.6 (formerly IBM Tivoli FlashCopy Manager)**

#### **Instant snapshot restore for non-IBM storage arrays on Microsoft Windows**

Spectrum Protect Snapshot now includes support for hardware-based volume snapshot instant restore operations for non-IBM storage arrays, which have a Microsoft Volume Shadow Copy Service technology (VSS) hardware provider who implements the Microsoft VSS LUN resynchronization Application Programming Interface (API) IVssHardwareSnapshotProviderEx::ResyncLuns. This function, previously available only for IBM storage arrays, provides faster recovery speeds leading to increased system availability.

## **Hardware-based snapshot protection for Oracle Database 12c single-tenant databases**

Administrators can set up hardware-based snapshots for Oracle Database 12c single-tenant databases with optional, subsequent data offload into a Spectrum Protect server.

## **Snapshot-based data protection for Spectrum Scale environments**

Frequent, nondisruptive data protection leverages Spectrum Scale snapshots with offload into Spectrum Protect server. Administrators can set up Spectrum Scale snapshots on the file set level with optional, subsequent data offload into a Spectrum Protect server.

## **Automatic allocation for Spectrum Virtualize FlashCopy target volumes**

Now you get automatic allocation for Spectrum Virtualize FlashCopy target volumes in UNIX and Linux environments. When configuring Spectrum Virtualize, administrators can define storage pools containing target volumes where the snapshots should reside. At run time, when a FlashCopy operation takes place, the required target volumes are automatically allocated by IBM Spectrum Protect Snapshot. This function increases administrator's productivity through ease of use.

## **Integrated capacity reporting of snapshots for licensing purposes**

The new licensing reporting capability allows a query of the size of snapshots managed by Spectrum Protect Snapshot, which are kept within the local storage array. It can be used for planning purposes and front-end licensing compliance to minimize administration costs.

## **New platform support for Spectrum Protect Snapshot:**

- Red Hat Enterprise Linux 7
- SUSE Linux Enterprise Server 12

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## **Reference information**

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Refer to Software Announcement [ZP15-0411](#), dated September 1, 2015 for information about the following products:

- IBM Spectrum Protect (5725-W98)
- IBM Spectrum Protect Entry (5725-X11)
- IBM Spectrum Protect Extended Edition (5725-W99)
- IBM Spectrum Protect for Data Retention (5725-X15)
- IBM Spectrum Protect for Databases (5725-X01)
- IBM Spectrum Protect for Enterprise Resource Planning (5725-X03)
- IBM Spectrum Protect for Mail (5725-X02)
- IBM Spectrum Protect for SAN (5725-X18)
- IBM Spectrum Protect for Space Management (5725-X04)
- IBM Spectrum Protect for Virtual Environments (5725-X00)
- IBM Spectrum Protect HSM for Windows (5725-X14)
- IBM Spectrum Protect Suite (5725-X05)
- IBM Spectrum Protect Suite Entry (5725-X06)
- IBM Spectrum Protect Snapshot (5725-X22) (for PPA)
- IBM Spectrum Protect Snapshot (5608-AB3) (for AAS)

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## Availability of national languages

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There is only electronic availability. There is no physical media.

Description	Availability date	Language
Electronic	June 17, 2016	French, German, Italian, Spanish, Russian, English

Note 1: The following products are also available in Czech, Hungarian, and Polish:

- The client component of IBM Spectrum Protect V7.1.6
- The client component of IBM Spectrum Protect Extended Edition V7.1.6
- The client component of IBM Spectrum Protect for Data Retention V7.1.6
- The Data Protection for IBM Domino<sup>(R)</sup> component of IBM Spectrum Protect for Mail V7.1.6
- IBM Spectrum Protect HSM for Windows V7.1.6
- IBM Spectrum Protect for Space Management V7.1.6
- IBM Spectrum Protect for Virtual Environments V7.1.6

Note 2: IBM Spectrum Protect for Databases V7.1.6 does not support Russian.

Translation information, if available, can be found at the [Translation Reports](#) website.

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## Program number

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Program number	VR	Program name
5725-W98	7.1.6	IBM Spectrum Protect
5725-X11	7.1.6	IBM Spectrum Protect Entry
5725-W99	7.1.6	IBM Spectrum Protect Extended Edition
5725-X15	7.1.6	IBM Spectrum Protect for Data Retention
5725-X01	7.1.6	IBM Spectrum Protect for Databases
5725-X03	7.1.3	IBM Spectrum Protect for Enterprise Resource Planning
5725-X02	7.1.6	IBM Spectrum Protect for Mail
5725-X18	7.1.6	IBM Spectrum Protect for SAN
5725-X04	7.1.6	IBM Spectrum Protect for Space Management
5725-X00	7.1.6	IBM Spectrum Protect for Virtual Environments
5725-X12	7.1.4	IBM Spectrum Protect for Workstations
5725-X13	7.1.4	IBM Spectrum Protect for Workstations-Starter Edition
5725-Z10	7.1.6	IBM Spectrum Protect High Speed Data Transfer
5725-X14	7.1.6	IBM Spectrum Protect HSM for Windows
5725-X05	7.1.6	IBM Spectrum Protect Suite
5725-X07	7.1.6	IBM Spectrum Protect Suite-Front End

Program number	VR	Program name
5725-X06	7.1.6	IBM Spectrum Protect Suite Entry
5725-X08	7.1.6	IBM Spectrum Protect Suite Entry-Front End (for PPA)
5641-FEA	7.1.6	IBM Spectrum Protect Suite Entry-Front End (for AAS)
5725-X22	4.1.6	IBM Spectrum Protect Snapshot (for PPA)
5608-AB3	4.1.6	IBM Spectrum Protect Snapshot (for AAS)

### Product identification number

IBM Spectrum Protect Snapshot (for AAS)

Program PID number	Registration PID number	SW Subscription and Support
5608-AB3	5608-FCY	1 Year PID no charge registration number
	5608-R16	2 Year PID registration number
	5608-R13	3 Year PID registration number
	5608-R17	4 Year PID registration number
	5608-R18	5 Year PID registration number

### Education support

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on [IBM authorized training - Worldwide](#).

Contact your IBM representative for course information.

### Offering Information

Product information is available on the [IBM Offering Information](#) website.

More information is also available on the [Passport Advantage<sup>\(R\)</sup>](#) and [Passport Advantage Express<sup>\(R\)</sup>](#) website.

### Publications

Documentation in English and all available translations will be available in IBM Knowledge Center on the general availability date. The product documentation is found under the Cloud and Smarter Infrastructure category and downloadable PDF files will also be provided in [IBM Knowledge Center](#).

Spectrum Protect server documentation is being revised to focus on the preferred methods for implementing data protection solutions. Version 7.1.6 documentation includes instructions that are designed to streamline and simplify the process of implementing and managing a single-site or multisite disk solution.

Note: For this release, Spectrum Protect documentation is listed with the Tivoli family product names.



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## Services

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### Global Technology Services

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Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings for the efficient installation, implementation, or integration of this product.

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## Technical information

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### Specified operating environment

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#### Software requirements

#### Spectrum Protect supported devices

Refer to the following websites for the list of devices that are supported by Spectrum Protect (5725-W98), IBM Spectrum Protect Extended Edition (5725-W99), and IBM Spectrum Protect for Data Retention (5725-X15). Libraries that have more than 4 drives or more than 48 tape slots require a license for Spectrum Protect Extended Edition.

For Spectrum Protect supported devices for AIX<sup>®</sup>, HP-UX, Solaris, and Microsoft Windows, go to [IBM Tivoli Storage Manager Supported Devices for AIX, HP-UX, Solaris, and Windows](#) website.

For Spectrum Protect supported devices for Linux<sup>™</sup>, go to [IBM Tivoli Storage Manager Supported Devices for Linux](#) website.

#### Hardware and software requirements for Spectrum Protect V7.1 products are available at the website listed with each product below.

For Spectrum Protect, IBM Spectrum Protect Extended Edition, and IBM Spectrum Protect for Data Retention (refer to Note 1) , go to [Overview - Tivoli Storage Manager Supported Operating Systems](#) website.

For IBM Spectrum Protect for Databases, go to [IBM Spectrum Protect for Databases - All Requirements Documents](#) website.

For IBM Spectrum Protect for Enterprise Resource Planning, go to [IBM Spectrum Protect for Enterprise Resource Planning - All Requirements Documents](#) website.

For IBM Spectrum Protect for Mail, go to [IBM Spectrum Protect for Mail - All Requirements Documents](#) website.

For IBM Spectrum Protect for Space Management, go to [IBM Spectrum Protect for Space Management \(HSM\) - All Requirements Documents](#) website.

For IBM Spectrum Protect for SAN , go to [IBM Spectrum Protect for SAN](#) website.

For IBM Spectrum Protect for Virtual Environments, go to [IBM Spectrum Protect for Virtual Environments - All Requirements Doc](#) website.

For IBM Spectrum Protect for Workstations and IBM Spectrum Protect for Workstations Starter Edition, go to [IBM Spectrum Protect for Workstations V7.1.X Hardware and Software Requirements](#) website.

For IBM Spectrum Protect HSM for Windows, go to [Hardware and software requirements for IBM Spectrum Protect HSM for Windows](#) website.

For IBM Spectrum Protect Snapshot, go to [IBM Spectrum Protect Snapshot - All Requirements Documents](#) website.

For technical requirements about IBM Spectrum Protect Suite V7.1.6 and IBM Spectrum Protect Suite Entry V7.1.6, refer to the individual product websites listed above.

Note 1: Spectrum Protect V7.1, Spectrum Protect Extended Edition V7.1, and Spectrum Protect for Data Retention V7.1 have the same hardware, software, and supported device requirements.

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

### ***Companion products***

Organizations that have a SAN environment may consider purchasing IBM Spectrum Control™ in addition to Spectrum Protect. The organization can benefit from the ability to more fully manage their storage environment, including backup and recovery, management of disk performance, management of the physical network of the SAN, and logical connections between the devices.

### ***Performance considerations***

Spectrum Protect products' performance will vary depending upon your particular configuration, the client and server options, and customization.

### ***IBM Electronic Support***

The IBM Support Portal is your gateway to technical support. This includes IBM Electronic Support tools and resources, for software and hardware, to help save time and simplify support. The Electronic Support tools can help you find answers to questions, download fixes, troubleshoot, automate data collection, submit and track problems through the Service Request online tool, and build skills. All these tools are made available through your IBM support agreement. Read about the Electronic Support portfolio of tools on the [IBM Electronic Support](#) website.

You can also access the [IBM Support Portal](#) page and the online [Service requests and PMRs](#) tool for more support.

## **Planning information**

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### ***Packaging***

IBM Spectrum Protect products are distributed with:

- International Program License Agreement (Z125-3301)
- License Information document
- Electronic download, no DVD media
- Publications (refer to the [Publications](#) section)

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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IBM Spectrum Protect products use the security and auditability features of the operating systems software.

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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This IBM Workstation Software product is being announced as a dual-pipe offering, and is available for ordering by program and feature number or by part number.

When ordering by part numbers, this product can be obtained through IBM Passport Advantage. Contact your IBM representative or IBM Business Partner Reseller and Distributors for Workstation Software.

For more information, contact your IBM Sales Specialist or IBM Business Partner, or go to the [Passport Advantage](#) website.

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

Product group: Spectrum Protect

Product category: Spectrum Protect

<b>Product Identifier Descriptions</b>	<b>PID number</b>
IBM Spectrum Protect	5725-W98
IBM Spectrum Protect Entry	5725-X11
IBM Spectrum Protect Extended Edition	5725-W99
IBM Spectrum Protect for Data Retention	5725-X15
IBM Spectrum Protect for Databases	5725-X01
IBM Spectrum Protect for Enterprise Resource Planning	5725-X03
IBM Spectrum Protect for Mail	5725-X02
IBM Spectrum Protect for SAN	5725-X18
IBM Spectrum Protect for Space Management	5725-X04
IBM Spectrum Protect for Virtual Environments	5725-X00
IBM Spectrum Protect High Speed Data Transfer	5725-Z10
IBM Spectrum Protect HSM for Windows	5725-X14
IBM Spectrum Protect Suite	5725-X05
IBM Spectrum Protect Suite - Front End	5725-X07
IBM Spectrum Protect Suite Entry	5725-X06
IBM Spectrum Protect Suite Entry - Front End (for PPA)	5725-X08
IBM Spectrum Protect Suite Entry - Front End (for AAS)	5641-FEA
IBM Spectrum Protect Snapshot (for PPA)	5725-X22
IBM Spectrum Protect Snapshot (for AAS)	5608-AB3

### Passport Advantage trade up

You must have previously acquired a license for the following precursor product to be eligible to acquire an equivalent license of the trade-up product.

<b>Precursor product</b>	<b>Trade-up product</b>	<b>Trade-up part number</b>
IBM Spectrum Protect (5725-W98)	IBM Spectrum Protect Extended Edition (5725-W99) 10 Processor Value Units (PVUs) Trade Up from IBM Spectrum Protect License + SW Subscription & Support 12 Months	D1IWQLL
IBM Spectrum Protect Suite Entry (5725-X06)	IBM Spectrum Protect Suite (5725-X05) Terabyte (1-100) Trade Up from IBM Spectrum Protect Suite - Entry License + SW Subscription & Support 12 Months	D1IVWLL
IBM Spectrum Protect Suite Entry - Front End (5725-X08)	IBM Spectrum Protect Suite - Front End (5725-X07) Terabyte (1-100)	D1INJLL

Precursor product	Trade-up product	Trade-up part number
	Trade Up from IBM Spectrum Protect Suite Entry - Front End License + SW Subscription & Support 12 Months	

Consult your IBM representative if you have any questions.

### Passport Advantage customer: Entitlement details

Customers with active maintenance or subscription for the products listed are entitled to receive the corresponding electronic download. There is no longer a media pack.

Previous named product	Electronic download description
IBM Tivoli Storage Manager (5608-E01)	IBM Spectrum Protect Version 7.1.6 (5725-W98)
IBM Tivoli Storage Manager Extended Edition (5608-E02)	IBM Spectrum Protect Extended Edition Version 7.1.6 (5725-W99)
IBM System Storage <sup>(R)</sup> Archive Manager (5608-E03)	IBM Spectrum Protect for Data Retention Version 7.1.6 (5725-X15)
IBM Tivoli Storage Manager for Databases (5608-E04)	IBM Spectrum Protect for Databases Version 7.1.6 (5725-X01)
IBM Tivoli Storage Manager for Enterprise Resource Planning (5608-E05)	IBM Spectrum Protect for Enterprise Resource Planning Version 7.1.3 (5725-X03)
IBM Tivoli Storage Manager for Mail (5608-E06)	IBM Spectrum Protect for Mail Version 7.1.6 (5725-X02)
IBM Tivoli Storage Manager for Storage Area Networks (5608-E07)	IBM Spectrum Protect for SAN Version 7.1.6 (5725-X18)
IBM Tivoli Storage Manager for Virtual Environments (5725-A44)	IBM Spectrum Protect for Virtual Environments Version 7.1.6 (5725-X00)
IBM Tivoli Storage Manager for Space Management (5608-E12)	IBM Spectrum Protect for Space Management Version 7.1.6 (5725-X04)
None	IBM Spectrum Protect High Speed Data Transfer Version 7.1.6 (5725-Z10)
IBM Tivoli Storage Manager Suite for Unified Recovery (5724-Z12)	IBM Spectrum Protect Suite Version 7.1.6 (5725-X05)
IBM Tivoli Storage Manager Suite for Unified Recovery (5724-Z12)	IBM Spectrum Protect Suite - ProtecTIER <sup>(R)</sup> Option Version 7.1.6 (5725-X05)
IBM Tivoli Storage Manager Suite for Unified Recovery (5724-Z12)	IBM Spectrum Protect Suite - Archive Option Version 7.1.6 (5725-X05)
IBM Tivoli Storage Manager Suite for Unified Recovery Entry (5725-H25)	IBM Spectrum Protect Suite Entry Version 7.1.6 (5725-X06)
IBM Tivoli Storage Manager Suite for Unified Recovery - Front End (5725-R37)	IBM Spectrum Protect Suite - Front End Version 7.1.6 (5725-X07)
IBM Tivoli Storage Manager Suite for Unified Recovery Entry - Front End (5725-R38)	IBM Spectrum Protect Suite Entry - Front End Version 7.1.6 (5725-X08)
IBM Tivoli Storage Manager Entry (5725-Q58)	IBM Spectrum Protect Entry Version 7.1.6 (5725-X11)
IBM Tivoli Storage Manager HSM for Windows (5608-E13)	IBM Spectrum Protect HSM for Windows Version 7.1.6 (5725-X14)
IBM Tivoli Storage FlashCopy Manager (5724-X94)	IBM Spectrum Protect Snapshot V4.1.6 (5725-X22)

### Cross-platform product for use on z Systems<sup>TM</sup> Integrated Facility for Linux (IFL) engines or zEnterprise<sup>(R)</sup> BladeCenter Extension

Order the part numbers that follow when the product is intended to run on zEnterprise BladeCenter Extension or the Linux operating system on z Systems IFL engines. If the product is not intended to run in these environments, order from the other set of part numbers in this announcement. This set of part numbers provides the identical supply and authorization as the other set in this announcement.

<b>Program name/Description</b>	<b>Part number</b>
<b>IBM Spectrum Protect</b>	<b>5725-W98</b>
(Refer to Note 1)	
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1ISJLL
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVJLL
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1ISKLL
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1IMBLL
<b>IBM Spectrum Protect Extended Edition</b>	<b>5725-W99</b>
(Refer to Note 1)	
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IWXLL
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LWKLL
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IWYLL
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1INWLL
<b>IBM Spectrum Protect for Databases</b>	<b>5725-X01</b>
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IWBLL
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LWALL
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IWCLL
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1IRDLL

<b>Program name/Description</b>	<b>Part number</b>
<b>IBM Spectrum Protect for Mail</b>	<b>5725-X02</b>
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVDLL
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVWLL
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVELL
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1ISCLL
<b>IBM Spectrum Protect for SAN</b>	<b>5725-X18</b>
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVNLL
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LW1LL
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVPLL
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1IUULL
<b>IBM Spectrum Protect Suite</b>	<b>5725-X05</b>
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IN0LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LUNLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1IN1LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) Monthly License	D1IMGLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) License + SW Subscription & Support 12 Months	D1IN2LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LUPLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) SW Subscription & Support Reinstatement 12 Months	D1IN3LL

<b>Program name/Description</b>	<b>Part number</b>
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) Monthly License	D1IMHLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) License + SW Subscription & Support 12 Months	D1IN4LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) Annual SW Subscription & Support Renewal	E0LUQLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) SW Subscription & Support Reinstatement 12 Months	D1IN5LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) Monthly License	D1IMILL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) License + SW Subscription & Support 12 Months	D1IN6LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) Annual SW Subscription & Support Renewal	E0LURLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) SW Subscription & Support Reinstatement 12 Months	D1IN7LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) Monthly License	D1IMJLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) License + SW Subscription & Support 12 Months	D1IN8LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) Annual SW Subscription & Support Renewal	E0LUSLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) SW Subscription & Support Reinstatement 12 Months	D1IN9LL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) Monthly License	D1IMPLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) License + SW Subscription & Support 12 Months	D1INALL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) Annual SW Subscription & Support Renewal	E0LUTLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) SW Subscription & Support Reinstatement 12 Months	D1INBLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) Monthly License	D1IMQLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) License + SW Subscription & Support 12 Months	D1INCLL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) Annual SW Subscription & Support Renewal	E0LUULL
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) SW Subscription & Support Reinstatement 12 Months	D1INDLL

<b>Program name/Description</b>	<b>Part number</b>
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) Monthly License	D1IMRLL
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte License + SW Subscription & Support 12 Months	D1INTLL
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte Annual SW Subscription & Support Renewal	E0LV1LL
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte SW Subscription & Support Reinstatement 12 Months	D1INULL
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte Monthly License	D1IPBLL
<b>IBM Spectrum Protect Suite - Front End</b>	<b>5725-X07</b>
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IPSELL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LV6LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1IPTLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) Monthly License	D1IS4LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) License + SW Subscription & Support 12 Months	D1IPULL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LV7LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) SW Subscription & Support Reinstatement 12 Months	D1IPVLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) Monthly License	D1ISELL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) License + SW Subscription & Support 12 Months	D1IPWLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) Annual SW Subscription & Support Renewal	E0LV8LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) SW Subscription & Support Reinstatement 12 Months	D1IPXLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) Monthly License	D1ISFLL



<b>Program name/Description</b>	<b>Part number</b>
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) License + SW Subscription & Support 12 Months	D1IPYLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) Annual SW Subscription & Support Renewal	E0LV9LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) SW Subscription & Support Reinstatement 12 Months	D1IPZLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) Monthly License	D1IUVLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) License + SW Subscription & Support 12 Months	D1IQ0LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) Annual SW Subscription & Support Renewal	E0LVALL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) SW Subscription & Support Reinstatement 12 Months	D1IQ1LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) Monthly License	D1IV6LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) License + SW Subscription & Support 12 Months	D1IQ2LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) Annual SW Subscription & Support Renewal	E0LVBLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) SW Subscription & Support Reinstatement 12 Months	D1IQ3LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) Monthly License	D1IV7LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) License + SW Subscription & Support 12 Months	D1IQ4LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) Annual SW Subscription & Support Renewal	E0LVCLL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) SW Subscription & Support Reinstatement 12 Months	D1IQ5LL
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) Monthly License	D1IV8LL
<b>IBM Spectrum Protect High Speed Data Transfer</b>	<b>5725-Z10</b>
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install	D1LBILL

<b>Program name/Description</b>	<b>Part number</b>
License + SW Subscription & Support 12 Months	
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install Annual SW Subscription & Support Renewal	E0MEXLL
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install SW Subscription & Support Reinstatement 12 Months	D1LBJLL
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install Monthly License	D1LBLLL

Note 1: Client licenses are interchangeable between IBM Spectrum Protect and IBM Spectrum Protect Extended Edition.

### **5608-AB3 - IBM Spectrum Protect Snapshot V4.1.6**

<b>Feature description</b>	<b>Feature number</b>
Per Terabyte (1-12 ) with 1 Year SW S&S	M3WTQE
Per Terabyte (13-32) with 1 Year SW S&S	M3WUQE
Per Terabyte (33-64) with 1 Year SW S&S	M3WVQE
Per Terabyte (65-100) with 1 Year SW S&S	M3WWQE
Per Terabyte (101-250) with 1 Year SW S&S	M3WXQE
Per Terabyte (251+) with 1 Year SW S&S	M3WYQE
Per 250 Terabyte (251+) with 1 Year SW S&S	X3WYZE

### **Charge metric**

For Spectrum Protect, the quantity to be specified for the Passport Advantage part numbers is in the following tables. To order for Passport Advantage, specify the desired part number and quantity.

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect</b> (see note 1)	<b>5725-W98</b>	
IBM Spectrum Protect 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IQHLL	10 PVU
IBM Spectrum Protect 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVGLL	10 PVU
IBM Spectrum Protect 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IQJLL	10 PVU
IBM Spectrum Protect 10 Processor Value Units (PVUs) Monthly License	D1IMALL	10 PVU
IBM Spectrum Protect per zEnterprise <sup>(R)</sup> Blade Center Extension and Linux on z Systems <sup>(TM)</sup> 10 Processor Value Units (PVUs) License	D1ISJLL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
+ SW Subscription & Support 12 Months		
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVJLL	10 PVU
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1ISKLL	10 PVU
IBM Spectrum Protect per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1IMBLL	10 PVU
IBM Spectrum Protect Client Device License + SW Subscription & Support 12 Months	D1IWLLL	Client device
IBM Spectrum Protect Client Device Annual SW Subscription & Support Renewal	E0LWFL	Client device
IBM Spectrum Protect Client Device SW Subscription & Support Reinstatement 12 Months	D1IWMLL	Client device
IBM Spectrum Protect Client Device Monthly License	D1IMELL	Client device
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Extended Edition</b> (see note 1)	<b>5725-W99</b>	
IBM Spectrum Protect Extended Edition 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IWNLL	10 PVU
IBM Spectrum Protect Extended Edition 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LWGLL	10 PVU
IBM Spectrum Protect Extended Edition 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IWPLL	10 PVU
IBM Spectrum Protect Extended Edition 10 Processor Value Units (PVUs) Trade Up from IBM Spectrum Protect License + SW Subscription & Support 12 Months	D1IWQLL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Extended Edition 10 Processor Value Units (PVUs) Monthly License	D1IMFLL	10 PVU
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IWXLL	10 PVU
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LWKLL	10 PVU
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IWYLL	10 PVU
IBM Spectrum Protect Extended Edition per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1INWLL	10 PVU
IBM Spectrum Protect Extended Edition Client Device License + SW Subscription & Support 12 Months	D1IWZLL	Client device
IBM Spectrum Protect Extended Edition Client Device Annual SW Subscription & Support Renewal	E0LWLLL	Client device
IBM Spectrum Protect Extended Edition Client Device SW Subscription & Support Reinstatement 12 Months	D1IX0LL	Client device
IBM Spectrum Protect Extended Edition Client Device Monthly License	D1INXLL	Client device
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Data Retention</b>	<b>5725-X15</b>	
IBM Spectrum Protect for Data Retention Terabyte (1-12) License + SW Subscription & Support 12 Months	D1IWFLl	Per Terabyte (1-12)
IBM Spectrum Protect for Data Retention Terabyte (1-12) Annual SW Subscription & Support Renewal	E0LWCLL	Per Terabyte (1-12)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect for Data Retention Terabyte (1-12) SW Subscription & Support Reinstatement 12 Months	D1IWGLL	Per Terabyte (1-12)
IBM Spectrum Protect for Data Retention Terabyte (1-12) Monthly License	D1IP8LL	Per Terabyte (1-12)
IBM Spectrum Protect for Data Retention Terabyte (13-32) License + SW Subscription & Support 12 Months	D1IWHLL	Per Terabyte (13-32)
IBM Spectrum Protect for Data Retention Terabyte (13-32) Annual SW Subscription & Support Renewal	E0LWDLL	Per Terabyte (13-32)
IBM Spectrum Protect for Data Retention Terabyte (13-32) SW Subscription & Support Reinstatement 12 Months	D1IWILL	Per Terabyte (13-32)
IBM Spectrum Protect for Data Retention Terabyte (13-32) Monthly License	D1IP9LL	Per Terabyte (13-32)
IBM Spectrum Protect for Data Retention Terabyte (33-64) License + SW Subscription & Support 12 Months	D1IWJLL	Per Terabyte (33-64)
IBM Spectrum Protect for Data Retention Terabyte (33-64) Annual SW Subscription & Support Renewal	E0LWELL	Per Terabyte (33-64)
IBM Spectrum Protect for Data Retention Terabyte (33-64) SW Subscription & Support Reinstatement 12 Months	D1IWKLL	Per Terabyte (33-64)
IBM Spectrum Protect for Data Retention Terabyte (33-64) Monthly License	D1IPALL	Per Terabyte (33-64)
IBM Spectrum Protect for Data Retention Terabyte (65-100) License + SW Subscription & Support 12 Months	D1IWRLL	Per Terabyte (65-100)
IBM Spectrum Protect for Data Retention Terabyte (65-100) Annual SW Subscription & Support Renewal	E0LWHLL	Per Terabyte (65-100)
IBM Spectrum Protect for Data Retention Terabyte (65-100) SW Subscription & Support Reinstatement 12 Months	D1IWSLL	Per Terabyte (65-100)
IBM Spectrum Protect for Data Retention Terabyte (65-100) Monthly License	D1IQCLL	Per Terabyte (65-100)
IBM Spectrum Protect for Data Retention Terabyte (101-250) License + SW Subscription & Support 12 Months	D1IWTLL	Per Terabyte (101-250)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect for Data Retention Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LWILL	Per Terabyte (101-250)
IBM Spectrum Protect for Data Retention Terabyte (101-250) SW Subscription & Support Reinstatement 12 Months	D1IWULL	Per Terabyte (101-250)
IBM Spectrum Protect for Data Retention Terabyte (101-250) Monthly License	D1IQDLL	Per Terabyte (101-250)
IBM Spectrum Protect for Data Retention Terabyte (251+) License + SW Subscription & Support 12 Months	D1IWVLL	Per Terabyte (251+)
IBM Spectrum Protect for Data Retention Terabyte (251+) Annual SW Subscription & Support Renewal	E0LWJLL	Per Terabyte (251+)
IBM Spectrum Protect for Data Retention Terabyte (251+) SW Subscription & Support Reinstatement 12 Months	D1IWWLL	Per Terabyte (251+)
IBM Spectrum Protect for Data Retention Terabyte (251+) Monthly License	D1IRBLL	Per Terabyte (251+)
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Databases</b>	<b>5725-X01</b>	
IBM Spectrum Protect for Databases 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IWELL	10 PVU
IBM Spectrum Protect for Databases 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LWBLL	10 PVU
IBM Spectrum Protect for Databases 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IWDLL	10 PVU
IBM Spectrum Protect for Databases 10 Processor Value Units (PVUs) Monthly License	D1IRCLL	10 PVU
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IWBLL	10 PVU
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value	E0LWALL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
Units (PVUs) Annual SW Subscription & Support Renewal		
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IWCLL	10 PVU
IBM Spectrum Protect for Databases per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1IRDLL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Enterprise Resource Planning</b>	<b>5725-X03</b>	
IBM Spectrum Protect for Enterprise Resource Planning 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IV9LL	10 PVU
IBM Spectrum Protect for Enterprise Resource Planning 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVULL	10 PVU
IBM Spectrum Protect for Enterprise Resource Planning 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVALL	10 PVU
IBM Spectrum Protect for Enterprise Resource Planning 10 Processor Value Units (PVUs) Monthly License	D1IRELL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Mail</b>	<b>5725-X02</b>	
IBM Spectrum Protect for Mail 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVBLL	10 PVU
IBM Spectrum Protect for Mail 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVVLL	10 PVU
IBM Spectrum Protect for Mail 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVCLL	10 PVU
IBM Spectrum Protect for Mail 10 Processor Value	D1IRTLL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
Units (PVUs) Monthly License		
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVDLL	10 PVU
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVWLL	10 PVU
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVELL	10 PVU
IBM Spectrum Protect for Mail per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1ISCLL	10 PVU
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Workstations</b>	<b>5725-X12</b>	
IBM Spectrum Protect for Workstations 25 Client Devices License + SW Subscription & Support 12 Months	D1IVFLL	Client device
IBM Spectrum Protect for Workstations 25 Client Devices Annual SW Subscription & Support Renewal	E0LVXLL	Client device
IBM Spectrum Protect for Workstations 25 Client Devices SW Subscription & Support Reinstatement 12 Months	D1IVGLL	Client device
IBM Spectrum Protect for Workstations 25 Client Devices Monthly License	D1ISHLL	Client device
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Workstations - Starter Edition</b>	<b>5725-X13</b>	
IBM Spectrum Protect for Workstations - Starter Edition Client Device License + SW Subscription & Support 12 Months	D1IVHLL	Client device
IBM Spectrum Protect for Workstations - Starter Edition Client Device	E0LVYLL	Client device



<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
Annual SW Subscription & Support Renewal		
IBM Spectrum Protect for Workstations - Starter Edition Client Device Subscription & Support Reinstatement 12 Months	D1IVILL	Client device
IBM Spectrum Protect for Workstations - Starter Edition Client Device Monthly License	D1ISILL	Client device
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for SAN</b>	<b>5725-X18</b>	
IBM Spectrum Protect for SAN 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVJLL	10 PVU
IBM Spectrum Protect for SAN 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LVZLL	10 PVU
IBM Spectrum Protect for SAN 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVKLL	10 PVU
IBM Spectrum Protect for SAN 10 Processor Value Units (PVUs) Monthly License	D1IUHLL	10 PVU
IBM Spectrum Protect for SAN Client Device License + SW Subscription & Support 12 Months	D1IVLLL	Client device
IBM Spectrum Protect for SAN Client Device Annual SW Subscription & Support Renewal	E0LW0LL	Client device
IBM Spectrum Protect for SAN Client Device SW Subscription & Support Reinstatement 12 Months	D1IVMLL	Client device
IBM Spectrum Protect for SAN Client Device Monthly License	D1IUILL	Client device
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVNLL	10 PVU
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LW1LL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVPLL	10 PVU
IBM Spectrum Protect for SAN per zEnterprise Blade Center Extension and Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	D1IUULL	10 PVU
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Virtual Environments</b>	<b>5725-X00</b>	
IBM Spectrum Protect for Virtual Environments 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVQLL	10 PVU
IBM Spectrum Protect for Virtual Environments 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LW2LL	10 PVU
IBM Spectrum Protect for Virtual Environments 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVRLL	10 PVU
IBM Spectrum Protect for Virtual Environments 10 Processor Value Units (PVUs) Monthly License	D1IUPLL	10 PVU
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect for Space Management</b>	<b>5725-X04</b>	
IBM Spectrum Protect for Space Management 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1IVSLL	10 PVU
IBM Spectrum Protect for Space Management 10 Processor Value Units (PVUs) Annual SW Subscription & Support Renewal	E0LW3LL	10 PVU
IBM Spectrum Protect for Space Management 10 Processor Value Units (PVUs) SW Subscription & Support Reinstatement 12 Months	D1IVTLL	10 PVU
IBM Spectrum Protect for Space Management 10 Processor Value Units (PVUs) Monthly License	D1IUQLL	10 PVU

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect High Speed Data Transfer</b>	<b>5725-Z10</b>	
IBM Spectrum Protect High Speed Data Transfer per Install License + SW Subscription & Support 12 Months	D1LBGLL	per Install
IBM Spectrum Protect High Speed Data Transfer per Install Annual SW Subscription & Support Renewal	E0MEWLL	per Install
IBM Spectrum Protect High Speed Data Transfer per Install SW Subscription & Support Reinstatement 12 Months	D1LBHLL	per Install
IBM Spectrum Protect High Speed Data Transfer per Install Monthly License	D1LBKLL	per Install
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install License + SW Subscription & Support 12 Months	D1LBILL	per Install
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install Annual SW Subscription & Support Renewal	E0MEXLL	per Install
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install SW Subscription & Support Reinstatement 12 Months	D1LBJLL	per Install
IBM Spectrum Protect High Speed Data Transfer for Linux on z Systems per Install Monthly License	D1LBLLL	per Install
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Suite</b>	<b>5725-X05</b>	
IBM Spectrum Protect Suite Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IVULL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LW4LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1IVVLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Terabyte (1-100) Trade Up from IBM Spectrum Protect Suite - Entry License + SW Subscription & Support 12 Months	D1IVWLL	Per Terabyte (1-100)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Suite Terabyte (1-100) Monthly License	D1IM1LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Terabyte (101-250) License + SW Subscription & Support 12 Months	D1IVXLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LW5LL	Per Terabyte (101-250)
IBM Spectrum Protect Suite Terabyte (101-250) SW Subscription & Support Reinstatement 12 Months	D1IVYLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite Terabyte (101-250) Monthly License	D1IM2LL	Per Terabyte (101-250)
IBM Spectrum Protect Suite Terabyte (251-500) License + SW Subscription & Support 12 Months	D1IVZLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite Terabyte (251-500) Annual SW Subscription & Support Renewal	E0LW6LL	Per Terabyte (251-500)
IBM Spectrum Protect Suite Terabyte (251-500) SW Subscription & Support Reinstatement 12 Months	D1IW0LL	Per Terabyte (251-500)
IBM Spectrum Protect Suite Terabyte (251-500) Monthly License	D1IM3LL	Per Terabyte (251-500)
IBM Spectrum Protect Suite Terabyte (501-750) License + SW Subscription & Support 12 Months	D1IW1LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite Terabyte (501-750) Annual SW Subscription & Support Renewal	E0LW7LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite Terabyte (501-750) SW Subscription & Support Reinstatement 12 Months	D1IW2LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite Terabyte (501-750) Monthly License	D1IM4LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite Terabyte (751-1250) License + SW Subscription & Support 12 Months	D1IW3LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite Terabyte (751-1250) Annual SW Subscription & Support Renewal	E0LW8LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite Terabyte (751-1250) SW Subscription & Support Reinstatement 12 Months	D1IW4LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite Terabyte (751-1250) Monthly License	D1IM5LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite Terabyte (1251-2000) License +	D1IW5LL	Per Terabyte (1251-2000)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
SW Subscription & Support 12 Months		
IBM Spectrum Protect Suite Terabyte (1251-2000) Annual SW Subscription & Support Renewal	E0LW9LL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite Terabyte (1251-2000) SW Subscription & Support Reinstatement 12 Months	D1IW6LL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite Terabyte (1251-2000) Monthly License	D1IMCLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite Terabyte (2001+) License + SW Subscription & Support 12 Months	D1IMYLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite Terabyte (2001+) Annual SW Subscription & Support Renewal	E0LUMLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite Terabyte (2001+) SW Subscription & Support Reinstatement 12 Months	D1IMZLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite Terabyte (2001+) Monthly License	D1IMDLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IN0LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LUNLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1IN1LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1-100) Monthly License	D1IMGLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) License + SW Subscription & Support 12 Months	D1IN2LL	Per Terabyte (101-250)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LUPLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) SW	D1IN3LL	Per Terabyte (101-250)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
Subscription & Support Reinstatement 12 Months		
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (101-250) Monthly License	D1IMHLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) License + SW Subscription & Support 12 Months	D1IN4LL	Per Terabyte (251-500)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) Annual SW Subscription & Support Renewal	E0LUQLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) SW Subscription & Support Reinstatement 12 Months	D1IN5LL	Per Terabyte (251-500)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (251-500) Monthly License	D1IMILL	Per Terabyte (251-500)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) License + SW Subscription & Support 12 Months	D1IN6LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) Annual SW Subscription & Support Renewal	E0LURLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) SW Subscription & Support Reinstatement 12 Months	D1IN7LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (501-750) Monthly License	D1IMJLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) License + SW Subscription & Support 12 Months	D1IN8LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) Annual SW Subscription & Support Renewal	E0LUSLL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) SW	D1IN9LL	Per Terabyte (751-1250)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
Subscription & Support Reinstatement 12 Months		
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (751-1250) Monthly License	D1IMPLL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) License + SW Subscription & Support 12 Months	D1INALL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) Annual SW Subscription & Support Renewal	E0LUTLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) SW Subscription & Support Reinstatement 12 Months	D1INBLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (1251-2000) Monthly License	D1IMQLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) License + SW Subscription & Support 12 Months	D1INCLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) Annual SW Subscription & Support Renewal	E0LUULL	Per Terabyte (2001+)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) SW Subscription & Support Reinstatement 12 Months	D1INDLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) Monthly License	D1IMRLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - ProtecTIER <sup>(R)</sup> Option Terabyte License + SW Subscription & Support 12 Months	D1IMKLL	Per Terabyte
IBM Spectrum Protect Suite - ProtecTIER Option Terabyte Annual SW Subscription & Support Renewal	E0LUKLL	Per Terabyte
IBM Spectrum Protect Suite - ProtecTIER Option Terabyte SW Subscription & Support Reinstatement 12 Months	D1IMLLL	Per Terabyte
IBM Spectrum Protect Suite - ProtecTIER Option Terabyte Monthly License	D1INELL	Per Terabyte

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Suite - Archive Option Terabyte License + SW Subscription & Support 12 Months	D1IMMLL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option Terabyte Annual SW Subscription & Support Renewal	E0LULLL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option Terabyte SW Subscription & Support Reinstatement 12 Months	D1IMNLL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option Terabyte Monthly License	D1INVLL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte License + SW Subscription & Support 12 Months	D1INTLL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte Annual SW Subscription & Support Renewal	E0LV1LL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte SW Subscription & Support Reinstatement 12 Months	D1INULL	Per Terabyte
IBM Spectrum Protect Suite - Archive Option per Linux on z Systems Terabyte Monthly License	D1IPBLL	Per Terabyte
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Suite Entry</b>	<b>5725-X06</b>	
IBM Spectrum Protect Suite Entry Terabyte (1-100) License + SW Subscription & Support 12 Months	D1INFLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Entry Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LUVLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Entry Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1INGLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Entry Terabyte (1-100) Monthly License	D1IPCLL	Per Terabyte (1-100)
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Suite - Front End</b>	<b>5725-X07</b>	



<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Suite - Front End Terabyte (1-100) License + SW Subscription & Support 12 Months	D1INHLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LUWLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1INILL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End Terabyte (1-100) Trade Up from IBM Spectrum Protect Suite Entry - Front End License + SW Subscription & Support 12 Months	D1INJLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End Terabyte (1-100) Monthly License	D1IPGLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End Terabyte (101-250) License + SW Subscription & Support 12 Months	D1INKLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LUXLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End Terabyte (101-250) SW Subscription & Support Reinstatement 12 Months	D1INLLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End Terabyte (101-250) Monthly License	D1IPHLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End Terabyte (251-500) License + SW Subscription & Support 12 Months	D1INMLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End Terabyte (251-500) Annual SW Subscription & Support Renewal	E0LUYLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End Terabyte (251-500) SW Subscription & Support Reinstatement 12 Months	D1INNLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End Terabyte (251-500) Monthly License	D1IPILL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End Terabyte (501-750) License + SW Subscription & Support 12 Months	D1INPLL	Per Terabyte (501-750)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Suite - Front End Terabyte (501-750) Annual SW Subscription & Support Renewal	E0LUZLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End Terabyte (501-750) SW Subscription & Support Reinstatement 12 Months	D1INQLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End Terabyte (501-750) Monthly License	D1IPJLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End Terabyte (751-1250) License + SW Subscription & Support 12 Months	D1INRLL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End Terabyte (751-1250) Annual SW Subscription & Support Renewal	E0LV0LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End Terabyte (751-1250) SW Subscription & Support Reinstatement 12 Months	D1INSLL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End Terabyte (751-1250) Monthly License	D1IPKLL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End Terabyte (1251-2000) License + SW Subscription & Support 12 Months	D1IPNLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End Terabyte (1251-2000) Annual SW Subscription & Support Renewal	E0LV4LL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End Terabyte (1251-2000) SW Subscription & Support Reinstatement 12 Months	D1IPPLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End Terabyte (1251-2000) Monthly License	D1IPLLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End Terabyte (2001+) License + SW Subscription & Support 12 Months	D1IPQLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - Front End Terabyte (2001+) Annual SW Subscription & Support Renewal	E0LV5LL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - Front End Terabyte (2001+) SW Subscription & Support Reinstatement 12 Months	D1IPRLL	Per Terabyte (2001+)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Suite - Front End Terabyte (2001+) Monthly License	D1IPMLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IPSLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LV6LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1IPTLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) Monthly License	D1IS4LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) License + SW Subscription & Support 12 Months	D1IPULL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) Annual SW Subscription & Support Renewal	E0LV7LL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) SW Subscription & Support Reinstatement 12 Months	D1IPVLL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (101-250) Monthly License	D1ISELL	Per Terabyte (101-250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) License + SW Subscription & Support 12 Months	D1IPWLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) Annual SW Subscription & Support Renewal	E0LV8LL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) SW Subscription & Support Reinstatement 12 Months	D1IPXLL	Per Terabyte (251-500)
IBM Spectrum Protect Suite - Front End per Linux	D1ISFLL	Per Terabyte (251-500)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
on z Systems Terabyte (251-500) Monthly License		
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) License + SW Subscription & Support 12 Months	D1IPYLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) Annual SW Subscription & Support Renewal	E0LV9LL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) SW Subscription & Support Reinstatement 12 Months	D1IPZLL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (501-750) Monthly License	D1IUULL	Per Terabyte (501-750)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) License + SW Subscription & Support 12 Months	D1IQ0LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) Annual SW Subscription & Support Renewal	E0LVALL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) SW Subscription & Support Reinstatement 12 Months	D1IQ1LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (751-1250) Monthly License	D1IV6LL	Per Terabyte (751-1250)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) License + SW Subscription & Support 12 Months	D1IQ2LL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) Annual SW Subscription & Support Renewal	E0LVBLL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1251-2000) SW Subscription & Support Reinstatement 12 Months	D1IQ3LL	Per Terabyte (1251-2000)
IBM Spectrum Protect Suite - Front End per Linux	D1IV7LL	Per Terabyte (1251-2000)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
on z Systems Terabyte (1251-2000) Monthly License		
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) License + SW Subscription & Support 12 Months	D1IQ4LL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) Annual SW Subscription & Support Renewal	E0LVCLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) SW Subscription & Support Reinstatement 12 Months	D1IQ5LL	Per Terabyte (2001+)
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (2001+) Monthly License	D1IV8LL	Per Terabyte (2001+)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Suite Entry - Front End</b>	<b>5725-X08</b>	
IBM Spectrum Protect Suite Entry - Front End Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IQ6LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Entry - Front End Terabyte (1-100) Annual SW Subscription & Support Renewal	E0LVDLL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Entry - Front End Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months	D1IQ7LL	Per Terabyte (1-100)
IBM Spectrum Protect Suite Entry - Front End Terabyte (1-100) Monthly License	D1IPDLL	Per Terabyte (1-100)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Entry</b>	<b>5725-X11</b>	
IBM Spectrum Protect Entry Managed Server License + SW Subscription & Support 12 Months	D1IQ8LL	Per Managed Server
IBM Spectrum Protect Entry Managed Server Annual SW Subscription & Support Renewal	E0LVELL	Per Managed Server
IBM Spectrum Protect Entry Managed Server SW Subscription & Support Reinstatement 12 Months	D1IQ9LL	Per Managed Server

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
IBM Spectrum Protect Entry Managed Server Monthly License	D1IPELL	Per Managed Server
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect HSM for Windows</b>	<b>5725-X14</b>	
IBM Spectrum Protect HSM for Windows Terabyte License + SW Subscription & Support 12 Months	D1IQALL	Per Terabyte
IBM Spectrum Protect HSM for Windows Terabyte Annual SW Subscription & Support Renewal	E0LVFLL	Per Terabyte
IBM Spectrum Protect HSM for Windows Terabyte SW Subscription & Support Reinstatement 12 Months	D1IQBLL	Per Terabyte
<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
<b>IBM Spectrum Protect Snapshot</b>	<b>5725-X22</b>	
IBM Spectrum Protect Snapshot per Terabyte 1-12 MONTHLY LICENSE	D1ILELL	Per Terabyte (1-12)
IBM Spectrum Protect Snapshot per Terabyte 1-12 License + SW Subscription & Support 12 Months	D1IKZLL	Per Terabyte (1-12)
IBM Spectrum Protect Snapshot per Terabyte 1-12 Annual SW Subscription & Support Renewal	E0LUDLL	Per Terabyte (1-12)
IBM Spectrum Protect Snapshot per Terabyte 1-12 SW Subscription & Support Reinstatement 12 Mo	D1IL0LL	Per Terabyte (1-12)
IBM Spectrum Protect Snapshot per Terabyte 13-32 MONTHLY LICENSE	D1ILTLL	Per Terabyte (13-32)
IBM Spectrum Protect Snapshot per Terabyte 13-32 License + SW Subscription & Support 12 Months	D1IL1LL	Per Terabyte (13-32)
IBM Spectrum Protect Snapshot per Terabyte 13-32 Annual SW Subscription & Support Renewal	E0LUELL	Per Terabyte (13-32)
IBM Spectrum Protect Snapshot per Terabyte 13-32 SW Subscription & Support Reinstatement 12 Mo	D1IL2LL	Per Terabyte (13-32)
IBM Spectrum Protect Snapshot per Terabyte 33-64 MONTHLY LICENSE	D1ILULL	Per Terabyte (33-64)
IBM Spectrum Protect Snapshot per Terabyte 33-64 License + SW	D1IL3LL	Per Terabyte (33-64)

<b>Program name</b>	<b>Part number or PID number</b>	<b>Charge metric</b>
Subscription & Support 12 Months		
IBM Spectrum Protect Snapshot per Terabyte 33-64 Annual SW Subscription & Support Renewal	E0LUFLL	Per Terabyte (33-64)
IBM Spectrum Protect Snapshot per Terabyte 33-64 SW Subscription & Support Reinstatement 12 Mo	D1IL4LL	Per Terabyte (33-64)
IBM Spectrum Protect Snapshot per Terabyte 65-100 MONTHLY LICENSE	D1ILVLL	Per Terabyte (65-100)
IBM Spectrum Protect Snapshot per Terabyte 65-100 License + SW Subscription & Support 12 Months	D1IL5LL	Per Terabyte (65-100)
IBM Spectrum Protect Snapshot per Terabyte 65-100 Annual SW Subscription & Support Renewal	E0LUGLL	Per Terabyte (65-100)
IBM Spectrum Protect Snapshot per Terabyte 65-100 SW Subscription & Support Reinstatement 12 Mo	D1IL6LL	Per Terabyte (65-100)
IBM Spectrum Protect Snapshot per Terabyte 101-250 MONTHLY LICENSE	D1ILWLL	Per Terabyte (101-250)
IBM Spectrum Protect Snapshot per Terabyte 101-250 License + SW Subscription & Support 12 Months	D1IL7LL	Per Terabyte (101-250)
IBM Spectrum Protect Snapshot per Terabyte 101-250 Annual SW Subscription & Support Renewal	E0LUHLL	Per Terabyte (101-250)
IBM Spectrum Protect Snapshot per Terabyte 101-250 SW Subscription & Support Reinstatement 12 Mo	D1IL8LL	Per Terabyte (101-250)
IBM Spectrum Protect Snapshot per Terabyte 251+ MONTHLY LICENSE	D1ILXLL	Per Terabyte (251+)
IBM Spectrum Protect Snapshot per Terabyte 251+ License + SW Subscription & Support 12 Months	D1IL9LL	Per Terabyte (251+)
IBM Spectrum Protect Snapshot per Terabyte 251+ Annual SW Subscription & Support Renewal	E0LUILL	Per Terabyte (251+)
IBM Spectrum Protect Snapshot per Terabyte 251+ SW Subscription & Support Reinstatement 12 Mo	D1ILALL	Per Terabyte (251+)

**Note 1:** Client licenses are interchangeable between Spectrum Protect and Spectrum Protect Extended Edition.

## Licensing metric definitions

### Client Device

Client Device is a unit of measure by which the Program can be licensed. A Client Device is a single user computing device, communications device, special purpose sensor or telemetry device that requests the execution of or receives for execution a set of commands, procedures, or applications from or provides data to another computer system that is typically referred to as a server or is otherwise managed by the server. A Client Device may have some processing capability or be programmable to allow a user to do work. Licensee must obtain entitlements for every Client Device which runs, provides data to, uses services provided by, or otherwise accesses the Program and for every other computer or server on which the Program is installed.

### Processor Value Unit (PVU)

Processor Value Unit is a unit of measure by which the program can be licensed. The number of PVU entitlements required is based on the processor technology (defined within the PVU table by processor vendor, brand, type, and model number at [Processor Value Unit \[PVU\] licensing for Distributed Software](#)) and the number of processors made available to the program. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip. A dual-core processor chip, for example, has two processor cores.

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

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

### Terabyte

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

### IBM Spectrum Protect for Data Retention (formerly IBM Tivoli System Storage<sup>®</sup> Archive Manager) terabyte capacity

Spectrum Protect for Data Retention terabyte capacity includes primary disk storage pool size combined with the amount of utilized primary removable media storage used by the Spectrum Protect for Data Retention server.

Capacity does not include:

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



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

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

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

Additional capacity must be added in increments of 1 terabyte.

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

Decimal Terabyte (1-12), Decimal Terabyte (13-32), Decimal Terabyte (33-64), Decimal Terabyte (65-100), Decimal Terabyte (101-250), and Decimal Terabyte (251+) is a unit of measure by which the program can be licensed. Proofs of Entitlement are based on the number of Decimal Terabytes available to the program. A Decimal Terabyte is 10 to the 12th power bytes. Licensee must obtain sufficient entitlements required for licensee's environment. The entitlements are specific to the program and may not be exchanged, interchanged or aggregated with entitlements of another program.

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

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

Terabyte (1-100), Terabyte (101-250), Terabyte (251-500), Terabyte (501-750), Terabyte (751-1250), Terabyte (1251-2000) and Terabyte (2000+) is a unit of measure by which the program can be licensed. Proofs of Entitlement are based on the number of terabytes available to the program. A terabyte is 2 to the 40th power bytes. Licensee must obtain sufficient entitlements required for licensee's environment. The entitlements are specific to the program and may not be exchanged, interchanged or aggregated with entitlements of another program.

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

**IBM Spectrum Protect Suite (formerly IBM Tivoli Storage Manager Suite for Unified Recovery) Tiered Terabytes (large) capacity**

For Spectrum Protect Suite, licensee must obtain sufficient entitlements required for all data stored in the designated Spectrum Protect primary storage pool volumes and for all data stored in the designated Tivoli Storage Manager FastBack<sup>®</sup> repository volumes and for all data managed by the Spectrum Protect Snapshot.

**IBM Spectrum Protect Suite - Front End (formerly IBM Tivoli Storage Manager Suite for Unified Recovery - Front End) Tiered Terabytes (large) capacity**

For Spectrum Protect Suite - Front End, licensee must obtain sufficient entitlements required for the aggregate amount of data protected by the program.

**IBM Spectrum Protect Suite - Archive Option terabyte capacity**

Entitlements for the Spectrum Protect Suite - Archive Option component apply only to data classified as archive data within Spectrum Protect that results from running an archive operation, and the data must reside on tape or VTL within the primary storage pool. An archive operation is designated either through Spectrum Protect's user interface itself or through Spectrum Protect's application programming interface (API). Data stored on virtual tape appears to Spectrum Protect as physical tape. The Spectrum Protect Suite - Archive Option price applies to the capacity level recognized by Spectrum Protect (which equates to the amount of data sent to the

virtual tape). Subsequent deduplication of data within a VTL does not reduce the capacity level recognized by Spectrum Protect.

Licensee must obtain sufficient entitlements required for all data stored in the designated Spectrum Protect primary storage pool volumes and for all data stored in the designated IBM Tivoli Storage Manager Fastback repository volumes and for all data managed by the IBM Spectrum Protect Snapshot.

### **IBM Spectrum Protect Suite - ProtecTIER Option terabyte capacity**

Licensee must obtain sufficient entitlements for the total aggregate usable physical capacity of all the IBM ProtecTIER repositories that are available to the Spectrum Protect primary storage pool, excluding the capacity for disaster recovery sites used for replication only.

### **Managed Server**

Managed Server is a unit of measure by which the program can be licensed. A server is a physical computer that is comprised of processing units, memory and input/output capabilities and that executes requested procedures, commands or applications for one or more users or client devices. Where racks, blade enclosures, or other similar equipment is being employed, each separable physical device (for example, a blade or a rack-mounted device) that has the required components is considered itself a separate server. Licensee must obtain Managed Server entitlements for each server managed by the program.

### **Install**

Install is a unit of measure by which the program can be licensed. An Install is an installed copy of the program on a physical or virtual disk made available to be executed on a computer. Licensee must obtain an entitlement for each Install of the Program.

### **Standby or backup systems**

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

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

- **Cold:** A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.
- **Warm:** A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.
- **Hot:** A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlements for this copy and there will generally be an additional charge.

Doing work includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data, or other resources (for example, active linking with another machine, program, database or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch over between programs, databases, or other resources to occur. In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files, or transactions, maintaining a heartbeat, active linking with another machine, program, database, or other resource), the program is

considered to be doing work in the hot situation and a license or entitlement must be purchased.

## High Availability and Disaster Recovery (HADR)

To use HADR to replicate from one Spectrum Protect server (with IBM DB2<sup>(R)</sup> included) to another Spectrum Protect server (with DB2 included), no additional DB2 licensing is required.

To use HADR to replicate from a Spectrum Protect server (with bundled DB2) to a nonbundled DB2 instance, the licensee must purchase 100 Processor Value Units (PVUs) to obtain a license for DB2 Enterprise Edition (bundled).

## Pricing examples

### Pricing examples for Spectrum Protect

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

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

Notes:

- When using Processor Value Unit based licensing, license entitlements for Spectrum Protect or Spectrum Protect Extended Edition are required for all managed servers, including the managing server. Licensing entitlement is Processor Value Unit based and both full capacity and sub-capacity licensing are offered.
- A Proof of Entitlement (PoE) for Spectrum Protect Extended Edition is required to use any of the following functions: node replication (and the use of REPLICATE NODE command as a target server), disaster recovery manager, Network Data Management Protocol (NDMP), support of tape libraries (including virtual tape libraries) with more than 4 drives or more than 48 slots.
- A Spectrum Protect Extended Edition server can only be used to manage Spectrum Protect Extended Edition components or clients.
- A Spectrum Protect Extended Edition server can act as a target server for disaster recovery purposes, with the exception of node replication, for Spectrum Protect servers.
- The use of node replication (REPLICATE NODE command) requires the same user entitlements for both the server that sends the data (source server) and the server that receives the data (target server).
- Spectrum Protect or Spectrum Protect Extended Edition licensing requirements for General Parallel File System (GPFS<sup>TM</sup>) and IBM Scale Out Network Attached Storage require Spectrum Protect entitlements for each node performing data movement.
- Entitlement conversions to one of the Spectrum Protect Suites requires entitlement of Spectrum Protect Extended Edition. If there is entitlement of Spectrum Protect, then a trade up to Spectrum Protect Extended Edition is required as a precondition to the entitlement conversion.
- All Network Attached Storage (NAS) devices that are being backed up require entitlement for Spectrum Protect or Spectrum Protect Extended Edition. If NDMP is used, then entitlement for Spectrum Protect Extended Edition is required. If a proxy server or data mover is being used, then that server does not require additional entitlement.
- A Spectrum Protect for SAN entitlement is required for each Spectrum Protect server that is sharing a library where a Spectrum Protect acts as the library manager. An entitlement is required for each library client and library manager. A Spectrum Protect for SAN license entitlement is required for each system that performs LAN-free operations.

Go to the [Reference information](#) section for more information about Spectrum Protect for SAN.

- Client Device entitlements for Spectrum Protect and Spectrum Protect Extended Edition are interchangeable.

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

- Twenty client devices (laptops)
- Ten 4-way servers
- Five 8-way mail servers
- Five 16-way database servers
- One 32-way server
- One 8-way managing server

The client must obtain the following entitlements for Spectrum Protect or Spectrum Protect Extended Edition:

Systems managed	Quantity in customer environment	Total client device entitlements required
Client devices	20	20
Total client device entitlements		20
Systems managed	Quantity in customer environment	Total client device entitlements required
4-way	10	40
8-way	5	40
16-way	5	80
32-way	1	32
8-way (managing server)	1	8
Total processor entitlements		200

The customer must obtain the following additional entitlements for IBM Spectrum Protect for Databases:

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

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

The client must obtain the following additional entitlements for IBM Spectrum Protect for Mail:

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

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

**Scenario 2:** VMware environment with VMware vStorage APIs for data protection

The client environment consists of the following:

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

Notes:

- Spectrum Protect or Spectrum Protect Extended Edition full capacity entitlement requires that all physical system cores on VMware ESX servers, being backed up by the proxy server, are to be entitled.
- Spectrum Protect or Spectrum Protect Extended Edition sub-capacity entitlement requires that the virtual cores, assigned to virtual machines on VMware ESX servers being backed up by the proxy server, are to be entitled.
- VMware vStorage API for Data Protection proxy server does not require entitlement for Spectrum Protect, Spectrum Protect Extended Edition, or Spectrum Protect for Virtual Environments.

#### Full capacity requirement

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

#### Sub-capacity requirement

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

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

**Scenario 3:** VMware environment with Spectrum Protect or Spectrum Protect Extended Edition backup agent installed inside a virtual machine and the client is backing up Oracle and Microsoft Exchange

The client environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as an Oracle server.
- ESX server 2 with four virtual servers, three running as file servers, and the fourth running as a Microsoft Exchange server.

- Each virtual machine is assigned one processor core.

Notes:

- The full capacity Spectrum Protect or Spectrum Protect Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity Spectrum Protect or Spectrum Protect Extended Edition entitlement requirement is based on virtual cores.

### Full capacity requirements

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

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

### Sub-capacity requirements

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

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

**Scenario 4:** VMware environment with Spectrum Protect or Spectrum Protect Extended Edition backup agent running inside a virtual machine

The client environment consists of the following:

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

Notes:

- The full capacity Spectrum Protect or Spectrum Protect Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity Spectrum Protect or Spectrum Protect Extended Edition entitlement requirement is based on virtual cores.

## Full capacity requirements

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

## Sub-capacity requirements

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

## Scenario 5: Network Attached Storage (NAS) device backup

The customer environment consists of the following:

- The NAS device is being backup using NDMP.
- One 4-way NAS device.
- One 4-way server (acting as a data mover).
- One 8-way Spectrum Protect Server.

The client must obtain the following entitlements for Spectrum Protect Extended Edition.

	Customer environment	Entitlements required
4-way NAS Device	4	4
4-way Data Mover	4	0
8-way Spectrum Protect Server	8	8
Total processor entitlements		12

If in addition to the NAS device being backed up, the data mover has locally attached data that is being backed up to the Spectrum Protect server, the client must obtain the following entitlements for Spectrum Protect Extended Edition.

	Customer environment	Entitlements required
4-way NAS Device	4	4
4-way Data Mover	4	4
8-way Server	8	8
Total processor entitlements		16

## Pricing examples for IBM Spectrum Protect for Data Retention

### Scenario 1

A customer has a Spectrum Protect for Data Retention server with a 5 terabytes (TB) primary disk storage pool and a removable media storage pool that will store 4 TB of data within the next 12 months. The data in the primary storage pools will be copied for off-site protection to a copy pool. The client has designated 10 TB of removable media for a copy storage pool.

The client needs to purchase 9 TB of Spectrum Protect for Data Retention.

Primary disk storage pool	Removable media storage pool	Capacity	Required entitlements
5 TB	4 TB	9 TB	9 TB of Spectrum Protect for Data Retention for Windows

### Scenario 2 (additional capacity)

A customer had purchased 9 TB of Spectrum Protect for Data Retention. Twelve months after that initial purchase, the customer is managing 9 TB of data. Over the next 12 months, the client estimates they will need to manage an additional 2.4 TB worth of data.

The client should purchase an additional 3 TB of Spectrum Protect for Data Retention.

Primary disk storage pool	Removable media storage pool	Capacity	Required entitlements
5 TB	6.4 TB	11.4 TB	12 TB of Spectrum Protect for Data Retention for Windows

### Pricing examples for IBM Spectrum Protect HSM for Windows

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

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

### Scenario 1

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

The client needs to purchase 5 TB of Spectrum Protect HSM for Windows.

HSM disk storage pool	HSM removable media storage pool	Capacity	Required entitlements
0.25 TB	4 TB	4.25 TB	5 TB of Spectrum Protect HSM for Windows

### Scenario 2 (additional capacity)

Client had purchased 5 TB of Spectrum Protect HSM for Windows. Over the last 12 months, the client consumed the 5 TB of HSM capacity they purchased initially in addition to an additional 1 TB. Over the next 12 months, they expect the amount of space managed data will grow to 9 TB total. They will continue to keep the 0.25



TB for the HSM disk storage pool and, therefore, store the remaining 8.75 TB in the removable media storage pool.

The client should purchase an additional 4 TB of Spectrum Protect HSM for Windows.

HSM disk storage pool	HSM removable media storage pool	Capacity	Required entitlements
0.25 TB	8.75 TB	9 TB	9 TB of Spectrum Protect HSM for Windows

### Pricing examples for IBM Spectrum Protect for Virtual Environments

Protecting VMware environments using Spectrum Protect for Virtual Environments

The client environment consists of the following:

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

Notes:

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

### Full capacity requirement

**Scenario 1:** Use a single VMware vStorage backup server to protect both VMware vSphere hosts

Quantity of processor core entitlements required	VMware vSphere host 1 (4 way)	VMware vSphere host 2 (8 way)	VMware vStorage bakup server (2 way)	Total
Spectrum Protect or Spectrum Protect Extended Edition	4	8	0	12
Spectrum Protect for Virtual Environments	4	8	0	12

**Scenario 2:** Use two (2 way) VMwavStorage backup servers to protect only the larger VMware Sphere host

Quantity of processor core entitlements: required	VMware vSphere host 1 (4 way)	VMware vSphere host 2 (8 way)	VMware vStorage bakup server 1 (2 way)	VMware vStorage bakup server 2 (2 way)	Total
Spectrum Protect or Spectrum Protect Extended Edition	0	8	0	0	8
Spectrum Protect for Virtual Environments	0	8	0	0	8

### Pricing example for IBM Spectrum Protect Suite and IBM Spectrum Protect Suite - Front End

Spectrum Protect Suite and Spectrum Protect Suite - Front End use the same tiered TB pricing model. The model consists of seven tiers that are to be used cumulatively. All tiers must be used in order (begin with the first tier and move on to the second tier, and so on) to arrive at the desired total amount of TB.

Spectrum Protect Suite - Front End measures capacity on protected data at the source, instead of using capacity at Spectrum Protect primary storage pool on the backend.

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

Tier TB range (actual)	\$K/TB
1-100	x
101-250	y
251-500	z
501-750	a
751-1,250	b
1,251-2,000	c
2,001+	d
Total TB ordered	How it is charged
50 TB	(x * 50 TB)
150 TB	(x * 100 TB) + (y * 50 TB)

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

### Pricing example for IBM Spectrum Protect Suite Archive Option

#### Scenario 1

A client has Spectrum Protect Suite Archive Option with a 5 TB primary disk storage pool and a removable media storage pool that will store 4 TB of data within the next 12 months. The data in the primary storage pools will be copied for off-site protection to a copy pool. The client has designated 10 TB of removable media for a copy storage pool.

The client must purchase 9 TB of Spectrum Protect Suite Archive Option.

Primary disk storage pool	Removable media storage pool	Capacity	Required entitlements
5 TB	4 TB	9 TB	9 TB of Spectrum Protect Suite Archive Option

#### Scenario 2 (additional capacity)

A client purchased 9 TB of Spectrum Protect Suite Archive Option. Twelve months after that initial purchase, the client is managing 9 TB of data. Over the next 12 months, the client estimates they will need to manage an additional 2.4 TB worth of data.

The client should purchase an additional 3 TB of Spectrum Protect Suite Archive Option.

Primary disk storage pool	Removable media storage pool	Capacity	Required entitlements
5 TB	6.4 TB	11.4 TB	12 TB of Spectrum Protect Suite Archive Option

### Pricing example for IBM Spectrum Protect Suite ProtecTIER Option

If a client has IBM ProtecTIER with a total aggregate usable physical capacity, excluding any capacity for disaster recovery sites used for replication only, of 20 TB that they will use as part of their Spectrum Protect primary storage pool, they require Proof of Entitlements (PoEs) of 20 TB of Spectrum Protect Suite ProtecTIER Option, regardless of the amount utilized. For example, in the case where the ProtecTIER has a total aggregate usable physical capacity of 20 TB and the client has 10 TB stored, the licensing requirement is for 20 TB.

Note: Entitlements for Spectrum Protect Suite ProtecTIER Option and Spectrum Protect Suite standard tiers are not interchangeable and are separately licensed.

### Pricing example for IBM Spectrum Protect Suite Entry (formerly IBM Tivoli Storage Manager for Unified Recovery - Entry)

Spectrum Protect Suite Entry supports a combined maximum of 100 TB per enterprise in the designated Spectrum Protect primary storage pool volumes and

for all data stored in the designated Tivoli Storage Manager FastBack repository volumes. In addition, a maximum of two Spectrum Protect servers are supported per enterprise.

If a client has 10 TB in their Spectrum Protect primary storage pool and 10 TB in their Tivoli Storage Manager FastBack repository, the client requires PoEs of 20 TB of Spectrum Protect Suite Entry.

If a client reaches the maximum of 100 TB under management and foresees the need for more licenses, the client will require a trade up to Spectrum Protect Suite (5725-X05).

If a client requires more than two Spectrum Protect servers, the client will require a trade up to Spectrum Protect Suite (5725-X05).

### **Pricing example for IBM Spectrum Protect Suite Entry - Front End**

Spectrum Protect Suite Entry - Front End supports a maximum of 100 TB per enterprise for the aggregate amount of data protected by the program. In addition, a maximum of two Spectrum Protect servers are supported per enterprise.

If a client has 10 TB protected data, the client requires PoEs of 10 TB of Spectrum Protect Entry - Front End.

If a client reaches the maximum of 100 TB under management and foresees the need for more licenses, the client will require a trade up to Spectrum Protect Suite - Front End (5725-X07).

If a client requires more than two Spectrum Protect servers, the client will require a trade up to Spectrum Protect Suite - Front End (5725-X07).

### **Pricing example for Spectrum Protect High Speed Data Transfer**

Spectrum Protect High Speed Data Transfer is sold on a per install license.

The high speed data transfer capability is included in Spectrum Protect Extended Edition server, therefore, also included in the Spectrum Protect servers that are in the Spectrum Protect Suites (back end and front end), however it is licensed and sold separately from Spectrum Protect Extended Edition server and the servers included in the Suites.

- License key is required to activate, which is supplied upon purchase.
- Support only for Linux x86.

### **Scenario 1**

The customer has remote location in Los Angeles that has a Spectrum Protect managing server. The customer's main data center is in New York. The customer wants to do replication from a server in Los Angeles to a server in New York.

The customer environment consists of the following:

- Two managing servers (one in Los Angeles and one in New York)
- Five 4-way file servers
- Three 8-way mail servers

Entitlements for the above environment:

- Spectrum Protect High Speed Data Transfer requires two entitlements, one install for each Spectrum Protect managing server (Los Angeles and New York).

Note: Other Spectrum Protect products in the environment require entitlement per the offering's licensing requirements.

### **Scenario 2**

The customer has remote locations in Los Angeles and Dallas. Each location has one Spectrum Protect managing server. The customer's main data center is in New York. The customer wants to do replication from the server in Los Angeles to the server in New York and from the server in Dallas to the server in New York.

The customer environment consists of the following:

- Three managing servers (one in Los Angeles, one in Dallas and one in New York)
- Five 4-way file servers
- Three 8-way mail servers

Entitlements for the above environment:

- Spectrum Protect High Speed Data Transfer requires three entitlements, one install for each Spectrum Protect managing server (Los Angeles, Dallas, and New York)

Note: Other Spectrum Protect products in the environment require entitlement per the offering's licensing requirements.

### **Pricing example for IBM Spectrum Protect Entry products**

- A managed server for Spectrum Protect Entry is a server that is managed or protected by one of the components of this offering.
- Use is supported for up to 50 managed servers per enterprise, up to 10 of which can be virtual host servers.
- Use is supported with 100 or fewer nodes registered to Spectrum Protect per enterprise. The replicated nodes do not count towards the 100 node count.
- Spectrum Protect Entry is only supported on Microsoft Windows, Linux x86, and Linux on POWER<sup>(R)</sup> platform.
- When using Per Managed Server licensing, entitlement for Spectrum Protect Entry is required for all managed servers, including the managing server.
- Clients who are entitled to Spectrum Protect Entry are allowed to use node replication capability.

#### **Scenario 1**

The client wants to do backup and recovery operations for all LAN-connected servers in its network. The client environment consists of the following:

- One managing server
- Ten 4-way file servers
- Two 8-way mail servers

Entitlements required for the above environment:

<b>Product description</b>	<b>Quantity of entitlement required</b>
Spectrum Protect	1
Spectrum Protect (Backup Assistant client)	10
Spectrum Protect for Mail	2
Total Spectrum Protect Entry Entitlement	13

#### **Scenario 2**

The client wants to do backup and recovery operations for all LAN-connected servers in its network. The client environment consists of the following:

- One 16-way managing server
- Two 16-way VMware ESX Host servers
- Six 8-way mail servers

- Six 16-way database servers

Entitlements required for the above environment:

Product description	Quantity of entitlement required
Spectrum Protect	1
Spectrum Protect for Virtual Environments	2
Spectrum Protect for Mail	6
Spectrum Protect for Databases	6
Total Spectrum Protect Entry entitlement	15

### Scenario 3

The clients wants to do backup and recovery operations for all LAN-connected servers in its network. The client environment consists of the following:

- One managing server
- Two VMware ESX Host servers
- Eight mail servers; four of which are running in virtual machine hosted by one ESX host
- Nine database servers; two of which are running in virtual machines hosted by ESX host

Entitlements required for the above environment:

Product description	Quantity of entitlement required
IBM Spectrum Protect	1
IBM Spectrum Protect for Virtual Environments	2
IBM Spectrum Protect for Mail	8
IBM Spectrum Protect for Databases	9
Total Spectrum Protect Entry entitlement:	20

### Examples for IBM Spectrum Protect Snapshot within the Spectrum Protect Suites

Scenario	What is measured for entitlement	
Spectrum Protect Suite - Front End capacity measurement	Scenario 1 offloads snapshots into Spectrum Protect	Size of protected application on source volume
	Scenario 2 does not offload snapshots into Spectrum Protect Suite	Size of protected application on source volume
Spectrum Protect Suite - Back End capacity measurement	Scenario 3 offloads snapshots into Spectrum Protect	Size of protected application on source volumes multiplied by the number of local snapshots managed <b>and</b> size of active/inactive objects in Spectrum Protect Primary Storage Pools
	Scenario 4 does not offload	Size of protected application on

Scenario	What is measured for entitlement
	snapshots into Spectrum Protect
	source volumes multiplied by the number of local snapshots managed

### Pricing example for Spectrum Protect Suite - Front End with Spectrum Protect Snapshot

#### Scenario 1

A client purchases Spectrum Protect Suite - Front End to protect one 500 GB (.5 TB) Microsoft SQL server database and one Oracle 3 TB database. The client keeps two fully allocated snapshots on disk and four full, uncompressed versions in Spectrum Protect server for both databases. The client protects 3.5 TB front-end database capacity.

$$0.5 \text{ TB} + 3 \text{ TB} = 3.5 \text{ TB}$$

The client must purchase 4 TB of Spectrum Protect Suite - Front End.

Snapshots in array	Spectrum Protect Primary Storage Pool	Capacity	Required entitlements
7 TB	14 TB	3.5 TB	4 TB of Spectrum Protect Suite - Front End

#### Scenario 2

A client purchases Spectrum Protect Suite - Front End to protect one 500 GB (.5 TB) Microsoft SQL server database and one Oracle 3 TB database. The client keeps two fully allocated snapshots on disk for both databases. No data is stored in Spectrum Protect server, snapshots are being stored on disk only. The client protects 0.5 TB + 3 TB = 3.5 TB front-end database capacity.

The client must purchase 4 TB of Spectrum Protect Suite - Front End.

Snapshots in array	Spectrum Protect Primary Storage Pool	Capacity	Required entitlements
7 TB	0 TB	3.5 TB	4 TB of Spectrum Protect Suite - Front End

### Pricing example for Spectrum Protect Suite with Spectrum Protect Snapshot

#### Scenario 3

A client purchases Spectrum Protect Suite to protect one 500 GB Microsoft SQL server database and one Oracle 3 TB database. The client keeps two fully allocated snapshots on disk and four full, uncompressed versions in Spectrum Protect server for both database. The client protects 3.5 TB, which need to be multiplied by the snapshots on disk and the versions in Spectrum Protect.

The client must purchase  $(3.5 \text{ TB} \times 2) + (3.5 \text{ TB} \times 4) = 21 \text{ TB}$  of Spectrum Protect Suite.

Snapshots in array	Spectrum Protect Primary Storage Pool	Capacity	Required entitlements
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Snapshots in array	Spectrum Protect Primary Storage Pool	Capacity	Required entitlements
7 TB	14 TB	21 TB	21 TB of Spectrum Protect Suite

#### Scenario 4

A client purchases Spectrum Protect Suite to protect one 500 GB Microsoft SQL server database and one Oracle 3 TB database. The client keeps two fully allocated snapshots on disk for both databases. No data is stored in Spectrum Protect server; snapshots are being stored on disk only. The client protects 3.5 TB, which need to be multiplied by the snapshots on disk.

The client must purchase  $3.5 \text{ TB} \times 2 = 7 \text{ TB}$  of Spectrum Protect Suite.

Snapshots in array	Spectrum Protect Primary Storage Pool	Capacity	Required entitlements
7 TB	0 TB	7 TB	7 TB of Spectrum Protect Suite

#### Processor Value Unit (PVU)

PVU is a unit of measure by which the program can be licensed. The number of PVU entitlements required is based on the processor technology (defined within the PVU table by processor value, brand, type, and model number at the website below) and the number of processors made available to the program. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip (socket). A dual-core processor chip, for example, has two processor cores. The PVU table can be found on the [PVU licensing for Distributed Software](#) page. Licensee can deploy the program using either full capacity licensing or virtualization capacity (sub-capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms found on the [Virtualization Capacity License Counting Rules](#) page. If using full capacity licensing, licensee must obtain PVU entitlements sufficient to cover all activated processor cores\* in the physical hardware environment made available to or managed by the program, except for those servers from which the program has been permanently removed. If using virtualization capacity licensing, licensee must obtain entitlements sufficient to cover all activated processor cores made available to or managed by the program, as defined according to the Virtualization Capacity License Counting Rules that can be found on the [Virtualization Capacity License Counting Rules](#) page.

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

#### Notes:

- Some programs may require licenses for the program **and** what is being managed. In that case, the following applies. In addition to the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.
- Some programs may be licensed on a managed basis only. In that case, the following applies. Instead of the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.
- A few programs on an exception basis may be licensed on a referenced basis. In that case, the following applies. Rather than obtaining entitlements for the activated processor cores available to the program, licensee must obtain PVU entitlements for this program sufficient to cover the environment made available to the referenced program as if the program itself were executing everywhere the referenced program was executing, independent of the basis on which the referenced program is licensed.



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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.

This product is only available through Passport Advantage.

### 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.

### 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. 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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<b>PID</b>	<b>Product name</b>	<b>License Information number</b>
5725-W98	IBM Spectrum Protect	L-BEBY-A8SMJY
5725-X11	IBM Spectrum Protect Entry	L-BEBY-A8UNRF
5725-W99	IBM Spectrum Protect Extended Edition	L-BEBY-A8TR7F
5725-X15	IBM Spectrum Protect for Data Retention	L-BEBY-A8TRCU
5725-X01	IBM Spectrum Protect for Databases	L-BEBY-A3NVP6
5725-X03	IBM Spectrum Protect for Enterprise Resource Planning	L-BEBY-9UAMRM
5725-X02	IBM Spectrum Protect for Mail	L-BEBY-A3NVUY
5725-X18	IBM Spectrum Protect for SAN	L-BEBY-A8TRG6
5725-X04	IBM Spectrum Protect for Space Management	L-BEBY-A3NVWT
5725-X00	IBM Spectrum Protect for Virtual Environments	L-BEBY-A3NVZP

<b>PID</b>	<b>Product name</b>	<b>License Information number</b>
5725-X14	IBM Spectrum Protect HSM for Windows	L-BEBY-A3NVY9
5725-X05	IBM Spectrum Protect Suite	L-BEBY-A8UN9M
5725-X05	IBM Spectrum Protect Suite - Archive Option	L-BEBY-A8UNK2
5725-X05	IBM Spectrum Protect Suite - ProtecTIER Option	L-BEBY-A8UNMU
5725-X06	IBM Spectrum Protect Suite Entry	L-BEBY-A8UN3F
5725-X07	IBM Spectrum Protect Suite - Front End	L-BEBY-A8UNVV
5725-X08	IBM Spectrum Protect Suite Entry - Front End (PPA)	L-BEBY-A53M5X
5641-FEA	IBM Spectrum Protect Suite Entry - Front End (AAS)	L-BEBY-A53M5X
5725-X22	IBM Spectrum Protect Snapshot	L-BEBY-A3NW44
5608-AB3	IBM Spectrum Protect Snapshot	L-BEBY-A3NW44
5725-Z10	IBM Spectrum Protect High Speed Data Transfer	L-BEBY-A52UPZ

The program's License Information will be available for review on the [IBM Software License Agreement](#) website.

### **Limited warranty applies**

Yes

### **Limited warranty**

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, see the [IBM Software Support Handbook](#).

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

### **Program technical support**

Technical support of a program product version or release will be available for a minimum of five years from the general availability date, as long as your Software Subscription and Support (also referred to as Software Maintenance) is in effect.

This technical support allows you to obtain assistance (by telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to updates (modifications or fixes), releases, and versions of the program. You will be notified, through an announcement letter, of discontinuance of support with 12 months' notice. If you require additional technical support from IBM, including an extension

of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

### **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.

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

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No

### **Passport Advantage applies**

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Yes, information is available on the [Passport Advantage and Passport Advantage Express](#) website.

### **Usage restriction**

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

For additional information, refer to the License Information document that is available on the [IBM Software License Agreement](#) website

### **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 by 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, see the [IBM Software 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, go to the [Passport Advantage and Passport Advantage Express](#) website.

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. When ordering through the program number process, a 15% education allowance applies to qualified education institution customers.

Education software allowance program applies when ordering through the program number process.

For the part number ordering process, special education prices are available for qualified customers through Passport Advantage.

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**ESAP available**

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Yes, to qualified 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 lawful, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

**Important:** IBM does not warrant that any systems, products, or services are immune from, or will make your enterprise immune from, the malicious or illegal conduct of any party.

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**IBM Electronic Services**

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Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to organizations that have IBM Systems. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support, all at no additional cost to you.

Now integrated into the base operating system of AIX V5.3, AIX V6.1, and AIX V7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu,

simply type smitty esa\_main, and select Configure Electronic Service Agent. In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, go to the [IBM Electronic Support](#) website.

The IBM Electronic Support portal is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for organizations that are Electronic Service Agent tool-enabled to track system inventory and find pertinent fixes.

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## Benefits

**Increased uptime:** The Electronic Service Agent™ tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the symptoms, diagnosing the error, and manually calling IBM Support to open a problem record. Its 24 x 7 monitoring and reporting mean human intervention is not required to report errors.

**Security:** The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool is designed to securely transmit either through the Internet (HTTPS or VPN) or modem to provide organizations a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into an organization's system.

For additional information, go to the [IBM Electronic Service Agent](#) website.

**More accurate reporting:** Because system information and error logs are automatically uploaded to the IBM Support Center in conjunction with the service request, you are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

**Customized support:** Using the IBM ID entered during activation, you can view system and support information in the *My Systems and Premium Search* sections of the [IBM Electronic Support](#) page.

My Systems provides valuable reports of installed hardware and software using information collected from the systems by Electronic Service Agent. Reports are available for any system associated with your IBM ID. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledgebase. Using Premium Search and the Electronic Service Agent information that has been collected from your system, you are able to see search results that apply specifically to your systems.

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or go to the [IBM Electronic Support](#) website.

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## Prices

### Business Partner information

If you are an IBM Business Partner -- Distributor for Workstation Software acquiring products from IBM, you may link to Passport Advantage Online for resellers where you can obtain Business Partner pricing information. An IBM ID and password are required to access the [IBM Passport Advantage](#) website.

### Passport Advantage

For Passport Advantage information and charges, contact your IBM representative. Additional information is also available on the [Passport Advantage and Passport Advantage Express](#) website.

Registered external customers and IBM Business Partners can access IBMLink for charges.

To view pricing information, visit [IBMLink](#).

For software prices, select "Look up IBM standard hardware and software prices (Price) excluding System z<sup>(R)</sup> products" under "Prices." Specify "Price type," "Search type," and "Search value," then click "Search."

Note: Enter program number in the "Search value."

You can also contact your local IBM representative or IBM Business Partner for the applicable charges.

For all local charges, contact your IBM representative.

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## **IBM Global Financing**

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 go to the [IBM Global Financing](#) website for more information.

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## **Announcement countries**

All European, Middle Eastern, and African countries except Islamic Republic of Iran, Sudan, Syrian Arab Republic.

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