IBM Spectrum Protect V8.1.2, IBM Spectrum Protect Entry V8.1.2, and IBM Spectrum Protect Snapshot V8.1.2 deliver simplification, increased cloud integration, and enhanced support for VMware and Hyper-V

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At a glance

IBM Spectrum Protect™ V8.1.2 and IBM Spectrum Protect Snapshot V8.1.2 simplify administration and usage, advance cloud integration, and expand virtual environment support with the following added capabilities:

- Integrated native object storage support to Microsoft™ Azure Blob storage enabling customers to store data on the Microsoft object storage platform
- Enhanced monitoring capabilities native to the vSphere Web Client to help VMware administrators quickly identify and resolve problems with scheduled backup events
- Leverage the power of hardware-based persistent snapshots using VMware virtual volumes (VVOLs), fully integrated into Data Protection for VMware
- Reduce recovery time objective (RTO) for large VMs in VMware environments through optimized recovery with parallel streaming for single large VMs with many virtual disks
- Exploit Microsoft Windows™ Server 2016 Resilient Change Tracking (RCT) enabling scalable and efficient incremental backups of Hyper-V VMs
- Enhanced security with at-rest encryption for directory-container storage pools, including the ability to encrypt existing directory-container storage pools
- Deeper integration when using Spectrum Protect and Spectrum Scale together, including ACL preservation for cross-platform restores and optimized data movement when backing up a space managed file
- Enhanced usability, deeper integration, increased performance for reconciliation, and better serviceability for Spectrum Protect for Space Management
- Spectrum Protect server support for Linux™ on Power® Little Endian for Red Hat

Overview

IBM Spectrum Protect V8.1.2 and IBM Spectrum Protect Snapshot V8.1.2 include the following capabilities:

- Native Microsoft Azure Blob storage support integration
- At-rest encryption for directory-container storage pools
- Performance enhancements for container storage pools

- Enhanced monitoring capabilities native to the vSphere Web Client
- Configuration wizard for scheduling Microsoft SQL Server and Exchange Server backups
- Ability to send NetApp NDMP backups to directory and cloud container pools
- Persistent snapshot management of VVOLs
- Optimized recovery for VMware environments
- vSphere Web Client Native HTML5 support, including HTML5 Plug-in Certification
- Support for Microsoft Hyper-V Server 2016 RCT
- Additional scalability enhancements and simplified scheduling for Microsoft Hyper-V Server 2012 and Microsoft Hyper-V Server 2012R2
- Ability to exclude disks for backup for Microsoft Hyper-V VMs
- Spectrum Protect server support for Linux on Power Little Endian for Red Hat
- Automated Data Protection client configuration of the PowerShell interface for SQL Server and Exchange Server
- Ability to preserve Microsoft SQL Server Change Data Capture settings for restore operations
- Improved integration and performance when using Spectrum Protect and Spectrum Scale together
- Enhancements to Spectrum Protect for Space Management for UNIX™/Linux and Windows

Key prerequisites

IBM Spectrum Protect supported devices

Refer to the specific websites listed in the Software requirements section for a complete list of devices that are supported by IBM 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 four drives or more than 48 tape slots require a license for IBM Spectrum Protect Extended Edition.

For complete details, see the Software requirements section.

Planned availability date

August 11, 2017: Electronic availability

Refer to the Availability of national languages section for national language availability.

Description

Native Microsoft Azure Blob storage integration

Microsoft Azure Blob storage can be defined as a target for IBM Spectrum Protect cloud-container storage pools. Primary or secondary copies of data can be stored in the IBM Spectrum Protect Server using Microsoft Azure Blob storage. IBM Spectrum Protect combines its powerful software-defined, inline data deduplication, compression, and encryption with Microsoft Azure Blob storage to create a cost-effective data protection solution. Administrators can configure to use Microsoft Azure Hot or Cool Blob storage.

At-rest encryption for directory-container storage pools

Administrators can secure their directory-container storage pool data with at-rest encryption. They have already been able to do this with cloud-container storage pool data, but now they can do this for their directory-container storage pool data.

The encryption keys are fully managed by the Spectrum Protect server, so that everything is automated and simple. In addition, administrators will be able to encrypt already ingested data to secure existing environments.

Performance enhancements for container storage pools

Performance enhancements for container storage pools with multi-session restores including automatic load distribution. This new feature lowers RTOs for restores coming from container pools to enable faster recoveries for those critical workloads.

Spectrum Protect server support for Linux on Power Little Endian for Red Hat

Running the Spectrum Protect server on the Linux on Power Little Endian Red Hat platform enables you to utilize the scalability and reliability of the Power platform in your overall data protection solution.

Enhanced monitoring capabilities native to the vSphere Web Client

Help VMware administrators quickly identify and resolve problems with scheduled backup events with enhanced monitoring capabilities native to the vSphere Web Client. VMware administrators can quickly identify problems, resolves issues, and re-drive failed backups all from within the vSphere Web Client.

Ability to store NetApp NDMP backups on directory and cloud container storage pools

Expanded support for NetApp environments with ability to send NDMP backups to directory and cloud container storage pools. For those looking to leverage the scalability, data reduction capabilities, and speed of container storage pools, this feature adds the ability to store NetApp NDMP backups on directory and cloud container storage pools.

Persistent snapshot management of VVOLs

Leverage the power of hardware-based persistent snapshots using VVOLs, fully integrated into Data Protection for VMware. Local snapshots can be leveraged as backup versions and provide very efficient recovery operations, enabling users to exploit the power of persistent snapshots for the operational recovery requirements. Local Virtual Volumes snapshot backups provide near instant RTO at VM granularity.

Optimized recovery for VMware environments

Reduce recovery times for large VMs in VMware environments. Optimized restores utilizing dynamic parallel streaming for single large VMs composed of many virtual disks.

vSphere Web Client Native HTML5 support, including HTML5 Plug-in Certification

Follow VMware movement to HTML5 by adding vSphere Web Client Native HTML5 support, including VMware vSphere Web Client Plug-in Certification (HTML-based). vSphere Web Client Native HTML5 support enables VMware administrators to use a consistent UI built on the VMware new Clarity UI standards so it is cross-browser and cross-platform independent with no browser plugins to install or manage. This feature adds the vSphere Web Client Native HTML5 support to Spectrum Protect.

Support for Microsoft Hyper-V Server 2016 RCT

When using Spectrum Protect to provide hypervisor-based data protection in Microsoft Hyper-V Server 2016 environments, this feature exploits the Microsoft RCT architecture to enable scalable and efficient incremental backups of Hyper-V VMs.

Additional scalability enhancements and simplified scheduling for Microsoft Hyper-V Server 2012 and Microsoft Hyper-V Server 2012R2

When using Spectrum Protect to provide hypervisor-based data protection in Microsoft Hyper-V Server 2012 or 2012R2 environments, this feature enables additional scalability and optimization enhancements, as well as simplified scheduling.

Ability to exclude disks for backup for Microsoft Hyper-V VMs

When using Spectrum Protect to provide hypervisor-based data protection in Microsoft Hyper-V Server environments, this feature helps reduce costs by enabling more granular control of data that is backed up. For example, this new feature will enable you to bypass backing up the operating system disk, reducing the time and cost to protect the VM.

Configuration wizard for scheduling SQL Server and Exchange Server backups

Simplified scheduling for SQL Server and Exchange Server backups with an enhanced wizard to guide the administrator and automate the steps for setting up backup schedules on a Spectrum Protect Server. This applies to both Spectrum Protect and Spectrum Protect Snapshot.

Automated data protection client configuration of the PowerShell interface for SQL Server and Exchange Server

Simplify usage of Spectrum Protect when leveraging the Microsoft PowerShell interface with automated configuration of the PowerShell interface for SQL Server and Exchange Server. This applies to both Spectrum Protect and Spectrum Protect Snapshot.

Ability to preserve Microsoft SQL Server Change Data Capture settings for restore operations

Enhanced integration with the Microsoft SQL Server Change Data Capture facility by providing administrators control over retention of Change Data Capture status during restore operations. This applies to both Spectrum Protect and Spectrum Protect Snapshot.

Improved integration and performance when using Spectrum Protect and Spectrum Scale together

When using Spectrum Protect and Spectrum Scale together, specifically when performing restore operations across differing operating systems or hardware platforms, the ACL information is preserved. If you decide to change the operating system or hardware, you can be assured that restores will now preserve the ACL information. In addition, there is improved performance when the backup of a file already has a Space Management copy in the Spectrum Protect server. The file will be copied from the Space Management storage pool to the backup storage pool without data transfer over the network.

Enhancements to Spectrum Protect for Space Management for UNIX/Linux

Enhanced features help usability, deeper integration with Spectrum Scale, increased performance for reconciliation, and better serviceability for Spectrum Protect for Space Management. Space Management reconcile processing performance is improved by leveraging the Spectrum Scale policy engine. Also, the migration processing was improved for files that are stored in Spectrum Scale AFM filesets. The improved migration processing prevents conflicts between AFM and Space Management functions. Support is enhanced through the introduction of dynamic tracing of Space Management daemons.

Enhancements to Spectrum Protect for Space Management for Windows

Enhanced performance for file recalls through optimized management of system resources.

Spectrum Protect Entry License Change

Spectrum Protect Entry changed from Managed Server to Virtual Managed Server license definition. This clarifies more fully the requirement of virtual machine licensing for this product.

Section 508 of the US Rehabilitation Act

IBM[(R)] makes no representation about the Section 508 status of the third-party electronic and information technology product in this offering. Contact the vendor for specific, current information on the Section 508 status of this product.

Reference information

Refer to Software Announcements 216-508, dated December 6, 2016, and 216-085, dated June 14, 2016, 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)

Availability of national languages

Translation information, if available, can be found at the Translation Reports website.

Program number

Program number	VRM	Program name
5725-W98	8.1.2	IBM Spectrum Protect
5725-X11	8.1.2	IBM Spectrum Protect Entry
5725-W99	8.1.2	IBM Spectrum Protect Extended Edition
5725-X15	8.1.2	IBM Spectrum Protect for Data Retention
5725-X01	8.1.2	IBM Spectrum Protect for Databases
5725-X03	8.1.1	IBM Spectrum Protect for Enterprise Resource Planning
5725-X02	8.1.2	IBM Spectrum Protect for Mail
5725-X18	8.1.2	IBM Spectrum Protect for SAN

Program number	VRM	Program name
5725-X04	8.1.2	IBM Spectrum Protect for Space Management
5725-X00	8.1.2	IBM Spectrum Protect for Virtual Environments
5725-X12	8.1.2	IBM Spectrum Protect for Workstations
5725-X13	8.1.2	IBM Spectrum Protect for Workstations-Starter Edition
5725-Z10	8.1.0	IBM Spectrum Protect High Speed Data Transfer
5725-X14	8.1.2	IBM Spectrum Protect HSM for Windows
5725-X05	8.1.2	IBM Spectrum Protect Suite
5725-X07	8.1.2	IBM Spectrum Protect Suite-Front End
5725-X06	8.1.2	IBM Spectrum Protect Suite Entry
5725-X08	8.1.2	IBM Spectrum Protect Suite Entry-Front End (for PPA)
5725-X22	8.1.2	IBM Spectrum Protect Snapshot (for PPA)
5608-AB8	8.1.2	IBM Spectrum Protect Snapshot (for AAS)

Product identification number

IBM Spectrum Protect Snapshot (for AAS)

Program PID number	Subscription and Support PID number	SW Subscription and Support
5608-AB8	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

Business Partner information

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

BP Attachment for Announcement Letter 217-281

Education support

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on IBM Training and Skills.

Call IBM training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Offering Information

Product information is available on the IBM Offering Information website.

More information is also available on the Passport Advantage(R) and Passport Advantage Express(R) website.

Publications

Documentation in English and all available translations will be available in IBM Knowledge Center on the general availability date. Use the IBM Knowledge Center search function or product finder feature to find the specific products that you use.

IBM Spectrum Protect documentation is being revised to focus on the preferred methods for implementing data protection solutions. Version 8.1 documentation includes instructions that are designed to streamline and simplify the process of implementing and managing a single-site or multisite disk solution.

IBM Knowledge Center links to specific IBM Spectrum Protect products:

IBM Spectrum Protect
IBM Spectrum Protect Extended Edition (see IBM Spectrum Protect for detail)
IBM Spectrum Protect for Databases
IBM Spectrum Protect for Enterprise Resource Planning
IBM Spectrum Protect for Mail
IBM Spectrum Protect for SAN (previously know as IBM Tivoli(R) Storage Manager for Storage Area Networks)
IBM Spectrum Protect for Space Management
IBM Spectrum Protect HSM for Windows
IBM Spectrum Protect for Workstations
IBM Spectrum Protect for Virtual Environments
IBM Spectrum Protect Snapshot

Services

Software Services

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

To learn more about IBM Software Services, contact your Lab Services Sales or Delivery Leader.

Technical information

Specified operating environment

Software requirements

IBM Spectrum Protect supported devices

Refer to the specific websites for the list of devices that are supported by IBM 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 four drives or more than 48 tape slots require a license for IBM Spectrum Protect Extended Edition.

For IBM Spectrum Protect supported devices for AIX[(R)] and Microsoft Windows, go to the IBM Spectrum Protect Supported Devices for AIX and Windows website.

For IBM Spectrum Protect supported devices for Linux, go to the IBM Spectrum Protect Supported Devices for Linux website.

Hardware and software requirements for IBM Spectrum Protect V8.1 products are available at the individual product websites listed below.

For IBM Spectrum Protect (5725-W98), IBM Spectrum Protect Extended Edition 5725-W99), and IBM Spectrum Protect for Data Retention (5725-X15)[i], go to the Overview -Tivoli Storage Manager Supported Operating Systems website.

For IBM Spectrum Protect Entry (5725-X11), go to the IBM Spectrum Protect Entry information portals website.

For IBM Spectrum Protect for Databases (5725-X01), go to the IBM Spectrum Protect for Databases - All Requirements Documents website.

For IBM Spectrum Protect for Enterprise Resource Planning (5725-X03), go to the IBM Spectrum Protect for Enterprise Resource Planning - All Requirements Documents website.

For IBM Spectrum Protect for Mail (5725-X02), go to the IBM Spectrum Protect for Mail - All Requirements Documents website.

For IBM Spectrum Protect for Space Management (5725-X04), go to the IBM Spectrum Protect for Space Management (HSM) - All Requirements Documents website.

For IBM Spectrum Protect for SAN (5725-X18), go to the IBM Spectrum Protect for SAN website.

For IBM Spectrum Protect for Virtual Environments (5725-X00), go to the IBM Spectrum Protect for Virtual Environments - All Requirements Doc website.

For IBM Spectrum Protect High Speed Data Transfer (5725-Z10), go to IBM Spectrum Protect High Speed Data Transfer Version 8.1.0 website.

For IBM Spectrum Protect for Workstations (5725-X12) and IBM Spectrum Protect for Workstations Starter Edition (5725-X13), go to the IBM Spectrum Protect for Workstations V8.1.X Hardware and Software Requirements website.

For IBM Spectrum Protect HSM for Windows (5725-X14), go to the Hardware and software requirements for IBM Spectrum Protect HSM for Windows website.

For IBM Spectrum Protect Snapshot (5725-X22 for PPA) (5608-AB8 for AAS), go to the IBM Spectrum Protect Snapshot - All Requirements Documents website.

For technical requirements for IBM Spectrum Protect Suite (5725-X05), IBM Spectrum Protect Suite-Front End (5725-X07), IBM Spectrum Protect Suite Entry (5725-X06), and IBM Spectrum Protect Suite Entry-Front End (5725-X08), refer to the individual product websites listed above.

[1] IBM Spectrum Protect V8.1, IBM Spectrum Protect Extended Edition V8.1, and IBM Spectrum Protect for Data Retention V8.1 have the same hardware, software, and supported device requirements.

Companion products

Organizations that have a SAN environment might consider purchasing IBM Spectrum Control™ in addition to IBM 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 product 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

Packaging

IBM Spectrum Protect products are distributed with:

- *International Program License Agreement* (Z125-3301)
- License Information document
- Electronic download, no DVD media

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which 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.

Direct customer support

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

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

Security, auditability, and control

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.

Ordering information

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

Product group: Spectrum Protect

Product category: Spectrum Protect

Product Identifier Descriptions	PID number
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 for Workstations	5725-X12
IBM Spectrum Protect for Workstations Starter Edition	5725-X13
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 Snapshot (for PPA)	5725-X22
IBM Spectrum Protect Snapshot (for AAS)	5608-AB8

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.

Precursor product	Trade-up product	Trade-up part number
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

Precursor product	Trade-up product	Trade-up part number
IBM Spectrum Protect Suite Entry - Front End (5725-X08)	IBM Spectrum Protect Suite - Front End (5725-X07) Terabyte (1-100) Trade Up from IBM Spectrum Protect Suite Entry - Front End License + SW Subscription & Support 12 Months	D1INJLL

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 8.1.2 (5725-W98)
IBM Tivoli Storage Manager Extended Edition (5608-E02)	IBM Spectrum Protect Extended Edition Version 8.1.2 (5725-W99)
IBM System Storage$^{(R)}$ Archive Manager (5608-E03)	IBM Spectrum Protect for Data Retention Version 8.1.2 (5725-X15)
IBM Tivoli Storage Manager for Databases (5608-E04)	IBM Spectrum Protect for Databases Version 8.1.2 (5725-X01)
IBM Tivoli Storage Manager for Enterprise Resource Planning (5608-E05)	IBM Spectrum Protect for Enterprise Resource Planning Version 8.1.2 (5725-X03)
IBM Tivoli Storage Manager for Mail (5608-E06)	IBM Spectrum Protect for Mail Version 8.1.2 (5725-X02)
IBM Tivoli Storage Manager for Storage Area Networks (5608-E07)	IBM Spectrum Protect for SAN Version 8.1.2 (5725-X18)
IBM Tivoli Storage Manager for Virtual Environments (5725-A44)	IBM Spectrum Protect for Virtual Environments Version 8.1.2 (5725-X00)
IBM Tivoli Storage Manager for Space Management (5608-E12)	IBM Spectrum Protect for Space Management Version 8.1.2 (5725-X04)
None	IBM Spectrum Protect High Speed Data Transfer Version 8.1.0 (5725-Z10)
IBM Tivoli Storage Manager Suite for Unified Recovery (5724-Z12)	IBM Spectrum Protect Suite Version 8.1.2 (5725-X05)
IBM Tivoli Storage Manager Suite for Unified Recovery (5724-Z12)	IBM Spectrum Protect Suite -ProtecTIER$^{(R)}$ Option Version 8.1.2 (5725-X05)
IBM Tivoli Storage Manager Suite for Unified Recovery (5724-Z12)	IBM Spectrum Protect Suite - Archive Option Version 8.1.2 (5725-X05)
IBM Tivoli Storage Manager Suite for Unified Recovery Entry (5725-H25)	IBM Spectrum Protect Suite Entry Version 8.1.2 (5725-X06)
IBM Tivoli Storage Manager Suite for Unified Recovery - Front End (5725-R37)	IBM Spectrum Protect Suite - Front End Version 8.1.2 (5725-X07)
IBM Tivoli Storage Manager Suite for Unified Recovery Entry - Front End (5725-R38)	IBM Spectrum Protect Suite Entry - Front End Version 8.1.2 (5725-X08)
IBM Tivoli Storage Manager Entry (5725-Q58)	IBM Spectrum Protect Entry Version 8.1.2 (5725-X11)
IBM Tivoli Storage Manager HSM for Windows (5608-E13)	IBM Spectrum Protect HSM for Windows Version 8.1.2 (5725-X14)
IBM Tivoli Storage FlashCopy$^{(R)}$ Manager (5724-X94)	IBM Spectrum Protect Snapshot V8.1.2 (5725-X22)

Cross-platform product for use on z Systems^{TM} Integrated Facility for Linux (IFL) engines or zEnterprise$^{(R)}$ 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.

Program name/Description	Part number
IBM Spectrum Protect	**5725-W98**
(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
IBM Spectrum Protect Extended Edition	**5725-W99**
(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
IBM Spectrum Protect for Databases	**5725-X01**
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	D1IRDLL

Program name/Description	Part number
Linux on z Systems 10 Processor Value Units (PVUs) Monthly License	
IBM Spectrum Protect for Mail	**5725-X02**
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
IBM Spectrum Protect for SAN	**5725-X18**
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	D1IULLL
IBM Spectrum Protect Suite	**5725-X05**
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	D1IN3LL

Program name/Description	Part number
Subscription & Support Reinstatement 12 Months	
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	D1INDLL

Program name/Description	Part number
Subscription & Support Reinstatement 12 Months	
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
IBM Spectrum Protect Suite - Front End	**5725-X07**
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (1-100) License + SW Subscription & Support 12 Months	D1IPSLL
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

Program name/Description	Part number
IBM Spectrum Protect Suite - Front End per Linux on z Systems Terabyte (251-500) Monthly License	D1ISFLL
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

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

5608-AB8 -IBM Spectrum Protect Snapshot V8.1

Feature description	Feature number
Per Terabyte (1-12) with 1 Year SW S&S	0001
Per Terabyte (13-32) with 1 Year SW S&S	0002
Per Terabyte (33-64) with 1 Year SW S&S	0003
Per Terabyte (65-100) with 1 Year SW S&S	0004
Per Terabyte (101-250) with 1 Year SW S&S	0005
Per Terabyte (251+) with 1 Year SW S&S	0006
Per 250 Terabyte (251+) with 1 Year SW S&S	0007

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

Extending coverage for a total of two years from the date of acquisition may be elected. Order the program number, feature number, and quantity to extend coverage for your software licenses. If maintenance has expired, specify the after license feature number.

Software license includes 1 year Software Maintenance

IBM Spectrum Protect Snapshot V8.1

1 Year Software Subscription and Support (SW S&S)

5608-AB8	
Feature description	**Feature number**
Per Terabyte (1-12) with 2 Year Software Subscription and Support (SW S&S)	0001
Per Terabyte (13-32) with 2 Year SW S&S	0002
Per Terabyte (33-64) with 2 Year SW S&S	0003
Per Terabyte (65-100) with 2 Year SW S&S	0004
Per Terabyte (101-250) with 2 Year SW S&S	0005
Per Terabyte (251+) with 2 Year SW S&S	0006
Per 250 Terabyte (251+) with 2 Year SW S&S	0007

SW S&S PID 1 Year No Charge Registration

5608-FCY	
Feature description	**Feature number**
Per Terabyte (1-12) with 2 Year Software Subscription and Support (SW S&S)	0001
Per Terabyte (13-32) with 2 Year SW S&S	0002
Per Terabyte (33-64) with 2 Year SW S&S	0003
Per Terabyte (65-100) with 2 Year SW S&S	0004
Per Terabyte (101-250) with 2 Year SW S&S	0005
Per Terabyte (251+) with 2 Year SW S&S	0006
Per 250 Terabyte (251+) with 2 Year SW S&S	0007

SW S&S PID 2 Year Registration

5608-R16	
Feature description	**Feature number**
Per Terabyte (1-12) with 2 Year Software Subscription and Support (SW S&S)	0001

5608-R16

Feature description	Feature number
Per Terabyte (13-32) with 2 Year SW S&S	0002
Per Terabyte (33-64) with 2 Year SW S&S	0003
Per Terabyte (65-100) with 2 Year SW S&S	0004
Per Terabyte (101-250) with 2 Year SW S&S	0005
Per Terabyte (251+) with 2 Year SW S&S	0006
Per 250 Terabyte (251+) with 2 Year SW S&S	0007

SW S&S PID 3 Year Registration

5608-R13

Feature description	Feature number
Per Terabyte (1-12) with 2 Year Software Subscription and Support (SW S&S)	0001
Per Terabyte (13-32) with 2 Year SW S&S	0002
Per Terabyte (33-64) with 2 Year SW S&S	0003
Per Terabyte (65-100) with 2 Year SW S&S	0004
Per Terabyte (101-250) with 2 Year SW S&S	0005
Per Terabyte (251+) with 2 Year SW S&S	0006
Per 250 Terabyte (251+) with 2 Year SW S&S	0007

SW S&S PID 4 Year Registration

5608-R17

Feature description	Feature number
Per Terabyte (1-12) with 2 Year Software Subscription and Support (SW S&S)	0001
Per Terabyte (13-32) with 2 Year SW S&S	0002
Per Terabyte (33-64) with 2 Year SW S&S	0003
Per Terabyte (65-100) with 2 Year SW S&S	0004
Per Terabyte (101-250) with 2 Year SW S&S	0005
Per Terabyte (251+) with 2 Year SW S&S	0006
Per 250 Terabyte (251+) with 2 Year SW S&S	0007

SW S&S PID 5 Year Registration

5608-R18

Feature description	Feature number
Per Terabyte (1-12) with 5 Year Software Subscription and Support (SW S&S)	0001
Per Terabyte (13-32) with 5 Year SW S&S	0002
Per Terabyte (33-64) with 5 Year SW S&S	0003
Per Terabyte (65-100) with 5 Year SW S&S	0004
Per Terabyte (101-250) with 5 Year SW S&S	0005
Per Terabyte (251+) with 5 Year SW S&S	0006
Per 250 Terabyte (251+) with 5 Year SW S&S	0007

Charge metric

For IBM 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.

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect (see note 1)	**5725-W98**	
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[(R)] Blade Center Extension and Linux on z Systems[TM] 10 Processor Value Units (PVUs) License + SW Subscription & Support 12 Months	D1ISJLL	10 PVU
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	E0LWFLL	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
Program name	**Part number or PID number**	**Charge metric**

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Extended Edition (see note 1)	**5725-W99**	
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
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

Program name	Part number or PID number	Charge metric
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

Preview Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for Data Retention	**5725-X15**	
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)
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	D1IWKLL	Per Terabyte (33-64)

Preview Program name	Part number or PID number	Charge metric
(33-64) SW Subscription & Support Reinstatement 12 Months		
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)
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+)
Program name	**Part number or PID number**	**Charge metric**
IBM Spectrum Protect for Databases	**5725-X01**	

Program name	Part number or PID number	Charge metric
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 Units (PVUs) Annual SW Subscription & Support Renewal	E0LWALL	10 PVU
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for Enterprise Resource Planning	**5725-X03**	
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

Program name	Part number or PID number	Charge metric
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for Mail	**5725-X02**	
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 Units (PVUs) Monthly License	D1IRTLL	10 PVU
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for Workstations	**5725-X12**	
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for Workstations Starter Edition	**5725-X13**	
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 Annual SW Subscription & Support Renewal	E0LVYLL	Client device
IBM Spectrum Protect for Workstations - Starter Edition Client Device SW Subscription & Support Reinstatement 12 Months	D1IVILL	Client device
IBM Spectrum Protect for Workstations - Starter Edition Client Device Monthly License	D1ISILL	Client device

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for SAN	**5725-X18**	
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	D1IVKLL	10 PVU

Program name	Part number or PID number	Charge metric
Subscription & Support Reinstatement 12 Months		
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
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	D1IULLL	10 PVU
Program name	**Part number or PID number**	**Charge metric**
IBM Spectrum Protect for Virtual Environments	**5725-X00**	
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	E0LW2LL	10 PVU

Program name	Part number or PID number	Charge metric
Subscription & Support Renewal		
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect for Space Management	**5725-X04**	
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect High Speed Data Transfer	**5725-Z10**	
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Suite	**5725-X05**	
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)
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)	D1IW2LL	Per Terabyte (501-750)

Program name	Part number or PID number	Charge metric
SW Subscription & Support Reinstatement 12 Months		
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 + SW Subscription & Support 12 Months	D1IW5LL	Per Terabyte (1251-2000)
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	D1IN1LL	Per Terabyte (1-100)

Program name	Part number or PID number	Charge metric
Systems Terabyte (1-100) SW Subscription & Support Reinstatement 12 Months		
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 Subscription & Support Reinstatement 12 Months	D1IN3LL	Per Terabyte (101-250)
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	D1IN7LL	Per Terabyte (501-750)

Program name	Part number or PID number	Charge metric
Subscription & Support Reinstatement 12 Months		
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 Subscription & Support Reinstatement 12 Months	D1IN9LL	Per Terabyte (751-1250)
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+)

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Suite per Linux on z Systems Terabyte (2001+) Monthly License	D1IMRLL	Per Terabyte (2001+)
IBM Spectrum Protect Suite -ProtecTIER[R] 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
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
Program name	**Part number or PID number**	**Charge metric**

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Suite Entry	**5725-X06**	
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)

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Suite - Front End	**5725-X07**	
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)

Program name	Part number or PID number	Charge metric
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)
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	E0LV4LL	Per Terabyte (1251-2000)

Program name	Part number or PID number	Charge metric
Subscription & Support Renewal		
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+)
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	D1IPVLL	Per Terabyte (101-250)

Program name	Part number or PID number	Charge metric
Subscription & Support Reinstatement 12 Months		
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 on z Systems Terabyte (251-500) Monthly License	D1ISFLL	Per Terabyte (251-500)
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	D1IUVLL	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	D1IQ1LL	Per Terabyte (751-1250)

Program name	Part number or PID number	Charge metric
Subscription & Support Reinstatement 12 Months		
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 on z Systems Terabyte (1251-2000) Monthly License	D1IV7LL	Per Terabyte (1251-2000)
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+)
Program name	**Part number or PID number**	**Charge metric**
IBM Spectrum Protect Suite Entry - Front End	**5725-X08**	
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)

Program name	Part number or PID number	Charge metric
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)

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Entry	**5725-X11**	
IBM Spectrum Protect Entry Managed Virtual Server License + SW Subscription & Support 12 Months	D1UDULL	Per Managed Virtual Server
IBM Spectrum Protect Entry Managed Virtual Server SW Subscription & Support Reinstatement 12 Months	D1UDVLL	Per Managed Virtual Server
IBM Spectrum Protect Entry Managed Virtual Server Annual SW Subscription & Support Renewal	E0NS8LL	Per Managed Virtual Server
IBM Spectrum Protect Entry Managed Virtual Server Monthly License	D1UDWLL	Per Managed Virtual Server

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect HSM for Windows	**5725-X14**	
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

Program name	Part number or PID number	Charge metric
IBM Spectrum Protect Snapshot	**5725-X22**	
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	E0LUDLL	Per Terabyte (1-12)

Program name	Part number or PID number	Charge metric
1-12 Annual SW Subscription & Support Renwal		
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 Renwal	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 Subscription & Support 12 Months	D1IL3LL	Per Terabyte (33-64)
IBM Spectrum Protect Snapshot per Terabyte 33-64 Annual SW Subscription & Support Renwal	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 Renwal	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)

Program name	Part number or PID number	Charge metric
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 Renwal	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 Renwal	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 IBM Spectrum Protect and IBM Spectrum Protect Extended Edition

Licensing metric definitions

IBM Spectrum Protect for Data Retention (formerly IBM Tivoli System Storage$^{(R)}$ Archive Manager) terabyte capacity

IBM 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 IBM 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 IBM Spectrum Protect Suite, Licensee must obtain sufficient entitlements required for all data stored in the designated IBM Spectrum Protect primary storage pool volumes and for all data stored in the designated Tivoli Storage Manager FastBack(R) repository volumes and for all data managed by the IBM 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 IBM 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 IBM Spectrum Protect Suite - Archive Option component apply only to data classified as archive data within IBM 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 IBM Spectrum Protect's user interface itself or through IBM Spectrum Protect's application programming interface (API). Data stored on virtual tape appears to IBM Spectrum Protect as physical tape. The IBM Spectrum Protect Suite - Archive Option price applies to the capacity level recognized by IBM 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 IBM Spectrum Protect.

Licensee must obtain sufficient entitlements required for all data stored in the designated IBM 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 IBM Spectrum Protect primary storage pool, excluding the capacity for disaster recovery sites used for replication only.

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 IBM Spectrum Protect server (with IBM Db2$^{(R)}$ included) to another IBM Spectrum Protect server (with Db2 included), no additional Db2 licensing is required.

To use HADR to replicate from a IBM 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 IBM 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 IBM Spectrum Protect or IBM 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 IBM 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 IBM Spectrum Protect Extended Edition server can only be used to manage IBM Spectrum Protect Extended Edition components or clients.
- A IBM Spectrum Protect Extended Edition server can act as a target server for disaster recovery purposes, with the exception of node replication, for IBM 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).
- IBM Spectrum Protect or IBM Spectrum Protect Extended Edition licensing requirements for General Parallel File System (GPFS™) and IBM Scale Out Network Attached Storage require IBM Spectrum Protect entitlements for each node performing data movement.
- Entitlement conversions to one of the IBM Spectrum Protect Suites requires entitlement of IBM Spectrum Protect Extended Edition. If there is entitlement of IBM Spectrum Protect, then a trade up to IBM 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 IBM Spectrum Protect or IBM Spectrum Protect Extended Edition. If NDMP is used, then entitlement for IBM 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 IBM Spectrum Protect for SAN entitlement is required for each IBM Spectrum Protect server that is sharing a library where a IBM Spectrum Protect acts as the library manager. An entitlement is required for each library client and library manager. A IBM 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 IBM Spectrum Protect for SAN.

- Client Device entitlements for IBM Spectrum Protect and IBM 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 IBM Spectrum Protect or IBM Spectrum Protect Extended Edition:

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

Systems managed	Quantity in customer environment	Total client device entitlements required
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. IBM Spectrum Protect or IBM Spectrum Protect Extended Edition is required for each system with a database managed by IBM 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 IBM Spectrum Protect for Mail. IBM Spectrum Protect or IBM Spectrum Protect Extended Edition is required for each system with a mail server managed by IBM 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:

- IBM Spectrum Protect or IBM 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.
- IBM Spectrum Protect or IBM 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 IBM Spectrum Protect, IBM Spectrum Protect Extended Edition, or IBM 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
IBM Spectrum Protect or IBM 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
IBM Spectrum Protect or IBM 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 IBM Spectrum Protect or IBM 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 IBM Spectrum Protect or IBM Spectrum Protect Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity IBM Spectrum Protect or IBM 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
IBM Spectrum Protect or IBM Spectrum Protect Extended Edition	4	4	8
IBM Spectrum Protect for Databases	4	0	4
IBM 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 IBM Spectrum Protect Extended Edition, IBM Spectrum Protect for Databases, and IBM 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
IBM Spectrum Protect or IBM Spectrum Protect Extended Edition	4	4	8
IBM Spectrum Protect for Databases	1	0	1
IBM 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.

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 IBM Spectrum Protect or IBM Spectrum Protect Extended Edition backup agent running inside a virtual machine.

The client environment consists of one ESX server 1 with four virtual servers, three running as file servers, and the fourth running as an Oracle server.

Notes:

- The full capacity IBM Spectrum Protect or IBM Spectrum Protect Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity IBM Spectrum Protect or IBM 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
IBM Spectrum Protect or IBM Spectrum Protect Extended Edition	4	4
IBM Spectrum Protect for Databases	4	4

Sub-capacity requirements

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

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

	Customer environment	Entitlements required
4-way NAS Device	4	4
4-way Data Mover	4	0
8-way IBM 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 IBM Spectrum Protect server, the client must obtain the following entitlements for IBM 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 IBM Spectrum Protect for Data Retention server 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 needs to purchase 9 TB of IBM 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 IBM Spectrum Protect for Data Retention for Windows

Scenario 2 (additional capacity)

A customer had purchased 9 TB of IBM 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 IBM 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 IBM Spectrum Protect for Data Retention for Windows

Pricing examples for IBM Spectrum Protect HSM for Windows

Entitlement for IBM Spectrum Protect HSM for Windows is based on the terabyte capacity being space managed (migrated). Capacity is defined as the primary HSM

disk storage pool size combined with the amount of utilized HSM removable media storage pool. Storage pools are configured on the IBM 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 terabyte. 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 IBM 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 IBM 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 IBM Spectrum Protect HSM for Windows

Scenario 2 (additional capacity)

Client had purchased 5 TB of IBM 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 IBM 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 IBM Spectrum Protect HSM for Windows

Pricing examples for IBM Spectrum Protect for Virtual Environments

Protecting VMware environments using IBM 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 IBM Spectrum Protect for Virtual Environments

Notes:

- Either IBM Spectrum Protect or IBM Spectrum Protect Extended Edition are prerequisite products for IBM 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 IBM Spectrum Protect for Virtual Environments.

- IBM 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 IBM Spectrum Protect for Virtual Environments, IBM Spectrum Protect, and IBM Spectrum Protect Extended Edition are not required on the VMware vStorage backup server. IBM Spectrum Protect for Virtual Environment, IBM Spectrum Protect, and IBM 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.
- IBM 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).
- IBM 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
IBM Spectrum Protect or IBM Spectrum Protect Extended Edition	4	8	0	12
IBM 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
IBM Spectrum Protect or IBM Spectrum Protect Extended Edition	0	8	0	0	8
IBM Spectrum Protect	0	8	0	0	8

Quantity of processor core entitlements required for Virtual Environments	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

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

IBM Spectrum Protect Suite and IBM Spectrum Protect Suite - Front End use the same tiered terabyte 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 terabytes.

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

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

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

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

Pricing example for IBM Spectrum Protect Suite Archive Option

Scenario 1

A client has IBM 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 IBM 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 IBM Spectrum Protect Suite Archive Option

Scenario 2 (additional capacity)

A client purchased 9 TB of IBM 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 IBM 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 IBM 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 IBM Spectrum Protect primary storage pool, they require Proof of Entitlements (PoEs) of 20 TB of IBM 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 IBM Spectrum Protect Suite ProtecTIER Option and IBM 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)

IBM Spectrum Protect Suite Entry supports a combined maximum of 100 TB per enterprise in the designated IBM Spectrum Protect primary storage pool volumes and for all data stored in the designated Tivoli Storage Manager FastBack repository volumes.

If a client has 10 TB in their IBM Spectrum Protect primary storage pool and 10 TB in their Tivoli Storage Manager FastBack repository, the client requires PoEs of 20 TB of IBM 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 IBM Spectrum Protect Suite (5725-X05).

Pricing example for IBM Spectrum Protect Suite Entry - Front End

IBM Spectrum Protect Suite Entry - Front End supports a maximum of 100 TB per enterprise for the aggregate amount of data protected by the program.

If a client has 10 TB protected data, the client requires PoEs of 10 TB of IBM 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 IBM Spectrum Protect Suite - Front End (5725-X07).

Pricing example for IBM Spectrum Protect High Speed Data Transfer

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

The High Speed Data Transfer capability is included in IBM Spectrum Protect Extended Edition server, therefore, also included in the IBM Spectrum Protect servers that are in the IBM Spectrum Protect Suites (back end and front end), however it is licensed and sold separately from IBM 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 IBM 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 are:

- IBM Spectrum Protect High Speed Data Transfer requires 2 entitlements, one install for each IBM Spectrum Protect managing server (Los Angeles and New York).

Note: Other IBM 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 IBM 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 are:

- IBM Spectrum Protect High Speed Data Transfer requires 3 entitlements, one install for each IBM Spectrum Protect managing server (Los Angeles, Dallas, and New York)

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

Pricing example for IBM Spectrum Protect Entry products

- A Managed Virtual Server for IBM 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 Virtual Servers per enterprise, up to 25 of which can be virtual host servers.
- Use is supported with 100 or fewer nodes registered to IBM Spectrum Protect per enterprise. The replicated nodes do not count towards the 100 node count.
- IBM Spectrum Protect Entry is only supported on Microsoft Windows, Linux x86, and Linux on POWER[(R)] platform.
- When using Per Managed Virtual Server licensing, entitlement for IBM Spectrum Protect Entry is required for all managed servers including the managing server.
- Clients who are entitled to IBM 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 are:

Product description	Quantity of entitlement required
IBM Spectrum Protect	1
IBM Spectrum Protect (Backup Assistant client)	10
IBM Spectrum Protect for Mail	2
Total IBM 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 are:

Product description	Quantity of entitlement required
IBM Spectrum Protect	1
IBM Spectrum Protect for Virtual Environments	2
IBM Spectrum Protect for Mail	6
IBM Spectrum Protect for Databases	6
Total IBM 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 IBM Spectrum Protect Entry entitlement:	20

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

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

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

Scenario 1

A client purchases IBM 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 IBM Spectrum Protect server for both databases. The client protects 3.5 TB front-end database capacity.

0.5 TB + 3 TB = 3.5 TB

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

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

Scenario 2

A client purchases IBM 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 IBM 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 IBM Spectrum Protect Suite - Front End.

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

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

Scenario 3

A client purchases IBM 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 IBM 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 IBM Spectrum Protect.

The client must purchase (3.5 TB x 2) + (3.5 TB x 4) = 21 TB of IBM Spectrum Protect Suite.

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

Scenario 4

A client purchases IBM 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 IBM 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 TB x 2 = 7 TB of IBM Spectrum Protect Suite.

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

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.

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.

Client Device

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

Licensing metric definitions

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.

Managed Virtual Server

Managed Virtual 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. A virtual server is either a virtual computer created by partitioning the resources available to a physical server or an unpartitioned physical server. Licensee must obtain Managed Virtual Server entitlements for each virtual server managed by the Program.

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.

Terms and conditions

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

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

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

Agreement for Acquisition of Software Maintenance

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

PID	Product name	VRM	License Information number
5725-W98	IBM Spectrum Protect	8.1.2	L-BEBY-AM2LP9
5725-X11	IBM Spectrum Protect Entry	8.1.2	L-BEBY-AM2RG7
5725-W99	IBM Spectrum Protect Extended Edition	8.1.2	L-BEBY-AM2LR4
5725-Z10	IBM Spectrum Protect High Speed Data Transfer	8.1.0	L-BEBY-AAWRHK
5725-X15	IBM Spectrum Protect for Data Retention	8.1.2	L-BEBY-AM2LT5
5725-X01	IBM Spectrum Protect for Databases	8.1.2	L-BEBY-AM2M4D
5725-X03	IBM Spectrum Protect for Enterprise Resource Planning	8.1.1	L-BEBY-AJ53EG
5725-X02	IBM Spectrum Protect for Mail	8.1.2	L-BEBY-AM2M5L

PID	Product name	VRM	License Information number
5725-X18	IBM Spectrum Protect for SAN	8.1.2	L-BEBY-AM2LZ8
5725-X04	IBM Spectrum Protect for Space Management	8.1.2	L-BEBY-AM2M6P
5725-X00	IBM Spectrum Protect for Virtual Environments	8.1.2	L-BEBY-AM2M94
5725-X14	IBM Spectrum Protect HSM for Windows	8.1.2	L-BEBY-AM2M82
5725-X12	IBM Spectrum Protect for Workstations	8.1.2	L-FAMR-ANDCUC
5725-X13	IBM Spectrum Protect for Workstations Starter Edition	8.1.2	L-FAMR-ANDCWN
5725-X05	IBM Spectrum Protect Suite	8.1.2	L-BEBY-AM2QXD
5725-X05	IBM Spectrum Protect Suite - Archive Option	8.1.2	L-BEBY-AM2R3G
5725-X05	IBM Spectrum Protect Suite - ProtecTIER Option	8.1.2	L-BEBY-AM2R8V
5725-X06	IBM Spectrum Protect Suite Entry	8.1.2	L-BEBY-AM2QLY
5725-X07	IBM Spectrum Protect Suite - Front End	8.1.2	L-BEBY-AM2S2Q
5725-X08	IBM Spectrum Protect Suite Entry - Front End (PPA)	8.1.2	L-BEBY-AM2S5P
5725-X22	IBM Spectrum Protect Snapshot (PPA)	8.1.2	L-BEBY-AM2MJU
5608-AB8	IBM Spectrum Protect Snapshot (AAS)	8.1.2	L-BEBY-AM2MJU

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.

For additional information on the IBM Software Support Lifecycle Policy, see the IBM Software Support Lifecycle Policy website.

Money-back guarantee

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

For clarification, note that (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)

Yes. Contact your IBM representative.

Passport Advantage applies

Yes, information is available on the Passport Advantage and Passport Advantage Express website.

Usage restrictions

Yes

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

For additional information, see the License Information document that is available at the IBM Software License Agreement website.

Software Subscription and Support applies

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 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.

Variable charges apply

No

Educational allowance available

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

Multi-Version Measurement

Multi-Version Measurement (MVM) replaces the previously announced Migration Grace Period time limit of six months and allows unlimited time for clients to run more than one eligible version of a software program. Clients may run multiple versions of a program simultaneously for an unlimited duration during a program version upgrade. Clients may also choose to run multiple versions of a program simultaneously for an unlimited duration in a production environment. MVM does not extend support dates for programs withdrawn from service.

For more information about MVM, including requirements for qualification, see the MVM web page. For a list of eligible programs, see the IPLA Execution-Based web page.

Statement of good security practices

IT system security involves protecting systems and information through intrusion 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 regulatory compliant, comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective.

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IBM Electronic Services

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.

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 IBMid 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 IBMid. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledge base. 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.

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 IBMid 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, go to IBMLink.

For software prices, select **Look up IBM standard hardware and software prices (Price) excluding System z$^{(R)}$ 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.

Program Name: IBM Spectrum Protect Snapshot

Orderable Program Number: 5608-AB8

Feature description	PID	Feature code
Per Terabyte (1-12) with 1 Year Software Subscription and Support (SW S&S)	5608-AB8	0001
Per Terabyte (13-32) with 1 Year SW S&S	5608-AB8	0002
Per Terabyte (33-64) with 1 Year SW S&S	5608-AB8	0003
Per Terabyte (65-100) with 1 Year SW S&S	5608-AB8	0004
Per Terabyte (101-250) with 1 Year SW S&S	5608-AB8	0005
Per Terabyte (251+) with 1 Year SW S&S	5608-AB8	0006
Per 250 Terabyte (251+) with 1 Year SW S&S	5608-AB8	0007

Feature description	PID	Feature code
Per Terabyte (1-12) with 1 Year Software Subscription and Support (SW S&S) No Charge Registration	5608-FCY	0001
Per Terabyte (13-32) with 1 Year SW S&S No Charge Registration	5608-FCY	0002
Per Terabyte (33-64) with 1 Year SW S&S No Charge Registration	5608-FCY	0003
Per Terabyte (65-100) with 1 Year SW S&S No Charge Registration	5608-FCY	0004
Per Terabyte (101-250) with 1 Year SW S&S No Charge Registration	5608-FCY	0005
Per Terabyte (251+) with 1 Year SW S&S No Charge Registration	5608-FCY	0006
Per 250 Terabyte (251+) with 1 Year SW S&S No Charge Registration	5608-FCY	0007
Per Terabyte (1-12) with 2 Year Software Subscription and Support (SW S&S)	5608-R16	0001
Per Terabyte (13-32) with 2 Year SW S&S	5608-R16	0002
Per Terabyte (33-64) with 2 Year SW S&S	5608-R16	0003
Per Terabyte (65-100) with 2 Year SW S&S	5608-R16	0004
Per Terabyte (101-250) with 2 Year SW S&S	5608-R16	0005
Per Terabyte (251+) with 2 Year SW S&S	5608-R16	0006
Per 250 Terabyte (251+) with 2 Year SW S&S	5608-R16	0007
Per Terabyte (1-12) with 3 Year Software Subscription and Support (SW S&S)	5608-R13	0001
Per Terabyte (13-32) with 3 Year SW S&S	5608-R13	0002
Per Terabyte (33-64) with 3 Year SW S&S	5608-R13	0003
Per Terabyte (65-100) with 3 Year SW S&S	5608-R13	0004
Per Terabyte (101-250) with 3 Year SW S&S	5608-R13	0005
Per Terabyte (251+) with 3 Year SW S&S	5608-R13	0006
Per 250 Terabyte (251+) with 3 Year SW S&S	5608-R13	0007
Per Terabyte (1-12) with 4 Year Software Subscription and Support (SW S&S)	5608-R17	0001
Per Terabyte (13-32) with 4 Year SW S&S	5608-R17	0002
Per Terabyte (33-64) with 4 Year SW S&S	5608-R17	0003

Feature description	PID	Feature code
Per Terabyte (65-100) with 4 Year SW S&S	5608-R17	0004
Per Terabyte (101-250) with 4 Year SW S&S	5608-R17	0005
Per Terabyte (251+) with 4 Year SW S&S	5608-R17	0006
Per 250 Terabyte (251+) with 4 Year SW S&S	5608-R17	0007
Per Terabyte (1-12) with 5 Year Software Subscription and Support (SW S&S)	5608-R18	0001
Per Terabyte (13-32) with 5 Year SW S&S	5608-R18	0002
Per Terabyte (33-64) with 5 Year SW S&S	5608-R18	0003
Per Terabyte (65-100) with 5 Year SW S&S	5608-R18	0004
Per Terabyte (101-250) with 5 Year SW S&S	5608-R18	0005
Per Terabyte (251+) with 5 Year SW S&S	5608-R18	0006
Per 250 Terabyte (251+) with 5 Year SW S&S	5608-R18	0007

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