

IBM PowerVM V3.1 offers industrial-strength enterprise virtualization for IBM POWER technology-based server models, with enhanced performance, resilience, security, and I/O integration, and IBM PowerVC adds support for IBM POWER9 server

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Overview

IBM[®] PowerVM[®] V3.1, which delivers industrial-strength enterprise virtualization for IBM AIX[®], IBM i, and Linux[®] environments on IBM POWER[®] processor-based systems, has expanded function and new management capabilities.

PowerVM V3.1 represents a major update of the industrial-strength enterprise virtualization that is delivered with POWER technology-based server models. It includes significant enhancements to performance, resilience, security, and I/O integration. PowerVM effectively cloud-enables POWER technology-based servers by providing complete virtualization of resources and accelerated Live Partition Mobility (LPM). Included with PowerVM are an updated hypervisor and updated versions of the Virtual I/O Server (VIOS) and the NovaLink virtualization management agent.

IBM VIOS 3.1 offers improved security and resiliency through a streamlined selection of components and removal of legacy packages that results in a smaller footprint and enhanced performance. VIOS 3.1 enhancements include support for iSCSI (network storage) virtualization, storage multi-pathing, and USB flash drive installation.

When deployed on POWER9[™] technology-based servers, PowerVM V3.1 uses on-chip compression/encryption capabilities to provide a more secure LPM option that encrypts and compresses VMs during mobility operations.

Key prerequisites

- For IBM PowerVM Linux Edition (5765-VL3): IBM POWER 7+, IBM POWER8[®], or IBM POWER9 technology-based server
- For IBM PowerVM Standard Edition (5765-VS3): POWER 7+ or POWER8 technology-based server
- For IBM PowerVM Enterprise Edition (5765-VE3): POWER 7+, POWER8, or POWER9 technology-based server

Planned availability date

Description

An updated version of VIOS is included with PowerVM.

VIOS V3.1 offers improved security and resiliency, with a refreshed code base that features a streamlined selection of components and removal of legacy packages, resulting in a smaller footprint and enhanced performance.

New VIOS V3.1 capabilities include:

- Support for iSCSI (network storage virtualization) for AIX and Linux workloads
- Storage multi-pathing enhancement
- Native compatibility mode for POWER8 and POWER9
- USB flash drive installation

PowerVM V3.1 uses the POWER9 on-chip compression/encryption capabilities to provide a more secure LPM option that encrypts and compresses VMs during mobility operations. Depending upon the size of the VM, this capability can also accelerate LPM operations significantly, due to the compressed image size.

Automation tooling is provided to simplify the VIOS V3.1 upgrade process.

PowerVM Enterprise Edition and PowerVM Linux Edition no longer includes PowerVP™.

With PowerVM 3.1, the Integrated Virtualization Manager (IVM) is no longer included with VIOS.

IBM PowerVC is designed to simplify the management of virtualized and cloud resources in Power Systems™ environments.

The IBM PowerVC 1.4.2 provides:

- Support for all POWER9 enterprise servers
- Latest OpenStack 'Queens' support
- Support for SR-IOV (via HMC)
- Red Hat support for SDI-based NovaLink on POWER9 servers
- PowerVM feature: PAYG (Pay-As-You-Go) Pools
- AIX Secure Boot
- Support Network Node on RHEL 7.x
- Deeper IBM Cloud™ Private and Cloud Automation Manager integration
- Automated storage port load balancing using white lists
- Pluggable driver enablement for FC tape

The prior DBaaS Tech Preview is no longer included with PowerVC 1.4.2.

Program number

Program number	VRM	Program name
5765-VL3	3.1.0	IBM PowerVM Linux Edition
5765-VS3	3.1.0	IBM PowerVM Standard Edition
5765-VE3	3.1.0	IBM PowerVM Enterprise Edition

Product identification number

Program number	Maintenance 1-year PID number	Maintenance ALC PID number	Maintenance 3-year PID number
5765-VL3	5771-PVL ¹	5771-PVA ¹	5773-PVL ¹
Program number	Maintenance 1-year PID number	Maintenance ALC PID number	Maintenance 3-year PID number
5765-VS3	5771-PVS ¹	5771-ALS ¹	5773-PVS ¹
Program number	Maintenance 1-year PID number	Maintenance ALC PID number	Maintenance 3-year PID number
5765-VE3	5771-PVE ¹	5771-EAL ¹	5773-PVE ¹

¹ Maintenance PIDs are already announced. They are listed here for reference only.

Offering Information

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

Publications

None

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. 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

Hardware requirements

- For PowerVM Linux Edition (5765-VL3): POWER 7+, POWER8, or POWER9 technology-based server
- For PowerVM Standard Edition (5765-VS3): POWER 7+ or POWER8 technology-based server
- For PowerVM Enterprise Edition (5765-VE3): POWER 7+, POWER8, or POWER9 technology-based server

Software requirements

Not applicable

Planning information

Packaging

This offering is delivered through the internet as an electronic download at [IBM's My Entitled Systems Support](#) website.

Security, auditability, and control

IBM PowerVM uses the security and auditability features of the host hardware or software.

The client is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Consult your IBM representative.

Program description

Program number	Description
5765-VL3	IBM PowerVM Linux Edition
5765-VS3	IBM PowerVM Standard Edition
5765-VE3	IBM PowerVM Enterprise Edition

Program number	Feature description	OTC feature number
5765-VL3	Per Processor Core Medium System	0002
5765-VL3	Per Processor Core Small System	0003

Program number	Feature description	OTC feature number
5765-VS3	Per Processor on Small System	0006
5765-VS3	Per Processor on Medium System	0004
5765-VS3	Per Processor on Large System	0001

Program number	Feature description	OTC feature number
5765-VE3	Per Processor Core Medium No Charge	0003
5765-VE3	Per Processor Core Small No Charge	0005
5765-VE3	Upgrade from 5765-VS3 Per Processor Core Medium	0004
5765-VE3	Upgrade from 5765-VS3 Per Processor Core Small	0006
5765-VE3	Per Processor Core Medium POWER8	0007
5765-VE3	Per Processor Core Small POWER8	0008

Charge metric

Program name	Part number or PID number	Charge metric
PowerVM Linux Edition	5765-VL3	Per Processor Core
PowerVM Standard Edition	5765-VS3	Per Processor Core

Program name	Part number or PID number	Charge metric
PowerVM Enterprise Edition	5765-VE3	Per Processor Core

Processor Core (or Processor)

Processor Core (or Processor) is a unit of measure by which the program can be licensed. Processor Core (or Processor) is a functional unit within a computing device that interprets and executes instructions. A Processor Core consists of at least an instruction control unit and one or more arithmetic or logic unit. With multicore technology, each core is considered a Processor Core. Entitlements must be acquired for all activated Processor Cores available for use on the server.

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 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 entitlements for this program sufficient to cover the processor cores managed by program.

System Program Order (SPO)

An order for SPO 5692-A6P is mandatory for shipments of program distribution. The individual licensed program orders are for registration and billing purposes only. No shipment occurs under these orders.

Program number	Program/Function name	Feature number
5692-A6P	IBM PowerVM V3 / VIOS	2344
5692-A6P	IBM PowerVM V3 Expansion Pack	2345

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License Information number

See the [License Information documents](#) web page on the IBM Software License Agreement website for more information.

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.

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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 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. 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.

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

For clarification, note that 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

No

Usage restrictions

See the [License Information documents](#) website for any new or revised restrictions.

Software Subscription and Support applies

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

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

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.

IBM Operational Support Services - SoftwareXcel

No

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

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

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

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

Now integrated into the base operating system of AIX V7, 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.

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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 knowledgebase. Using Premium Search and the Electronic Service Agent information that has been collected from your system, you are able to see search results that apply specifically to your systems.

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

Prices

For additional information and current prices, contact your local IBM representative.

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

Extending coverage for a total of three 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.

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5765-VS3	IBM PowerVM Standard Edition
5765-VE3	IBM PowerVM Enterprise Edition

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5765-VS3	Per Processor on Large System	0001

Program number	Feature description	OTC feature number
5765-VE3	Upgrade from 5765-VS3 Per Processor Core Medium	0004
5765-VE3	Upgrade from 5765-VS3 Per Processor Core Small	0006
5765-VE3	Per Processor Core Medium POWER8	0007
5765-VE3	Per Processor Core Small POWER8	0008

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[ENUS-218-346-LIST_PRICES_2018_10_09.PDF](#)

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Corrections

(Corrected on October 29, 2018)

Added prices.