



IBM Wave for z/VM Version 1 Release 2 further simplifies virtualization management of z/VM and Linux on z Systems

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At a glance

IBM^(R) Wave for z/VM^(R) (IBM Wave) dramatically simplifies the management of virtualized environments into an intuitive experience, to help reduce the cost and skills of managing z/VM and LinuxTM environments on z SystemsTM servers.

IBM Wave Release 2 further expands the capabilities by delivering increased support for Linux distributions and devices, as well as additional enterprise-grade security and performance enhancements.

New enhancements provide:

- Reporting improvements
 - Users can now create customized reports on resources managed by IBM Wave.
- Support of latest Linux distributions
 - Red Hat Enterprise Linux (RHEL) 7
 - SUSE Linux Enterprise Server (SLES) 12

New function in IBM Wave V1.2 includes the following service stream enhancements:

- Improves integration with existing LDAP environments
- Extends the reach of IBM Wave to provision across CPCs
- Improves support for Linux distributions, file systems, networking, and FCP-attached devices
- Delivers rich management functionality for provisioning and managing emulated FBA devices (EDEVs) on SCSI LUNs
- Enhances security to strengthen both control and audit functions
- Offers serviceability enhancements through First Failure Data Capture
- Improves performance in configuration auto-detect processing

Overview

Organizations that want to expand their business using virtualization technology often find that they are limited by budget, skills, management complexity, and other challenges. With IBM Wave, IT organizations can unleash the power of z/VM

virtualization, improve productivity, and simplify administration and management to jump-start their journey to a highly virtualized private cloud environment using enterprise-grade Linux on z Systems.

IBM Wave allows IT organizations and service providers to simplify and automate z/VM administration and management by using an intuitive graphical, content-rich interface to manage z/VM and Linux guests. IBM Wave helps perform critical administrative and operational tasks quickly, reducing the possibility of costly errors. Using an information-rich user interface, it helps you simplify the administration of virtual resources, monitor and manage virtual guests, and provision new virtual servers. IBM Wave can help administrators manage z/VM accounts for systems and guests, including user profiles and permission settings, using a centralized management focal point, and also helps with auditing functions. IBM Wave can reduce the time to execute several typical z/VM tasks by up to 80% on average, compared to manual execution.

In addition to integrating new function delivered in IBM Wave V1.1 service packs, Release 2 provides enhanced reporting and increased support for Linux distributions and devices, as well as additional enterprise-grade security and performance enhancements.

IBM Wave brings value to all enterprise-grade Linux on z Systems solutions in simplifying management and administrative functions, including Enterprise Linux Server, IBM Infrastructure Suite for z/VM and Linux, which contains a suite of z/VM and Linux management tools, and also Enterprise Cloud System.

IBM Infrastructure Suite for z/VM and Linux (5698-IS2) includes IBM Wave for z/VM. As of June 19, 2015, the suite will be updated to include V1.2 of IBM Wave for z/VM. For more information about Infrastructure Suite, refer to Software Announcement [AP14-0349](#), dated September 2, 2014.

For additional information on Infrastructure Suite for z/VM and Linux, refer to

https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/W9b511b099ded_4e32_abfb_ed8ce4da5b17

Key prerequisites

IBM z Systems™ server using a currently supported release of z/VM

Planned availability date

June 19, 2015

Description

IBM Wave provides a simplified approach to the management of IBM z Systems servers running z/VM and Linux. z Systems servers can be configured with z/VM instances that can run hundreds to thousands of virtual Linux servers with each one supporting individual workloads.

IBM Wave's intelligent visualization of the virtual server environment and physical infrastructure provides intuitive management of physical servers, z/VM, Linux guests, and other resources. IBM Wave provides the necessary capabilities for virtual server provisioning and can readily scale as you grow your enterprise. With IBM Wave, you can rapidly gain insight into your entire virtualized infrastructure topology at a glance and also accelerate the path to a highly virtualized cloud infrastructure.

New capabilities in IBM Wave V1.2 provide enhanced reporting and increased support for Linux distributions

- Enhancements to the reporting functions:
 - Enable users to generate customized reports of resources on demand.

Current reporting tools supplied by IBM Wave allow for tracking of changes within the IBM Wave managed environment. Release 2 extends the reporting functionality further to include additional data, and allow more user customization and report resources.

The increased functionality will include more comprehensive report templates which will grant the user the ability to manually select which object attributes to report on. IBM Wave generated reports can be exported to an external format for easier viewing. Reporting features that include new attributes and resources will continue to follow scopes and permissions as they are implemented for reporting today. As an example, if a user does not have permission to access DASD, they will not be able to view DASD data in a report.
 - Make reports more comprehensive by providing more attributes for the various reporting resources, so that users can generate reports with more meaningful data.
 - Make reports more customizable by allowing custom attributes, manually specified within IBM Wave by the user, to be reportable.
 - Provide exportable reports so users can export their reports to an external format via an "Export to CSV" button, so they can manipulate and work with it outside of IBM Wave.
 - Provide changes that make report management flows more usable.
- Support for the latest Linux distributions from Red Hat and SUSE
 - Red Hat Enterprise Linux (RHEL) 7
 - SUSE Linux Enterprise Server (SLES) 12

In addition to now supporting RHEL7 and SLES12, all currently supported and serviced RHEL and SLES releases can be managed by IBM Wave.

Additional capabilities were previously delivered in IBM Wave Release 1 service packs and are integrated into IBM Wave V1.2

- Integration with your environment
 - Use your existing LDAP configuration with IBM Wave.
 - Implement a site-specific configuration using a new PROFILE EXEC exit.
- Extended management reach
 - Bare Metal Install (BMI) support for SLES10, SLES11, RHEL5, and RHEL6
 - FCP-direct-attached device support for SLE11 SP3 and RHEL6 guests
 - New filesystem (Ext4) support (RHEL6 only)
 - Hyper Parallel Access Volume (HyperPAV) toleration
 - Layer 2 network support for BMI
- Richer management functionality
 - Enhanced support for FCP SCSI-only environments using EDEVs
 - Storage-based actions, such as create guest, clone, manage storage, and duplicate definitions, with support for EDEVs
 - EDEV and World Wide Port Name (WWPN) management (create, view, modify, and delete EDEVs from the IBM Wave user interface)
 - Cross-system cloning¹
- Security and auditability enhancements
 - Verisign authenticated code signing certificates

- Support for user-specified minidisk passwords for the service machines during auto detection
- LDAP environment checker to test your configuration
- Mixed-case password support for authorized Target Virtualization Platform (TVP) API users
- Reduction in the number of SMF records generated
- Serviceability enhancements
 - First Failure Data Capture (FFDC) utility to capture diagnostic data from the client
- Performance enhancements
 - Performance improvements in the auto-detection process

¹Requires z/VM 6.2 or later

IBM Wave is developed using lean and agile principles, providing enhancements and new function on an ongoing basis. These enhancements are made available via service packs.

For additional information on IBM Wave, refer to Software Announcement [AP14-0028](#), dated February 24, 2014.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Engine-based Value Unit pricing

Engine-based Value Unit pricing for IBM Wave is designed to provide a decreasing price curve as hardware capacities and workload grow, which may help improve price/performance.

There may also be a price benefit when you grow your capacity. Additional capacity is not priced starting at the base with a flat price per unit. Instead, additional capacity is priced starting at the capacity (processors) on which IBM Wave has already been installed, which may result in a lower unit price.

Note: Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

IPLA and Subscription and Support considerations

A no-charge Subscription and Support registration record will be established for each designated machine where IBM Wave is running. These no-charge Subscription and Support registration records will be linked to the billable Subscription and Support and all billable Subscription and Support within the scope of the engine-based Value Units aggregation will be linked together.

Subscription and Support (S&S) is an annual charge and should be kept at an annual term.

Product positioning

IBM Wave is a key product in strengthening the user experience of Linux on z Systems. It is an innovative z/VM management solution that not only drives superior insight into z/VM management and administrative functions, but delivers compelling management capabilities, such as grouping of resources, filtering, electronic notes,

and dynamic displays. Designed for IT organizations, including Managed Service Providers (MSPs), this solution helps simplify the management of even the most complex z/VM environments. IBM Wave combines information-rich management with visualization to provide a user experience to reduce the cost and complexity of operations, management, and administration. Innovations like digital reminder notes provide a policy-based management approach to effectively manage single and multiple systems.

IBM Wave is designed to reduce errors through innovative interfaces, dramatically simplifying z/VM management, and can be suitable for staff of various skill levels. IBM Wave manages a broad spectrum of resources, clones or provisions Linux images, manages user accounts, and provides reporting functions, all quickly and intuitively. With its deep visibility into z/VM and Linux resources you can organize and structure your environment and accelerate critical steps needed for building a private cloud.

IBM Wave provides value to system administrators, system programmers, and operators, who are challenged by the lack of time for complicated management tasks. IBM Wave benefits the IT manager who must reduce the cost and delays of Linux deployment on z/VM and optimize the use of limited, highly skilled resources. It helps accelerate your path to a private cloud using the skills you may already have available. Organizations deploying Linux on z/VM can host more virtual servers than any other platform in a single footprint. The value of this cost-effective consolidation platform is amplified even further when using the rich management environment of IBM Wave.

IBM Wave is an essential tool for simplifying and automating z/VM and Linux virtual server management. Other IBM products, such as IBM Tivoli^(R) OMEGAMON^(R) XE on z/VM and Linux and IBM Operations Manager, are complementary products you may wish to consider for additional z/VM management capabilities. IBM Wave is also included with IBM Infrastructure Suite for z/VM and Linux, which contains a suite of z/VM and Linux management tools. For additional z/VM systems and storage management products, visit

<http://www.ibm.com/software/stormgmt/zvm/>

Statement of general direction

IBM intends to provide enhanced audit logging to allow an IBM Wave administrator to satisfy corporate auditing needs by accessing a consolidated log of specified auditable activities.

IBM intends to support the installation and execution of the IBM Wave server (IBM WAVESRV) on RHEL 7 and SLES 12 distributions in a future service update.

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

Reference information

For additional information on IBM Wave for z/VM, refer to Software Announcement [AP14-0028](#), dated February 24, 2014.

For information about IBM Infrastructure Suite for z/VM and Linux, refer to Software Announcement [AP14-0349](#), dated September 2, 2014.

For information about IBM z/VM and the Performance Toolkit for VM, refer to z/VM V6.3 Software Announcement [AP13-0295](#), dated July 23, 2013.

For information about the IBM z Systems servers, refer to:

- IBM z13™ Hardware Announcement [AG15-0001](#), dated January 14, 2015.
- IBM zEnterprise[®] EC12 Announcements
 - Hardware Announcement [AG13-0131](#), dated July 23, 2013.
 - Withdrawal Announcement [WP12-0095](#), dated August 14, 2012.
- IBM zEnterprise BC12 Hardware Announcement [AG13-0134](#), dated July 23, 2013.

IBM Wave for z/VM services

IBM Systems Lab Services can provide services to help you quickly deploy and exploit IBM Wave for z/VM. Lab Services has a worldwide team of IBM z Systems specialists with in-depth experience with z/VM, Linux, and IBM Wave. They specialize in helping clients get the most out of their new z Systems technology. Lab Services can provide assistance with all phases of deployment (planning, installation, configuration, and training). Lab Services can work with you to help ensure you are getting the most out of the product by demonstrating use cases and configuring the product to best fit your needs. Lab Services can help with integration aspects, such as directory-based authentication and role definitions, so the product can be safely utilized by more than just your system programmers. In many cases, you can expect the services to be completed within a few days. Lab Services is focused on virtualization and Linux on z Systems, and specialized requests are accepted and handled. Lab Services have been helping z Systems clients build customized provisioning solutions to fit their specific business needs for years. To learn more about our offerings, visit

http://www.ibm.com/systems/services/labservices/platforms/labservices_z.html

To discover what IBM System Lab Services and Training can do for you, contact us at stgls@us.ibm.com

Program number

IBM Wave for z/VM

Program number	VRM	Program name
5648-AE1	1.2.0	IBM Wave for z/VM
5648-AE2	1.1.0	IBM Wave for z/VM S&S

IBM Infrastructure Suite for z/VM and Linux

Program number	VRM	Program name
5698-IS2	1.1.0	Infrastructure Suite for z/VM and Linux
5698-IS1	1.1.0	Infrastructure Suite for z/VM and Linux S&S

For information on ordering Infrastructure Suite for z/VM and Linux, refer to Software Announcement [AP14-0349](#), dated September 2, 2014.

Offering Information

Product information is available via the Offering Information website

Publications

The IBM Wave for z/VM product information includes three publications in Adobe™ PDF format and one license information DVD:

Title	Order number
IBM Wave for z/VM Agreements and License Information (DVD)	LC27-6120
IBM Wave for z/VM: License Information (PDF)	GI13-3435
IBM Wave for z/VM: Administration and Customization (PDF)	SC27-6118
IBM Wave for z/VM: User Guide and Reference (PDF)	SC27-6119

One copy of the license information DVD is supplied with IBM Wave for z/VM when physical media are ordered. When ordering IBM Wave from Shopz, the license information can also be viewed or downloaded from Shopz.

The IBM Wave publications in HTML format are available in the IBM Knowledge Center at

<http://www.ibm.com/support/knowledgecenter/SS6JTX/welcome>

The IBM Wave publications in PDF format can be obtained from the IBM Publications Center at

<http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>

The IBM Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. A large number of publications are available online in various languages and file formats, and they can be downloaded by all countries, free of charge. Payment options for orders of physical media are via credit card (in the USA) or customer number for 20 countries.

You can view a PDF file using the Adobe Reader, which is available free from the Adobe website at

<http://www.adobe.com>

You can also print the entire publication or just the section in which you are interested.

IBM Wave product page

For current information on IBM Wave and for related resources, refer to the website at

<http://www.ibm.com/systems/z/solutions/cloud/wave/>

Redbooks^(R) and Redpapers^(TM)

IBM Redbooks and Redpapers are developed and published by the IBM International Technical Support Organization (ITSO). They are intended to develop and deliver skills, technical know-how, and materials to IBM technical professionals, IBM Business Partners, clients, and the marketplace in general.

IBM Redbooks can be found at

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

Technical information

Specified operating environment

Hardware requirements

IBM Wave requires one of the following IBM z Systems servers running a currently supported release of z/VM:

- z13™
- zEnterprise EC12
- zEnterprise BC12
- zEnterprise 196
- zEnterprise 114
- System z10^(R) Enterprise Class
- System z10 Business Class

Prior to installing, refer to the following Preventive Service Planning (PSP) buckets for the minimum MCL level and any required updates or PTFs:

- DEVICE2964 for the z13
- DEVICE2827 for the zEnterprise EC12
- DEVICE2828 for the zEnterprise BC12
- DEVICE2817 for the zEnterprise 196
- DEVICE2818 for the zEnterprise 114
- DEVICE2097 for the System z10 Enterprise Class
- DEVICE2098 for the System z10 Business Class

Software requirements

IBM Wave requirements

- IBM Wave requires one of the following operating systems:
 - z/VM V6.3
 - z/VM V6.2
 - z/VM V5.4

Note: For additional function announced for z/VM V6.3, refer to IBM Hardware Announcement [AG14-0009](#), dated February 24, 2014.

- IBM Wave utilizes the z/VM System Management API (SMAPI) interface and requires the optional, priced IBM Directory Maintenance Facility (DirMaint™) or an equivalent systems management product to perform various directory management functions.
- For networking:
 - TCP/IP for z/VM (IPv4) must be configured and active.
 - Telnet access must be enabled.
 - FTP server must be running.
- The following prerequisites must be met on every workstation running the IBM Wave GUI client:
 - Microsoft™ Windows™ with Java™ V1.7 installed (64-bit installation is recommended)
 - IP access to all managed z/VM systems and to the IBM Wave WAVESRV server

- Secure Shell (SSH) server, Linux z/VM CP interface device driver (VMCP), and CMS File System (CMSFS) installed on all Linux on z Systems guests being managed by IBM Wave

Linux on z Systems

To operate Linux on z Systems as a guest of z/VM, a Linux on z Systems distribution must be obtained from a Linux distribution partner. IBM WAVESRV requires one of the following Linux distributions:

- Red Hat Enterprise Linux (RHEL) 6
- SUSE Linux Enterprise Server (SLES) 11

For specific function and for the most current information on Linux distributions, refer to

<http://www.ibm.com/systems/z/os/linux/dist.html>

For current promotional pricing for Linux distributions, refer to

http://www.ibm.com/systems/z/os/linux/about/about_gettingstarted.html

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

Companion products

IBM Wave utilizes the Performance Toolkit for VM feature of z/VM (Performance Toolkit for VM), if present, to collect performance information from z/VM and Linux guests for monitoring of the system behavior. High-level performance data can be viewed for every active z/VM guest, as well as globally for the entire z/VM system.

For more detailed performance management and alerting, IBM offers OMEGAMON XE on z/VM and Linux. For additional information about OMEGAMON XE on z/VM and Linux, refer to Software Announcement [AP10-0073](#), dated April 27, 2010.

Planning information

Customer responsibilities

If you want the level of service provided under the IBM ICA license agreement with z Systems and z/VM licensed products, you are strongly encouraged to order the program number for IBM Wave for z/VM S&S (5648-AE2). This program number provides enhanced support that includes telephone assistance (voice support for defects during normal business hours) and access to updates, releases, and versions of the program for as long as support is in effect. IBM Wave for z/VM S&S will be automatically added to your order. If you do not want the S&S license for IBM Wave for z/VM, you must take specific action to decline this support.

To host Linux guests on z/VM, you must also obtain a Linux for z Systems distribution. Information about Linux distribution partners that have a marketing relationship with IBM can be found at

<http://www.ibm.com/systems/z/os/linux/dist.html>

Packaging

IBM Wave for z/VM

The IBM Wave for z/VM product package is distributed with the following:

- License information on DVD (LC27-6120)

- Basic machine-readable material on one DVD (LCD7-6058)

Security, auditability, and control

The announced product uses the security and auditability features and functions of host hardware, host software, and application 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

The program in this announcement has Value Unit-based pricing.

Program number	Program name	Value Unit exhibit
5648-AE1	IBM Wave for z/VM	VUE021

For each z Systems IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the "required license capacity." Your required license capacity is based upon the following factors:

- The z Systems IPLA program you select
- The applicable Value Unit exhibit
- The applicable terms

Charge metric

Pricing metric description

The product in this announcement has one pricing metric: Value Units based on the number of processors. Value Unit pricing with a decreasing one-time charge (OTC) price per engine, subject to the tiers as documented in Value Unit Exhibit VUE021, is available for IBM Wave for z/VM. Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

Engine-based Value Unit pricing of IBM Wave for z/VM is different than MSU-based Value Unit pricing, which is available on other IBM software products.

Program name	Program number	Pricing metric description
IBM wave for z/VM	5648-AE1	value units

Value Unit pricing for IBM Wave provides a lower price per processor as more Value Units are licensed with IBM Wave. You may aggregate the capacity for all the processors running IBM Wave across the enterprise to achieve a more economical price. There may also be a price benefit when you increase your capacity. Additional capacity is not priced starting at the base with a flat price per unit. Instead, additional capacity is priced starting at the capacity on which IBM Wave for z/VM has already been installed, which may result in a lower unit price.

Engine-based Value Unit pricing is designed to provide a lower entry price and a decreasing price curve as hardware capacities and workload grow, which may help improve price/performance. Engine-based Value Unit pricing is different than MSU-based Value Unit pricing, which is available on other IBM software products. Value Unit pricing may help clients:

- Add capacity and workload with an incremental and improved price

- Manage software costs better
- Aggregate licenses acquired across machines that are part of their enterprise

Translation from Processor to Value Units

The total number of engine-based Value Units is calculated according to the following example.

If the customer has installed six processors and will be operating IBM Wave on all six processors, the applicable Value Units would be:

$$(3 * 10) + (3 * 9) = 57 \text{ value units}$$

The product in this announcement is available with IBM Software On/Off Capacity on Demand (On/Off CoD). If you are running On/Off CoD on your IBM servers, you can now also pay for IBM Wave for z/VM on a processor per-day basis during your peak periods.

Basic license

Ordering information for IBM Wave for z/VM V1.2 remains unchanged. For details, refer to Software Announcement [AP14-0028](#), dated February 24, 2014.

On/Off COD ordering information for IBM Wave for z/VM V1.2 remains unchanged. For details, refer to Software Announcement [AP14-0028](#), dated February 24, 2014.

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^(R) Agreement, and IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

Agreement for Acquisition of Software Maintenance

The following agreement applies for Software Subscription and Support (Software Maintenance) and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

This program is 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. This program has 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

GI13-3435

The program's License Information will be available for review on the IBM Software License Agreement website

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

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, consult the *IBM Software Support Handbook* found at

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

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

Program support

Enhanced support, called Subscription and Support, includes telephone assistance, as well as access to updates, releases, and versions of the program as long as support is in effect. You will be notified of discontinuance of support with 12 months' notice.

Money-back guarantee

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

For clarification, note that for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Volume orders (IVO)

No

Passport Advantage applies

No

Usage restriction

Yes

- IBM Wave for z/VM Version 1 Release 2 (the "Program") operates on the IBM z13, IBM zEnterprise EC12 (zEC12), IBM zEnterprise BC12 (zBC12), IBM zEnterprise 196 (z196), IBM zEnterprise 114 (z114), IBM System z10 Enterprise Class (z10™ EC), and IBM System z10 Business Class (z10 BC).

- Licensee's entitlement is for only the quantity of engine-based Value Units licensed. These engine-based Value Units can be for either standard processors (referred to as "Central Processors" or "CPs") or Integrated Facility for Linux processors ("IFLs").
- The designated measure for the purpose of Value Unit calculation is Engines. An Engine is a central processor (CP) or a speciality processor, such as an Integrated Facility for Linux (IFL) processor, configured for use on a z Systems server. If the Program is used on any CP Engine on a z Systems server, Licensee must acquire entitlements sufficient to cover all CP Engines on that z Systems server. If the Program is used on any IFL Engine on a z Systems server, Licensee must acquire entitlements sufficient to cover all IFL Engines on that z Systems server.
- Licensee may only transfer the Program to another party, in connection with Licensee's transfer of the machine on which Licensee is entitled to operate the Program (referred to as a "Limited Transfer"), provided that any such Limited Transfer of the Program requires Licensee to transfer Licensee's rights and obligations under the Agreement to the transferee and therefore terminates Licensee's authorization to continue to use the Program. When the machine and the Program are transferred, Licensee must either provide a printed copy of the Agreement or, if electronic licensing is used for the Program, take the necessary actions that will require electronic acceptance of the Agreement by the transferee prior to the transferee's first use of the Program.
- This Program is not designed, licensed, or intended for use in the design, construction, operation, or maintenance of any nuclear facility.

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

15% to qualified educational institution customers

On/Off CoD

To be eligible for On/Off CoD pricing, you must be enabled for temporary capacity on the corresponding hardware, and the required contract, Attachment for IBM z Systems On/Off Capacity on Demand (Z125-7883), must be signed prior to use.

Statement of good security practices

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

Prices

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

To view pricing information, visit

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

For software prices, select "Look up IBM System z^(R) software prices (ESWPrice)" 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.

IBM Global Financing

IBM Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both IBM and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or visit

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

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

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

AP distribution

Country/Region	Announced
AP IOT	
ASEAN *	Yes
India/South Asia **	Yes
Australia	Yes
Hong Kong	Yes
Macao	Yes
New Zealand	Yes
People's Republic of China	Yes
South Korea	Yes
Taiwan	Yes
Japan IOT	
Japan	Yes

* Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam

** Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka

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Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Adobe is a trademark of Adobe Systems Incorporated in the United States, and/or other countries.

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