

IBM z/VM V6.1 - Foundation for future virtualization growth

IBM United States Software Announcement 209-401
October 20, 2009
















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z/VM® V6.1 is designed to offer:

- Exploitation of System z10 cache prefetch capabilities to help improve the performance of virtual networking especially in environments running heavy guest-to-guest streaming workloads
- Exploitation of FICON® Express8 to help provide faster access to data with significantly increased performance and may also allow for the consolidation of existing FICON channels onto fewer FICON Express8 channels
- Simplified installation of IBM® Systems Director by providing the z/VM Manageability Access Point (zMAP) Agent that includes the Platform Agent
- Enhancements planned for delivery in the IBM service stream by year-end 2009:
 - Guest support for Crypto Express3, the newest in a line of state-of-the-art, tamper-sensing and tamper responding, programmable cryptographic features of the System z10 servers
 - Support for IBM System Storage™ DS8000™ Extended Address Volumes (EAV), which can be as large as 223 GB, help relieve storage constraints as well as simplify storage management by providing the ability to manage fewer, large volumes as opposed to many small volumes
- Inclusion of z/VM V5.4 enhancements delivered in the IBM service stream providing a CMS-based z/VM SSL server and support for:
 - Linux® guests using dynamic storage reconfiguration
 - IBM FlashCopy® SE
 - Worldwide port name (WWPN) prediction tool
 - OSA-Express QDIO data connection isolation
 - Additional tape encryption
 - Multiple file dumps

For ordering, contact your IBM representative or an IBM Business Partner. For more information, contact the Americas Call Centers at 800-IBM-CALL (426-2255).

Reference: LE001

Version 6 Release 1 (V6.1) is the newest version of z/VM and is intended to be the base for all future z/VM enhancements. This release implements a new Architecture Level Set (ALS) available only on the IBM System z10 Enterprise Class server and System z10 Business Class server and future generations of System z® servers. Requiring z10 technology or later allows z/VM to take advantage of newer hardware technology for future exploitation.

IBM System z has a rich heritage of innovation in the area of virtualization and has refined the infrastructure with a coordinated investment in hardware, firmware, hypervisors, and operating systems to enable exceptional qualities of service in the support of virtualization. z/VM V6 is optimized for consolidating workloads on the System z10 servers, helping clients build an even more cost effective dynamic infrastructure with exceptional levels of business resilience, speed-to-market, and the flexibility to expand and contract system resources to match business needs.

Enhancements in z/VM V6.1 provide:



- Enhanced performance of virtual networking environments running heavy guest-to-guest streaming workloads
- Faster access to data when utilizing FICON Express8
- Closer integration with IBM Systems Director to eliminate the need to download agents and help simplify the installation of those agents
- Significantly better and more highly secure guest transactions when using Crypto Express3 as compared to Crypto Express2
- Guest support for IBM System Storage DS8000 Extended Address Volumes (EAVs) to help simplify storage management and relieve address constraints

The advanced virtualization technologies available with the z/VM hypervisor combined with the highly attractive economics on the highly secure and reliable System z10 servers help clients extend the business value of mainframe technology across the enterprise by integrating applications and data while providing exceptional levels of availability, security, and operational ease.

Many IBM System z clients have found that the combination of Linux on System z and z/VM not only offers server consolidation savings, but also enables the flexible deployment of business-critical enterprise solutions on System z servers configured with Integrated Facility for Linux (IFL) specialty engines. z/VM virtualization technology is designed to provide the capability for clients to run hundreds or thousands of Linux servers as z/VM guests in a single mainframe while hosting other System z operating systems for non-Linux workloads such as z/OS®, z/VSE™, and z/TPF on the same System z server or as a large-scale Linux-only enterprise-server solution.



For the most current information on z/VM, refer to the z/VM Web site at

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Refer to the [Hardware requirements](#) and [Software requirements](#) sections for details.

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Virtualization technology and Linux enablement

Support for Crypto Express3

Crypto Express3 is the newest in a line of state-of-the-art, tamper-sensing and tamper-responding, programmable cryptographic features for System z. It is designed to complement the cryptographic functions of CPACF, and is suited to environments that require high-speed RSA acceleration, cryptographic operations for data encryption and digital signing, secure management and use of cryptographic keys, or custom cryptographic applications.

The PTF for APAR VM64656 for z/VM V5.3, or later, targeted to be available in November, 2009, is planned to provide:

- The ability to dedicate any available domain to a guest for clear-key and secure-key cryptographic functions.
- The ability for guests to share available, non-dedicated domains for clear-key cryptographic functions.
- Enhancements to the **CP QUERY CRYPTO APQS** command to display user information about both shared and dedicated cryptographic domains. Prior to this enhancement, the command displayed user information for only dedicated domains.

Each Crypto Express2 and Crypto Express3 feature contains 2 cryptographic coprocessors using 2 PCI-Express (PCI-E) adapters, each with 16 cryptographic domains and up to 256 domains can be configured for use within a single z/VM system. An option of 1 PCI-E per feature is also offered for the z10 BC server and up to 128 domains can be configured for use with this option.

The Crypto Express3 feature is exclusive to IBM z10 EC and z10 BC servers. For additional information about Crypto Express3, refer to Hardware Announcement [109-678](#), dated October 20, 2009.

Support for Linux guests using dynamic storage reconfiguration

Further enhancements to z/VM storage management allow better cooperation with Linux on System z guests exploiting dynamic storage reconfiguration (DSR). z/VM support:

- Allows operation when running second level on z/VM to be more compatible with operation when running in a logical partition
- Displays configured, standby, and reserved values for each virtual storage element via the QUERY VIRTUAL STORAGE command
- Improves z/VM handling of unexpected DSR conditions that can occur

This support is also available for z/VM V5.4 with the PTF for APAR VM64524.

Technology exploitation

z/VM V6.1 provides support for IBM hardware technologies:

– **IBM FICON Express8**

With the introduction of FICON Express8 on the System z10 EC and System z10 BC family of servers, you now have additional growth opportunities for your storage area network (SAN). FICON Express 8 supports a link data rate of 8 gigabits per second (Gbps) and autonegotiation to 2, 4, or 8 Gbps for synergy with existing switches, directors, and storage devices. With support for native FICON, High Performance FICON for System z (zHPF), and Fibre Channel Protocol (FCP), the System z10 servers enable you to position your SAN for even higher performance - helping you to prepare for an end-to-end 8 Gbps infrastructure to meet the increased bandwidth demands of your applications.

FICON Express8 may also allow for the consolidation of existing FICON Express, FICON Express2, or FICON Express4 channels onto fewer FICON Express8 channels while maintaining and enhancing performance.

The FICON Express8 features are exclusive to IBM z10 EC and z10 BC servers.

z/VM V5.3, or later support FICON Express8 for:

- Native FICON or Channel-to-Channel (CTC) use
- FCP-attached SCSI devices including z/VM install, IPL, and system use of SCSI disks and direct attachment to z/VM guests

z/VM does not support zHPF.

For additional information about FICON Express8, refer to Hardware Announcement [109-417](#), dated July 21, 2009.

– **IBM Extended Address Volumes (EAV)**

The DS8000 series today supports System z CKD volumes up to 65,520 cylinders. With the Extended Address Volumes (EAV) function, this capability has been extended to support volumes that can scale up to approximately 223 GB (262,668 cylinders). This can help relieve device address constraints to support large storage capacity needs in System z environments. Larger devices can help simplify storage management as it fosters management of fewer large volumes as opposed to many small volumes. The HyperPAV function available today complements EAV by allowing scaling of I/O rates against a single larger volume.

With the PTF for APAR VM64709 for z/VM V5.4, or later, to be available by year-end 2009, z/VM plans to support up to 262,668 cylinders for:

- Devices dedicated to a guest
 - Linux on System z
IBM is working with its Linux distribution partners to include support for this function in future Linux on System z distributions.
- z/OS V1.10, or later

- Full-pack minidisks for guests which support EAV volumes
- DDR
- FlashCopy SE

As part of the z/VM support for EAV, with the PTF for APAR VM64711, also planned to be available by year-end 2009, CMS support has been doubled, up to 65,520 cylinders, for its own use. The z/VM Control Program (CP) continues to support 65,520 cylinders for its own use.

– **IBM FlashCopy SE**

z/VM V6.1 is designed to provide support for the IBM FlashCopy SE feature on the IBM DS8000 providing an instantaneous space-efficient snapshot capability that can greatly reduce the storage capacity needed for point-in-time copies. With a FlashCopy SE relationship, disk space will only be consumed for the target copy when data is written to the source volume or when a write is directed to the target. For a source volume without much write activity, the target volume can consume significantly less physical space than the source. In addition to the benefit of more efficient storage utilization, less capacity can mean fewer disk drives and lower power and cooling requirements. FlashCopy SE may be especially useful in the creation of temporary copies for tape backup, online application checkpoints, or copies for preproduction or disaster recovery testing.

The PTFs for APARs VM64605 and VM64684 are required and have been pre-applied to the Recommended Service Update (RSU) supplied with z/VM V6.1.

This support is also available for z/VM V5.4 with the PTFs for APARs VM64449, VM64605, and VM64684.

– **IBM DS8000 Full Disk Encryption**

z/VM V6.1 provides support for the Full Disk Encryption feature on the IBM System Storage DS8000. Full Disk Encryption provides the ability to encrypt data at rest on a DS8000 series storage controller, helping mitigate the threat of theft, mismanagement, or loss of business-critical data. The Full Disk Encryption disk drive sets are optional to the DS8000 series.

The **QUERY DASD DETAILS** command now indicates when a DASD volume is encrypted. This function is also available for z/VM V5.4 with the PTF for APAR VM64650.

For more information about Full Disk Encryption, refer to Hardware Announcement [109-120](#), dated February 10, 2009.

– **IBM System Storage TS7700 Virtualization Engine™**

DFSMS/VM™ now provides services that enable a z/VSE guest to manage resources of the IBM Virtualization Engine for the TS7720 configured without a physical tape library with the PTF for APAR VM64657. This PTF must be applied to the DFSMS/VM component of z/VM V6.1 and it is also available for DFSMS/VM on z/VM V5.3 and V5.4.

For more information about the IBM System Storage TS7700 Virtualization Engine, refer to Hardware Announcement [108-801](#), dated October 21, 2008

Worldwide port name (WWPN) prediction tool

A WWPN prediction tool is now available from IBM Resource Link™ to assist you with preplanning of your Storage Area Network (SAN) environment prior to the installation of your System z10 server. This standalone tool is designed to allow you to set up your SAN in advance, so that you can be up and running much faster once the server is installed. The tool assigns WWPNs to each virtual Fibre Channel Protocol (FCP) channel/port using the same WWPN assignment algorithms a system uses when assigning WWPNs for channels utilizing N_Port Identifier Virtualization (NPIV). The Hardware Configuration Definition (HCD) component of z/VM provides I/O device information from the input/output definition file (IODF) for input into the WWPN prediction tool.

This support is also available for z/VM V5.3 and V5.4 with the PTF for APAR VM64579. The PTF is also applicable to the HCD level supplied with z/VM V6.1.

For more information about setting up a SAN using the WWPN prediction tool, refer to Hardware Announcement [109-230](#), dated April 28, 2009.

Network virtualization

Prefetch guest data into processor cache

Guest LAN and Virtual Switch support has been updated in z/VM V6.1 to use cache prefetch capabilities that are exclusive to the IBM System z10 servers and later in order to give the hardware hints about likely memory access patterns. This enables the hardware to prefetch data into the processor cache so that the processor does not have to wait for data to be moved from main memory. Avoidance of a "cache miss" may help improve the performance of heavy guest-to-guest streaming workloads.

Security

OSA-Express QDIO data connection isolation

z/VM V6.1 supports port isolation security that provides the ability to restrict guest-to-guest communications within a VSWITCH and between other partitions sharing the OSA-Express adapters used by the VSWITCH. Virtual Switch port isolation and QDIO data connection isolation can help you design virtual networks that adhere to strict traffic-separation policies.

For more information about QDIO data connection isolation, refer to

- Hardware Announcement [108-794](#), dated October 21, 2008
- Hardware Announcement [108-754](#), dated October 21, 2008

Traffic isolation on shared OSA-Express adapters is available for OSA-Express2 and OSA-Express3 features on System z10 EC and z10 BC servers and is exclusive to CHPID type OSD with the following minimum MCLs with Driver 76 for the System z10 servers:

- OSA-Express2 on z10 requires N10953.002
- OSA-Express3 on z10 requires N10959.004 and N10967.055

Refer to the Preventive Service Planning (PSP) buckets on Resource Link for the minimum MCL levels for your server for any required updates for the IBM System z10 EC and z10 BC servers. The PSP buckets can be found on Resource Link at

<https://techsupport.services.ibm.com/server/390.psp390>

For the z10 EC server, select:

Use **2097DEVICE** for Upgrade Name

Use **2097/ZVM** for Subset Name

For the z10 BC server, select:

Use **2098DEVICE** for Upgrade Name

Use **2098/ZVM** for Subset Name

This support is also available for z/VM V5.3 and V5.4 with the PTFs for APARs VM64463 and PK67610.

CMS-based z/VM SSL server

Unlike its predecessor in z/VM V5.3, the z/VM V6.1 SSL server does not require a Linux distribution or Linux skills to maintain. The CMS-based SSL server may enable encryption services to be deployed more quickly and can help make installation, service, and release-to-release migration simpler. Other enhancements to the CMS-based SSL server include:

- Network-free SSL server administration

The SSL server can be managed without requiring a network connection between the SSL server administrator and the SSL server.

- Encryption and decryption engine

The SSL server uses z/OS V1.10 System SSL technology for encryption, decryption, and certificate management.

- Certificate-management services

The System SSL GSKKYMAN utility is used to manage the SSL server certificate database. Services available for the SSL server include certificate renewal, certificate signing, and certificate export with or without the private key. The GSKKYMAN application also manages certificates for the z/VM LDAP server.

The CMS-based SSL server is also available for z/VM V5.4 with the PTFs for APARs PK65850, PK73085, PK75268, VM64540, VM64519, and VM64570.

Additional tape encryption

z/VM V6.1 is designed to support drive-based data encryption with the IBM System Storage TS1130 Tape Drive (machine type 3592, model E06) to help protect data on tape in a cost-effective way. Guest operating systems running under z/VM can take advantage of these encryption features through z/VM, even if the guest does not exploit them itself for reading and writing tapes. In addition, this tape drive can be used for native z/VM tape functions, such as SPXTAPE, DDR, and CMS TAPE.

DFSMS/VM FL221 supports locating encryption-capable 3592 tape drives in an Enterprise Automated Tape Library. This DFSMS/VM support provides an environment for a z/VSE guest running on z/VM to exploit tape encryption.

This support is also available for z/VM V5.3 and V5.4 with the PTFs for APARs VM64459 (CP) and VM64458 (DFSMS/VM).

Serviceability enhancements

Multiple file dumps

The DUMPLD2 utility splits a single dump into multiple files and can now be used as an alternative to the DUMpload command. Dumps that have been split into multiple smaller files can be stored on multiple DASD devices instead of requiring a single, larger disk. Segmenting a large dump into multiple files eases handling of the dump by the support teams.

VMDUMPTL has also been enhanced to work with dumps that have been loaded to multiple files. All files must be available to view the entire dump, but may span multiple files and disks.

This support is also available for z/VM V5.3 and V5.4 with the PTF for APAR VM64495.

Packaging enhancement

Closer integration with IBM Systems Director

The z/VM Manageability Access Point (zMAP) Agent, including the Platform Agent, currently shipped with IBM Systems Director V6.1 is now provided with z/VM V6 to help simplify installation of the zMAP Agent. This eliminates the need to obtain the file from the IBM Systems Director Web site.

Miscellaneous

Withdrawal from marketing extended for z/VM V5.4

The customary removal of the previous release from marketing with the planned general availability of z/VM V6.1 will not occur for z/VM V5.4. z/VM V5.4 will continue to be marketed for operation on IBM

System z10 EC, z10 BC, z9™ EC, z9 BC, z990, z890, z900, and z800 servers. IBM will provide at least three months notification prior to any planned withdrawal date.

Discontinuation of service support extended for z/VM V5.4

IBM announced its intention to discontinue service support for z/VM V5.4 to be effective September 30, 2011, in Software Announcement [208-249](#), dated August 05, 2008.

As previously stated in Software Announcement [209-207](#), dated July 07, 2009, the new date planned for discontinuing service support for z/VM V5.4 was extended to September 30, 2013.

As previously announced, central service for z/VM V5.3 is planned to be available by IBM until September 30, 2010.

Discontinuation of support for HMF on z/VM V6.1

Host Management Facility (HMF) V1.1 (5684-157) was withdrawn from marketing effective September 8, 2008, as announced in Withdrawal Announcement [908-114](#), dated June 03, 2008. HMF is not supported on z/VM V6.1 and has been replaced by IBM Operations Manager for z/VM V1.3.0 (5697-J10), or later.

VMPRF mode not supported by the Performance Toolkit for z/VM V6.1

VMPRF mode, which provided compatibility with the report file specifications of the VM Performance Reporting Facility (5684-073), is not supported by the Performance Toolkit for VM on z/VM V6.1. All reports must now follow the current Performance Toolkit for VM specifications.

Service support for VM Performance Reporting Facility was discontinued on December 31, 2005, as announced in Software Service Discontinuance [904-151](#), dated August 03, 2004.

Withdrawal of support for the RPC-based systems management APIs

With z/VM V6.1, IBM has withdrawn support for the RPC-based systems management APIs. This satisfies the statement of direction made in Software Announcement [207-019](#), dated February 06, 2007. The sockets-based systems management APIs continue to be supported.

Withdrawal of German translation files

With z/VM V6.1, the files for message repositories, help files, and other panels or files will not be translated into German.

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® ID and password are required (use IBM ID).

Accessibility by people with disabilities

The following features support use by people with disabilities:

- Operation by keyboard alone
- Optional font enlargement and high-contrast display settings
- Screen readers and screen magnifiers tested for use by people with visual impairment

Engine-based Value Unit pricing

Engine-based Value Unit pricing for z/VM V6 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 z/VM V5 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.

A no-charge Subscription and Support registration record will be established for each designated machine where z/VM V6.1 and the priced, optional features of DirMaint™, RSCS, RACF® Security Server, and the Performance Toolkit for VM are 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.

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The Information Technology industry has recognized the business value of exploiting virtualization technologies on any and all server platforms. IBM mainframe products have pioneered high levels of server virtualization technology for many years. z/VM V6.1 is the latest offering of the industry-acclaimed server-virtualization support available with IBM System z. Building on a 40-year history of innovation, z/VM is becoming an even more popular component of a System z computing solution.

The success of Linux on System z can be attributed in part to the business value that Linux-based solutions derived from the IBM mainframe virtualization technology provided by z/VM running on IBM System z servers. z/VM technology offers clients the ability to host a large number of Linux servers on a single mainframe while also providing a highly flexible, adaptable, and efficient operational environment that is well-suited for a dynamic infrastructure.

z/VM V6.1 operates only on IBM System z10 EC and z10 BC servers. Like z/VM V5, z/VM V6.1 requires z/Architecture® (64 bit) for execution and can host 31-bit (ESA/390) guest operating systems and z/Architecture (64-bit) guest operating systems.

z/VM V6.1 offers new levels of price/performance, functional capabilities, and hardware exploitation that may increase the attractiveness of deploying Linux solutions on the mainframe. Clients can add capacity to IBM mainframe servers for hosting Linux-on-z/VM workloads by configuring their servers with Integrated Facility for Linux (IFL) processors.


z/VM V6.1 provides additional support and exploitation opportunities for many users who have built enterprise-wide automation and infrastructure enhancements on the VM platform in support of their applications, database systems, and on-demand business solutions.

z/VM V6.1 is intended to address the following situations:

- **Running more Linux server images on a single System z server:** Considerably more images than are currently supported by the LPAR mode of operation (up to 60 on z10 EC and z10 BC) may be supported with z/VM guest support. These Linux on System z server images can be deployed on standard processors (CPs) or IFL processors. Running multiple Linux images on an IFL-configured z/VM system may not increase the IBM software charges of your existing System z environment. Clients running z/OS, z/VM, TPF, z/TPF, z/VSE, or Linux on System z can add z/VM V6.1 on IFL processors to their environments without increasing IBM software costs on the standard processors (CPs).
- **Moving selected Linux and UNIX® workloads to a single System z server:** Moving workloads while maintaining distinct server images and current LAN topology can help reduce systems-management complexity. By managing large server farms deployed on virtual servers instead of using multiple hardware servers, the number of real hardware servers and associated physical LANs may be reduced, which may lead to cost savings. Deploying Linux workloads on z/VM V6.1 may be particularly attractive if they interact with applications or data located on the same System z server.
- **Enhancing virtual networking:** z/VM virtual switch support provides external connectivity for guest LANs through an OSA-Express adapter without requiring a VM or Linux router virtual machine, which may increase the efficiency and reliability of network communication.

- **Consolidating operating systems on the System z platform:** z/VM V6.1 offers extensive scalability support for CPUs, memory, I/O, and networking, making it easier to consolidate workloads on a single z/VM image. This support is provided for both ESA/390 and z/Architecture guest operating systems such as Linux for System z, TPF, z/TPF, z/OS, and z/VSE.
- **Migrating to newer releases of z/OS:** This may provide added flexibility for migration and testing, as well as for production.
- **Enhancing guest Parallel Sysplex® support:** The exploitation of z/Architecture may enable addressability to larger amounts of real and virtual memory, allowing the development and testing of 64-bit Parallel Sysplex applications in a guest environment.

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– **z/VM single system image**

IBM intends to provide capabilities that permit multiple z/VM systems to collaborate in order to provide a single system image. This is planned to allow all z/VM member systems to be managed, serviced, and administered as one system across which workloads can be deployed. The single system image is intended to share resources among all member systems.

– **z/VM live guest relocation**


IBM intends to further strengthen single system image support by providing live guest relocation. This is planned to provide the capability to move a running Linux virtual machine from one single system image member system to another. This is intended to further enhance workload management across a set of z/VM systems and to help clients avoid planned outages for virtual servers.

– **Withdrawal of z/VM Domain Name System (DNS) server support**


IBM intends to withdraw support in a future z/VM release for its native DNS server (NAMESRV). IBM does not plan to provide a replacement DNS server, but will continue to support the use of DNS servers on other platforms for TCP/IP host name resolution.

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

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For information about the System z10 Enterprise Class, refer to:

- Hardware Announcement [109-678](#), dated October 20, 2009
- Hardware Announcement [109-417](#), dated July 21, 2009
- Hardware Announcement [109-230](#), dated April 28, 2009
- Hardware Announcement [108-794](#), dated October 21, 2008
- Hardware Announcement [108-296](#), dated May 06, 2008
- Hardware Announcement [108-154](#), dated February 26, 2008

For information about the System z10 Business Class, refer to:

- Hardware Announcement [109-678](#), dated October 20, 2009
- Hardware Announcement [109-417](#), dated July 21, 2009
- Hardware Announcement [109-230](#), dated April 28, 2009
- Hardware Announcement [108-754](#), dated October 21, 2008


For z/VM V5.4 capabilities, refer to:

- Software Announcement [208-249](#), dated August 05, 2008

For information about FICON Express8, refer to:

- Hardware Announcement [109-417](#), dated July 21, 2009

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Program name	Program number
z/VM Version 6 (V6.1)	5741-A07
z/VM Version 6 SDO (V6.1)	5741-A08
z/VM Subscription & Support (V1.1)	5741-SNS

Note: z/VM V6.1 and the optional features must be ordered using the z/VM V6.1 SDO packaged offering, program number 5741-A08. Program number 5741-A07 is used for pricing, billing, and central service.

Product identification number

Subscription and Program PID number	Support PID number
5741-A07	5741-SNS

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IBM Training offers classroom training, e-learning, conferences, certification, course roadmaps, and more. These publicly held or privately available courses are focused on z/VM and Linux for System z. IBM Training also provides on-site training with customized content and course materials for small or large groups.

The z/VM and Linux course catalog includes:

- ZV020 - **z/VM Introduction and Concepts** (3 days)
- ZV100 - **z/VM and Linux Connectivity and Management** (3.5 days)
- ZV060 - **Installing, Configuring and Servicing z/VM for Linux Guests** (5 days)
- MZ062 - **Installing, Configuring and Servicing z/VM for Linux Guests** (Instructor-led Online (ILO) - 5 days)
- ZV200 - **z/VM RACF and DirMaint Implementation** (4.5 days)

The Linux course catalog includes:

- ZL120 - **Linux Basics - A zSeries® Perspective** (2 days)
- ZL100 - **Linux Implementation for zSeries** (3 days)
- ZL150 - **Advanced Solutions for Linux on zSeries** (4 days)
- ZL180 - **Automated Deployment of Linux Images under z/VM** (4.0 days)

Private offerings of these classes and customized education may also be requested from IBM.

For information on these courses or additional z/VM education, contact your local IBM IT Education Services (ITES) or call IBM Training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

You may also visit the IBM Training Web site at

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

For z/VM and Linux education, select "Training Finder - US," then under "Technology area," select "Mainframe servers," then under "Mainframe servers," select "z/VM and Linux."

For Linux education, select "Training Finder - US," then under "Technology area," select "Linux," then "Linux on System z."

IBM IT Training offers various savings programs on IBM education. For more information on the savings programs available in your country, visit the IBM Training Web site at

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

Select "Browse for training by country," select a country, then select "IBM Education Pack."

Technical Conferences

IBM Training offers public and private z/VM classes and annual Technical Conferences in Europe (in the first half of the year) and in the United States (in the second half of the year).

There are no System z technical conferences featuring z/OS, z/VM, z/VSE, and Linux on System z scheduled for the remainder of 2009.

For more information about IBM Technical Conferences, visit

<http://www.ibm.com/services/learning/conf/>


Information on live virtual classes available for z/VM, Linux, and z/VSE can be found at

<http://www.ibm.com/vm/education/lvc>

Additional z/VM educational resources can be found on the z/VM Web site at

<http://www.ibm.com/vm/education/>

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Product information is available via the Offering Information Web site

<http://www.ibm.com/common/ssi>

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Publications within the z/VM V6.1 library are available as Adobe(R) PDF files and IBM BookManager(R) files. z/VM V6.1 documentation is also available in the z/VM V6.1 Information Center.

Some publications are also available in printed format. Basic publications are automatically shipped in printed format, at no additional charge, when you order the z/VM V6.1 base product. The other publications are supplied only in PDF or BookManager® format with z/VM V6.1.

All z/VM publications can also be obtained separately from IBM (printed publications require payment of a fee) using the specific publication numbers through the IBM Publications Center at

<http://www.ibm.com/shop/publications/order/>

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

News of many publications may be subscribed with "My notifications" at

<https://www.ibm.com/systems/support/myview/subscription/css.wss/>

Note: This IBM Web site requires you to register for an ID and password.

Adobe® PDF Files

Publications that are available in PDF format are provided on the **IBM Online Library: z/VM Collection on DVD** except for the following:

– z/VM: Guide for Automated Installation and Service

One copy of the DVD is supplied with z/VM V6.1, at no additional charge. Additional copies of the DVD are available (for a fee) from the Publications Center Web site at

<http://www.ibm.com/shop/publications/order/>

Publications are also available from the IBM z/VM Internet Library at

<http://www.ibm.com/vm/library/>

You can view a PDF file using the Adobe Reader, that is available free from the Adobe Web site at

<http://www.adobe.com>

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

IBM BookManager files

Publications that are available in BookManager format are provided on the **IBM Online Library: z/VM Collection on DVD**.

One copy of the DVD is supplied with z/VM V6.1, at no additional charge. Additional copies of the DVD are available (for a fee) from the Publications Center Web site at

<http://www.ibm.com/shop/publications/order/>

Publications are also available from the IBM z/VM Internet Library at

<http://www.ibm.com/vm/library/>

The BookManager files can be read by either BookManager READ for VM (a separately orderable product) or IBM Softcopy Reader (supplied on the DVD).

Note: The distribution of the IBM Online Library: z/VM Collection on CD-ROM as a no-charge deliverable was discontinued with z/VM V5.4 and is not available with z/VM V6. The IBM Online Library: z/VM Collection on CD-ROM is not available for a fee and cannot be ordered.

z/VM V6.1 Information Center

IBM also publishes the z/VM V6.1 documentation (information for the z/VM base and optional features) in an information center using the IBM Eclipse Help System framework.

The z/VM V6.1 Information Center is planned to be available on October 23, 2009:

– On an IBM Web site at

<http://publib.boulder.ibm.com/infocenter/zvm/v6r1/index.jsp>

– On a DVD, which allows you to install the z/VM Information Center on a workstation or intranet. The DVD is orderable (for a fee) using form number SK5T-7098 from the Publications Center Web site at

<http://www.ibm.com/shop/publications/order/>

Printed books

All z/VM V6.1 basic publications are available as printed books and are orderable from the Publications Center.

One copy of the basic z/VM V6.1 printed publications, and one copy of the z/VM V6.1 online publications on DVD, are supplied automatically with the basic machine-readable material.

z/VM V6.1 publications

All publications for z/VM V6.1 are new editions and are listed below. All publications are planned to be available from the Publications Center, z/VM Internet Library, and the z/VM Information Center on October 23, 2009.

Basic z/VM V6.1

Title	Order number	Format		
		PDF	BKM	Print
z/VM: Guide for Automated Installation and Service		GC24-6197	X	X
z/VM: License Information		GC24-6200	X	X

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Note: The **z/VM: Getting Started with Linux on System z** is not available in printed format nor shipped with your order. The **z/VM Summary for Automated Installation and Service (Tape Installation)** and **z/VM Summary for Automated Installation and Service (DVD Installation)** have been discontinued with z/VM V6.

z/VM V6.1 Base

Title	Order number	Format		
		PDF	BKM	
z/VM: CMS and REXX/VM Messages and Codes		GC24-6161	X	X
z/VM: CMS Application Development Guide		SC24-6162	X	X
z/VM: CMS Application Development Guide for Assembler		SC24-6163	X	X
z/VM: CMS Application Multitasking		SC24-6164	X	X
z/VM: CMS Callable Services Reference		SC24-6165	X	X
z/VM: CMS Commands and Utilities Reference		SC24-6166	X	X
z/VM: CMS File Pool Planning, Administration, and Operation		SC24-6167	X	X
z/VM: CMS Macros and Functions Reference		SC24-6168	X	X
z/VM: CMS Pipelines Reference		SC24-6169	X	X
z/VM: CMS Pipelines User's Guide		SC24-6170	X	X
z/VM: CMS Planning and Administration		SC24-6171	X	X
z/VM: CMS Primer		SC24-6172	X	X

z/VM: CMS User's Guide	SC24-6173	X	X
Guide			
z/VM: Connectivity	SC24-6174	X	X
z/VM: CP Commands and Utilities	SC24-6175	X	X
Reference			
z/VM: CP Exit Customization	SC24-6176	X	X
z/VM: CP Messages and Codes	GC24-6177	X	X
z/VM: CP Planning and Administration	SC24-6178	X	X
z/VM: CP Programming Services	SC24-6179	X	X
z/VM: CPI Communications User's Guide	SC24-6180	X	X
z/VM: Diagnosis Guide	GC24-6187	X	X
z/VM: Dump Viewing Facility	GC24-6191	X	X
z/VM: Enterprise Systems Architecture/ Extended Configuration Principles of Operation	SC24-6192	X	X
z/VM: General Information	GC24-6193	X	X
z/VM: Getting Started with Linux on System z	SC24-6194	X	X
z/VM: Glossary	GC24-6195	X	X
z/VM: Group Control System	SC24-6196	X	X
z/VM: I/O Configuration	SC24-6198	X	X
z/VM: Language Environment® User's	SC24-6199	X	X
z/VM: Migration Guide	GC24-6201	X	X
z/VM: OpenExtensions Advanced Application Programming Tools	SC24-6202	X	X
z/VM: OpenExtensions Callable Services Reference	SC24-6203	X	X
z/VM: OpenExtensions Commands Reference	SC24-6204	X	X
z/VM: OpenExtensions POSIX Conformance Document	GC24-6205	X	X
z/VM: OpenExtensions User's Guide	SC24-6206	X	X
z/VM: Other Components Messages and Codes	GC24-6207	X	X
z/VM: Performance	SC24-6208	X	X
z/VM: Program Management Binder for CMS	SC24-6211	X	X
z/VM: Reusable Server Kernel Programmer's Guide and Reference	SC24-6220	X	X
z/VM: REXX/VM Reference	SC24-6221	X	X
z/VM: REXX/VM User's Guide	SC24-6222	X	X

z/VM: Running Guest Operating Systems	SC24-6228	X	X
z/VM: Saved Segments Planning and Administration	SC24-6229	X	X
z/VM: Secure Configuration Guide	GC24-6230	X	X
z/VM: Service Guide	GC24-6232	X	X
z/VM: System Operation	SC24-6233	X	X
z/VM: Systems Management Application Programming	SC24-6234	X	X
z/VM: TCP/IP Diagnosis Guide	GC24-6235	X	X
z/VM: TCP/IP LDAP Administration Guide	SC24-6236	X	X
z/VM: TCP/IP Messages and Codes	GC24-6237	X	X
z/VM: TCP/IP Planning and Customization	SC24-6238	X	X
z/VM: TCP/IP Programmer's Reference	SC24-6239	X	X
z/VM: TCP/IP User's Guide	SC24-6240	X	X
z/VM: Virtual Machine Operation	SC24-6241	X	X
z/VM: VM Dump Tool	GC24-6242	X	X
z/VM: VMSES/E Introduction and Reference	GC24-6243	X	X
z/VM: XEDIT Commands and Macros Reference	SC24-6244	X	X
z/VM: XEDIT User's Guide	SC24-6245	X	X

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Optional RACF Security Server Feature

Title	Order number	Format PDF BKM
z/VM: RACF Security Server Auditor's Guide	SC24-6212	X X
z/VM: RACF Security Server Command Language Reference	SC24-6213	X X
z/VM: RACF Security Server Diagnosis Guide	GC24-6214	X X
z/VM: RACF Security Server General User's Guide	SC24-6215	X X
z/VM: RACF Security Server Macros and Interfaces	SC24-6216	X X
z/VM: RACF Security Server	GC24-6217	X X

Messages and Codes

z/VM: RACF Security Server Security SC24-6218 X X

Administrator's Guide

z/VM: RACF Security Server SC24-6219 X X

System Programmer's Guide

z/VM: Security Server SC24-6231 X X

RACROUTE Macro Reference

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Optional RSCS Feature

Title	Order	Format		
	number	PDF	BKM	
z/VM: RSCS Networking Diagnosis	GC24-6223	X	X	
z/VM: RSCS Networking Exit Customization	SC24-6224	X	X	
z/VM: RSCS Networking Messages and Codes	GC24-6225	X	X	
z/VM: RSCS Networking Operation and Use	SC24-6226	X	X	
z/VM: RSCS Networking Planning and Configuration	SC24-6227	X	X	

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Optional Directory Maintenance Facility Feature

Title	Order	Format		
	number	PDF	BKM	
z/VM: Directory Maintenance Facility Commands Reference	SC24-6188	X	X	
z/VM: Directory Maintenance Facility Messages	GC24-6189	X	X	
z/VM: Directory Maintenance Facility Tailoring and Administration Guide	SC24-6190	X	X	

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Optional Performance Toolkit for VM Feature

Title	Order	Format		
	number	PDF	BKM	
z/VM: Performance Toolkit Guide	SC24-6209	X	X	
z/VM: Performance Toolkit Reference	SC24-6210	X	X	

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Optional DFSMS/VM Feature

Title	Order	Format		
	number	PDF	BKM	
z/VM: DFSMS/VM Customization	SC24-6181	X	X	
z/VM: DFSMS/VM Diagnosis Guide	GC24-6182	X	X	
z/VM: DFSMS/VM Messages and Codes	GC24-6183	X	X	
z/VM: DFSMS/VM Planning Guide	SC24-6184	X	X	
z/VM: DFSMS/VM Removable Media Services	SC24-6185	X	X	
z/VM: DFSMS/VM Storage Administration	SC24-6186	X	X	

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Other publications - new editions

Updated or new with z/VM V6.1:

Title	Order	Format			
	number	PDF	BKM	Print	
System z Open Systems Adapter-Express Integrated Console Controller 3215 Support	SA23-2247	X	X		
z/OS and z/VM: Hardware Configuration	SC33-7986	X	X		

Definition Messages

z/OS and z/VM: Hardware Configuration SC33-7989 X X

Manager User's Guide

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Note: The updates in these new editions may not contain any new z/VM information.

Other publications - unchanged editions

Not updated with z/VM V6.1:

Title	Order number	Format			
		PDF	BKM	Print	
Device Support Facilities: User's Guide and Reference	GC35-0033	X	X		
EREP: Reference Guide	GC35-0152	X	X		
EREP: User's Guide	GC35-0151	X	X		
CMS/TSO Pipelines: Author's Edition	SL26-0018	X	X		
Common Programming Interface Communications Reference	SC26-4399	X	X		
Common Programming Interface Resource Recovery Reference	SC31-6821		X	X	
eServer zSeries 900: Planning for Open Systems Adapter-2 Feature	GA22-7477	X	X		
Network Job Entry: Formats and Protocols	SA22-7539	X	X		
System z9 and eServer™ zSeries 890 and 990 Systems Adapter-Express Integrated Console Controller User's Guide	SA22-7990	X	X		
System z10, System z9®, and eServer zSeries Open Systems Adapter-Express Customer's Guide and Reference	SA22-7935	X	X		
z/OS: IBM Tivoli® Directory Server Plug-in Reference for z/OS	SA76-0148	X	X		
z/OS: Language Environment Concepts Guide	SA22-7567	X	X		
z/OS: Language Environment Debugging Guide	GA22-7560	X	X		
z/OS: Language Environment Programming	SA22-7561	X	X		

Guide			
z/OS: Language Environment Programming	SA22-7562	X	X
Reference			
z/OS: Language Environment Run-Time	SA22-7566	X	X
Messages			
z/OS: Language Environment Writing ILC	SA22-7563	X	X
Applications			
z/OS MVS™ Program Management:	SA22-7644	X	X
Advanced Facilities			
z/OS MVS Program Management:	SA22-7643	X	X
User's Guide and Reference			

BKM = BookManager

Note: An "X" in one of the columns indicates available formats.

Redbooks and Redpapers

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 technical professionals of IBM, IBM Business Partners, and customers.

For the most current Redbooks or Redpapers, visit the IBM Redbooks Web site at

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

Displayable softcopy publications

All z/VM V6.1 displayable softcopy publications are available on DVD (**IBM Online Library: z/VM Collection on DVD**, SK5T-7054). This collection also contains libraries for approximately 60 products that run on z/VM V6.1. The collection is planned to be available at the general availability of z/VM V6.1. For a list of collection contents, contact your IBM Business Partner or IBM representative.

One copy of the **IBM Online Library: z/VM Collection on DVD** will be shipped automatically with the product, at no additional charge. To order one additional copy of the DVD (for a fee), use the following features:

Feature number	Order number
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z/VM Collection Kit on DVD	6415	SK5T-7054
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To order additional quantities greater than one, for a fee, use SK5T-7054 on the IBM Publications Center at

<http://www.ibm.com/shop/publications/order/>

The softcopy publications can be used with BookManager READ licensed programs in any of the READ-supported environments. The softcopy publications DVD contain a program, Softcopy Receiver Tool, for transferring BookManager files to the workstation or host.

Terms and conditions for use of the machine-readable files are shipped with the files.

Source file publications


z/VM V6.1 manuals are not offered in source file form.

Licensed publications

z/VM V6.1 does not have any licensed publications.



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Specified operating environment

Hardware requirements

z/VM V6.1 requires a new Architecture Level Set (ALS) that is available on the:

- System z10 Enterprise Class
Refer to the DEVICE2097 Preventive Service Planning (PSP) bucket for the minimum MCL level and any required updates.
- System z10 Business Class
Refer to the DEVICE2098 Preventive Service Planning (PSP) bucket for the minimum MCL level and any required updates.

Specific processor facilities required by z/VM V6.1 can be found on the z/VM Web site at

<http://www.ibm.com/vm/zvm610/architecture/>

Refer to the appendix of the z/VM General Information manual for more information.

Software requirements

Prerequisite requirements

- EREP VM (5654-260) V3.5.0
 - The following PTFs have been applied to the z/VM V6.1 system DDRs.
 - PTF for APAR VM63624 provides the necessary function to support the DS6000™ and DS8000.
 - PTF for APAR VM64367 provides the necessary support for the System z10.
- Device Support Facilities - ICKDSF VM (5684-042) V1.17.0. Any fixes requested for ICKDSF should specify the PTF number of the VMSES/E formatted update. VMSES/E installable PTFs have the release number G14. 'G' indicates Release 17 of ICKDSF and '14' indicates VMSES/E format. The following PTFs have been applied to the z/VM V6.1 system DDRs:
 - PTF for APAR PQ84848 provides the necessary function for ICKDSF to support large FBA devices.
 - PTFs for APARs PQ96706 and PQ95319 provide the necessary function for ICKDSF to support the DS8000 and DS6000 storage devices, respectively.

The prerequisite no-charge products, **EREP** and **ICKDSF**, are preinstalled on the base product system DDRs.

When ordering z/VM V6.1, you must already be licensed for EREP (5654-260) and ICKDSF (5684-042) or a separate order must be placed for each of these products to establish a license.

Refer to the [Preinstalled products and features](#) section for additional information on ordering EREP and ICKDSF.

Optional product/Feature requirements

- DFSMS/VM requirements
 - ISPF V3.2.0 (5684-043) or a subsequent release for DFSMS/VM use. ISPF is not required if you are using only the 3495 Tape Library Dataserver support of DFSMS™.
 - DirMaint Facility optional feature of z/VM V6.1 if the minidisk management function is needed.
 - RACF Security Server for z/VM optional feature of z/VM V6.1 or its equivalent if a security product is needed for authorization.
 - Tivoli Storage Manager Extended Edition for z/OS and z/VM V5.2 (5698-A11), Tivoli Storage Manager for z/OS and z/VM V5.2 (5698-A13), or Tivoli Storage Manager for VM (5697-TS9) and Language Environment component supplied with z/VM if Migration Level 2 (ML2) function of DFSMS/VM is used.

Note: Program numbers 5698-A11 and 5698-A13 were withdrawn from marketing on January 21, 2005, and service support was discontinued on April 30, 2007.

For current information regarding the discontinuance of service, refer to the z/VM Licensed Program (LP) Migration Matrix at

<http://www.ibm.com/vm/techinfo/lpmigr/>

Note: Program number 5697-TS9 was withdrawn from marketing on March 7, 2005, and service was discontinued on March 31, 2006.

- TCP/IP for z/VM V6.1 to access the IBM 3495 Tape Library Dataserver for processors capable of 3490/3490E tape I/O, but incapable of 3495 Tape Library Data Server control.
- RSCS FL610 feature for remote operations.
- IBM Compiler for REXX/370 (5695-013) and IBM Library for REXX/370 (5695-014), if the compiled REXX™ installation-wide exit or a compiled ACS REXX exit is desired.
- The PTF for APAR VM63746 allows DFSMS/VM RMS on z/VM V6.1, and later to share tape drive devices using the multi-access tape feature of the CP ATTACH command. This allows, for example, z/VM 3590 install media to be inserted, and z/VM 6.1 to be installed from, an Automated Tape Library (ATL).

The PTF for APAR VM64062 supports locating encryption-capable 3592 tape drives in an Enterprise Automated Tape Library. The DFSMS/VM support provides tape-encryption capabilities for a z/VSE guest running on z/VM.

- Hardware Configuration Definition (HCD) and Hardware Configuration Manager (HCM) requirements
 - The required support for the System z10 has been applied to HCD/HCM supplied with z/VM V6.1.
- IBM High Level Assembler (5696-234) requirements
 - High Level Assembler V1.5.0, or later, is required to:
 - Create a new DMSTRT for system languages (NLS)
 - Create image libraries for system printers (FCBs)
 - Create GCS application segments (CONTENTS macro)
 - Access major CMS application interfaces (CMSCALL)
 - Access most CP application interfaces (DIAGNOSE)
 - Use the AVS tuning control module (AGWTUN)
 - Use RAS tools (such as MDCHECK, FS2SFSE, AFTCHAIN, PRINTBLK, and PRINTFST)
 - Use the API for data compression
 - Use the CMS Pipelines Assemble macros interface
 - Assemble exit routines for DirMaint and RSCS
 - Customize Language Environment or compile assembler routines used in mixed-language user applications
 - Assemble applications that exploit the IEEE Floating Point hardware facility
 - Add devices that cannot be sensed (updating HCPRIO ASSEMBLE)
 - Perform local modifications to modules written in assembler
 - Assemble any CP modules
 - Assemble exit routines for CP
 - Reassemble CP replacement parts for the RACF Security Server optional feature
 - The PTF for APAR PK58463 is required for High Level Assembler V1.5 to support the new instructions provided with the System z10 server.
 - The High Level Assembler V1.6 contains the support for the System z10 instruction set and was made available on July 11, 2008. For additional information about the High Level Assembler V1.6,

refer to Software Announcement [208-145](#), dated June 24, 2008.

Note: An equivalent product may be used in place of the High Level Assembler.

- Language Environment
 - Requires High Level Assembler V1.5.0, or later to customize Language Environment options
- Online displayable publications requirements
 - BookManager files can be read by either BookManager READ for VM (a separately orderable product) or IBM Softcopy Reader (supplied on DVD). APAR GC05366 for BookManager/VM READ is required for READ/VM V1.3 Public Library to run in a non-370 mode. BookManager products also have prerequisite product requirements. Specific details are available in the BookManager announcement documentation.
- POSIX requirements
 - Developing POSIX applications requires C/C++ for z/VM V1.1 or XL C/C++ for z/VM V1.2 (5654-A22).
- RSCS Networking FL610 requirements
 - To communicate with users in an SNA network requires ACF/VTAM for VM/ESA®, V4.2 (5654-010).
 - To communicate within an IP network requires TCP/IP for z/VM FL610.
 - Group Control Subsystem (GCS) must be configured and activated.
- Shared-DASD Complex and CSE Cluster Program requirements

In a shared-DASD complex, a single Directory Maintenance Facility (DirMaint) server with a single source directory can manage the object directory on up to 16 z/VM systems, if the DirMaint executable code disks and source directory disk are shared among all the systems. The following are required to support the shared-DASD complex:

- DirMaint, Function Level 610 (FL610)
Within the shared-DASD complex, all z/VM systems must be running the same DirMaint FL610 service level. Therefore, you must be licensed for the DirMaint FL610 feature on any z/VM V6.1 system in the complex.

A CSE cluster consists of two, three, or four z/VM systems. The following are required to support the CSE function:

- The same DirMaint requirements as for the shared-DASD complex described above.
- For shared spool and cross-system messaging:
 - VM/Pass-Through Facility, V2.1.1, or later (5684-100)

OSA and Open Systems Adapter/Support Facility (OSA/SF) program requirements

OSA/SF 4.4.0 is provided with and supported on z/VM and can be accessed by a CMS user ID, a REXX EXEC, or a Java-based Graphical User Interface (GUI). The GUI needs access to the Java™ 1.4 runtime and help on the workstation.

Access at the OSA/SF GUI requires the following communications protocols:

- For TCP/IP communication:

- TCP/IP for z/VM on the host
- TCP/IP on the workstation

To support an OSA in TCP/IP Passthru mode in a z/VM V6.1 environment, OSA/SF requires TCP/IP for z/VM V6.1. OSA/SF support is required in this mode only if access to one of the OSA's ports is being shared by more than one host program.

The following PTFs have been applied to the z/VM V6.1 system DDRs:

- The PTF for APAR OA15170 provides the necessary function to display information for OSN features on the z10 and support for Layer 2.
- The PTF for APAR OA23824 is required for OSA/SF to support the OSA-Express3 enhancements on the System z10.

For additional information about OSA/SF, refer to Hardware Announcement [103-142](#), dated May 13, 2003.

TCP/IP for z/VM V6.1 program requirements

TCP/IP for z/VM V6.1 has the following additional program requirements:

- If a primary or secondary domain name server (not a caching-only name server) or the network database server is to be run:
 - IBM DB2® Server for VSE & VM V7.1 (5697-F42), or later
- If programs are developed in C:
 - IBM C for VM/ESA V3.1 (5654-033), C/C++ for z/VM V1.1 or XL C/C++ for z/VM V1.2 (5654-A22)
- If programs are developed in Pascal:
 - IBM VS Pascal V1.2 (5668-767) Compiler and Library

Linux program requirements

Linux for System z is not provided with z/VM V6. In order to operate Linux as a guest of z/VM, Linux must be obtained from a Linux distributor partner.

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.

Limitations

- z/VM V6 will operate only on System z10 servers.
- Linux and OpenSolaris are the only guest operating systems z/VM will support on IFL processors (other than z/VM V4, V5, or V6 themselves).
- z/VM V6 does not provide support for V=R or V=F guest, even on servers that provide basic mode. Customers using basic mode to run V=R and V=F guests should consider this when migrating to z/VM V6. The increase in processor requirements to run a V=V guest that was previously run as V=R may be significant due to the loss of various hardware assists.

Performance considerations

System performance depends on the hardware resources allocated to z/VM V6.1 and on the level of activity within each Linux image.

z/VM performance information is available on the z/VM Web site at

<http://www.ibm.com/vm/perf/tips/>

For assistance in understanding the performance implications for a particular situation, contact your IBM representative or your IBM Business Partner.

User group requirements

This announcement satisfies or partially satisfies requirements from customer suggestions or one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

User group requirements satisfied with this announcement:

Requirement

number	Requirement description
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MR0809051758	Restrict guest-to-guest communications within a VSWITCH
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Planning information

Customer responsibilities

z/VM V6.1 Subscription and Support (S&S)

To order z/VM V6.1, you must use the SDO, program number 5741-A08. The z/VM base system, any ordered optional z/VM features, and any ordered SDO licensed products will be delivered as part of the

z/VM SDO.

If you desire the level of service provided under the IBM ICA license agreement with S/390® and z/VM licensed products, you are strongly encouraged to order the program number for z/VM S&S (5741-SNS). 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. z/VM S&S will be automatically added to your order. If you do not desire the S&S license for z/VM and/or the optional features of DirMaint, RSCS, RACF Security Server, or the Performance Toolkit for VM, you must take specific action to decline this support.

To host Linux guests of z/VM V6, you must also obtain a Linux for System z distribution. Information on those Linux distributor partners that have a marketing relationship with IBM can be found at

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

Licensed products packaged with z/VM V6.1

With the availability of z/VM V6, the following priced, optional products or features are automatically shipped and preinstalled on the z/VM V6 base product media:

- **DirMaint FL610 feature**
- **RSCS FL610 feature**
- **RACF Security Server FL610 feature**
- **Performance Toolkit for VM FL610 feature**

For more information on these products or features, refer to the **Preinstalled products and features** section.

These products or features must be enabled before using. If you choose to enable them, you must have a license for the product or the feature.

If you do not have a license for DirMaint, RSCS, RACF, or the Performance Toolkit for VM, you may establish one by placing an order for the optional features. You will receive the program directory for the optional feature or program product. The program directories include instructions for enabling use of the products.

For other IBM licensed products or products from Independent Software Vendors (ISVs), you should review the following support documents:

- Independent software vendor products available for z/VM can be found at
<http://www.ibm.com/vm/vendor/>
- IBM licensed programs available for z/VM can be found at
<http://www.ibm.com/vm/related/>

High Level Assembler (5696-234)

The High Level Assembler (5696-234) or an equivalent product is required for z/VM to:

- Apply corrective service to the RACF Security Server for z/VM associated CP parts
- Change exit routines or perform local modifications for any IBM VM product or vendor product

The High Level Assembler is available for use with Linux on System z on IFL processors as a Programming Request for Price Quote (PRPQ). A PRPQ must be submitted for to purchase the High Level Assembler for Linux on System z (5799-TCQ) and for its annual Subscription and Support (5799-TCR).

Running 370-mode applications

To simplify the migration of older applications and facilitate the running of 370-mode-only CMS applications in XA-mode, ESA-mode, or XC-mode virtual machines, IBM provides the 370 Accommodation function. This function originally shipped with VM/ESA V1.2.1 (available July 1993). 370 Accommodation handles the vast majority of inconsistencies between 370-mode and XA-mode, ESA-mode, or XC-mode, eliminating the need to change these applications to exploit the new architectures.

z/VM V6 supports only XA-mode, ESA-mode, and XC-mode virtual machines. z/VM V6 does not support 370-mode virtual machines. 370-mode virtual machines are converted to XA mode during logon processing. The 370 Accommodation function is still supported for applications. If you find your applications cannot run under the current level of CMS, you should use the 370 Accommodation function or modify your applications, if possible. If problems persist, call IBM Service for assistance.

Direct customer support

Direct customer support is provided by IBM Operational Support Services - SoftwareXcel. This fee service enhances your productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services - SoftwareXcel helps answer questions pertaining to use and suspected software defects for eligible products.

Installation and technical support is provided by Global Services. For more information call 800-IBM-4YOU (426-4968).

For technical support or assistance, go to

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

or contact your IBM representative for additional assistance.

Packaging

z/VM V6.1

The z/VM V6.1 product package is distributed with the following:

- International Program License Agreement (IPLA) (Z125-3301)

- License Information Document (LID) (GC24-6200)
- If ordering to install using 3590 or 3592 tape:
 - Basic machine-readable material on a 3590 or a 3592 tape cartridge for installation to a 3390 DASD.
 - Stacked RSU on a 3590 or 3592 tape cartridge containing required service.
- If ordering to install using DVD:
 - Basic machine-readable material on one DVD for installation to a SCSI disk.
 - Basic machine-readable material on one DVD for installation to a 3390 DASD.
 - RSU DVD containing required service.

Note: The DVD format is a binary image, not in z/VM DDR format.

- If ordering to install from electronic delivery:
 - Binaries from DVD for installation to a SCSI disk, provided in a ZIP file.
 - Binaries from DVD for installation to a 3390 DASD, provided in a ZIP file.
 - RSU DVD containing required service, provided in a ZIP file.

Note: Electronic delivery provided as binary images from DVD are provided as ZIP files.

- One **IBM Online Library: z/VM Collection on DVD**.
- Publications:
 - z/VM: Guide for Automated Installation and Service (GC24-6197).
- Program directories for z/VM V6.1, z/VM V6.1 SDO, the preinstalled products, and the optional features if ordered.

Restricted source and PL/X source

The restricted source and the PL/X source are not orderable or shipped with z/VM V6. Both will be available as no-charge downloads from IBM Resource Link(TM) at


<http://www.ibm.com/servers/resourceLink>

If you are not registered with Resource Link, you will be required to register for a user ID and password. You must also be licensed for z/VM V6.1 and entitlement will be verified when you request the source code. After approval, you will receive instructions describing how to download the code.


Security, auditability, and control

The announced program uses the security and auditability features inherent in the virtual machine and the System/370™, ESA/370, and ESA/390 architectures, and z/Architecture. The security and auditability of z/VM V6 are the same for ESA/390 and z/Architecture. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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 Top rule

[Software Services](#)


 Bottom rule

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


To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

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 Top rule

[Ordering information](#)

 Bottom rule

Charge metric

Pricing metric description

The products and features in this announcement have 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 the z/VM V6 optional features of DirMaint, RSCS, RACF, and the Performance Toolkit for VM, and for S&S entitlements at initial

order of z/VM V6 or its features. Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

Engine-based Value Unit pricing of z/VM V6 is different than MSU-based Value Unit pricing, which is available on other IBM software products.

Program Pricing metric	
Program name	number description
z/VM V6	5741-A07 Value Units
RSCS Feature	5741-A07 Value Units
RACF Security Server Feature	5741-A07 Value Units
DirMaint Feature	5741-A07 Value Units
Performance Toolkit for VM Feature	5741-A07 Value Units

Value Unit pricing for the z/VM V6 S&S and its optional, priced features provides a lower price per processor as more Value Units are licensed with z/VM V6 and the optional, priced features. You may aggregate the capacity for all the processors running z/VM V6 and the optional, priced features 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 z/VM V6 has already been installed, which may result in a lower unit price for the z/VM V6.1 S&S and the optional, priced features.

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 you:

- Add capacity and workload with an incremental and improved price
- Manage software costs better
- Aggregate licenses acquired across machines that are part of your enterprise

If you purchased an S&S contract for the z/VM V4 or V5 optional features of DirMaint, RACF Security Server, RACF for z/VM, RSCS, and the Performance Toolkit for VM you are entitled to a no-charge upgrade to those same optional features on z/VM V6.1.

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 z/VM V6 on all six processors, the applicable Value Units would be:

$$(3 * 10) + (3 * 9) = 57 \text{ Value Units}$$

The following z/VM V6 products and optional features and their associated Subscription and Support (S&S) are affected by the metric change from a "flat per-processor price" to "engine-based Value Units":

IPLA S&S

program program Program

number number description

5741-A07 5741-SNS z/VM V6

5741-A07 5741-SNS RSCS Feature

5741-A07 5741-SNS RACF Security Server Feature

5741-A07 5741-SNS DirMaint Feature

5741-A07 5741-SNS Performance Toolkit for VM Feature

The products in this announcement are 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 z/VM V6 on a processor per-day basis during your peak periods. For additional information about On/Off CoD, refer to Software Announcement [203-202](#), dated August 12, 2003, and Marketing Announcement 304-004, dated January 13, 2004.

VU Value Unit

VU Value Unit is the unit of measure by which this program is licensed. VU Value Unit entitlements are based on the quantity of a specific designated measurement, either users or resources, for the given program A Proof of Entitlement (PoE) must be obtained for the appropriate number of VU Value Units required for your environment as defined by the specific program terms. The VU Value Unit entitlements are specific to the program and may not be exchanged, interchanged, or aggregated with V Value Unit entitlements of another program. To understand these benefits of VU Value Unit licensing, and to determine how many VU Value Units to obtain for the program, contact your IBM representative.

The programs in this announcement have Value Unit-Based pricing.

Program

number Program name Value Unit exhibit

5741-A07 z/VM V6 VUE021

For each System z 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 System z IPLA program you select
- The applicable Value Unit exhibit
- The applicable terms

Value Unit exhibit VUE021

Engine-based Value Units for a specified number of engines are determined by the following table:

	Engines Level	Engines minimum	Engines maximum	Value Units per engine
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Base	1	3	10
Tier A	4	6	9
Tier B	7	9	8
Tier C	10	12	7
Tier D	13	16	6
Tier E	17	20	5
Tier F	21	25	4
Tier G	26	+	3

Order z/VM SDO through the Internet

ShopzSeries provides an easy way to plan and order System z software upgrades, including z/VM. Using ShopzSeries, customers can quickly generate orders for z/VM SDOs. Additionally, ShopzSeries will ensure your order is technically correct (that is, ensures any corequisite or prerequisite or incompatibility conditions are resolved to ensure timely order placement and processing). ShopzSeries is available in the United States and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at

<http://www.ibm.com/software/ShopzSeries>

The z/VM V6.1 base operating system and SDO licensed products are eligible for Internet delivery using the ShopzSeries Web site and are planned to be available after the general availability of z/VM V6.1.

Basic license

Licensing for z/VM V6.1

The following z/VM V6 base and optional features and their associated Subscription and Support (S&S) are affected by the metric change from "flat price per engine" on z/VM V4 to "Value Units" based on the number of processors with z/VM V6:

IPLA	SDO	S&S	
program	program	program	Program
number	number	number	description

5741-A07	5741-A08	5741-SNS	z/VM V6
----------	----------	----------	---------

5741-A07	5741-A08	5741-SNS	RSCS Feature
----------	----------	----------	--------------

5741-A07	5741-A08	5741-SNS	RACF Security Server Feature
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5741-A07 5741-A08 5741-SNS DirMaint Feature

5741-A07 5741-A08 5741-SNS Performance Toolkit for VM Feature

The program number, 5741-A07, is used for licensing z/VM V6. You must specify the number of engine-based Value Units for the number of processors required as calculated by the Workload Pricer tool, WL Pricer.

When ordering z/VM V6.1 to operate on standard processors (CPs) for a single server within the enterprise, you must specify Value Units equal to the Value Units to cover the number of standard processors (CPs) on your server.

For a single server in an enterprise, the number of Value Units ordered for any optional feature to operate on standard processors must be equal to the number of Value Units ordered for the base z/VM V6 product operating on standard processors.

When ordering z/VM V6.1 to operate on IFL processors for a single server within the enterprise, you must specify Value Units equal to the Value Units to cover the number of IFL processors on your server.

For a single server in an enterprise, the number of Value Units ordered for any optional feature to operate on IFL processors must be equal to the number of Value Units ordered for the base z/VM V6 product operating on IFL processors.

The quantity ordered cannot exceed the maximum number of processors per server. The number of processors for a single server to be used to calculate Value Units should not be more than:

Quantity

IFL	Standard	Maximum	
processors	processors	processors	Processor for each server

64	64	64	System z10 EC (2097)
----	----	----	----------------------

10	5	10	System z10 BC (2098)
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The optional features DirMaint, RSCS, RACF, and the Performance Toolkit for VM are preinstalled on the base system media. Ordering these features establishes a license for entitlement purposes and you will also receive a program directory for the optional features ordered. If you intend to use DirMaint, RSCS, RACF, or the Performance Toolkit for VM, now or at a later date, you must establish a license for billing and shipment of publications.

The Performance Toolkit for VM feature is considered a program update for the RTM and PRF features as defined in the IBM International Agreement for Acquisition of Support, Z125-6011 Therefore, any existing z/VM V4 customers, with licenses for the RTM or PRF features, who have also purchased S&S for either the RTM or PRF feature, are entitled to receive a no-charge upgrade for the Performance Toolkit for VM feature when ordering z/VM V6.

z/VM V6.1 (5741-A07) basic license

Entitlement
identifier Description License option/Pricing metric

S015HSV z/VM V6 Use-based OTC, Per Value Unit
S015HST DirMaint Feature Use-based OTC, Per Value Unit
S015HSX RSCS Feature Use-based OTC, Per Value Unit
S015HSZ RACF Feature Use-based OTC, Per Value Unit
S015HSW Performance Toolkit Use-based OTC, Per Value Unit
for VM Feature

z/VM V6.1 Base SDO (5741-A08) - S015HT5

Orderable supply ID: Language Distribution medium

S015T8N US English 3590 Tape
S015T8P US English 3592 Tape

z/VM V6.1 Base SDO (5741-A08) - S015HTF

Orderable supply ID: Language Distribution medium

S015T8S US English DVD

Optional features of z/VM V6.1 SDO (5741-A08)

DirMaint Feature (5741-A08) - S015HT7

Orderable supply ID: Language Distribution medium

S015T86 US English 3590 Tape
S015T87 US English 3592 Tape
S015T88 US English DVD

RSCS Feature (5741-A08) - S015HTD

Orderable supply ID: Language Distribution medium

S015T8J US English 3590 Tape
S015T8K US English 3592 Tape
S015T8L US English DVD

RACF Security Server Feature (5741-A08) - S015HTC

Orderable supply ID: Language Distribution medium

S015T8F US English 3590 Tape

S015T8G US English 3592 Tape
S015T8H US English DVD

Performance Toolkit for VM Feature (5741-A08) - S015HTB

Orderable supply ID: Language Distribution medium

S015T8B US English 3480 Tape
S015T8C US English 3590 Tape
S015T8D US English DVD

z/VM Subscription and Support (5741-SNS)

Entitlement

identifier Description License option/Pricing metric

S0111PX z/VM Basic ASC, per Value Unit SW S&S
 No charge, decline SW S&S
 No-charge, SW S&S Registration
S0111R1 DirMaint Feature Basic ASC, per Value Unit SW S&S
 No charge, decline SW S&S
 No-charge, SW S&S Registration
S013T6B RSCS Feature Basic ASC, per Value Unit SW S&S
 No charge, decline SW S&S
 No-charge, SW S&S Registration
S0111R0 RACF Feature Basic ASC, per Value Unit SW S&S
 No charge, decline SW S&S
 No-charge, SW S&S Registration
S0111PZ Performance Toolkit
 for VM Feature Basic ASC, per Value Unit SW S&S
 No charge, decline SW S&S
 No-charge, SW S&S Registration

The features are for Standalone product and not for ordering.

z/VM Base S&S (5741-SNS) - S0111HH

Orderable

supply ID: Language Description

S0111HJ US English z/VM V6.1 3390 Sys DDR
 (support for 5741-A07)

z/VM Base S&S (5741-SNS) - S0111HK

Orderable

supply ID: Language Description

S0111HL US English z/VM V6.1 DVD Sys Image
(support for 5741-A07)

z/VM Base S&S (5741-SNS) - S0111H7

Orderable

supply ID: Language Description

S0111H8 US English DirMaint Feature (support for 5741-A07)

z/VM Base S&S (5741-SNS) - S013T6C

Orderable

supply ID: Language Description

S013T6D US English RSCS Feature (support for 5741-A07)

z/VM Base S&S (5741-SNS) - S0111HC

Orderable

supply ID: Language Description

S0111HD US English RACF Security Server
Feature (support for 5741-A07)

z/VM Base S&S (5741-SNS) - S0111HF

Orderable

supply ID: Language Description

S0111HG US English Performance Toolkit
for VM feature (support for 5741-A07)

z/VM Base S&S (5741-SNS) - S0111H9

Orderable

Supply ID: Language Description

S0111HB US English z/VM V6.1 DFSMS/VM
feature (support for 5741-A07)

Ordering z/VM V6.1 using the SDO

Orders for z/VM V6.1 will be accepted beginning October 20, 2009. Production of z/VM V6.1 orders are planned to begin on October 23, 2009.

Orders for z/VM V6.1 and the optional features must use the z/VM V6.1 SDO packaged offering, program number 5741-A08. The z/VM base system, any ordered optional z/VM features, and any ordered SDO licensed products will be delivered as part of the z/VM SDO.

You must specify the desired distribution medium.

With the ordering of z/VM V6.1, you will receive a system DDR tape or DVD containing the program code for z/VM V6.1, an IPLA for 5741-A07, a LID, program directories, and one copy of each publication available for z/VM V6.1 as listed in the **Planning information, Packaging** section of this announcement.

Examples

- Example 1 - You currently do not have z/VM V6 licensed on any processors on any System z10 server within your enterprise. Your engine-based Value Units for licensing (5741-A07) are 0.
If you will be licensing z/VM V6 and designating **two** IFL processors on a single System z10 server within your enterprise as running z/VM V6, you will specify the desired distribution medium. When licensing using 5741-A07, capacity to be specified in engine-based Value Units would be (2 * 10) or **20** resulting in a total of 20 Value Units.
- Example 2 - You currently are not running z/VM V6 on standard processors (CPs) but you are running z/VM V6 on **one** IFL processor (probably running Linux on System z) on a single System z10 server within your enterprise. Your engine-based Value Units for licensing (5741-A07) are 10.
If you will be licensing z/VM V6 and designating **two** additional IFL processors on a single System z10 server within your enterprise as running z/VM V6, you will specify the desired distribution medium. When licensing using 5741-A07, additional capacity to be specified in engine-based Value Units would be (2 * 10) or **20** resulting in a total of 30 Value Units.
- Example 3 - You currently are running z/VM V6 on **two** standard processors (CPs) on a single System z10 server within your enterprise. Your engine-based Value Units for 5741-A07 are 20.
If you will be licensing z/VM V6 and designating **two** additional standard processors (CPs) on a single System z10 server within your enterprise as running z/VM V6, you will specify the desired distribution medium. When licensing using 5741-A07, additional capacity to be specified in engine-based Value Units would be (1 * 10) + (1 * 9) or **19** resulting in a total of 39 Value Units.

- Example 4 - You currently are running z/VM V6 on **two** standard processors and on **one** IFL processor (probably running Linux for System z) on a single System z10 server within your enterprise. Your engine-based Value Units for 5741-A07 are 30.
If you will be licensing z/VM V6 for **four** additional processors and designating **one** as a standard processor and the remaining **three** as IFL processors on a single System z10 server within your enterprise as running z/VM V6, you will specify the desired distribution medium. When licensing using 5741-A07, additional capacity to be specified in engine-based Value Units would be $(3 * 9) + (1 * 8)$ or **35** resulting in a total of 65 Value Units.
- Example 5 - You currently do not have z/VM V6 licensed on any processors on any System z10 server within your enterprise. Your engine-based Value Units are 0.
If you will be licensing z/VM V6 and designating **two** standard processors on one System z10 server and on an additional System z10 server within your enterprise, you will license z/VM V6 on **one** standard processor and on **two** IFL processors, you will specify the desired distribution medium. When licensing using 5741-A07, additional capacity to be specified in engine-based Value Units would be $(3 * 10) + (2 * 9)$ or **48** resulting in a total of 48 Value Units because of aggregating the licenses within the enterprise.

Support for z/VM V6.1

Program name: z/VM Subscription and Support

Program number: 5741-SNS

Support for z/VM V6 is provided and licensed under the IBM International Agreement for Acquisition of Support (Z125-6011).

This 5741-SNS order establishes entitlement records as well as support for z/VM V6.1 or the optional features. If an 5741-SNS order is declined, you will only be entitled to support under the basic warranty for z/VM V6.1 (5741-A07).

z/VM has adopted the support lifecycle extensions as announced in Software Announcement [203-204](#), dated August 12, 2003, which provide for three years of technical support after general availability.

Central service for z/VM V6.1 (5741-A07) is planned to be available by IBM until April 30, 2013.

IBM announced its intention to discontinue service support for z/VM V5.4 (5741-A05) to be effective September 30, 2011, in Software Announcement [208-249](#), dated August 05, 2008.

The new date planned for discontinuing service support for z/VM V5.4 has been extended to September 30, 2013.

Central service for z/VM V5.3 (5741-A05) is planned to be available by IBM until September 30, 2010.

The z/VM S&S provides:

- Corrections that fix substantial deviations of unmodified products from the then-current code, publications, and informal documentation (that is, release notes and memos).
- Software product updates that are improvements, extensions, and other changes IBM, at its discretion, deem to be reasonable.
- Recommended Service Updates (RSUs), new versions, and new releases at no additional charge.
- Technical support:
 - A reasonable amount of remote assistance via telephone, mail, facsimile (fax), or e-mail to address suspected IBM program defects, where available, during normal IBM business hours from Monday through Friday, except local holidays. Exceptions from normal IBM business hours are Severity 1 (high impact) problems. Support for high impact suspected IBM defects is available 24 hours a day, 7 days a week.
 - Temporary fixes for problems (where known), where they exist.

On-site (local) support, although available, is provided as part of the IBM portfolio of fee-based services.

z/VM S&S annual support charges, based on the number of Value Units specified will be automatically added to your order. If you do not desire the S&S license for z/VM and/or the optional features of DirMaint, RSCS, RACF, or the Performance Toolkit for VM, you must take specific action to decline this support.

A no-charge S&S registration record will be established on each designated machine where z/VM V6 and the priced, optional features of DirMaint, RSCS, RACF, and the Performance Toolkit for VM are running. These no-charge S&S registration records will be linked to the billable S&S and all billable S&S within the scope of the engine-based Value Units aggregation will be linked together.

Within the scope of an enterprise aggregation, the number of Value Units ordered for the S&S license(s) must equal the number of Value Units ordered for the OTC licenses.

The quantity ordered cannot exceed the maximum number of processors per server. The number of processors for a single server to be used to calculate Value Units should not be more than:

Quantity		
IFL	Standard	Maximum
processors	processors	processors for each server
64	64	64 System z10 EC (2097)
10	5	10 System z10 BC (2098)

National language translation

When you order z/VM V6.1, the national language translation files for message repositories, help files, and other panels or files are included with the system.

The following components or features are supported by z/VM V6.1 in the following languages:

– Japanese Kanji - CP, CMS (including CMS Utilities), REXX, PIPES

The DirMaint feature provides national language translation for DirMaint messages in Kanji and is automatically included with this feature.

To receive the translated help files for DFSMS/VM in Kanji, you must order the no-charge optional DFSMS/VM feature using the z/VM V6 System Delivery Option (SDO).

z/VM V6.1 SDO optional licensed products

Program name: z/VM V6.1 SDO

Program number: 5741-A08

The following table provides the orderable supply features for the optional licensed products with z/VM V6.1.

Orderable supply feature numbers for 5741-A08

Orderable

supply Language Medium Description

S015T8N	US English	3590 Tape	5741-A07 3590 3390 Sys DDR
S015T8P	US English	3592 Tape	5741-A07 3592 3390 Sys DDR
S015T8S	US English	DVD	5741-A07 DVD System Image
S015T86	US English	3590 Tape	5741-A07 3590 DirMaint
S015T87	US English	3592 Tape	5741-A07 3592 DirMaint
S015T88	US English	DVD	5741-A07 DVD DirMaint
S015T8J	US English	3590 Tape	5741-A07 3590 RSCS
S015T8K	US English	3592 Tape	5741-A07 3592 RSCS
S015T8L	US English	DVD	5741-A07 DVD RSCS
S015T8F	US English	3590 Tape	5741-A07 3590 RACF Sec Server
S015T8G	US English	3592 Tape	5741-A07 3592 RACF Sec Server
S015T8H	US English	DVD	5741-A07 DVD RACF Sec Server
S015T8B	US English	3590 Tape	5741-A07 3590 Performance Toolkit for VM
S015T8C	US English	3592 Tape	5741-A07 3592 Performance Toolkit for VM
S015T8D	US English	DVD	5741-A07 DVD Performance Toolkit for VM
S015T89	US English	DVD	5741-A07 z/VM Collection Kit DVD
S015T72	US English	3590 Tape	5741-A07 3590 DFSMS/VM Feature
S015T73	US English	3592 Tape	5741-A07 3592 DFSMS/VM Feature
S015T8T	US English	3590 Tape	5648-063 3590 ACF/NCP

S015T8V	US English	3592 Tape	5648-063	3592 ACF/NCP
S015T8Z	US English	3590 Tape	5654-009	3590 ACF/SSP
S015T90	US English	3592 Tape	5654-009	3592 ACF/SSP
S015TCV	US English	3590 Tape	5654-010	3590 ACF/VTAM SUITE
S015TCW	US English	3592 Tape	5654-010	3592 ACF/VTAM SUITE
S015T97	US English	3590 Tape	5686-065	3590 VTAM® APPL SUITE
S015T98	US English	3592 Tape	5686-065	3592 VTAM APPL SUITE
S015TBN	US English	3590 Tape	5654-010	3590 ACF/VTAM - VM
S015TBP	US English	3592 Tape	5654-010	3592 ACF/VTAM - VM
S015TB3	US English	3590 Tape	5648-B33	3590 AFP(TM) Font Coll
S015TB2	US English	3592 Tape	5648-B33	3592 AFP™ Font Coll
S015TS9	US English	3590 Tape	5688-228	3590 APL2
S015TST	US English	3592 Tape	5688-228	3592 APL2
S015T9V	US English	3590 Tape	5697-J05	3590 Archive Manager
S015T9W	US English	3592 Tape	5697-J05	3592 Archive Manager
S015T9X	US English	3590 Tape	5697-J06	3590 Backup/Restore
S015T9Z	US English	3592 Tape	5697-J06	3592 Backup/Restore
S015TB0	US English	3590 Tape	5684-062	3590 BookMgr Read
S015TB1	US English	3592 Tape	5684-062	3592 BookMgr Read
S015TCM	US English	3590 Tape	5688-188	3590 C/370™ Unique Lib
S015TCN	US English	3592 Tape	5688-188	3592 C/370 Unique Lib
S015TCS	US English	3590 Tape	5688-188	3590 C/370 Library
S015TCT	US English	3592 Tape	5688-188	3592 C/370 Library
S015TCF	US English	3590 Tape	5648-A25	3590 COBOL
S015TCG	US English	3592 Tape	5648-A25	3592 COBOL
S015TB6	US English	3590 Tape	5697-F42	3590 DB2 Client for VM
S015TB7	US English	3592 Tape	5697-F42	3592 DB2 Client for VM
S015TCH	US English	3590 Tape	5697-F42	3590 DB2 ControlCtr
S015TCJ	US English	3592 Tape	5697-F42	3592 DB2 ControlCtr
S015TCX	US English	3590 Tape	5697-F42	3590 DB2 Data Res
S015TCZ	US English	3592 Tape	5697-F42	3592 DB2 Data Res
S015TBW	US English	3590 Tape	5697-F42	3590 DB2 RXSQL VM
S015TBX	US English	3592 Tape	5697-F42	3592 DB2 RXSQL VM
S015TD0	US English	3590 Tape	5697-F42	3590 DB2 Svr for VM
S015TD1	US English	3592 Tape	5697-F42	3592 DB2 Svr for VM
S015TD6	US English	3590 Tape	5748-XX9	3590 DCF
S015TD7	US English	3592 Tape	5748-XX9	3592 DCF
S015TD2	US English	3590 Tape	5748-XX9	3590 DCF/ODF
S015TD3	US English	3592 Tape	5748-XX9	3592 DCF/ODF

S015TD4	US English	3590 Tape	5748-XX9	3590 DCF/SMFF
S015TD5	US English	3592 Tape	5748-XX9	3592 DCF/SMFF
S015TD8	US English	3590 Tape	5654-A23	3590 Debug Tool
S015TD9	US English	3592 Tape	5654-A23	3592 Debug Tool
S015TBD	US English	3590 Tape	5648-DR1	3590 Dir 5.20 Base
S015TBF	US English	3592 Tape	5648-DR1	3592 Dir 5.20 Base
S015TF3	US English	3590 Tape	5648-DR1	3590 Dir 5.20 z/VM Ctr
S015TF4	US English	3592 Tape	5648-DR1	3592 Dir 5.20 z/VM Ctr
S015TF9	US English	3590 Tape	5648-DR1	3590 Dir 5.20 SDPE
S015TFB	US English	3592 Tape	5648-DR1	3592 Dir 5.20 SDPE
S015TG2	US English	DVD	5648-DRZ	DVD Sys Director V6.1
S015TDD	US English	3590 Tape	5648-099	3590 DITTO-VSE&OPTVM
S015TDF	US English	3592 Tape	5648-099	3592 DITTO-VSE&OPTVM
S015TDB	US English	3590 Tape	5654-029	3590 DITTO/ESA - VM
S015TDC	US English	3592 Tape	5654-029	3592 DITTO/ESA - VM
S015TB8	US English	3590 Tape	5648-099	3590 DITTO/ESA - VSE
S015TB9	US English	3592 Tape	5648-099	3592 DITTO/ESA - VSE
S015TDG	US English	3590 Tape	5684-113	3590 DMS/CMS
S015TDH	US English	3592 Tape	5684-113	3592 DMS/CMS
S015TDJ	US English	3590 Tape	5654-260	3590 EREP
S015TDK	US English	3592 Tape	5654-260	3592 EREP
S015TDL	US English	3590 Tape	5668-801	3590 GDDM/IMD
S015TDM	US English	3592 Tape	5668-801	3592 GDDM/IMD
S015TDN	US English	3590 Tape	5668-723	3590 GDDM/IVU
S015TDP	US English	3592 Tape	5668-723	3592 GDDM/IVU
S015TDT	US English	3590 Tape	5668-812	3590 GDDM/PGF
S015TDV	US English	3592 Tape	5668-812	3592 GDDM/PGF
S015TDW	US English	3590 Tape	5684-168	3590 GDDM/VM
S015TDX	US English	3592 Tape	5684-168	3592 GDDM/VM
S015TDZ	US English	3590 Tape	5696-234	3590 HLASM V1.6
S015TF0	US English	3592 Tape	5696-234	3592 HLASM V1.6
S015TF1	US English	3590 Tape	5696-234	3590 HLASM V1.6 Toolkit
S015TF2	US English	3592 Tape	5696-234	3592 HLASM V1.6 Toolkit
S015TB4	US English	3590 Tape	5654-033	3590 IBM C - VM/ESA
S015TB5	US English	3592 Tape	5654-033	3592 IBM C - VM/ESA
S015TFL	US English	3590 Tape	5684-042	3590 ICKDSF SES/E
S015TFM	US English	3592 Tape	5684-042	3592 ICKDSF SES/E
S015TFN	US English	3590 Tape	5684-043	3590 ISPF V3 ENU
S015TFP	US English	3592 Tape	5684-043	3592 ISPF V3 ENU

S015TFW	US English	3590 Tape	5684-123	3590 ISPF/PDF V3
S015TFX	US English	3592 Tape	5684-123	3592 ISPF/PDF V3
S015TBR	US English	3590 Tape	5688-035	3590 NPSI X.25
S015TBS	US English	3592 Tape	5688-035	3592 NPSI X.25
S015TFJ	US English	3590 Tape	5698-A36	3592 OMEGAMON® XE
S015TFK	US English	3592 Tape	5698-A36	3592 OMEGAMON XE
S015TG0	US English	3590 Tape	5697-J10	3590 Operations Manager
S015TG1	US English	3592 Tape	5697-J10	3592 Operations Manager
S015TBG	US English	3590 Tape	5684-100	3590 Pass-Through
S015TBH	US English	3592 Tape	5684-100	3592 Pass-Through
S015TC3	US English	3590 Tape	5688-235	3590 PL/I
S015TC4	US English	3592 Tape	5688-235	3592 PL/I
S015TFT	US English	3590 Tape	5688-190	3590 PPFA/370
S015TFV	US English	3592 Tape	5688-190	3592 PPFA/370
S015TFC	US English	3590 Tape	5684-141	3590 PSF/VM
S015TFD	US English	3592 Tape	5684-141	3592 PSF/VM
S015TBJ	US English	3590 Tape	5697-F42	3590 QMF(TM) for VM
S015TBK	US English	3592 Tape	5697-F42	3592 QMF™ for VM
S015TBZ	US English	3590 Tape	5695-013	3590 REXX/370 Complr
S015TC0	US English	3592 Tape	5695-013	3592 REXX/370 Complr
S015TC1	US English	3590 Tape	5695-014	3590 REXX/370 Lib
S015TC2	US English	3592 Tape	5695-014	3592 REXX/370 Lib
S015TC5	US English	3590 Tape	5697-J08	3590 Tape Manager
S015TC6	US English	3592 Tape	5697-J08	3592 Tape Manager
S015TC7	US English	3590 Tape	5684-137	3590 VM Batch Facilit
S015TC8	US English	3592 Tape	5684-137	3592 VM Batch Facilit
S015TC9	US English	3590 Tape	5668-806	3590 VS FORTRAN
S015TCB	US English	3592 Tape	5668-806	3592 VS FORTRAN
S015TCC	US English	3590 Tape	5668-767	3590 VS PASCAL
S015TCD	US English	3592 Tape	5668-767	3592 VS PASCAL
S015TBL	US English	3590 Tape	5668-717	3590 VS Pascal Lib
S015TBM	US English	3592 Tape	5668-717	3592 VS Pascal Lib
S015T95	US English	3590 Tape	5686-065	3590 VSE/VTAM VM OPTIONS
S015T96	US English	3592 Tape	5686-065	3592 VSE/VTAM VM OPTIONS
S015T9P	US English	3590 Tape	5686-065	3590 VSE/VTAM VSE FUNCT
S015T9R	US English	3592 Tape	5686-065	3592 VSE/VTAM VSE FUNCT
S015TBB	US English	3590 Tape	5654-A22	3590 XL C/C++ for z/VM
S015TBC	US English	3592 Tape	5654-A22	3592 XL C/C++ for z/VM

S015TBT US English 3590 Tape 5655-T13 3590 zSecure Mgr for RACF

S015TBV US English 3592 Tape 5655-T13 3592 zSecure Mgr for RACF

Preinstalled products and features

- EREP and ICKDSF

The prerequisite no-charge products, **EREP** (5654-260) and **ICKDSF** (5684-042) are preinstalled on the base product system DDRs. If you intend to use EREP or ICKDSF now or at a later date, you must establish a license for billing and shipment of publications by placing an order for each of these products. Because the product code is already preinstalled, your order should indicate that shipment of media should be suppressed for these products. This can be accomplished by including the Delivery Option feature number 3471 (Ship Documentation Only), which designates the shipment of publications only.

- Language Environment

Language Environment is integrated into the base of z/VM V6.1.

- HCD and HCM

HCD and HCM provides a comprehensive I/O configuration management environment, similar to that available with the z/OS operating system. HCD and HCM is delivered preinstalled into the base of z/VM V6.1, enabled for use, and is available at no additional charge.

- OpenExtensions Shell and Utilities

OpenExtensions Shell and Utilities is included in z/VM V6.1 with no licensing or billing requirements.

- CMS Utilities

CMS Utilities is included in z/VM V6.1 at no additional charge.

- Open Systems Adapter Support Facility (OSA/SF)

OSA/SF (V4.4.0) is a host-based tool supporting OSA-2 and OSA-Express features and is included in z/VM V6.1 later, with no licensing or billing requirements.

- TCP/IP for z/VM and NFS

The **TCP/IP base** and the **Network File System (NFS) feature of TCP/IP** are delivered preinstalled, enabled for use, and are available at no additional charge.

- **DirMaint, RSCS, RACF Security Server**, and the **Performance Toolkit for VM** priced optional features for z/VM V6.1

DirMaint, RSCS, RACF Security Server, and the **Performance Toolkit for VM** are preinstalled in a disabled state. Pricing is based on engine-based Value Units, and can be licensed on IFL and standard processor processors. If you intend to use any one of these features, now or at a later date, you must establish a license for billing and shipment of publications. Enablement instructions are provided in the program directory for each feature to enable the feature for use on your system. A license is established by placing an order for the feature.

On/Off CoD


z/VM V6.1 is eligible for On/Off CoD with a temporary use charge calculated based on processor-per-day use.

z/VM V6.1 (5741-A07) temporary use charge

Entitlement

identifier	Description	License option/Pricing metric
S015HSV	z/VM V6	On/Off CoD, Per Processor-day TUC
S015HST	DirMaint Feature	On/Off CoD, Per Processor-day TUC
S015HSX	RSCS Feature	On/Off CoD, Per Processor-day TUC
S015HSZ	RACF Feature	On/Off CoD, Per Processor-day TUC
S015HSW	Performance Toolkit for VM Feature	On/Off CoD, Per Processor-day TUC

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Terms and conditions
 Bottom rule

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage® Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

Licensing

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

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)

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. These programs have a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as well as access to updates, releases, and versions of the program as long as support is in effect.

License Information form number

GC24-6200

On or near the planned availability date, the License Information document will be available for review on the IBM Software License Agreement Web site

<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.

Authorization for use on home/portable computer

You may not copy and use this program on another computer without paying additional license fees.

Other terms

Volume orders (IVO)

No

IBM International Passport Advantage Agreement

Passport Advantage applies

No

Usage restriction

Yes

- z/VM V6.1 operates on the IBM System z10 Enterprise Class (z10 EC) and IBM System z10 Business Class (z10 BC). The program requires hardware that implements the IBM 64-bit z/Architecture in order to execute properly and therefore licensee is not authorized to install or use this program on any machine that does not properly implement 64-bit z/Architecture. For information about specific z/VM machine requirements and programming requirements, refer to the z/VM: General Information manual, GC24-6193.
- 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 (CPs) or Integrated Facility for Linux (IFL) processors.
- z/VM may run on IFL processors only if, on the IFL processors, z/VM is being used exclusively to run (1) Linux or OpenSolaris workloads and, (2) if required, z/VM applications in support of those Linux or OpenSolaris workloads.
- When ordering z/VM V6.1 to operate on standard processors (CPs) for a single server within the enterprise, Licensee must specify Value Units equal to the Value Units to cover the number of standard processors (CPs) on licensee's server.
- For a single server in an enterprise, the number of Value Units ordered for any optional feature to operate on standard processors must be equal to the number of Value Units ordered for the base z/VM V6 product operating on standard processors.
- When ordering z/VM V6.1 to operate on IFL processors for a single server within the enterprise, Licensee must specify Value Units equal to the Value Units to cover the number of IFL processors on Licensee's server.
- For a single server in an enterprise, the number of Value Units ordered for any optional feature to operate on IFL processors must be equal to the number of Value Units ordered for the base z/VM V6 product operating on IFL processors.
- If licensee is running z/VM V6.1 in an LPAR specified as "z/VM-mode" that is configured with both IFL processors and standard processors (CPs) and Licensee intends to run software licensed under the

IBM Customer Agreement (ICA) in a virtual machine in that LPAR, that virtual machine must be configured to execute only on standard processors (CPs).

- 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.

Software Subscription and Support (Software Maintenance) applies

No. For operating system software, the revised IBM Operational Support Services - SoftwareXcel offering will provide support for those operating systems and associated products that are not available with the Software Subscription and Support (Software Maintenance) offering.

This will ensure total support coverage for your enterprise needs, including IBM and selected non-IBM products. For complete lists of products supported under both the current and revised offering, visit

<http://www.ibm.com/services/sl/products>

IBM Operational Support Services - SoftwareXcel

Yes

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

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

Products eligible for single version charging


SVC is only applicable when running on standard processors and the maximum time for which it applies is 12 months.

The SVC offering is valid only while both the predecessor product and the replacement product are:


- Both running on the same CPU
- Licensed under the same IBM customer number
- In the process of being migrated from the older product to the newer one by the customer
- Providing the same function

Note: When the SVC offering meets these requirements, you must order the appropriate number of Value Units for z/VM V6.1 to be eligible.

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[Products eligible for single version charging \(SVC\)](#)

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Replaced programs		Replacement programs	
Program number	Program name	Program number	Program name
5654-A17	z/VM Version 3	5741-A07	z/VM V6.1
5654-030	VM/ESA Version 2	5741-A07	z/VM V6.1
5684-112	VM/ESA Version 1	5741-A07	z/VM V6.1
5664-167	VM/SP	5741-A07	z/VM V6.1
5664-173	VM/SP HPO	5741-A07	z/VM V6.1
5664-301	VM/IS Base (Core)	5741-A07	z/VM V6.1
5664-308	VM/XA SP	5741-A07	z/VM V6.1
5735-FAL	TCP/IP Version 2	5741-A07	z/VM V6.1
5798-FAL	TCP/IP Version 1	5741-A07	z/VM V6.1
5796-PNA	VM Realtime Monitor	5741-A07	z/VM V6.1
5664-191	VMMAP	5741-A07	z/VM V6.1
5798-DWD	RealTime Monitor VM/ESA	5741-A07	z/VM V6.1
5684-073	VMPRF	5741-A07	z/VM V6.1
5748-XE4	DirMaint	5741-A07	z/VM V6.1
5740-XXH	RACF	5741-A07	z/VM V6.1

5664-188 RSCS V2	5741-A07 z/VM V6.1
5684-096 RSCS V3	5741-A07 z/VM V6.1

5688-198 Language Environment/370 5741-A07 z/VM V6.1

5706-116 DFSMS/VM(TM)	5741-A07 z/VM V6.1
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5668-911 OS/PL/I V2 Library	5741-A07 z/VM V6.1
5734-LM4 OS PL/I Resident Library	5741-A07 z/VM V6.1
5734-LM5 OS PL/I Transient Library	5741-A07 z/VM V6.1

5688-022 VS COBOL II Library Only	5741-A07 z/VM V6.1
5668-940 VS COBOL II Library Only	5741-A07 z/VM V6.1
5740-LM1 OS/VS COBOL Library Only	5741-A07 z/VM V6.1

5688-039 C/370(TM) Library	5741-A07 z/VM V6.1
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SVC is only applicable when running on standard processors and the maximum time for which it applies is 12 months.

The SVC offering is valid only while both the predecessor product and the replacement product are:


- Both running on the same CPU
- Licensed under the same IBM customer number
- In the process of being migrated from the older product to the newer one by the customer
- Providing the same function

Note: When the SVC offering meets these requirements, you must order the appropriate number of Value Units for z/VM V6.1 to be eligible.

On/Off Capacity on Demand (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 Customer Initiated Upgrade and IBM eServer On/Off Capacity on Demand - Software (Z125-6611) must be signed prior to use.

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IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

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

Choose the option entitled Purchase / upgrade tools.

The products and features in this announcement have one pricing metric - Value Units based on the number of processors. The charge applies only to the z/VM V6.1 base and the priced, optional features of DirMaint, RSCS, RACF, the Performance Toolkit for VM, and the S&S entitlements at the initial order.

Program name:z/VM Version 6 Release 1

Program number: 5741-A07

Entitlement identifier	Description	License option/ Pricing metric
S015HSV	z/VM V6	Use-based OTC, Per Value Unit On/Off CoD, Per Processor-day TUC
S015HST	DirMaint Feature	Use-based OTC, Per Value Unit On/Off CoD, Per Processor-day TUC
S015HSX	RSCS Feature	Use-based OTC, Per Value Unit On/Off CoD, Per Processor-day TUC
S015HSZ	RACF Feature	Use-based OTC, Per Value Unit On/Off CoD, Per Processor-day TUC
S015HSW	Performance Toolkit for VM Feature	Use-based OTC, Per Value Unit On/Off CoD, Per Processor-day TUC

Subscription and Support PID 5741-SNS

Entitlement identifier	Description	License option/ Pricing metric
S0111PX	z/VM V6	Basic ASC, per Value Unit SW S&S No charge, decline SW S&S No-charge, SW S&S Registration
S0111R1	DirMaint Feature	Basic ASC, per Value Unit SW S&S No charge, decline SW S&S No-charge, SW S&S Registration
S013T6B	RSCS Feature	Basic ASC, per Value Unit SW S&S No charge, decline SW S&S No-charge, SW S&S Registration
S0111R0	RACF Feature	Basic ASC, per Value Unit SW S&S

No charge, decline SW S&S

No-charge, SW S&S Registration

S0111PZ Performance Toolkit Basic ASC, per Value Unit SW S&S

for VM Feature No charge, decline SW S&S

No-charge, SW S&S Registration

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Canada M3B 3R1

Reference: LE001

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