



IBM z/VSE V5.1 - Additional enhancements available

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At a glance

IBM® z/VSE® V5.1 helps to protect and leverage your investments in the z/VSE platform. In addition to function delivered earlier, z/VSE V5.1 additional enhancements are designed to further exploit innovative IBM zEnterprise® and IBM System Storage® technology, and extend the z/VSE connectivity options in heterogeneous environments.

z/VSE V5.1 additional enhancements include support for:

- Innovative IBM zEnterprise EC12 technology
 - Configurable Crypto Express4S
 - OSA-Express4S 1000BASE-T
- Enhanced IBM System Storage options
 - Systems Managed Encryption with IBM System Storage TS1140
 - IBM System Storage TS7700 Virtualization Engine Release 3.0
 - IBM System Storage DS8870 (both as ECKD™ and FCP-attached SCSI disks)
 - IBM Storwize® V7000 Software V6.4.0
- 64-bit I/O processing for applications
- IPv6/VSE V1.1 Secure Sockets Layer (SSL)
- Networking and database connector enhancements

These enhancements will be made available with PTFs for z/VSE V5.1.

z/VSE V5.1 has been generally available since November 25, 2011.

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: LE001).

Overview

z/VSE V5.1 has been generally available since November 25, 2011.

For information on the content of z/VSE V5.1, refer to Software Announcements [211-466](#), dated October 12, 2011, and [212-070](#), dated April 03, 2012, or refer to the z/VSE website at

<http://www.ibm.com/systems/z/os/zvse/>

z/VSE V5.1 helps to protect and leverage your investments in the z/VSE platform. In addition to function already available with z/VSE V5.1, you get supplemental enhancements that are designed to:

- Support innovative IBM zEnterprise EC12 technology
 - Configurable Crypto Express4S
 - OSA-Express4S 1000BASE-T
- Support enhanced IBM System Storage options
 - IBM System Storage TS1140
 - IBM System Storage TS7700 Virtualization Engine Release 3.0
 - IBM System Storage DS8870
 - IBM Storwize V7000 Release 6.4
- Allow 64-bit Input/Output (I/O) processing for applications
- Extend the z/VSE connectivity and networking options in heterogeneous environments
- Provide IPv6/VSE V1.1 security enhancements

z/VSE V5.1 supports IBM System z® servers:

- IBM zEnterprise EC12
- IBM zEnterprise 196 (z196) and zEnterprise 114 (z114)
- IBM System z10® Enterprise Class (z10™ EC) and IBM System z10 Business Class (z10 BC)
- IBM System z9® Enterprise Class (z9® EC) and IBM System z9 Business Class (z9 BC)

z/VSE V5.1 offers Midrange Workload License Charge (MWLC) pricing metrics, including a subcapacity option, for zEnterprise EC12, zEnterprise 196, System z10 , and System z9 servers. The smallest z10 BC and z9 BC server capacity setting, A01, does not qualify for MWLC. Clients using the z10 BC and z9 BC capacity setting A01 will always pay a zSeries® Entry License Charge (zELC) for their IBM monthly license charge software.

IBM offers Advanced Entry Workload License Charge (AEWLC) pricing metrics, including a subcapacity option, for the z114 server.

Key prerequisites

Refer to the [Hardware requirements](#) section, [Software requirements](#) section, and [Planning information](#) section for details.

Planned availability date

June 14, 2013

Description

In addition to function already delivered with z/VSE V5.1, you get supplemental enhancements that are designed to:

- Exploit innovative IBM zEnterprise and IBM System Storage technology
- Allow 64-bit Input/Output (I/O) processing for applications
- Extend the z/VSE connectivity and networking options in heterogeneous environments

- Provide IPv6/VSE V1.1 security enhancements

Support of IBM zEnterprise technology

z/VSE V5.1 is designed to bring the value of selected, innovative IBM zEnterprise technology to you.

- Configurable Crypto Express4S adapter

The Crypto Express4S adapter is exclusive to the IBM zEnterprise EC12 environment. z/VSE 5.1 (with PTF UD53863) supports the Crypto Express4S adapter in both IBM Common Cryptographic Architecture (CCA) coprocessor and accelerator mode.

It can be used both in an LPAR and z/VM® guest environment.

- OSA-Express4S 1000BASE-T

z/VSE V4.3 and later supports the newest member of the family of OSA-Express4S features in four modes of operation:

- CHPID type OSC for TN3270E and non-SNA DFT emulation with exploitation of two ports per CHPID
- CHPID type OSD for TCP/IP traffic with exploitation of two ports per CHPID
- CHPID type OSE for SNA and/or TCP/IP traffic with exploitation of two ports per CHPID
- CHPID type OSN for OSA-Express for NCP

- 64-bit Input/Output (I/O) processing for applications

z/VSE V5.1 enhancements add 64-bit I/O processing for applications.

64-bit virtual addressing for applications was introduced at general availability of z/VSE V5.1. This enables 64-bit applications to use virtual storage above the 2 GB address (the bar). With 64-bit I/O processing, clients have the flexibility to also use 64-bit virtual storage for I/O buffers and thus benefit from increased processor storage available with the latest IBM System z servers.

64-bit I/O processing is already available with PTF UD53915/UD53917/UD53916 (APAR DY47419).

Exploitation of IBM System Storage technology

z/VSE V5.1 is also designed to support selected IBM System Storage products and features. Innovative IBM System Storage technology may offer significant value to z/VSE clients.

- IBM System Storage TS1140 Tape Drive Model E07

IBM System Storage TS1140 Tape Drive Model E07 (machine type 3592) is the fourth generation of the highly successful IBM 3592 Enterprise Tape Drive. The TS1140 Tape Drive is designed to provide higher levels of performance, reliability, and cartridge capacity than the TS1130 Model E06 Tape Drive. The TS1140 Tape Drive also supports drive-based data encryption to help protect your data.

For details see Hardware Announcement [111-087](#), dated May 09, 2011 .

z/VSE V5.1 is designed to support the TS1140 Tape Drive for use in an LPAR and a z/VM guest environment. Usage of the TS1140 encryption capabilities is identical to that of the TS1130.

- IBM System Storage TS7700 Virtualization Engine Release 3.0

IBM System Storage TS7700 Virtualization Engine Release 3.0 provides new enhancements including disk-based encryption. Encryption keys for disk-based encryption are managed internally within the TS7700 system.

For details see Hardware Announcement [112-160](#), dated October 03, 2012 .

The TS7700 Release 3.0 system is transparent to z/VSE . It can be used both in an LPAR and z/VM guest environment.

- z/VSE V4.3 supports the TS7700 as a stand-alone system in transparency mode.
- z/VSE V5.1 and later supports Multi Cluster GRID and COPY EXPORT. These functions were already delivered at general availability of z/VSE V5.1.
- IBM System Storage DS8870
IBM System Storage DS8870, the newest member of the IBM System Storage DS8000® series, features IBM POWER7® server technology to help support high performance.

For DS8870 functionality see Hardware Announcement [112-154](#), dated October 03, 2012 .

z/VSE V4.3 and later transparently supports the DS8870 for use with ECKD and FCP-attached SCSI disks.

- IBM Storwize V7000 Software V6.4.0
See Software Announcement [212-180](#), dated June 04, 2012 , for features that have been added with Storwize V7000 V6.4.0 code.

z/VSE V4.3 and later transparently supports the Storwize V7000 for use with FCP-attached SCSI disks.

Connectivity, networking, and security enhancements

- Connection pooling for the z/VSE Database Connector
Starting with z/VSE V5.1.1, a z/VSE database connector is available that allows z/VSE applications to access a relational database on any suitable database server. This z/VSE database connector is available through the z/VSE Database Call Level Interface (DBCLI), which provides an application programming interface (API) for z/VSE applications written in Assembler, COBOL, PL/I, C, or REXX. It supports batch as well as CICS® applications.

This enhancement allows connection pooling for CICS applications using DBCLI.

Creating database connections is time-consuming because of the overhead of establishing a network connection and initializing access to a database server. Since connection pooling keeps and reuses existing database connections, it reduces the time to establish a connection to the database. This can be especially beneficial for short-lived, CICS DBCLI applications that will be running frequently.

CICS applications using DBCLI can request connection pooling by setting a new DBCLI environment variable. Besides that, connection pooling is transparent to DBCLI applications. Existing DBCLI applications will continue to work unchanged, that is without using the connection pool.

- Configurable input buffers for HiperSockets™ devices
Clients who extend z/VSE solutions by exploiting Linux™ on System z often use a HiperSockets network for high-speed TCP/IP connectivity between z/VSE and Linux on System z .

Best performance can be achieved when data is always delivered successfully without the need of resending.

Since HiperSockets transfers data synchronously, successful delivery of data depends on free QDIO (Queued Direct I/O) input buffers of the target system.

z/VSE uses a default of eight QDIO input buffers. This might not always be sufficient, especially if clients have increased the number of QDIO input buffers on the Linux on System z system.

z/VSE V5.1 enhancements now allow you to configure the number of QDIO input buffers for HiperSockets (CHPID type IQD) and OSA-Express devices (CHPID types OSD and OSX). To ease the configuration skeleton SKOSACFG in ICCF library 59 can be used. Additional QDIO input buffers might require you to increase the size of the TCP/IP partition.

The function is already available with PTF UD53905/UD53906 (APAR DY47394).

- Layer 2 support for IPv4 links in addition to IPv6 links

IPv6/VSE adds Layer 2 support for OSA-Express devices (CHPID types OSD and OSX) when used in an IPv4 link in addition to the support that was already made available for IPv6 links. This function is already available with PTF UK83637 (APAR PM77065).

- IPv6/VSE V1.1 Secure Sockets Layer (SSL) support

IPv6/VSE now supports Secure Sockets Layer (SSL) for secure transmission of data to and from remote systems. Protocols that are supported are HTTPS (HTTP over SSL), FTPS (FTP over SSL), SMTPS (SMTP over SSL), and TN3270E over SSL. IPv6/VSE provides an SSL proxy server. This SSL proxy server allows non-SSL server applications, running on z/VSE, to accept connections from SSL-based client applications. It allows non-SSL client applications running on z/VSE to connect to SSL-based remote server applications. The use of the proxy server is transparent to z/VSE applications.

SSL support transparently exploits IBM System z cryptographic adapters to establish a secure socket connection and the CP Assist for Cryptographic Function (CPACF) for symmetric encryption.

If cryptographic hardware is not available, encryption is performed in software. However, this results in increased CPU usage. So for best performance it is recommended to use hardware-assisted encryption.

This function is already available with PTF UD53863 (APAR DY47414) and PTF UK83637 (APAR PM77065).

Section 508 of the US Rehabilitation Act

z/VSE V5.1 is capable, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Product positioning

With this announcement of additional enhancements, IBM demonstrates the ongoing support and commitment to z/VSE. Exploitation of selected new IBM zEnterprise and System Storage technology is a key part of the strategy to protect existing client investments in core z/VSE applications and data. Connectivity, networking, and security enhancements support the integration with heterogeneous environments.

For more information on the z/VSE "Protect, Integrate, and Extend" strategy, in short PIE strategy, refer to

<http://www.ibm.com/systems/z/os/zvse/>

The statement of direction for additional functionality that allows initial installation of z/VSE without requiring a physical tape demonstrates IBM's continued commitment to address client requirements.

Statement of direction

IBM intends to add functionality that allows initial installation of z/VSE without requiring a physical tape. Clients who use a tape for initial installation only may no longer be forced to include a tape in the z/VSE configuration. With this ease of use function IBM will fulfill client requirements.

IBM intends in the future to enhance IBM CICS Explorer® for IBM CICS Transaction Server for VSE/ESA to provide updates to CICS resources.

It is planned to reduce the AEWLC and MWLC list price of IPv6/VSE V1.1.

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

Hardware and software support services

SmoothStart/Installation Services

IBM SmoothStart Services and Installation Services are not provided.

Program number

Program number	Program name
5609-ZV5	z/VSE
5686-CF9	z/VSE Central Functions

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).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=213-090>

IBM z/VSE V5.1 product content

z/VSE V5.1 base programs

The following is a list of z/VSE V5.1 base programs, including their release and modification levels.

Note that z/VSE is the successor to the IBM VSE/ESA product and that many products and functions supported on z/VSE may continue to use VSE/ESA in their product names.

Program name	Version/ Release/ Modification	Program number	Notes
z/VSE Central Functions	9.01.00	5686-CF9	(1)
High Lev Assem z/OS®, z/VM, z/VSE	1.06.00	5696-234	(1)
VSE/EREP	3.05.00	5656-260	(2)
VSE/ICKDSF	1.17.00	5747-DS2	(2)
CICS Transaction Server for VSE/ESA	1.01.01	5648-054	
ACF/VTAM for VSE/ESA	4.02.00	5686-065	
- Client/Server (CS)			
- Multi Domain (MD)			
- Inter Enterprise (IE)			
DITTO/ESA for VSE	1.03.00	5648-099	
TCP/IP for VSE/ESA	1.05.00	5686-A04	
- Application Pak			(3)
- NFS Feature			(3)
- GPS Feature			(3)
DB2 Server for VSE and VM	7.05.00	5697-F42	
- DataPropagator	7.04.00		
DB2 Client Edition for VSE	7.05.00	5697-F42	

Note: (1) Mandatory product, not selectable.
All others are optional. Some may have commercially available alternatives.
(2) No charge product, not selectable.
(3) NFS and GPS require the Application Pak.

z/VSE V5.1 optional programs

The following is a list of z/VSE V5.1 optional programs, including their release and modification levels.

Program name	Version/ Release/ Modification	Program number	Notes
Optional z/VSE base features:			
Encryption Facility for z/VSE	1.02.00	5686-CF9	
HLASM Tool Kit	1.06.00	5696-234	
DITTO/ESA for VSE, VM Option	1.03.00	5648-099	
ACF/VTAM Version 4 VM Options	4.02.00	5686-065	
- Client/Server (CS)			
- Multi Domain (MD)			
- Inter Enterprise (IE)			
ACF/VTAM APPC for VM			VM-format
DB2 Server for VSE and VM	7.05.00	5697-F42	NLV
- Data Restore Feature			
- Control Center Feature			
- QMF™ for VSE			Base and NLV
- QMF for windows™			Base and NLV
DB2 Client Edition for VSE	7.05.00	5697-F42	NLV
System control and networking:			
IPV6/VSE	1.01.00	5686-BS1	
VSE/ACLR	1.02.01	5746-XE7	
Database and utilities:			
DL/I VSE	1.12.00	5746-XX1	
CICSVR/VSE	1.02.00	5686-011	
DFSORT/VSE	3.04.00	5746-SM3	
Network control:			
ACF/SSP	4.08.01	5686-064	
ACF/NCP for IBM 3745	7.08.01	5648-063	
X.25 NPSI for ACF/NCP Version 7	3.09.00	5688-035	

EP V1 for ACF/NCP Version 7 1.14.00 5735-XXB

Languages and compilers:

IBM COBOL for VSE - full function	1.01.00	5686-068
IBM COBOL for VSE - alt. function	1.01.00	5686-068
IBM PL/I for VSE - full function	1.01.00	5686-069
IBM PL/I for VSE - alt. function	1.01.00	5686-069
IBM C for VSE/ESA - full function	1.01.00	5686-A01
IBM C for VSE/ESA - alt. function	1.01.00	5686-A01
CCCA for VSE	2.01.00	5686-A07
IBM Rational® COBOL Runtime for z/VSE V7.5	7.05.00	5648-F66
DOS/VS RPG II	1.03.00	5746-RG1

Application development:

WebSphere MQ for z/VSE	3.00.00	5655-U97
SDF II	1.06.00	5746-XXT

Business professional support:

GDDM VSE	3.02.00	5686-057
GDDM IMD	2.01.03	5668-801
GDDM PGF	2.01.03	5668-812
GDDM IVU	1.01.03	5668-723

Advanced function printing:

PSF/VSE Comp. Fonts Base	2.02.01	5686-040
AFP Font Collection S/390® - incl. fonts	2.01.01	5648-B33
PPFA/370	1.01.00	5688-190
OGL/370	1.01.00	5688-191

The CICS Explorer for CICS Transaction Server for VSE/ESA V1.1 is available for download at no additional charge. Further information about the CICS Explorer and how to download it can be found at

<http://www.ibm.com/systems/z/os/zvse/products/cics.html#cicsexplor>

Education support

None.

Technical information

Specified operating environment

Hardware requirements

z/VSE V5.1 operates on:

IBM System z server	LPAR Mode	Guest under z/VM (1)
IBM zEnterprise EC12	x	x
IBM zEnterprise 196	x	x
IBM zEnterprise 114	x	x
IBM System z10 Enterprise Class	x	x
IBM System z10 Business Class	x	x
IBM System z9 Enterprise Class	x	x
IBM System z9 Business Class	x	x

x: supported

(1) Supported z/VM release required.

z/VM V6.1, or later requires z10, or later.

Hardware-assisted asymmetric key encryption (RSA only) requires:

- Crypto Express4S (in either coprocessor or accelerator mode) on zEnterprise EC12.
- Crypto Express3 (in either coprocessor or accelerator mode) on zEnterprise or z10 .
- Crypto Express2 (in either coprocessor or accelerator mode) on z10 or z9 .

4096-bit RSA key support is available with configurable Crypto Express3, or later.

Hardware-assisted symmetric key encryption requires the CPACF feature on a:

- zEnterprise , z10 , z9 for DES, T-DES, and AES-128
- zEnterprise or z10 for AES-256

zEnterprise is required for:

- IntraEnsemble Data Network (IEDN) support
- Fast Path to Linux on System z function in an LPAR environment
- z/VSE z/VM IP Assist
- Static power save mode (zEC12, z196 only)

z10 , or later is required for:

- Dynamically adding logical CPs without preplanning
- Large page (1 megabyte page) support
- Adjunct processor (AP)-queue interruption facility
- Dynamically adding and removing cryptographic processors
- z/VM mode LPAR

To support new functions and features, machine change levels (MCLs) of System z servers are required.

Descriptions of the MCLs are available through the following resource link

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

Linux Fast Path in an LPAR environment requires a zEnterprise server with the most current microcode maintenance.

Software requirements

Many z/VSE clients choose to run under z/VM for operational flexibility or to supplement the capabilities of z/VSE alone. z/VSE clients who choose to run one or more z/VSE V5.1 systems as guest systems under z/VM will require a supported z/VM release.

For specific functions and for the most current information on z/VM , refer to

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

z/VM allows users to exploit state-of-the-art virtualization technology for one or more of the following reasons:

- Multiple z/VSE production, development, or test images
- Multiple Linux on System z images to exploit the potential of Integrated Facility for Linux (IFL) speciality engines
- Both z/VSE and Linux on System z to extend the z/VSE capabilities with Linux on System z
- Both z/VSE and z/OS on a permanent basis

A z/VM mode logical partition (LPAR) allows clients to run z/VSE images on standard CPs and Linux on System z images on IFLs, all in the same z/VM LPAR for enhanced staff productivity and resource efficiency. A z/VM mode LPAR requires z10 , or later and z/VM V5.4, or later.

For users running z/VSE V5.1 together with Linux on System z , a Linux distribution is needed. Linux on System z is not provided by IBM . It must be obtained from an independent distributor. For a current list of Linux on System z distributors, refer to

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

To use the Linux Fast Path function in an LPAR environment, one of the following Linux distributions is required:

- SUSE SLES 11 SP2
- Red Hat RHEL 6.3

Details of the system requirements for both the CICS Explorer and CICS Explorer SDK are available at

<http://www.ibm.com/software/htp/cics/explorer/requirements/>

Details relating to service and support for CICS Explorer are available at

<http://www.ibm.com/support/docview.wss?uid=swg21380083>

Compatibility

Compatibility aspects include:

- z/VSE V5 operates in z/Architecture® mode only.
- z/VSE V5.1 is shipped with a single supervisor only, \$A\$SUPI. Starting with z/VSE V4.1, supervisor generation was dropped.
- The support for up to 512 VSE tasks has to be enabled explicitly. A compatibility mode is provided for applications that rely on the old 255 task limit.
- From z/VSE V4.1 onwards, the Label Area must reside on a virtual disk.
- If initial installation is performed, the ACF/VTAM 31-bit I/O buffer support is enabled. It might be necessary to increase the number of copy blocks.
- Starting with z/VSE V4.3, CICS/VSE V2.3 is no longer part of the z/VSE package and the CICS coexistence environment has been removed.
- Starting with z/VSE V4.3, DL/I V1.12 is the only DL/I release that can be used with z/VSE . It replaces DL/I VSE V1.11 and DL/I DOS/VS V1.10. DL/I V1.12 cannot be used with CICS/VSE V2.3.
- The Japanese national language version continues to be available.
- The optional feature GPS (shipped with TCP/IP for VSE/ESA) does not support Double Byte Character Set (DBCS) printing.
- z/VSE V5.1 is not delivered on 3480 tape cartridges.
- z/VSE V5.1 is no longer delivered on CD-ROM, but on DVD.

Limitations

Limitations when using the Fast Service Upgrade (FSU) process:

- FSU to z/VSE V5.1 is possible from z/VSE V4.2 and z/VSE V4.3. The FSU process supports two releases only.
- Users migrating from VSE/ESA V2.4, or later can either use FSU several times or do an initial installation.
- Users migrating from a release prior to VSE/ESA V2.4 must use initial installation.
- If ACF/VTAM 31-bit support is not enabled on your current system, you have to enable it explicitly after FSU to z/VSE V5.1. It might be necessary to increase the number of copy blocks.

- On a z/VSE V5.1 system, neither DL/I V1.11 nor DL/I DOS/VS V1.10 can be used.

Performance considerations

The overall performance of z/VSE V5.1 depends on the individual hardware and software components and on the specific environment and setup parameters.

In general, the overall CPU requirement of z/VSE V5.1 is similar to that of z/VSE V4.3. This applies as long as the same environment is used (for example, Batch or CICS TS for VSE/ESA V1.1) without exploitation of new functions. Actual user experience may vary.

For more information about z/VSE V5.1 performance, visit the z/VSE home page at

<http://www.ibm.com/systems/z/os/zvse/>

User group requirements

This announcement addresses or partially addresses requests from one or more of the worldwide user group communities. Groups include WAVV, COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc. Requirements satisfied include:

- MR0707116242 Allow I/O buffer in 64-bit storage

Planning information

Customer responsibilities

FSU: The FSU process is available for users migrating to z/VSE V5.1 from z/VSE V4.3 and z/VSE V4.2.

Status of z/VSE V4.1: End of service is effective since April 30, 2011.

Status of z/VSE V4.2: End of service is effective since October 31, 2012.

Status of z/VSE V4.3: End of service has been announced for z/VSE V4.3 and will be effective May 31, 2014.

Status of CICS/VSE V2.3: End of service is effective since October 31, 2012.

The end of service dates for z/VSE V4.2 and CICS/VSE V2.3 have been aligned since z/VSE V4.2 is the last z/VSE release that offers CICS/VSE V2.3 as part of the z/VSE package and supports the CICS coexistence environment.

The most current status of z/VSE V4 and z/VSE V5 marketing and support can be found on the z/VSE website at

<http://www.ibm.com/systems/z/os/zvse/>

This information is provided for planning purposes only and is not a commitment by IBM . IBM plans are subject to change without notice at any time.

Products not supported with z/VSE V5.1:

- CICS/VSE V2.3.
- DL/I DOS/VS V1.10, DL/I VSE V1.11. (The replacement product is DL/I VSE V1.12.)
- VisualAge® Generator Server V1.2. (The replacement product is IBM Rational COBOL Runtime for z/VSE V7.5.)
- MQSeries® for VSE/ESA V2.1.2. (The replacement program is IBM WebSphere® MQ for z/VSE V3.0.)

Further information on the status of z/VSE and related programs can be found at

<http://www.ibm.com/systems/z/os/zvse/>

Software key management

Product access keys from IBM and third-party vendors are different and are not interchangeable.

The access keys will be generated and delivered automatically from IBM whenever an order is placed for a product or a key-protected feature.

IPv6/VSE V1.1

IPv6/VSE V1.1 (IPv6/VSE) will be shipped with the z/VSE V5.1 Extended Base tape. IPv6/VSE requires a unique user access key. IPv6/VSE can be used for 30 days after activation without a key.

The SSL support of IPv6/VSE is also usable with the IPv6/VSE unique access key.

TCP/IP for VSE/ESA V1.5 (service pack F)

TCP/IP for VSE/ESA will be shipped with the z/VSE V5.1 Base tape and is installed during the standard z/VSE V5.1 installation.

Clients who do not wish to use TCP/IP for VSE/ESA from IBM are requested to run product delete jobs (that are provided with z/VSE V5.1) after system installation, to delete the product from their system.

TCP/IP for VSE/ESA will be shipped enabled for demonstration mode only. It is not suited for production purposes.

Each feature of TCP/IP for VSE/ESA (Application Pak, NFS, GPS) requires a unique user access key. The license order for TCP/IP for VSE/ESA can be placed either together with any other program with the z/VSE V5.1 product set or alone at a later point in time.

The SSL support of TCP/IP for VSE/ESA is also key protected and can be used with the key for the Application Pak only. If you use a product key that allows you to run TCP/IP in demonstration mode, you cannot use the SSL support.

DB2® Server for VSE and VM V7.5, DB2 Server for VSE Client Edition V7.5

DB2 Server for VSE and VM and DB2 Server for VSE Client Edition use an access/usage protection method that requires a password key to enable the software function. The password key will be generated and delivered automatically from IBM when an order is placed for DB2 Server for VSE and VM or DB2 Server for VSE Client Edition.

ACF/VTAM for VSE/ESA V4.2

ACF/VTAM for VSE/ESA V4.2 uses an access and usage protection method that requires a password key to enable the software function. The following types may be ordered:

- Client/Server (CS)
- Multi Domain (MD)
- Inter Enterprise (IE)

The password key will be generated and delivered automatically from IBM accordingly when an order is placed for ACF/VTAM for VSE/ESA V4.2.

IBM Customer Key Center

In exceptional cases (for example, offline situations), it may be necessary to contact the IBM Registration Center by telephone, fax, mail, or email as appropriate. Note that the IBM Registration Center cannot handle product or license orders. You may contact them only if you already have a license for your software program.

Mail: WW Customer Support
Sortemosevej 21
Allerød, 3450
Denmark

Telephone: - From Australia, call 1-800-992-402
- From Hong Kong, Malaysia, New Zealand, South Korea
and China, call +800-539-274-26
- From all other countries, call our
non-toll-free number +45 48 10 10 61

Email: wwwswkeys@dk.ibm.com

Installability

The FSU process is available for users migrating from z/VSE V4.2 or z/VSE V4.3.

Initial installation of z/VSE V5.1 supports the following disk types:

- 3380
- 3390
- FBA (FBA also includes FCP-attached SCSI disks)

Packaging

Depending on the order, z/VSE V5.1 will be packaged and delivered either:

- On three tape cartridges (of type 3590 or 3592) containing:
 - z/VSE Base (including z/VSE Base products)
 - z/VSE Extended Base
 - DB2 Server for VM and VSE Help Text
- On DVD containing:
 - DB2 Server for VM and VSE Help Text
 - Readme File
 - z/VSE Base (including z/VSE Base products)
 - z/VSE Extended Base
- Through electronic delivery (via ShopzSeries) to be downloaded, containing:
 - z/VSE Base (including z/VSE Base products)
 - z/VSE Extended Base
 - Help Text
 - Readme File

Depending on the order, the package will contain one or more additional cartridges for the z/VSE V5.1 optional programs, stacked one after the other on the medium.

Program directories and the publication entitlement sets of the ordered z/VSE base and optional programs will be shipped with the z/VSE package. The Program Directory for z/VSE V5.1 has the following IBM form number: GI11-9703.

For further information, refer to the z/VSE home page

<http://www.ibm.com/servers/eserver/zseries/zvse/>

Security, auditability, and control

The announced programs use the security and auditability features of the operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Order z/VM SDO and z/VSE SIPO through the Internet

ShopzSeries provides an easy way to plan and order System z software upgrades. This now includes z/VM and z/VSE . Using ShopzSeries, you can quickly generate orders for z/VM SDOs and z/VSE SIPOs. Additionally, ShopzSeries will ensure your order is technically correct (that is, ensures any co-req or pre-req 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 website at

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

Note: Secure z/VSE Software Delivery

IBM plans to remove support for unsecured connections used for z/VSE software and service delivery. It is planned that z/VSE software (products and service) downloads from Shopz will require the use of Download Director with encryption. No change is required for Download Director with encryption; however, you can verify Download Director with the Connectivity Test. The Connectivity Test can be found at

https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=cbct

New licensees

Orders for new licenses can be placed now.

Registered customers can access IBMLink for ordering information and charges.

Shipment will begin on the planned availability date.

New users of z/VSE v5.1 should specify:

Type: 5609	Model: ZV5 (SIPO SPO)
Type: 5686	Model: CF9 (CF)
Type: 5686	Model: 065 (ACF)
Type: 5648	Model: 099 (DITTO)
Type: 5696	Model: 234 (HLASM)
Type: 5747	Model: DS2 (ICKDSF)
Type: 5656	Model: 260 (EREP)
Type: 5686	Model: A04 (TCPIP)
Type: 5648	Model: 054 (CICS)
Type: 5697	Model: F42 (DB2)

Midrange Workload License Charges (MWLC)

MWLC is a monthly license charge price metric on the IBM zEnterprise EC12 (zEC12), the IBM zEnterprise 196 (z196), the IBM System z10 Enterprise Class (z10 EC), the IBM System z10 Business Class (z10 BC), the IBM System z9 Enterprise Class (z9 EC), and the IBM System z9 Business Class (z9 BC) servers that applies to z/VSE V5 and key VSE middleware programs such as CICS TS for VSE, DB2 Server for VSE, and ACF/VTAM for VSE.

MWLC for z/VSE v5
Basic license structure

Entitlement identifier	Description	License option/ Pricing metric
S016TNK	z/VSE Central Func- tions v9.1	MLC, MWLC

S016TNJ Encryption Facility MLC, MWLC
for z/VSE v1.2

Advanced Entry Workload License Charges (AEWLC) basic license

AEWLC is a monthly license charge price metric on the IBM zEnterprise 114 server that applies to z/VSE V5 and key VSE middleware programs such as CICS TS for VSE, DB2 Server for VSE, and ACF/VTAM for VSE.

Entitlement identifier	Description	License option/ Pricing metric
S016TNK	z/VSE Central Functions v9.1	MLC, AEWLC
S016TNJ	Encryption Facility for z/VSE v1.2	MLC, AEWLC

Tiered Workload License Charge (TWLC)

To order TWLC software, specify the TWLC monthly charge feature number from the following table.

Entitlement identifier	Description	License option/ Pricing metric
S016TNK	z/VSE Central Functions v9.1	MLC, TWLC
S016TNJ	Encryption Facility for z/VSE v1.2	MLC, TWLC

System z entry license charge (zELC)

Entitlement identifier	Description	License option/ Pricing metric
S016TNK	z/VSE Central Functions v9.1	MLC, zELC
S016TNJ	Encryption Facility for z/VSE v1.2	MLC, zELC

Single version charging

To elect single version charging, the customer must notify and identify to IBM the prior program and replacement program and the designated machine the programs are operating on.

Basic machine-readable material

5609-ZV5 System Program Order

To order, select the desired distribution medium. Basic machine-readable material for the individual licensed base and optional programs will be shipped on 3590 or 3592 tape cartridges, on DVD, or via Electronic Delivery as part of the 5609-ZV5 system program order.

The CD-ROM distribution medium is not supported anymore. It is replaced by DVD.

High-level identifiers, to be specified under 5609-ZV5 are:

High Level Identifiers	Description
3433	3590 Tape Cartridge
3436	3592 Tape Cartridge
3435	DVD

Unlicensed documentation

Unlicensed documentation within the z/VSE V5.1 library is available as Adobe™ PDF files, BookManager® files, or partially as printed books. They have been defined as either "Basic" or "Optional."

- **Basic z/VSE V5.1 publications**

All z/VSE V5.1 publications are shipped in softcopy in BookManager or PDF format on DVD when you order the z/VSE V5.1 base product:

VSE Collection DVD SK3T-8348

Additionally, you will receive some other Program Directories, Memos to Licensees, and Programming Specifications depending on your z/VSE V5.1 order.

- **Optional z/VSE V5.1 publications**

Optional publications are supplied only in PDF or BookManager format with z/VSE V5.1. Some of these publications have printed versions. They can be ordered separately for an additional fee using the specific publication number through the IBM Publications Center at

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

The IBM Publications Center is a worldwide central repository for IBM product publications and marketing material. Extensive search facilities are provided, as well as payment options via credit card. Furthermore, a large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Adobe PDF files: Publications that are available in PDF format are provided on the VSE Collection DVD, SK3T-8348 (supplied with z/VSE V5.1 at no additional charge), or from the IBM Publications Center at

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

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

<http://www.adobe.com>

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

BookManager files: Publications that are available in BookManager format are provided on the VSE Collection DVD, SK3T-8348 (supplied with z/VSE V5.1 at no additional charge), or from the IBM Publications Center at

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

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

Printed books: All of the z/VSE V5.1 publications are available in softcopy format on the VSE Collection DVD, SK3T-8348 (supplied with z/VSE V5.1 at no additional charge). If some books are still available in hardcopy format, you can order these books for an additional fee from the IBM Publications Center at

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

Licensed documentation

z/VSE V5.1 base programs

Microfiche material is no longer offered. Viewing Program Listings (VPL) online has replaced the need for microfiche. With the VPL system, entitled users all around the

world are able to view both Program Temporary Fix (PTF) and base program listings electronically, 24 hours a day. VPL can be accessed via ServiceLink and DialIBM. For details, ask your IBM representative or an IBM Business Partner.

z/VSE V5.1 optional programs

Optional programs may be available, as announced, with the individual programming announcements.

Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

Terms and conditions

IBM Operational Support Services - SupportLine

Yes

IBM Electronic Services

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

Now integrated into the base operating system of AIX® 5.3, AIX 6.1, and AIX 7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type "smitty esa_main", and select "Configure Electronic Service Agent ." In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, refer to

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

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

Benefits

Increased uptime: The Electronic Service Agent tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the "symptoms," diagnosing the error, and manually calling IBM Support to open a problem record. Its 24x7 monitoring and reporting mean no more dependence on human intervention or off-hours customer personnel when errors are encountered in the middle of the night.

Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM . The Electronic Service Agent tool securely transmits via either the Internet (HTTPS or VPN) or modem, and can be configured to communicate securely through gateways to provide customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer's system. System inventory information is stored in a secure database, which is protected behind IBM firewalls. It is viewable only by the customer and IBM . The customer's business applications or business data is never transmitted to IBM .

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

Customized support: Using the IBM ID entered during activation, customers can view system and support information in the "My Systems" and "Premium Search" sections of the Electronic Support website at

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

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

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or visit

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

Prices

Current charges are unaffected by this announcement.

Order now

To order, contact the Americas Call Centers or your local IBM representative, or your IBM Business Partner.

To identify your local IBM representative or IBM Business Partner, call 800-IBM-4YOU (426-4968).

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Fax: 800-2IBM-FAX (242-6329)
Internet: callserv@ca.ibm.com
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The Americas Call Centers, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

Note: Shipments will begin after the planned availability date.

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