



# IBM z/VSE V4.3 - More capacity for growth

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## At a glance

z/VSE™ V4.3 is designed to offer:

- Exploitation of innovative IBM® zEnterprise 196 and z10™ technology:
  - Ability to dynamically add logical CPs without preplanning.
  - Large page (1 megabyte page) support for data spaces.
  - Fast Path to Linux® on System z® function in a z/VM® mode LPAR.
  - Use of Adjunct Processor-queue adapter-interruption facility for cryptographic operations.
  - Configurable Crypto Express3 for data encryption and SSL acceleration.
- Virtual storage constraint relief for CICS® TS workload growth and system consolidation.
- Four-digit device addresses for ease of use and infrastructure simplification in mixed IT environments consisting of z/VSE, z/VM, Linux on System z, and/or z/OS®.
- IPv6/VSE V1.1, which provides both an IPv6 and IPv4 solution.
- Networking, security, and auditability enhancements.
- DOS/VS RPG II support for CICS TS.
- DL/I VSE V1.12.
- Enhanced IBM System Storage® options:
  - IBM XIV® Storage System
  - IBM System Storage TS7680 ProtectTIER Deduplication Gateway for System z

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

## Overview

z/VSE V4.3 shows IBM's commitment and dedication to clients' needs.

z/VSE V4.3 is designed to:

- Offer the value of innovative IBM zEnterprise 196 and IBM System z10® technology.
- Exploit enhanced IBM System Storage options.
- Help clients protect their existing investment in z/VSE.

- Address requirements for growing core z/VSE workloads.
- Allow consolidation of z/VSE systems.
- Provide ease of use for configuration of mixed IT environments.
- Deliver an IPv6 solution for z/VSE.

z/VSE V4.3 continues the z/VSE focus on scalability, security, service-oriented architecture (SOA), and hybrid solutions that exploit z/VSE and Linux on System z. Hybrid solutions may run on z/VM's state-of-the-art virtualization technology and might benefit from the dynamic capabilities of the latest IBM zEnterprise 196 and System z10 technology.

Enhancements planned for z/VSE V4.3 include:

- Exploitation of innovative IBM zEnterprise 196 and IBM System z10 technology:
  - The ability to dynamically add logical CPs reduces preplanning requirements and the need for planned outages. Clients can increase the capacity of the z/VSE system dependent on workload needs.
  - Large page (1 megabyte page) support for data spaces can help clients to even better exploit large processor storage and might result in better performance for long-running applications with intensive data space access.
  - The Fast Path to Linux on System z function (Linux Fast Path) allows selected TCP/IP IPv4 applications to communicate with a TCP/IP stack on Linux on System z without requiring a TCP/IP stack on z/VSE.
  - The use of the AP (Adjunct Processor)-queue adapter-interruption facility might accelerate the SSL throughput when performing cryptographic operations.
  - Configurable Crypto Express3 supports data encryption and SSL acceleration.
- Exploitation of IBM System Storage options:
  - IBM XIV Storage System
  - IBM System Storage DS8000™ Series:
    - Full Disk Encryption
    - Solid State Disk (SSD)
    - Remote Mirror and Copy (RMC) feature support through ICKDSF
    - FlashCopy® Consistency Group support
  - IBM System Storage SAN Volume Controller
  - IBM System Storage TS7700 Virtualization Engine™
    - TS7700 WORM volumes
    - TS7720 disk-only virtual tape system
  - IBM System Storage TS7680 ProtectTIER Deduplication Gateway for System z
- Virtual storage constraint relief:
  - z/VSE V4.3 will fulfill several customer requirements and move selected system programs and buffers from 24-bit into 31-bit storage. This allows clients with growing CICS TS workloads and/or those who wish to consolidate their z/VSE systems to satisfy their increased needs of limited 24-bit storage.
- Ease of use through four-digit device addresses:
  - Gives clients more flexibility and allows for advanced planning.
  - Provides infrastructure simplification in mixed IT environments consisting of z/VSE, z/VM, Linux on System z, and/or z/OS.
- IPv6/VSE V1.1:
 

IPv6/VSE V1.1 (IPv6/VSE) is an optional product of z/VSE V4.3.

  - IPv6/VSE delivers an IPv6 solution to z/VSE, thus bringing the benefits of IPv6 functionality to z/VSE clients. IPv6/VSE provides an IPv6 TCP/IP stack, IPv6 application programming interfaces (APIs), and IPv6-enabled applications. Also see Software Announcement [210-066](#), dated April 06, 2010. IPv6/VSE is a trademark of Barnard Software Inc.

- The IPv6/VSE product also includes a full-function IPv4 TCP/IP stack, IPv4 application programming interfaces, and IPv4 applications. The IPv4 TCP/IP stack does not require the IPv6 TCP/IP stack to be active.
- Networking, security and auditability enhancements.
- DOS/VS RPG II support for CICS Transaction Server for VSE/ESA™ (CICS TS):
  - Allows RPG programs implemented for CICS/VSE® V2.3 to run with CICS TS. Support will also be made available on z/VSE V4.2 with PTFs.
- DL/I VSE V1.12:
  - The new release of DL/I provides virtual storage constraint relief for the CICS TS environment.

Migration from CICS/VSE V2.3 to CICS Transaction Server for VSE/ESA on z/VSE V4.2:

- z/VSE V4.3 fulfills the statement of direction in Software Announcement [207-228](#), dated October 09, 2007. It will no longer offer CICS/VSE V2.3 as part of the z/VSE V4.3 package and will remove the CICS coexistence environment.
- Recent improvements, including BSM security enhancements in z/VSE V3, additional VSE tasks, and DOS/VS RPG II support for CICS TS in z/VSE V4.2, offer you the capability of migrating your CICS/VSE programs on z/VSE V4.2 prior to performing an upgrade to z/VSE V4.3.
- Clients migrating to CICS TS might benefit from virtual storage constraint relief in CICS TS and in z/VSE V4.3.

z/VSE V4.3 supports IBM System z servers:

- IBM zEnterprise 196 (z196)
- 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)
- IBM eServer™ zSeries® 990, 890, 900, and 800

z/VSE Version 4 executes in z/Architecture® mode only and supports 64-bit real addressing for selected system functions. z/VSE V4.3 can run in basic mode (z900 and z800 only), in LPAR mode, or as a guest under any supported z/VM release. z/VM V6.1 requires IBM System z10 or later. z/VSE V4.3 is the preferred follow-on VSE product for clients with z/VSE V4.1, z/VSE V4.2, z/VSE V3, and VSE/ESA installed. You may choose to use the Fast Service Upgrade (FSU) process when migrating from z/VSE V4.1 or z/VSE V4.2.

z/VSE V4.3 offers Midrange Workload License Charge (MWLC) pricing metrics, including a sub-capacity option, for zEnterprise 196, System z10, and System z9 servers. The smallest z10 BC and z9 BC server capacity setting, A01, does not qualify for MWLC. Customers on the z10 BC and z9 BC capacity setting A01 will always pay zELC for their IBM monthly license charge software.

This announcement fulfils the z/VSE Version 4 Release 3 Preview, Software Announcement [210-204](#), dated July 22, 2010. This announcement contains additional details and content not included in the preview.

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## Key prerequisites

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Refer to the following sections for details:

- [Hardware requirements](#)
- [Software requirements](#)
- [Planning information](#)

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## Planned availability date

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November 26, 2010

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## Description

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z/VSE V4.3 shows IBM's commitment and dedication to clients' needs.

z/VSE V4.3 is designed to:

- Offer the value of innovative IBM zEnterprise 196 and IBM System z10 technology.
- Exploit enhanced IBM System Storage options.
- Help clients protect their existing investment in z/VSE.
- Address requirements for growing core z/VSE workload.
- Allow consolidation of z/VSE systems.
- Provide ease of use for configuration of mixed IT environments.
- Deliver an IPv6 solution for z/VSE.

z/VSE V4.3 continues the z/VSE focus on scalability, security, service-oriented architecture (SOA), and hybrid solutions that exploit z/VSE and Linux on System z. Hybrid solutions may run on z/VM's state-of-the-art virtualization technology and might benefit from the dynamic capabilities of the latest IBM zEnterprise 196 and System z10 technology.

z/VSE V4.3 supports IBM System z servers:

- IBM zEnterprise 196 (z196)
- 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)
- IBM eServer zSeries 990, 890, 900, and 800

It can run in basic mode (z900 and z800 only), in LPAR mode, or as a guest under any supported z/VM release.

z/VSE V4.3 is the preferred follow-on VSE product for clients with z/VSE V4.1, V4.2, z/VSE V3, and VSE/ESA installed. You may choose to use the Fast Service Upgrade (FSU) process when migrating from z/VSE V4.1 or z/VSE V4.2.

This announcement fulfils the z/VSE Version 4 Release 3 Preview, Software Announcement [210-204](#), dated July 22, 2010. This announcement contains additional detail and content not included in the preview.

**Note:** Items mentioned in the following sections as being available for z/VSE V4.1 or z/VSE V4.2 might require the user to install additional PTFs.

### **Enhancements planned for z/VSE V4.3 include:**

#### **Exploitation of innovative IBM zEnterprise 196 and IBM System z10 technology:**

- **Ability to dynamically add logical CPs without preplanning:**  
IBM System z10 and later allows users to dynamically change logical processor definitions for a logical partition (LPAR) without requiring the LPAR to be deactivated and reactivated. z/VSE V4.3 is designed to exploit this feature and to allow adding central processors (CPs) dynamically without re-IPL of the

z/VSE system. This allows clients to increase the capacity of the z/VSE V4.3 system dependent on workload needs. Preplanning requirements and the need for planned outages are reduced. Once a CP is no longer needed, z/VSE V4.3 allows you to remove it from the online configuration of the LPAR, so that it no longer consumes LPAR CP share. The support is not available in a z/VM guest environment.

- **Large page (1 megabyte page) support:**

IBM System z10 and later large page support allows backing of MB pages in virtual storage with MB pages in processor storage. z/VSE V4.3 is designed to exploit large pages for data spaces. Long-running applications accessing data spaces frequently may benefit from improved CPU utilization. Large page support for data spaces can help you to even better exploit large processor storage. z/VSE V4.3 is designed to implement the support transparently for applications. The support is not available in a z/VM guest environment.

- **Fast Path to Linux on System z function (Linux Fast Path) in a z/VM environment:**

Linux Fast Path is a z/VSE function that allows selected TCP/IP IPv4 applications to communicate with a TCP/IP stack on Linux on System z without requiring a TCP/IP stack on z/VSE. Linux Fast Path uses an IUCV connection and therefore requires that z/VSE and Linux on System z run as z/VM guests in the same z/VM system. It runs best in a z/VM mode LPAR, in which multiple types of System z processors can be defined: z/VSE can continue to use CPs (Central Processors) whereas Linux on System z can run on IFL (Integrated Facility for Linux) processors.

The z/VM mode LPAR requires IBM System z10 or later and z/VM V5.4 or later. The Linux Fast Path function requires a Linux on System z distribution.

- **AP (Adjunct Processor)-queue adapter-interruption facility:**

When performing cryptographic operations on a Crypto Express2 or Crypto Express3 feature, the use of the AP-queue adapter-interruption facility may accelerate the SSL throughput. The AP-queue adapter-interruption facility is available on IBM System z10 and later. The support is not available in a z/VM guest environment.

- **Crypto Express3:**

Crypto Express3 is exclusive to IBM zEnterprise 196 and System z10. The Crypto Express3 generation of cryptographic feature is suited to applications requiring high-speed RSA acceleration and cryptographic operations for data encryption. For details refer to Hardware Announcement [109-678](#), dated October 20, 2009.

z/VSE supports the Crypto Express3 feature in both coprocessor and accelerator modes. It is also supported with z/VSE V4.2 and PTF UD53485.

### **Exploitation of IBM System Storage options:**

- **IBM XIV Storage System:**

A high-end open disk system, XIV Storage System can now be attached through FC switches to z/VSE using FCP subchannels. z/VSE supports XIV (SCSI) devices for system use (IPLable z/VSE system devices) and as data devices. This support eliminates the need for z/VSE to access XIV devices through the SAN Volume Controller (SVC). z/VSE is designed to support XIV devices in both an LPAR and a z/VM guest environment. This function will not be available at z/VSE V4.3 general availability. The function is planned to be delivered later via PTF. If you plan to use this function, check the z/VSE website after product general availability for the latest status.

- **IBM System Storage DS8000 Series:**

- Remote Mirror and Copy (RMC) feature:

The RMC feature is a licensed feature of the DS8000 and is supported in z/VSE through the ICKDSF component. The support is also available with z/VSE 4.1 plus PTFs and later.

- Full Disk Encryption:

Full Disk Encryption provides the ability to encrypt data 'at rest' on a DS8000. The Full Disk Encryption disk drive sets are optional for the DS8000 series. Full Disk Encryption is transparent to z/VSE applications, and can be used with z/VSE 4.1 and later.

- Solid State Disk (SSD):

z/VSE V4.1 and later supports SSDs. SSD support is transparent to z/VSE applications. For performance considerations refer to the IBM System Storage home page

<http://www.ibm.com/systems/storage/disk/ds8000/index.html>

- FlashCopy Consistency Group:

Consistency groups help create a consistent Point-in-Time copy across multiple volumes, and even across multiple DS8000 storage systems, thus managing the consistency of dependent writes. This is useful when applications have their data spread over multiple volumes.

- **IBM System Storage SAN Volume Controller**

- **IBM System Storage TS7700 Virtualization Engine:**

- z/VSE V4.1 and later supports the TS7700 Release 1.7 as a stand-alone system in transparency mode.

COPY EXPORT is not supported.

- z/VSE V4.2 with PTFs and later supports the TS7720 disk-only virtual tape system.

- z/VSE V4.3 exploits TS7700 WORM volumes.

- **The IBM System Storage TS7680 ProtecTIER® Deduplication Gateway for System z:**

- It combines a virtual tape library solution, inline data deduplication, and disk-based storage options to provide users an optimal disk-based target for applications that traditionally use tape.

### **Virtual storage constraint relief:**

z/VSE V4.3 fulfills several user requirements and moves selected system programs and buffers from 24-bit into 31-bit storage. This allows clients with growing workloads (for example CICS TS) and/or those who wish to consolidate their z/VSE systems to satisfy their increased needs of limited 24-bit storage. Among the areas that will be addressed are VSE/VSAM, DL/I, and the z/VSE supervisor.

### **Ease-of-use configuration and infrastructure simplification:**

Support of four-digit device addresses gives clients more flexibility and allows for advanced planning. You are no longer required to provide a z/VSE specific configuration. This is specifically helpful in mixed IT environments where clients may run z/VSE together with other IBM System z operating systems (z/VM, Linux on System z, and/or z/OS). To provide transparency for system, vendor, and user applications that rely on three-digit device addresses, z/VSE V4.3 will map a four-digit device address to a three-digit one during Initial Program Load (IPL). Thereafter only the three-digit device address will be used.

### **IPv6/VSE V1.1:**

IPv6/VSE V1.1 (IPv6/VSE) is an optional product of z/VSE V4.3.

- IPv6/VSE delivers an IPv6 solution to z/VSE, thus bringing the benefits of IPv6 functionality to z/VSE clients. IPv6/VSE provides an IPv6 TCP/IP stack, IPv6

application programming interfaces (APIs), and IPv6-enabled applications. For details refer to Software Announcement [210-066](#), dated April 06, 2010.

- The IPv6/VSE product also includes a full-function IPv4 TCP/IP stack, IPv4 application programming interfaces, and IPv4 applications. The IPv4 TCP/IP stack does not require the IPv6 TCP/IP stack to be active.

IPv6/VSE requires a unique user access key. IPv6/VSE can be used for 30 days after activation without a key.

IPv6/VSE can also be used with z/VSE V4.2. To use the IPv6 functionality on z/VSE V4.2, the minimum required service level is APAR DY47077 or z/VSE V4.2.2.

### **Security enhancements:**

- **Basic Security Manager (BSM) enhancements:**

BSM will provide security for WebSphere® MQ for z/VSE V3 to protect MQ resources using MQ resource classes. BSM will also include DTSECTAB resources into the SMF logging and reporting. Enhanced dialog support will ease user and BSM group administration. BSM Cross Reference reports can help to administrate BSM profiles. Selected operands of JCL statements can now be protected by BSM.

- **LDAP enhancements:**

With z/VSE V4.2 LDAP sign-on support was introduced for a CICS TS environment. z/VSE V4.3 is designed to provide in addition LDAP sign-on support for a batch environment, thus allowing the use of an LDAP long user ID and long password in batch jobs. In addition, an Interactive User Interface (IUI) dialog will be provided that simplifies the maintenance of LDAP user IDs in the LDAP mapping file.

### **Networking enhancements:**

z/VSE V4.3 systems running in a z/VM guest environment can now benefit from the z/VM queue-I/O assist for real networking devices. z/VSE V4.3 exploits this performance assist for OSA-Express adapters (CHPID type OSD) and HiperSockets™ (CHPID type IQD).

### **System management enhancements:**

SNMP (Simple Network Management Protocol) is a widely used standard network protocol that allows systems to monitor elements of a network. z/VSE V4.3 will provide a monitoring agent that allows SNMP version 1 clients to retrieve z/VSE specific system and performance data. This will help performance monitors to collect data that can be used for planning purposes.

### **Operating system component changes:**

Basic operating system and component changes are often driven by requests submitted by customers and/or user groups. This section cannot cover each and every improvement. However, a few examples are described below. See the *z/VSE V4.3 Release Guide* for additional improvements as well as for more details on those shown below.

**Note:** Although z/VSE is the successor to IBM's VSE/ESA product, many functions and related products may continue to use VSE/ESA in their names.

### **e-business Connectors enhancements:**

- The Java-Based Connector now supports implied decimal positions with decimal data types such as PACKED and ZONED.
- Enhanced VSAM Redirector Connector support for CICS TS subtasking is enhanced to prevent time-consuming network operations from affecting CICS TS performance.

### **EZA TCP/IP Interface:**

- Support for function calls FREEADDRINFO, GETADDRINFO, GETNAMEINFO, NTOP, and PTON (z/OS affinity)
- Support for IPv6

These enhancements are also available with z/VSE V4.2 and PTFs.

### **Language Environment® for z/VSE:**

A number of enhancements have been incorporated into LE for z/VSE 1.4.7, among which are:

- Support of the BEAR (breaking-event-address register) feature for debugging purposes
- PL/I multitasking for improved performance
- LE/C TCP/IP Socket API Multiplexer to ease configuration when multiple TCP/IP stacks are used

### **VSE/VSAM enhancements:**

- VSE/VSAM modules, control blocks, and buffers have been moved from 24-bit storage into 31-bit storage, thus providing constraint relief for the 24-bit SVA and the 24-bit partition Getvis area. This is especially beneficial in a CICS TS environment.
- Use of Getvis subpools for VSE/VSAM storage is supported to ease problem determination.
- SHOWCB macro supports new fields and attributes.

### **VSE/POWER enhancements:**

- Direct Punch Output to VSE Library
- Allow to cancel jobs whose output exceeds a defined limit
- Restart PNET Passive TCP/IP connection for enhanced usability
- New PDISPLAY TIME operand to show Job start Time and Date

### **Interactive User Interface (IUI) enhancements:**

For ease of use IUI dialogs have been extended to support VSE/Fast Copy NOCOPY and DDSR options.

### **Additional Floating Point (AFP™) support:**

AFP support allows you to use all floating point registers for floating point operations.

### **Librarian enhancement:**

Now allows users to catalog OBJ-type members also from SYSLNK.

### **New Redbooks®:**

- z/VSE Using DB2® on Linux for System z (SG24-7690)
- Security on IBM z/VSE (SG24-7691)

### **DOS/VS RPG II support for CICS TS:**

DOS/VS RPG II compiler support will be added to allow RPG programs implemented for CICS/VSE to run with CICS TS. Clients who stayed with CICS/VSE because of RPG can now migrate to CICS TS. DOS/VS RPG II support will also be made available with z/VSE 4.2 and PTF UK58484 (for APAR PM16528). Also see information APAR II4447 (z/VSE V4.2) or II4452 (z/VSE V4.3) on how to use DOS/VS RPG II together with CICS TS.

### **DL/I VSE V1.12:**



DL/I VSE V1.12 is an optional product of z/VSE V4.3. This new DL/I release will provide constraint relief for the limited 24-bit virtual storage area. Moving various resources above the 16 MB line will also allow for keeping more data in storage which might result in faster access to DL/I data. DL/I VSE V1.12 is the only DL/I release that can be used with z/VSE V4.3. It replaces DL/I VSE V1.11 and DL/I DOS/VS V1.10.

### **Migration from CICS/VSE V2.3 to CICS Transaction Server for VSE/ESA (CICS TS) on z/VSE V4.2:**

- z/VSE V4.3 fulfills the statement of direction in Software Announcement [207-228](#), dated October 09, 2007. It will no longer offer CICS/VSE V2.3 as part of the z/VSE V4.3 package and will remove the CICS coexistence environment.
- Recent improvements, including BSM security enhancements in z/VSE V3, additional VSE tasks, and DOS/VS RPG II support for CICS TS in z/VSE V4.2, offer you the capability of migrating your CICS/VSE programs on z/VSE V4.2 prior to performing an upgrade to z/VSE V4.3.
- Clients migrating to CICS TS might benefit from virtual storage constraint relief in CICS TS and z/VSE V4.3. Constraint relief addresses the needs of growing CICS workloads.

**Note:** Items mentioned as being available for z/VSE V4.1 or z/VSE V4.2 might require the user to install additional PTFs.

### **Accessibility by people with disabilities**

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

[http://www.ibm.com/able/product\\_accessibility/index.html](http://www.ibm.com/able/product_accessibility/index.html)

### **Section 508 of the U.S. Rehabilitation Act**

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z/VSE V4.3 is capable as of November 26, 2010, 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.

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## **Product positioning**

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IT departments and data centers today are facing significant challenges. As they try to manage the rising cost of providing the IT services their business needs, they see two conflicting pressures: first, the need to operate and maintain the existing operations on which the business depends and second, the need to deploy new workloads and provide the new IT services that the changing and evolving business requires to innovate and gain competitive advantage.

z/VSE Version 4.3 is designed to help you introduce competitive new IT solutions at low cost, low risk, and fast time to market.

z/VSE clients have the option of continuing to use their core VSE solutions while at the same time adding new applications. New solutions regardless of the chosen platform will be able to leverage and exploit existing core z/VSE applications and data.

z/VSE V4.3 will continue to adhere to the strategy of "Protect, Integrate, and Extend" - in short "PIE."

- **Protect** focuses on investment protection. z/VSE clients should be able to exploit the latest IBM System z and IBM System Storage technology to enhance and grow core z/VSE environments.
- **Integrate** enables seamless integration. z/VSE clients should be able to extend their core z/VSE information assets into their overall IT system and network.

- **Extend** refers to adding new solutions. z/VSE clients should be able to extend their core z/VSE solutions with solutions that exploit the advanced, standards-based capabilities of any platform, especially Linux on System z.

The "PIE strategy" is fundamentally based on an open hybrid model. This hybrid model can give clients the best of both worlds: it helps them to protect their z/VSE investments as they exploit the capabilities of complementary platforms. z/VSE plus Linux on System z is a compelling combination.

### **Protect**

Exploitation of innovative IBM System z10 and zEnterprise 196 technology and enhanced IBM System Storage options, together with virtual storage constraint relief, will address requirements of clients with growing workloads and/or those who want to consolidate their VSE systems.

### **Integrate**

The requirement to integrate z/VSE systems into the larger IT environment is a key part of the z/VSE strategy. By enabling hybrid solutions to leverage z/VSE business data and business logic, clients may be able to achieve substantial advantages. Interoperability enhancements in z/VSE V4.3 will include four-digit device addressing and a new Fast Path to Linux on System z function in a z/VM mode LPAR.

IPv6/VSE brings the benefits of IPv6 functionality to z/VSE users by providing an IPv6 TCP/IP stack, application programming interfaces (APIs), and IPv6-enabled applications.

### **Extend**

The z/VSE strategy seeks to enable the effective use of z/VSE together with other platforms, such as Linux on System z, to help you create modern IT solutions. Linux offers WebSphere, Java™, DB2 Universal Database™, a rich set of development tools, and a growing selection of packaged applications. IBM System z IFLs can provide a robust, highly scalable, cost-effective server environment. z/VM adds exceptional flexibility and manageability through its premier virtualization technology.

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## **Statement of direction**

z/VSE intends to provide 64-bit virtual addressing for user applications.

64-bit virtual addressing further exploits the z/Architecture capabilities (64-bit real addressing) introduced with z/VSE 4.1.

z/VSE intends to provide APIs to manage 64-bit virtual memory objects. Memory objects are "chunks" of virtual storage obtained by a program. They may help clients to keep more data in memory for growing workloads and improve performance.

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

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## **Hardware and software support services**

### **SmoothStart/installation services**

IBM SmoothStart™ and Installation Services are not provided.

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## **Reference information**

Refer to Software Announcement [207-004](#), dated January 09, 2007 (Midrange Workload License Charges for z/VSE V4).

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## Program number

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Program ID	Program name
5609-ZV4	z/VSE Version 4 Release 3
5686-CF8	VSE Central Functions Version 8 Release 3
5746-XX1	DL/I Version 1 Release 12
5686-BS1 <sup>1</sup>	IPV6/VSE Version 1 Release 1

<sup>1</sup> IPV6/VSE V1.1 can now be ordered via ShopzSeries.

### Business Partner information

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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=210-313>

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## IBM z/VSE Version 4 Release 3 product content

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### z/VSE Version 4 Release 3 base programs

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The following is a complete list of z/VSE Version 4 Release 3 base programs, including their release/modification levels.

Note that z/VSE is the successor to IBM's 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
VSE Central Functions	8.03.00	5686-CF8	2
High Lev Assem z/OS, z/VM, z/VSE	1.06.00	5696-234	2
VSE/EREP	3.05.00	5656-260	3
VSE/ICKDSF	1.17.00	5747-DS2	3
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			
- NFS Feature			4
- GPS Feature			4
DB2 Server for VSE and VM	7.05.00	5697-F42	
DB2 Client Edition for VSE	7.05.00	5697-F42	

<sup>2</sup> Mandatory product, not selectable. All others are optional. Some may have commercially available alternatives.

<sup>3</sup> No-charge product, not selectable.

<sup>4</sup> NFS/GPS require the Application Pak.

### z/VSE Version 4 Release 3 optional programs

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The following is a complete list of z/VSE Version 4 Release 3 optional programs, including their release/modification levels.

Program name	Version/ Release/ Modification	Program number	Notes
Optional z/VSE Base Features:			
Encryption Facility for z/VSE	1.02.00	5686-CF8	
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	
- Data Restore Feature			
- Control Center Feature			
- QMF™ for VSE			
- QMF for windows			
DB2 Server for VSE Client Edition	7.05.00	5697-F42	
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	
DFSORT/VSE	3.04.00	5746-SM3	
CICSVR/VSE	1.02.00	5686-011	
Network Control - Current:			
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:			
IBM Websphere MQ for z/VSE V3.0	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	

**Specified operating environment**

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**Hardware requirements**

z/VSE Version 4 Release 3 will operate on:

IBM System z server	Basic Mode	LPAR Mode	Guest under z/VM <sup>5</sup>
IBM zEnterprise 196		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
IBM eServer zSeries 990		x	x
IBM eServer zSeries 890		x	x
IBM eServer zSeries 900	x	x	x
IBM eServer zSeries 800	x	x	x

x: Supported

<sup>5</sup> Supported z/VM release required. z/VM V6.1 requires z10 or later.

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

- Crypto Express3 (in either coprocessor or accelerator mode) on z196 or z10.
- Crypto Express2 (in either coprocessor or accelerator mode) on z10 or z9.
- Crypto Express2 in coprocessor mode or PCICA on z990 and z890.
- PCICA on z900, z800, z990, and z890. (PCICA is not available on z196, z10, and z9.)

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

- z196, z10, z9, z990, or z890 for DES, T-DES
- z196, z10, or z9 for AES-128
- z196 or z10 for AES-256

z10 or later is required for:

- Dynamically add logical CPs without preplanning
- Large page (1 megabyte page) support
- AP (Adjunct Processor)-queue interruption facility
- Dynamically add/remove cryptographic processors
- z/VM mode LPAR

z196 is required for:

- Static power save mode

**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 V4.3 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 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 5.4 or later.

For users running z/VSE V4.3 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-03.ibm.com/systems/z/os/linux/index.html>

### **Compatibility**

Compatibility aspects include:

- z/VSE V4 operates in z/Architecture mode only.
- z/VSE V4.3 will no longer offer CICS/VSE V2.3 as part of the z/VSE package and will remove the CICS coexistence environment.
- The German and Spanish national language versions have been dropped with z/VSE V4.1. However, the Japanese national language version continues to be available with z/VSE V4.3. The optional feature GPS (shipped with TCP/IP for VSE/ESA) does not support Double Byte Character Set (DBCS) printing.
- From z/VSE V4.1 onwards, the Label Area must reside on a virtual disk.
- z/VSE V4.3 is shipped with a single supervisor, \$\$\$SUPI, only. Starting with z/VSE V4.1, supervisor generation has been 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.
- 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.
- The z/VSE V4.3 product is no longer delivered on 3480 tape cartridges.

### **Limitations**

Limitations when using the FSU process:

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

### **Performance considerations**

The overall performance of z/VSE Version 4 Release 3 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 V4.3 is similar to that of z/VSE V4.2. This applies as long as the same environment is used (for example, Batch or CICS TS for VSE/ESA V1.1.1) without exploitation of new functions. Actual user experience may vary.

For more information on z/VSE Version 4 Release 3 performance, visit the z/VSE home page at

<http://www-03.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:

- MR1120076646 - Provide 24-bit GETVIS-shortage relief by moving additional VSE/VSAM control blocks (including the CLWA) and executable code into 31-bit area
- MR0719046030 - Move large system modules in 31-bit SVA
- WAVV200413
- WAVV200715 - Allow 4 digit cuu for compatibility
- MR0426071917 - Enhance cuu range from 3 to 4 digits
- MR0411056737 - Port z/OS LE changes to CEEFETCH Macro
- MR0511075750 - LIBR CATALOG from SYSLNK
- MR0626082059 - LIBR RENAME with DATE=OLD
- MR0729082910 - VSE Connectors - Support Numeric Decimal Data with decimal points
- MR071707545 - BSM XREF Service
- WAVV200820 - Audit enhancements - integrate DTSECTAB
- WAVV200830 - Job Control Commands (JCCs) and Job Control Statements (JCSs) whose effect extends beyond the end of the current VSE job should be subject to security checks.
- MR0071008 - Redirection of Power Punch Entries
- WAVV200721 - Cancel job output when output limit reached
- Restart PNET TCP/IP passive connection
- WAVV200721 - Flush Power jobs when output limit is exceeded
- MR0525093425 - API for AMDSB
- MR0820095815 - Enhancement to SHOWCB macro
- WAVV200841 - Summary list for record mapfile
- MR1027084841

### **Planning information**

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#### **Customer responsibilities**

##### **Fast Service Upgrade**

The Fast Service Upgrade (FSU) process is available for users migrating to z/VSE V4.3 from z/VSE V4.2 and z/VSE V4.1.

##### **Status of z/VSE V4.1:**

End of service has been announced for z/VSE V4.1 and will be effective April 30, 2011.

##### **Status of z/VSE V4.2:**

No end of service has been announced for z/VSE V4.2 as of October 5, 2010.

The most current status of z/VSE V4.1 and z/VSE V4.2 marketing and support can be found on the z/VSE website at

<http://www-03.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.

### **Software support no longer available with z/VSE V4.3:**

- CICS/VSE V2.3 will no longer be offered as part of the z/VSE V4.3 package. The CICS coexistence environment including DL/I DOS/VS V1.10 will be removed.

### **Optional products no longer available with z/VSE V4.3:**

- DL/I DOS/VS V1.10, DL/I VSE V1.11. (The replacement program is DL/I VSE V1.12.)
- VisualAge® Generator Server V1.2. (The replacement program 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-03.ibm.com/systems/z/os/zvse/>

### **Software key management:**

#### **IPv6/VSE V1.1**

IPv6/VSE V1.1 (IPv6/VSE) is an optional product of z/VSE V4.3. IPv6/VSE requires a unique user access key. IPv6/VSE can be used for 30 days after activation without a key.

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

TCP/IP for VSE/ESA will be shipped with the z/VSE V4.3 Base tape and is installed during the standard z/VSE V4.3 installation.

Customers 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 V4.2) after system installation, to delete the product from their system.

TCP/IP for VSE/ESA will be shipped enabled for demo mode only. This allows users to test the entire function set on your z/VSE V4.3 system in a functionally limited way (not suited for any 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 V4.3 product set or alone at a later point in time.

SSL for VSE is also key protected and only usable with the key for the Application Pak. If you use a product key that allows you to run TCP/IP in demonstration mode only, you cannot use SSL for VSE.

The user access keys will be generated and delivered automatically from IBM whenever an order is placed for one of these features.

The TCP/IP for VSE/ESA documentation is available on the z/VSE Version 4 Release 3 DVD (SK3T-8348), or from the Internet.

**Note:** It is suggested that customers who have licensed "TCP/IP for VSE" from a third-party vendor check which Service Pack, if any, needs to be installed. Customers who have licensed "TCP/IP for VSE" from a third-party vendor should read supplementary information, if available.

**PRODUCT ACCESS KEYS FROM IBM AND THIRD-PARTY VENDORS ARE DIFFERENT AND ARE NOT INTERCHANGEABLE.**

## **DB2 Server for VSE and VM Version 7 Release 5, DB2 Server for VSE Client Edition Version 7 Release 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 Version 4 Release 2**

ACF/VTAM for VSE/ESA V4.2 uses an access/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, off-line situations), it may be necessary to contact the IBM Registration Center by telephone, fax, mail, or email as appropriate. Please note, the IBM Registration Center cannot handle product/license orders. You may contact them only if you already have a license for your software program.

Mail:            WW Customer Support  
                  IBM - ISC, Customer Fulfillment  
                  Sortemosevej 21  
                  3450 Alleroed  
                  Denmark

Telephone:    - From Australia, please call 1-800-992-402  
                  - From Hong Kong, Malaysia, New Zealand, South Korea  
                             and China, call +800-539-274-26  
                  - From all other countries, please call our  
                             non-toll-free number (+45) 48101521

Fax:            +45 4814 0391

Email:         speckkeys@dk.ibm.com

### ***Installability***

The Fast Service Upgrade (FSU) process is available for users migrating from z/VSE V4.1 or z/VSE V4.2.

Initial installation of z/VSE Version 4 Release 3 is possible on the following disk types:

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

### ***Packaging***

Depending on the order, z/VSE Version 4 Release 3 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 & VSE Help Text
- On CD, containing:

- DB2 Server for VM & 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 Version 4 Release 3 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 Version 4 Release 3* has the following IBM form number: GI11-2698.

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

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

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### 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.

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## Ordering information

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

ShopzSeries provides an easy way to plan and order System z software upgrades. Using ShopzSeries, you can quickly generate orders for VM SDOs and 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>

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### New licensees

Orders for new licenses can be placed from October 5, 2010. When z/VSE Version 4.3 is available, z/VSE V4.2 will no longer be available.

Registered customers can access IBMLink™ for ordering information and charges.

New users of z/VSE V4.3 should specify:

Type: 5609	Model: ZV4 (SIPO SPO)
Type: 5686	Model: CF8 (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)

To order a basic license, DSLO, or MOSP license for z/VSE Central Functions V8 (5686-CF8), IBM Encryption Facility for z/VSE V1.1, or IPv6/VSE V1.1, specify the program number, and the appropriate license or charge option as applicable and corresponding to the processor group that contains the designated machine.

DSLO: Distributed System License Option

MOSP: S/390 Multiple Operating Systems - PR/SM™

Entitlement identifier	Description	License option/ Pricing metric
S013NPW	z/VSE Central Functions V8.3	Processor Based, Basic MLC, DSLO MLC, MOSP Basic MLC, MOSP DSLO MLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Processor Based, Basic MLC, DSLO MLC, MOSP Basic MLC, MOSP DSLO MLC
S01613M	IPv6/VSE V1.1	Processor Based, Basic MLC, DSLO MLC, MOSP Basic MLC, MOSP DSLO MLC
S0005FK	DL/I VSE V1.12	Processor Based, Basic MLC, DSLO MLC, MOSP Basic MLC, MOSP DSLO MLC

### **Workload license charge (WLC) basic license**

#### **Flat Workload License Charge features**

Flat workload license charge  
Basic license monthly license charge

Entitlement identifier	Description	License option/ Pricing metric
S013NPW	z/VSE Central Functions V8.3	Basic MLC, Flat WLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, Flat WLC
S01613M	IPv6/VSE V1.1	Basic MLC, Flat WLC
S0005FK	DL/I VSE V1.12	Basic MLC, Flat WLC

#### **Tiered Workload License Charge (TWLC)**

To order TWLC software, specify the TWLC license or charge option from the table below.

Entitlement identifier	Description	License option / pricing metric
S013NPW	z/VSE Central Functions V8.3	Basic MLC, Tiered WLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, Tiered WLC
S01613M	IPv6/VSE V1.1	Basic MLC, Tiered WLC

**Growth opportunity license charge (GOLC)**

To order a basic license, specify the program number.

Specify the GOLC monthly license or charge option from the table below. Also, specify the desired distribution medium.

Entitlement identifier	Description	License option / pricing metric
S013NPW	z/VSE Central Functions V8.3	Basic MLC, GOLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, GOLC
S01613M	IPV6/VSE V1.1	Basic MLC, GOLC
S0005FK	DL/I VSE V1.12	Basic MLC, GOLC

**System z entry license charge (zELC)**

Specify the zELC monthly license option.

Entitlement identifier	Description	License option / pricing metric
S013NPW	z/VSE Central Functions V8.3	Basic MLC, zELC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, zELC
S01613M	IPV6/VSE V1.1	Basic MLC, zELC
S0005FK	DL/I VSE V1.12	Basic 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-ZV4 System Program Order**

To order, select the desired distribution medium. Basic machine-readable material for the individual licensed base programs will be shipped on 3590 or 3592 tape cartridges, on CD, or via Electronic Delivery as part of the 5609-ZV4 system program order.

Program name: z/VSE Central Functions V8.3  
Program number: 5686-CF8

Orderable  
Supply Description

S013MFV 3590 Tape Cartridge U.S. English  
S013MFZ 3592 Tape Cartridge U.S. English  
S013MFX CD U.S. English

S013MG1 3590 Tape Cartridge Japanese  
S013MG2 3592 Tape Cartridge Japanese  
S013MG3 CD Japanese

Program name: IBM Encryption Facility for z/VSE V1.2

Program number: 5686-CF8

Orderable  
Supply Description

S014CFL 3590 Tape Cartridge U.S. English  
S014CFM 3592 Tape Cartridge U.S. English  
S014CJ5 CD U.S. English

S014CFT 3590 Tape Cartridge Japanese  
S014CFP 3592 Tape Cartridge Japanese  
S014CFR CD Japanese

Program name: IPV6/VSE V1.1  
Program number: 5686-BS1

Orderable  
Supply Description

S016GZK 3590 Tape Cartridge U.S. English  
S016GZL 3592 Tape Cartridge U.S. English  
S016GZM CD U.S. English

Program name: DL/I VSE V1.12  
Program number: 5746-XX1

Orderable  
Supply Description

S016GZP 3590 Tape Cartridge U.S. English  
S016GZR 3592 Tape Cartridge U.S. English  
S016GZN CD-ROM

### **z/VSE V4.3 Base Programs<sup>6</sup>**

Program number	Description	Note	Logical Supply <sup>7</sup>
5686-CF8	z/VSE Central Functions 8.3.0	8	S013B8G
5696-234	HighLevAss z/OS,z/VM,z/VSE 1.6.0	8	S00KBK9
5656-260	VSE/EREP 3.5.0	9	
5747-DS2	VSE/ICKDSF 1.17	9	
5648-054	CICS Transaction Server for VSE/ESA 1.1.1		S00LVVW
5686-065	ACF/VTAM for VSE/ESA 4.2.0		
	- Client/Server		S00LNZW
	- MultiDomain		S00MGLK
	- InterEnterprise		S00MGLH
5648-099	DITTO/ESA for VSE 1.3.0		S00LMS9
5686-A04	TCP/IP for VSE/ESA 1.5.0		
	- Application Pak		S00KPG1
	- NFS Feature	10	S00KPFW
	- GPS Feature	10	S00SL2H
5697-F42	DB2 Server for VSE and VM 7.5.0		S00T3TL
	incl. DataPropagator™ 7.5.0		
5697-F42	DB2 Client Edition 7.5.0		S0149S1

<sup>6</sup> The ordered z/VSE base programs will be delivered with their publication entitlement sets.

<sup>7</sup> Assign under 5609-ZV4.

<sup>8</sup> Mandatory program, not selectable.

<sup>9</sup> No-charge program, not selectable.

<sup>10</sup> NFS/GPS feature require the Application Pak.

**Basic license for optional programs of 5609-ZV4**

The optional programs are available under the z/VSE package offering (5609-ZV4). To order, specify the orderable supply under the 5609-ZV4 program number.

Program number	Description	Logical Supply <sup>11</sup>
5686-CF8	Encryption Facility V1.2	S014BJM
5686-BS1	IPV6/VSE	S01617R
5648-063	ACF/NCP 3745 7.8.1 Base, Tiers 1-5	S00VWV2
5648-099	DITTO/ESA for VM 1.3.0	S00LMS8
5648-F66	Rational COBOL Runtime for z/VSE V7.5	S015D6M
	- NLS English Upper Case	S00L43B
5648-B33	AFP Font Collection 2.1.1	S00LK79
	- Japanese Fonts	S00MH9B
	- Korean Fonts	S00MJZR
	- Chinese Simplified Fonts	S00MH99
	- Chinese Traditional Fonts	S00MH98
5668-723	GDDM-IVU 1.1.3	S00JN84
5668-801	GDDM-IMD 2.1.3	S00K6KN
5668-812	GDDM-PGF 2.1.3	S00JXM3
5686-011	CICSVR/VSE 1.2.0	S00K08K
5686-040	PSF/VSE 2.2.1	S00K16B
5686-057	GDDM/VSE Base 3.2.0	S00JNWS
5686-064	ACF/SSP for VSE 4.8.1	S00K3CZ
5686-065	ACF/VTAM for VM Feature 4.2.0	
	- Client/Server	S00LPR1
	- MultiDomain	S00MGLL
	- InterEnterprise	S00MGLJ
	ACF/VTAM APPC feature	S00J8XH
5686-068	COBOL for VSE 1.1.0	
	- Alternate function	S00KJWP
	- Full Function Feature	S00KJVT
5686-069	PL/I for VSE 1.1.0	
	- Alternate function	S00KJTS
	- Full Function Feature	S00KJTL
5686-A01	C for VSE/ESA 1.1.0	
	- Alternate Function	S00KMGC
	- Full Function	S00KMGF
5655-U97	websphere MQ for z/VSE V3.0 (Server)	S015B72
5655-U97	websphere MQ for z/VSE V3.0 (Client)	S015B74
5686-A07	CCCA for VSE/ESA 2.1.0	S00LWVX
5688-035	X.25 NPSI 3.9.0	S00J35V
5688-190	PPFA/370 1.1.0	S00JJD4
5688-191	OGL/370 1.1.0	S00JC16
5696-234	HLASM Toolkit 1.6.0	S00KBK8

<sup>11</sup> Assign under 5609-ZV4.

Program number	Description	Logical Supply <sup>12</sup>
5697-F42	DB2 Server for VSE and VM 7.5.0	S00T3TL
	Control Center	S00T3W8
	Data Restore	S00T3VZ
	QMF for VSE	S00T3WK

- NLS English Upper Case	S00T3WK
- NLS Spanish	S00T3WK
QMF for Windows®	S00T3SX
- NLS Spanish	S00T3SX
5735-XXB EP 1.14.0	S00VJTV
5746-RG1 DOS/VS RPG II 1.3.0	S00JRN7
5746-SM3 DFSORT/VSE 3.4.0	S00J47Z
5746-XE7 VSE/ACLR 1.2.1	S00JGRS
5746-XXT SDF II Base 1.6.0	S00LSM9
- NLS Spanish	S00LSM9
5746-XX1 DL/I VSE 1.12.0	S016JG6

<sup>12</sup> Assign under 5609-ZV4.

### **Customization options**

Select the appropriate feature numbers to customize your order to specify the delivery options desired. These features can be specified on the initial or MES orders.

#### *Example*

If publications are not desired for the initial order, specify feature number 3470 to ship media only. For future updates, specify feature number 3480 to ship media updates only. If, in the future, publication updates are required, order an MES to remove feature number 3480; then, the publications will ship with the next release of the program.

Feature description	Feature number
Delivery without Publications (for this specific order only)	3470
Delivery without Machine Readable Material	3471
Delivery without Publications for this product (including follow-ons)	3480

### **Optional machine-readable material**

With z/VSE Version 4 Release 3, no optional machine-readable source material will be available.

### **DSLO license**

Ordering a DSLO charge option will result in IBM maintaining a record of this customer location as a DSLO user only. All material for the DSLO license will be provided through the basic license location. If a user selects DSLO, no other charge options are valid for this order and no program materials or updates will be shipped.

### **Midrange Workload License Charges (MWLC) in IBM z/VSE V4 ordering information**

MWLC is a monthly license charge price metric on the IBM zEnterprise 196 (z196), IBM System z10 Enterprise Class (z10 EC), IBM System z9 Business Class (z9 BC), and IBM System z9 Enterprise Class (z9 EC) servers that applies to z/VSE V4 and key VSE middleware programs such as CICS TS for VSE, DB2 Server for VSE, and ACF/VTAM for VSE.



Midrange workload License Charges (MWLC) for z/VSE V4  
Basic license structure

Entitlement identifier	Description	License option/ Pricing metric
S013NPW	z/VSE Central Functions V8.3	MLC, MWLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	MLC, MWLC
S01613M	IPv6/VSE V1.1	MLC, MWLC
S0005FK	DL/I VSE V1.12	MLC, MWLC

**Extended License Charge (ELC) Basic License:** To order a basic license, specify the appropriate program and feature number, if required, for asset registration. Specify the applicable Extended License Charge feature(s). Also, specify the feature number of the desired distribution medium. Processors with assigned capacity above 80 MSUs will now have z/VM and z/VSE software prices based on the CPU service unit capacity of the processor. The ELC price structure will have a Base Charge for 80 MSU capacity and an incremental Per MSU charge for all additional MSUs above the 80 MSU base.

Specify the applicable ELC license option.

Entitlement identifier	Description	License option/ Pricing metric
S013NPW	z/VSE Central Functions V8.3	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU Additional Quantity
S014BJL	IBM Encryption Facility for z/VSE V1.2	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU Additional Quantity
S01613M	IPv6/VSE V1.1	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU
S0005FK	DL/I VSE V1.12	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU

## **Unlicensed documentation**

Unlicensed documentation within the z/VSE Version 4 Release 3 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 Version 4 Release 3 publications

All z/VSE V4.3 publications are shipped in softcopy in BookManager or PDF format on DVD when you order the z/VSE V4.3 base product:

VSE Collection DVD            SK3T-8348

Additionally you will receive some other Program Directories, Memo to Licensees, and Programming Specifications depending on your z/VSE V4.3 order.

- Optional z/VSE Version 4 Release 3 publications

Optional publications are supplied only in PDF or BookManager format with z/VSE Version 4 Release 3. 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

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

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

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<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 V4.3 publications are available in softcopy format on the VSE Collection DVD, SK3T-8348 (supplied with z/VSE V4.3 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

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## **Licensed documentation**

### **z/VSE V4.3 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

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### ***z/VSE V4.3 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.

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## **Prices**

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

Entitlement identifier	Description	License option/ Pricing metric
S013NPW	z/VSE Central Functions V8.3	Processor Based, Basic MLC, DSLO MLC MOSP Basic MLC, MOSP DSLO MLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Processor Based, Basic MLC, DSLO MLC

		MOSP Basic MLC, MOSP DSLO MLC
S01613M	IPv6/VSE V1.1	Processor Based, Basic MLC, DSLO MLC MOSP Basic MLC, MOSP DSLO MLC
S0005FK	DL/I VSE V1.12	Processor Based, Basic MLC, DSLO MLC MOSP Basic MLC, MOSP DSLO MLC

Entitlement identifier	Description	License option/ Pricing metric
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S013NPW	z/VSE Central Functions V8.3	Basic MLC, GOLC
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S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, GOLC
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S01613M	IPv6/VSE V1.1	Basic MLC, GOLC
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S0005FK	DL/I VSE V1.12	Basic MLC, GOLC
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Entitlement identifier	Description	License option/ Pricing metric
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S013NPW	z/VSE Central Functions V8.3	Basic MLC, ZELC
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S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, ZELC
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S01613M	IPv6/VSE V1.1	Basic MLC, ZELC
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S0005FK	DL/I VSE V1.12	Basic MLC, ZELC
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**Flat workload charge**

Entitlement identifier	Description	License option/ Pricing metric
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S013NPW	z/VSE Central Functions V8.3	Basic MLC, Flat WLC
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S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, Flat WLC
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S01613M	IPv6/VSE V1.1	Basic MLC, Flat WLC
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S0005FK	DL/I VSE V1.12	Basic MLC, Flat WLC
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**Tiered Workload License Charge (TWLC):**

Entitlement identifier	Description	License option/ Pricing metric
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S013NPW	z/VSE Central Functions V8.3	Basic MLC, Tiered WLC
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S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, Tiered WLC
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S01613M	IPv6/VSE V1.1	Basic MLC, Tiered WLC
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S0005FK	DL/I VSE V1.12	Basic MLC, Tiered WLC
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Entitlement		License option/
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identifier	Description	Pricing metric
S013NPW	z/VSE Central Functions V8.3	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU Additional Quantity
S014BJL	IBM Encryption Facility for z/VSE V1.2	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU Additional Quantity
S01613M	IPv6/VSE V1.1	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU Additional Quantity
S0005FK	DL/I VSE V1.12	ELC Including 80 MSU, Basic Per User Base ELC Above 80 MSU, Per Usage Additional Quantity ELC Above 80 MSU, Per Block of 50 MSU Additional Quantity

**Midrange Workload License Charges (MWLC) for IBM z/VSE**

Entitlement identifier	Description	License option/ Pricing metric
S013NPW	z/VSE Central Functions V8.3	Basic MLC, MWLC
S014BJL	IBM Encryption Facility for z/VSE V1.2	Basic MLC, MWLC
S01613M	IPv6/VSE V1.1	Basic MLC, MWLC
S0005FK	DL/I VSE V1.12	Basic MLC, MWLC

For additional product information, refer to Software Announcement [210-204](#), dated July 22, 2010.

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## **Corrections**

**(Corrected on October 22, 2010)**

Entitlement identifiers were revised.