



Preview: IBM z/VSE V6.1 - Get ready for the new z/VSE version!

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At a glance

IBM^(R) z/VSE^(R) V6.1 is designed to:

Exploit innovative IBM z13TM technology

- Configurable Crypto Express5S for data encryption and SSL acceleration.
- FICON^(R) Express16S supporting a link rate of 16 Gbps.

Support enhanced IBM System Storage^(R) options

- IBM System Storage TS7700 Virtualization Engine Release 3.2.
- IBM System Storage DS8870 Release 7.4 (ECKDTM and FCP-attached SCSI disks).
- IBM FlashSystem^(R) V840 for use with FCP-attached SCSI disks.

Introduce an architectural level set of IBM System z10^(R), or later

Deliver CICS^(R) TS for z/VSE V2.1

CICS TS for z/VSE V2.1 can only be used with z/VSE V6.1, and replaces CICS TS for VSE/ESA V1.1.1. New functionality includes:

- Update and control capabilities to CICS resources for the CICS Explorer^(R) system management tool.
- New APIs to enable the transfer of large amounts of structured data between CICS applications to meet the needs of growing workloads.

Deliver TCP/IP for z/VSE V2.1

- This new version replaces TCP/IP for VSE/ESA and is designed to include firewall functionality.

Deliver IPv6/VSE V1.2

- This new release of IPv6/VSE will provide firewall functionality, increased network availability, and other enhancements.

Add trigger functionality for the WebSphere^(R) MQ Client for VSE

- The MQ Client Trigger Monitor will add trigger functionality for the WebSphere MQ Client for VSE to ease asynchronous message processing.

Selected enhancements are also available with PTFs for z/VSE V5.1 and z/VSE V5.2.

Overview

In 2015, z/VSE celebrates its fiftieth anniversary. The ongoing success story of z/VSE would not have been possible without the close relationship to z/VSE business partners, vendors, and clients.

In continuation of these 50 years of innovation and evolution, IBM is pleased to preview z/VSE V6.1.

Whereas the past z/VSE versions often addressed scalability and constraint relief, z/VSE V6.1 will now focus on online processing, security, and networking.

To help clients protect their investments in online environments, z/VSE V6.1 delivers CICS Transaction Server (CICS TS) for z/VSE V2.1.

Clients make high demands on secure networking. Both z/VSE TCP/IP stacks, TCP/IP for z/VSE V2.1 and IPv6/VSE V1.2, address the security requirements and are designed to provide firewall functionality in the updated version or release of their product.

z/VSE clients may want to leverage the IBM MobileFirst™ Platform Foundation to develop mobile applications that interact with z/VSE. Using z/VSE connectors such as web services and the CICS Transaction Gateway, mobile applications can integrate z/VSE data and applications.

z/VSE V6.1 is designed to:

- Exploit innovative IBM z13 technology.
- Support enhanced IBM System Storage options.
- Introduce an architectural level set that requires IBM System z10 or later.
- Deliver:
 - CICS TS for z/VSE V2.1.
 - TCP/IP for z/VSE V2.1.
 - IPv6/VSE V1.2.

Enhancements planned for z/VSE V6.1 include:

Exploitation of innovative IBM z13 technology:

- Configurable Crypto Express5S for data encryption and SSL acceleration.
- FICON Express16S supporting a link rate of 16 Gbps.

Support of enhanced IBM System Storage options:

- IBM System Storage TS7700 Virtualization Engine Release 3.2.
- IBM System Storage DS8870 Release 7.4 (ECKD and FCP-attached SCSI disks).
- IBM FlashSystem V840 for use with FCP-attached SCSI disks.

Usage of architectural capabilities introduced with IBM System z10:

- This requires an architectural level set of IBM System z10 or later.

CICS TS for z/VSE V2.1:

CICS TS for z/VSE V2.1 can only be used with z/VSE V6.1, and replaces CICS TS for VSE/ESA V1.1.1. It delivers:

- Update and control capabilities to CICS resources for the CICS Explorer system management tool.

- New API to enable the transfer of large amounts of structured data between CICS applications to meet the needs of growing workloads.

CICS Distributed Data Management (CICS/DDM) is not supported with CICS TS for z/VSE V2.1.

CICS TS for z/VSE V2.1 will fulfill the statement of direction in Software Announcement [214-074](#), dated April 07, 2014.

TCP/IP for z/VSE V2.1:

- This new version replaces TCP/IP for VSE/ESA and is designed to include firewall functionality.

IPv6/VSE V1.2:

- This new release of IPv6/VSE will provide firewall functionality, increased network availability, and other enhancements.

MQ Client Trigger Monitor:

- The MQ Client Trigger Monitor will add trigger functionality for the WebSphere MQ Client for VSE to ease asynchronous message processing.

z/VSE V6.1 supports IBM z Systems™ servers:

- IBM z13
- IBM zEnterprise^(R) EC12 (zEC12) and IBM zEnterprise BC12 (zBC12)
- IBM zEnterprise 196 (z196) and IBM zEnterprise 114 (z114)
- IBM System z10 Enterprise Class (z10™ EC) and IBM System z10 Business Class (z10 BC)

z/VSE V6.1 can run in LPAR mode, or as a guest in any supported z/VM^(R) release. z/VSE V6.1 is the preferred follow-on VSE product for clients with z/VSE V5, z/VSE V4, z/VSE V3, or VSE/ESA installed. z/VSE V6.1 requires an initial installation. To ease the migration to z/VSE V6.1, z/VSE V5.2 will still be orderable after general availability of z/VSE V6.1 for a transition period.

z/VSE V6.1 offers Midrange Workload License Charge (MWLC) pricing metrics, including a subcapacity option, for z13™, z196, and System z10. IBM offers Advanced Entry Workload License Charge (AEWLC) pricing metrics, including a subcapacity option, for the zBC12 and z114 servers. The entry models (capacity setting A01) of the zBC12, z114, and z10 BC will be priced using zSeries Entry License Charge (zELC) for their IBM monthly license charge software.

z/VSE V6.1 and CICS TS for z/VSE V2.1 will fulfill the statements of direction in Software Announcement [214-074](#), dated April 07, 2014.

Key prerequisites

Operating environment

Hardware and software requirements:

z/VSE V6.1 will support IBM z Systems:

- IBM z13
- IBM zEnterprise EC12
- IBM zEnterprise BC12
- IBM zEnterprise 196

- IBM zEnterprise 114
- IBM System z10 Enterprise Class
- IBM System z10 Business Class

It can run in LPAR mode, or as a guest on any supported z/VM release.

z/VSE V6.1 is the preferred follow-on VSE product for clients with z/VSE V5, z/VSE V4, z/VSE V3, or VSE/ESA installed.

Compatibility:

- z/VSE V6.1 requires initial installation.
 - Fast Service Upgrade (FSU) to z/VSE V6.1 is not possible.
- To ease the migration to z/VSE V6.1, z/VSE V5.2 will still be orderable after general availability of z/VSE V6.1 for a transition period.
- z/VSE V6.1 is delivered as an English version only.
- CICS TS for z/VSE V2.1 is the only CICS version that can be used with z/VSE V6.1. It cannot be used with a prior version of z/VSE.
- CICS/DDM is not supported with CICS TS for z/VSE V2.1.
- DL/I V1.12 is the only DL/I release that can be used with z/VSE V6.1.
- After initial installation, the ACF/VTAM 31-bit I/O buffer support is enabled. It might be necessary to increase the number of copy blocks.

Planned availability date

Fourth quarter, 2015

Previews provide insight into IBM plans and direction. Availability, prices, ordering information, and terms and conditions will be provided when the product is announced.

Description

Enhancements planned for z/VSE V6.1 include:

Exploitation of innovative z13 technology

Configurable Crypto Express5S for data encryption and SSL acceleration

- z/VSE V6.1 supports the Crypto Express5S adapter in both IBM Common Cryptographic Architecture (CCA) coprocessor and accelerator mode. It can be used in an LPAR and z/VM guest environment. This support is also available on z/VSE V5.1 and z/VSE V5.2 with PTFs for APAR DY47586.
- More than 16 domain support allows a Crypto Express5S adapter to be shared across more than 16 domains, up to the maximum number of LPARs on the system. Customers will have the flexibility of mapping individual LPARs to unique crypto domains or continuing to share crypto domains across LPARs. To use a Crypto Express5S adapter in any LPAR of the system when running z/VSE V5.1 or z/VSE V5.2 requires the PTFs for APAR DY47586.

FICON Express16S - a new generation for FICON and FCP

- FICON Express16S supports a link data rate of 16 gigabits per second (Gbps) and autonegotiation to 4 or 8 Gbps for synergy with existing switches, directors, and storage devices.
- z/VSE V5.1 and later supports the FICON Express16S in two modes of operation:
 - CHPID type FC when utilizing FICON or Channel-to-Channel (CTC)
 - CHPID type FCP for use with FCP-attached SCSI disks

Support of enhanced IBM System Storage options

IBM System Storage TS7700 Virtualization Engine Release 3.2

- IBM System Storage TS7700 Virtualization Engine Release 3.2 is designed to support attaching back-end physical tape to a TS7720, logical volume sizes up to 25 GB, additional virtual tape drives, and other enhancements. z/VSE V5.1 and later transparently supports TS7700 Release 3.2.

IBM System Storage DS8870 Release 7.4 (ECKD and FCP-attached SCSI disks)

- IBM DS8870 Release 7.4 is designed to offer improved performance and other enhancements. z/VSE V5.1 and later transparently supports DS8870 Release 7.4 for use with Extended Count Key Data (ECKD) and FCP-attached Small Computer System Interface (SCSI) disks.

IBM FlashSystem V840 for use with FCP-attached SCSI disks

- IBM FlashSystem V840 combines the extreme performance of the unique FlashSystem™ architecture with the IBM Storwize® family functions. z/VSE V5.1 and later transparently supports IBM FlashSystem V840 for use with FCP-attached SCSI disks.

CICS TS for z/VSE V2.1

CICS TS for z/VSE V2.1 can only be used with z/VSE V6.1, and replaces CICS TS for VSE/ESA V1.1.1. It includes the functionality of CICS TS for VSE/ESA.

CICS TS for z/VSE V2.1 is designed to deliver new functionality, such as:

- CICS Explorer, which provides update and control capabilities:
 - CICS Explorer provides an intuitive, easy-to-use and integrated way of accessing CICS resources. Support for CICS Explorer V1.1 was introduced with z/VSE V5.1 and CICS TS for VSE/ESA V1.1.1, and delivered read-only capabilities against CICS resources. The latest version of CICS Explorer, together with CICS TS for z/VSE V2.1, is enhanced to add update and control capabilities to manage selected CICS resources more efficiently.
 - Details on how to download CICS Explorer for CICS TS for z/VSE V2.1 are available at <http://www.ibm.com/systems/z/os/zvse/>
- New API for growing CICS applications:
 - CICS TS for z/VSE V2.1 provides the EXEC CICS channels and containers API to enable the transfer of large amounts of data between CICS applications, to meet the needs of growing workloads and overcome the COMMAREA limitation¹. The channels and containers API allows users to transfer any amount of data up to the size of the CICS partition. In addition, it is an easy and flexible mechanism to transfer structured data including data conversion specified by the CICS application, and thus fulfills the demands of modern online applications.
 - ¹Restricted to 32K of data passed between CICS applications.
 - The CICS channels and containers API is ported from CICS TS for z/OS®. CICS applications that use the channels and containers API with the functionality provided by CICS TS for z/VSE V2.1 are source code compatible with the latest release of CICS TS for z/OS. CICS TS for z/VSE V2.1 supports the channels and containers API for both local and remote CICS programs and transactions.
 - Language support is provided for C, COBOL, HLASM, and PL/I.
- CICS TS for z/VSE V2.1 fulfills further customer requirements, such as:
 - Cipher suites AES 128 and AES 256 for CICS web support to allow for enhanced Secure Sockets Layer (SSL) connectivity.

- Millisecond option added to various EXEC CICS commands.
- OSLEVEL option added to EXEC CICS INQUIRE SYSTEM command.

IBM TCP/IP for z/VSE V2.1 for enhanced security

- IBM TCP/IP for z/VSE 2.1 is a new level set that integrates all prior maintenance.
- This new version is designed to add a white list firewall feature to provide a more secure environment.
- In addition it will contain internal processing improvements to provide a more stable and efficient stack as well as many functional enhancements based upon customer requests. These are:
 - External partition socket requests will be using cross memory services to improve efficiency.
 - New utilities will be provided to externalize applications for automation and TN3270 services.
 - The TLS/SSL cryptography will be enhanced to support RFC5746. This will allow the usage of TLS extensions to prevent the handshake renegotiation security exposure.

IBM IPv6/VSE V1.2 for enhanced security, and increased network availability

These are some of the highlights planned for the new IPv6/VSE release:

- Basic firewall support:
 - The basic firewall security facility examines IPv4 packets and IPv6 Ethernet frames for basic types of information. The source IP address, packet protocol, TCP or UDP port numbers, and ICMP message type and code can be verified and processing accepted or denied.
- Automatic OSA Express[®] device failover using HOTSWAP devices for high availability:
 - IBM IPv6/VSE 1.2 will allow users to automatically recover from OSA Express device failures by utilizing a backup HOTSWAP device. This can dramatically reduce the duration of network interruptions.
- Improved stack CPU optimization:
 - This can result in reduced CPU utilization by the stack partitions and thus may improve network throughput.
- Improved SSL support including TLS1.2 and DH/ECC sockets:
 - IBM IPv6/VSE V1.2 will support the latest updates in the IBM OpenSSL port, including support for TLSV1.2 and DH/ECC SSL socket, and all the latest security fixes.
 - The SSL Proxy and Automatic TLS facilities will be improved to support establishing up to 16 SSL sockets concurrently. This can dramatically improve performance for applications that establish multiple connections to z/VSE including TN3270(E), CICS, and web services applications.
- Virtual IP address support using virtual network interfaces:
 - IBM IPv6/VSE V1.2 will support having multiple IP addresses defined for a single network interface through the use of virtual network interfaces. The virtual network interfaces share a single OSA Express device.

MQ Client Trigger Monitor

IBM WebSphere MQ for z/VSE V3.0 will be withdrawn from service, effective September 30, 2015. However, the IBM WebSphere MQ Client for VSE will continue to be available.

Using the WebSphere MQ Client for VSE, a WebSphere MQ application can interact by means of the MQ API with one or more WebSphere MQ servers on any supported platform and connect to their queue managers. Therefore, the MQ Client for VSE

may be an alternative for clients currently using the WebSphere MQ for z/VSE server.

Unlike the MQ Client packages that are available for Linux™, z/OS, and other platforms, the WebSphere MQ Client for VSE does not contain a trigger monitor. Triggering is a must-have feature to process asynchronous messages. It allows the system to start (trigger) an application when a message arrives on a queue of a WebSphere MQ server.

The MQ Client Trigger Monitor closes this gap. It triggers a z/VSE CICS application when messages arrive on a queue of a Websphere MQ Server. Adding trigger functionality for the WebSphere MQ Client for VSE fulfills customer requirements and may enable clients to use the WebSphere MQ client instead of the WebSphere MQ Server on z/VSE.

Networking enhancements

Configurable output buffers for HiperSockets™ and OSA Express devices for improved TCP/IP throughput:

- Best performance can be achieved when data are always delivered successfully without the need of resending. z/VSE uses a default of eight QDIO (Queued Direct I/O) output buffers. This might not always be sufficient. z/VSE V6.1 will allow users to configure up to 64 QDIO output buffers for HiperSockets (CHPID type IQD) and OSA-Express (CHPID types OSD and OSX) devices. To ease the configuration skeleton SKOSACFG in ICCF library 59 can be used. Additional QDIO output buffers might require users to increase the size of the TCP/IP partition.

z/VSE V6.1 and CICS TS for z/VSE V2.1 will fulfill the statements of direction in Software Announcement [214-074](#), dated April 07, 2014.

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).

[BP Attachment for Announcement Letter 215-109](#)

Statement of general direction

IBM makes the following statement of general direction:

Secure z/VSE Software Delivery: IBM plans to remove support for unsecured FTP connections used for z/VSE software and service delivery. It is planned that new z/VSE software (products and service) downloads will require the use of HTTPS (Hypertext Transfer Protocol Secure, supporting the TLS and SSL cryptographic protocols) or Download Director with encryption.

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Statement of good security practices

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

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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^(R) V5.3, AIX V6.1, and AIX V7.1, 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 is designed to securely transmit via either the Internet (HTTPS or VPN) or modem 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.

For additional information, please refer to IBM Electronic Service Agent

<http://www-01.ibm.com/support/esa/>

More accurate reporting: Because system information and error logs are automatically uploaded to the IBM Support Center in conjunction with the service request, you 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 your 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, you are able to see search results that apply specifically to your systems.

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