z/VSE Latest News

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http://www.ibm.com/developerworks/mydeveloperworks/blogs/vse/
http://www.ibm.com/zVSE

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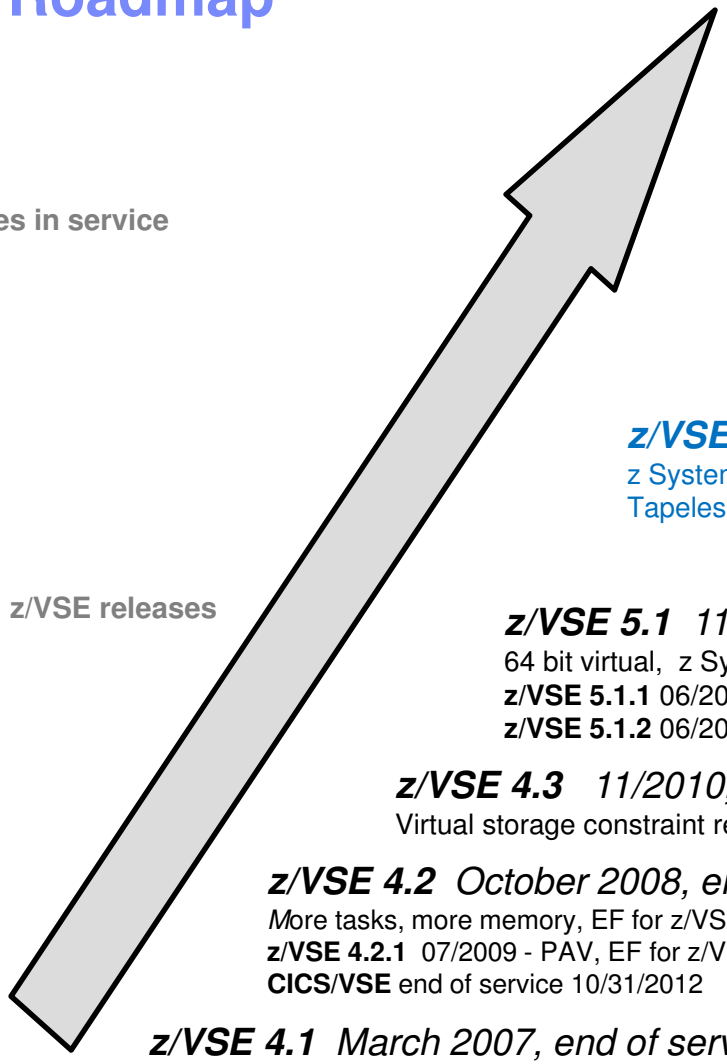
z/VSE Roadmap



z/VSE 6.2 *GA planned for 4Q 2017*
z114 */* ***z196 or higher****, zHPF / SIMD support, Tapeless installation SCSI / ECKD, CICS TS for z/VSE 2.2, security and connector enhancements*

z/VSE 6.1 *Ann 10/ 05/2015, GA 11/27/2015*
CICS TS for z/VSE 2.1: CICS Explorer update, Channels & Containers; TCP/IP for z/VSE 2.1, IPv6/VSE 1.2, **z10 or higher**; z Systems exploitation

z/VSE 5.2 *04/2014, end of service 10/31/2018*
z Systems exploitation, z9 or higher, device support, Tapeless installation, networking / security enhancements

z/VSE 5.1 *11/2011, end of service 06/30/2016*
64 bit virtual, z Systems exploitation, z9 or higher
z/VSE 5.1.1 06/2012: CICS Explorer, LFP in LPAR, database connector
z/VSE 5.1.2 06/2013: TS1140, 64 bit I/O, openSSL, db connector enhancements

z/VSE 4.3 *11/2010, end of service 10/31/2014*
Virtual storage constraint relief, 4 digit cuus, z/VSE 4.3.1 08/2011

z/VSE 4.2 *October 2008, end of service 10/31/2012*
*M*ore tasks, more memory, EF for z/VSE 1.1, CPU balancing, SCRT on z/VSE
z/VSE 4.2.1 07/2009 - PAV, EF for z/VSE 1.2, **z/VSE 4.2.2** 04/2010 - IPv6/VSE 05/2010
CICS/VSE end of service 10/31/2012

z/VSE 4.1 *March 2007, end of service 04/30/2011*
z/Architecture only, 64 bit real addressing, MWLC – full and sub-capacity pricing

z Systems server support

VSE Release	z800 / z900 z890 / z990	z9	z10	z196 / z114 / zEC12 zBC12 / z13 / z13s	VSE EoM	VSE EoS
z/VSE V6.2	No	No	No	Yes	tbd	tbd
z/VSE V6.1	No	No	Yes	Yes	tbd	tbd
z/VSE V5.2	No	Yes	Yes	Yes	03/13/2017	10/31/2018
z/VSE V5.1	No	Yes	Yes	Yes	05/23/2014	06/30/2016
z/VSE V4.3	Yes	Yes	Yes	Yes	06/25/2012	10/31/2014
z/VSE V4.2	Yes	Yes	Yes	Yes	10/26/2010	10/31/2012
z/VSE V4.1	Yes	Yes	Yes	Yes	10/17/2008	04/30/2011
z/VSE V3.1	Yes	Yes	Yes	Yes	05/31/2008	07/31/2009
VSE/ESA V2.7	Yes	Yes	Yes	Yes	09/30/2005	02/28/2007
VSE/ESA V2.6	Yes	Yes	Yes	Yes	03/14/2003	03/31/2006

z/VSE release / hardware status: http://www-03.ibm.com/systems/z/os/zvse/about/status.html

z Systems server support …

- IBM eServer zSeries z890 Server **end of service** October 31, 2016
  http://www-01.ibm.com/common/ssi/printableversion.wss?docURL=/common/ssi/rep_sm/1/897/ENUS2086-_h01/index.html

- zBC12 / zEC12 **end of marketing** announcement
  http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS916-037&appname=USN

Statement of general direction (SOD)

- z/VSE 6.1 last release planned to support **z10 server** family of servers
  http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?subtype=ca&infotype=an&appname=iSource&supplier=897&letternum=ENUS216-312

- z13 / z13s will be the last z Systems servers to support running an operating system in **ESA/390 architecture mode**
  - all 24-bit and 31-bit problemstate application programs originally written to run on the ESA/390 architecture will be unaffected by this change. See z13 announcement January 2015:
    http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=an&subtype=ca&appname=gpateam&supplier=897&letternum=ENUS115-001

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

z/VM support

z/VM End of Service Effective Dates: http://www.vm.ibm.com/techinfo/lpmigr/vmleos.html

- z/VM 5.4 – End of service December 31, 2017
  https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS916-121&appname=USN
  - Operates on z800 / z900 or higher, up to zBC12 / zEC12, not supported on z13 / z13s
- z/VM 6.2 - End of service June 30, 2017
  - Supports z10 or higher
- z/VM 6.3 - End of service December 31, 2017
  - SOD: Last release planned to support z10 server family of servers
- z/VM 6.4
  - Available since November 11, 2016
  - Architectural Level Set (ALS) to z114 / z196
  - Availability announcement:
    https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS216-075&appname=USN

Announcements: z/VSE 5.2 end of marketing / service

- z/VSE 5.2 end of marketing (eom) was March 13, 2017
  - After end of marketing products can no longer be ordered.

- z/VSE 5.2 end of service (eos) is planned for October 31, 2018

The affected products are:

- z/VSE 5.2
- z/VSE Central Functions 9.2
- CICS TS for VSE/ESA 1.1.1
- IBM IPv6/VSE 1.1
- IBM TCP/IP for VSE/ESA 1.5

eom announcement: http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS916-094

eos announcement: https://www-01.ibm.com/common/ssi/rep_ca/8/897/ENUS917-008/ENUS917-008.PDF

Multi-Version Measurement (MVM)

- MVM replaces the Migration Pricing Option (MPO) and Single Version Charging (SVC)
- No time limits for running multiple eligible versions of a software program on the same machine
- Full-capacity clients: no additional requirements
- Sub-capacity clients
  - Pay for the combined MSUs (concurrent peak) at the latest version price.
  - Sub-Capacity Reporting Tool (SCRT) requirement:
    - SCRT V24.2.0 (Classic) or SCRT V24.11.0 (Java™), or later required
    - Available April 10, 2017.
  - See web page for Monthly License Charge (MLC) programs http://www-03.ibm.com/systems/z/resources/swprice/reference/exhibits/mlc.html
- See MVM announcement letter for details: https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?subtype=ca&infotype=an&appname=iSource&supplier=897&letternum=ENUS217-093

z/VSE 6.1

- Preview: May 11, 2015, GA ann.: 10/05/2015, GA 11/27/2015,
  Recommended Service Level (RSL) with cutoff December 31, 2016

- Hardware support
  - Architectural Level Set to IBM System z10 or later
  - IBM z13 / z13s support
  - z/VSE Network Appliance (VNA)
  - IBM System Storage options
    - Tape solutions
      - IBM TS7700 Virtualization Engine Release 4.0 (IBM TS7760)
    - Disk solutions
      - IBM System Storage DS8870 Release 7.5,
      - IBM System Storage DS8880 (DS8884, DS8886, DS8888)
        - As ECKD and FCP-attached SCSI disks
      - IBM FlashSystem V9000 for use with FCP-attached SCSI disks.

z/VSE 6.1 …

- New CICS version: CICS TS for z/VSE 2.1
  - CICS Explorer – monitor and update CICS resources
  - Channels & Containers to lift 32K Commarea limitation
- Networking enhacements (firewall support)
  - IBM IPv6/VSE 1.2 – new release
  - IBM TCP/IP for z/VSE 2.1 – new version
- Connectors
  - MQ Client Trigger Monitor
- z/VSE 6.1 requires an initial installation
  - Fast Service Upgrade (FSU) from z/VSE V5 not supported
- z/VSE 6.1 and follow-on releases are delivered in English only

z/VSE 6.1 …

- Statement of direction (SOD):
  - IBM plans to deliver future upgrades of z/VSE on DVD or electronically only.
  - High Performance FICON (zHPF)
  - Install from DVD stage 2 (FBA / SCSI)
  - New CICS TS for z/VSE release
  - Web services (SOAP) enhancements (JSON support)
  - Security enhancements

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

z/VSE Network Appliance (VNA)

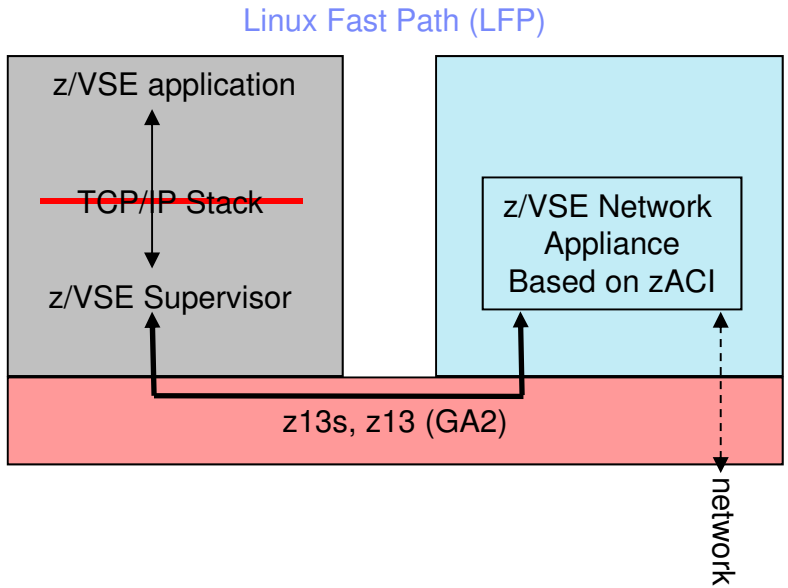
- New with z13 GA2 / z13s, available since June 30, 2016
- VNA acts as a router for z/VSE
- TCP/IP application uses Linux Fast Path (LFP) and connects through HiperSockets to VNA
- Based on IBM Secure Service Container, delivered with z13 GA2 / z13s

- No Linux license,
  No TCP/IP stack required on z/VSE,
  No z/VM required to connect to the network

- Supported with z/VSE V6, 5.2, works with 5.1

- VNA for LPAR only

- zVSE - z/VM IP Assist (VIA) for z/VM guests



z/VSE 6.2 Preview

- Preview: April 11, 2017, GA planned for 4Q 2017

- Hardware support
  - Architectural Level Set to IBM zEnterprise 114 (z114) or IBM zEnterprise 196 (z196) or later
  - Support for
    - High Performance FICON (zHPF)
    - z13 Vector Facility (Single Instruction Multipe Data - SIMD)
    - Elliptic Curve Cryptography (ECC) accelerated with CryptoExpress5S of z13 / z13s, exploited by openSSL
    - FlashCopy Space Efficient (SE) for Extent Space Efficient (ESE) volumes configured in an DS8880
  - Tapeless initial installation using SCSI or FBA disks
  - Support for stand-alone dump on SCSI disks

z/VSE 6.2 …

- CICS TS for z/VSE enhancements
  - CICS Explorer enhancements (define programs, files, etc.)
  - Channels & containers enhancements
  - HTTP 1.1 upgrade for CICS Web Support (CWS)

- Connector enhancements
  - z/VSE SOAP engine to exploit Channels and Containers
  - new z/VSE Representational State Transfer (REST) engine with JSON (JavaScript Object Notation) support
  - z/VSE database connector enhancements

z/VSE 6.2 …

- Security enhancements
  - Basic Security Manager (BSM) enhancement
  - IUI dialog for batch resources (DTSECTAB security)

- New TCP/IP releases
  - IBM IPv6/VSE 1.3
  - IBM TCP/IP for z/VSE 2.2

- Product delivery of z/VSE on DVD and electronically only

- z/VSE 6.2 Preview – announcement letter:
  http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=an&subtype=ca&appname=GPA&htmlfid=897/ENUS217-091

High Performance FICON support in z/VSE

- High Performance FICON (zHPF) for ECKD devices only
  - Channel programs are translated to zHPF commands
  - Transparent to applications

- z/VSE
  - Supports zHPF implementation phase 1
  - Translates a subset of CCW commands (define extent, locate record, TIC, …)

  - If transport mode I/O results in an I/O error, the request will be retried in command mode
  - LPAR and z/VM guests supported (z/VM APAR may be required)

- Benefits
  - May improve I/O performance
  - Highly dependent on workload characteristics

z13 / z13s Vector Facility support in z/VSE

- Vector Facility also called Single Instruction Multiple Data (SIMD)
  - Instructions can be exploited by applications
  - Support can be enabled / disabled for partition to save virtual storage
  - Transparent to applications

  - LPAR and z/VM guests supported (z/VM APAR may be required)

- Benefits
  - May improve performance
  - Highly dependent on workload characteristics

Enhancements for SCSI device support

- Tapeless installation
  - Available since z/VSE 5.2 for ECKD
  - Tools provided to create an installation disk (supported for LPAR and z/VM guest)
  - Installation disk contains a boot program and the z/VSE base tape in AWS file format

  - Tapeless installation to be enhanced for installation disk on **FCP-attached SCSI devices**
  - Installation on ECKD, FBA and FCP-attached SCSI disks supported

  - Supports initial installation only

- Stand-alone dump
  - Can be created on tape or disk device
  - Currently only stand-alone dump to ECKD or FBA disks are supported
  - z/VSE 6.2 will support stand-alone dump to SCSI disk

CICS TS for z/VSE 2.2

- New CICS TS release for z/VSE 6.2

- CICS Explorer enhancements
  - Definition of new CICS resources (programs, files, transactions)
  - Change / delete existing CICS resources
  - Definition view of client for selected CICS resources

  - Monitor, control or update
    - Dynamic storage areas
    - Global temporary storage queue statistics

CICS TS for z/VSE 2.2 …

- CICS TS for z/VSE server enhancements
  - Upgrade of CICS Web Support (CWS) to HTTP 1.1
    - Supports latest web browsers and applications
    - Persistent connections, pipelining and chunking to improve performance and security
  - Channel and container enhancements
    - Support UTF-8 and UTF-16 in code page conversion
    - Add the APPEND parameter for PUT CONTAINER
      to append the specified data to existing data in a container
    - Add the BYTEOFFSET parameter for GET CONTAINER
      to retrieve data beginning at a specified offset in a container
  - Support for date and time stamp formats that are in general use across the internet.
  - Support for Language Environment (LE) MAIN for Assembler applications

z/VSE 6.2 Security Enhancements

- OpenSSL enhacements
  - Upgraded to openSSL 1.0.2h (newer SSL/TLS functions)
  - Elliptic Curve Cryptography (ECC) hardware acceleration with CryptoExpress5S
    - If hardware not available, ECC software implementation will be used
  - SSL/TLS support of openSSL or SSL of TCP/IP stack in CICS Web Support

- EZA Multiplexer and EZA openSSL support
  - EZA multiplexer can be configured to use interface phase for given TCP/IP stack
  - OpenSSL may be used independent of the TCP/IP stack

- SSL/TLS connection to secure remote VTAPE network transfer

z/VSE 6.2 Security Enhancements …

- Basic Security Manager (BSM)
  - Repositories for online and batch security
  - Batch resources protected via DTSECTAB phase
  - z/VSE 6.2 provides a common interface for online and batch resources via IUI dialogs
    - New dialogs build the DTSECTAB

- LDAP sign-on enhancements provide
  - RESET option for LDAP user mapping tool to clear cached user password hash
    - Forces full LDAP sign-on at next user sign-on
  - Wildcard support for CHANGE and DELETE commands of user mapping tool

Connector Enhancements

- z/VSE SOAP Engine to exploit channels and containers
  - Additional option to use channels and containers instead of CICS commarea
  - z/VSE as SOAP client
    - SOAP engine detects which area to be used
  - z/VSE as SOAP server
    - Commarea or channels and containers use dependent on
      - New option passed with message or in RULES
      - Default is Commarea

Connector Enhancements …

- z/VSE web services enhancements
  - New z/VSE REST Engine with JavaScript Object Notification (JSON) support
  - z/VSE implements Representational State Transfer (REST) engine
  - Allows clients to provide RESTful web services running in a CICS environement
  - JSON and XML supported
- z/VSE database connector DBCLI (Database Call Level interface) enhancements
  - z/VSE 6.2 provides a batch and interactive interface for database queries
  - CICS REXX support for DBCLI

Networking Enhancements

- z/VSE Linux Fast Path (LFP) enhancements
  - LFP running as z/VM guest
    can communicate with with a TCP/IP stack in LPAR or the z/VSE Network Appliance (VNA)

- IBM IPv6/VSE 1.3
  - New FTP server security interface
    - FTP access to z/VSE file system may be protected by Basic Security Mager (BSM) or External Security Manger (ESM) using the resource class FACILITY

  - SSH copy facility
    - Uses a Linux pass-through image for a SSL connection to a remote host
    - Secure file transfer via SSH to and from z/VSE
    - Compatible with IBM TCP/IP for z/VSE, LFP, z/VM IP Assist (VIA) and VNA

  - TXT2PDF generation facility
    - Based on open source txt2pdf
    - Converts a text file into a Portable Docment Format (PDF) file

- IBM TCP/IP for z/VSE 2.2
  - Provides TLS 1.1 support

z/VSE 6.2 Compatibility

- Tape delivery dropped with z/VSE 6.2
  - z/VSE will be delivered on DVD or electronically via Shopz
- z/VSE 6.2 can not be installed on 3380 disks (or 3390 in 3380 track compatibility mode)
  - 3380 disks still supported as data disks
- Upgrade to z/VSE 6.2 via initial installation or Fast Service Upgrade (FSU)
  - FSU from z/VSE 6.1 to z/VSE 6.2 only
  - FSU not supported from z/VSE V5 or if system disks are on 3380
  - z/VSE 6.2 upgrade will fail, if z/VSE not on z114 / z196 or higher

z/VSE 6.2 Compatibility …

- CICS TS for z/VSE 2.2 replaces CICS TS for z/VSE 2.1 (not supported on z/VSE 6.2)
- CICS transactions no longer protected via DTSECTXN table
  DTSECTXN table entries to be migrated to Basic Security Manager (BSM) control file
- IBM IPv6/VSE 1.3 replaces IBM IPv6/VSE 1.2 (not supported on z/VSE 6.2)
- IBM TCP/IP for z/VSE 2.2 replaces IBM TCP for z/VSE 2.1 (not supported on z/VSE 6.2)
- Starting with z/VSE V6.1, z/VSE is shipped as English version only.

Documentation related to z/VSE

- z/VSE documentation page - http://www-03.ibm.com/systems/z/os/zvse/documentation/
- z/VSE Collection Kit
  - Available for download in IBM Publication Center https://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss
  - Electonic only, not on physical DVD
- Documentation of z/VSE releases - z/VSE Internet Library on http://www.ibm.com/systems/z/os/zos/bkserv/vse.html
- z/VSE Knowlede Center: http://www.ibm.com/support/knowledgecenter/SSB27H/zvse_welcome.html
- CICS TS for z/VSE Knowledge Center: https://www.ibm.com/support/knowledgecenter/SSECAB

Documentation related to z/VSE ...

- IBM Redbooks - http://www.redbooks.ibm.com/
  - Redbook page with new / updated IBM z Systems mainframe Redboooks
    - zEC12 / zBC12 / z13 / z13s Technical Guides
    - IBM System z Connectivity Handbook, SG24-5444
  - Introduction to the New Mainframe: z/VSE Basics
    http://www.redbooks.ibm.com/abstracts/sg247436.html?Open
  - Security on IBM z/VSE – updated
    http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247691.html?Open
  - z/VSE Using DB2 on Linux for System z
    http://www.redbooks.ibm.com/abstracts/sg247690.html?Open
  - Enhanced Networking on IBM z/VSE
    http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg248091.html?Open

Documentation related to z/VSE ...

- Technical articles:
  http://www-03.ibm.com/systems/z/os/zvse/documentation/documents.html#articles
  - z/VSE release & hardware upgrade
  - z/VSE SCSI Support and Migration Options
  - z/VSE z/VM IP assist
  - Parallel Access Volume (PAV) white paper

- Hints and Tips for z/VSE 6.1:
  http://www.ibm.com/systems/z/os/zvse/documentation/#hints

More Information

… on VSE home page: http://ibm.com/vse

- Ingolf's z/VSE blog: https://www.ibm.com/developerworks/mydeveloperworks/blogs/vse
- Requirements: https://www-03.ibm.com/systems/z/os/zvse/contact/requirement.html
- z/VSE service & support: http://www-03.ibm.com/systems/z/os/zvse/support/

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