



Licensed Program Specifications

IBM z/VSE Version 6.2

Product number 5686-VS6

IBM z/VSE® is an IBM Z® operating system offering for transaction and batch processing. z/VSE is a pregenerated package of the base programs listed below, which can be extended by a number of optional programs (as specifically announced).

The base program z/VSE V6.2 listed below is subject to the licensed program specifications described herein.

The other base programs marked with ▶ are not subject to these licensed program specifications and follow their individual terms and conditions.

z/VSE Base Programs	Program Number	Program Version, Release
z/VSE V6.2	5686-VS6	6.2
Device Support Facilities (ICKDSF) ▶	5747-DS2	1.17
Environmental Recording Editing and Printing (EREP) ▶	5656-260	3.5
High Level Assembler for VSE (HLASM) ▶	5696-234	1.6
Virtual Telecommunications Access Method for VSE/ESA (VTAM®) ▶	5686-065	4.2
Customer Information Control System (CICS® Transaction Server for z/VSE) ▶	5655-VSE	2.2
DB2® Server for VSE and VM ▶	5697-F42	7.5
Data Interfile Transfer, Testing and Operations Utility/ESA for VSE(DITTO/ESA) ▶	5648-099	1.3
Transmission Control Protocol/Internet Protocol for z/VSE (TCP/IP for z/VSE) ▶	5686-CS1	2.2
Internet Protocol Version 6 for VSE (IPv6/VSE) ▶	5686-BS1	1.3

z/VSE Base Program

A summary of the functions provided by z/VSE is given below. z/VSE is designed and tested to be installed, used, and maintained within the package environment. z/VSE consists of the following components:

VSE/SP Unique Code Component

VSE/SP Unique Code provides support in the areas of system productivity and system usability. This includes:

- Installation support

- Automated system startup
- Interactive interface for users
- Workstation file transfer support

VSE/Advanced Functions Component

VSE/Advanced Functions provides basic system control for z/VSE. This includes functions and programs, such as:

- z/Architecture® mode
- 64-bit real addressing for system functions
- 64-bit virtual addressing
- Memory objects in the 64-bit address space
- 31-bit addressing
- Data spaces
- Virtual disks
- Virtual tapes
- Console support
- Input/Output Configuration Program (IOCP)
- Storage management
- Job Control Language (JCL)
- Librarian, Linkage editor
- Maintain System History Program (MSHP)
- Pregenerated supervisor for 1024 devices
- SCSI support for FCP-attached disks
- Enhanced z/OS® affinity
- z/VSE Fast Path to Linux® on z Systems® function (LFP)

VSE/Advanced Functions provides commands, statements, and macros for utilizing its functions.

REXX/VSE Component

REXX/VSE is a general purpose programming language and provides support to write programs and algorithms. This includes support for:

- VSE operation automation
- Direct communication to the VSE system console
- VSE/POWER® job submission and controlling, and command execution

VSE/POWER Component

VSE/POWER provides system support and control in the areas of:

- Partition control
- Batch processing and spooling
- Networking
- System startup

VSE/VSAM Component

VSE/VSAM provides advanced data management support for files and libraries on disk devices and tape. This includes:

- Functions for file creation and maintenance

- The VSE/VSAM Backup/Restore function
- Data compression support
- The VSE/VSAM Space Management function for SAM, which complements the support provided by VSE/VSAM
- 31-bit addressing

VSE/VSAM provides commands and macros for utilizing its functions.

VSE/Fast Copy Component

VSE/Fast Copy is a utility for copying files from one disk device to another of the same device type. It also allows the copying of complete volumes.

VSE/ICCF Component

VSE/ICCF is an interactive tool for system administration and program development and includes functions for:

- Editing source code and data in VSE/ICCF libraries
- Creating and submitting jobs for processing
- Creating and maintaining VSE/ICCF libraries

OSA/SF for z/VSE Component

OSA/SF (Open Systems Adapter Support Facility) provides support for customizing and managing an OSA-Express[®] adapter.

VSE Connectors Component

This component is part of the z/VSE connector support. It includes VSE Connector Server and VSE Connector Client support.

VSE Connector Workstation Component

This component provides the workstation part of the z/VSE connectors.

Encryption Facility for z/VSE Component

The Encryption Facility for z/VSE component can be used to encrypt and decrypt files, VSE Library members, and complete backups that were made using any z/VSE backup utility.

z/VSE Cryptographic Services Component

This component provides an OpenSSL runtime component and a programming interface. Applications can use OpenSSL transparently via the LE/C or EZA Multiplexer (EDCTCPMC).

Language Environment Component

This component implements the Language Environment[®] architecture on the VSE platform (LE/VSE). LE/VSE provides a common execution environment (CEE) for application programs. LE/VSE provides essential languages and compiler object code library support routines.

LE/VSE Release 4 is the required runtime environment for applications generated with the following IBM language compilers:

- C for VSE/ESA
- COBOL for VSE/ESA
- PL/I for VSE/ESA

HLASM macros are also provided to allow seamless integration with a LE/VSE run-time environment.

Previous LE/VSE Compatibility:

LE/VSE Release 4 provides object and executable phase compatibility for applications generated using any of the above compilers with any earlier LE/VSE Release 4 modification level.

LE/VSE Release 4 provides object and executable phase compatibility for applications generated with the COBOL for VSE/ESA or PL/1 for VSE/ESA compilers linked with a previous LE/VSE release.

Previous COBOL Compiler Compatibility:

With certain exceptions, LE/VSE Release 4 provides object module and executable phase compatibility for applications generated by :

- DOS/VS COBOL Release 3.1 or later
- VS COBOL II Release 3.2 or later

Subject to exceptions, object modules created with the above unsupported COBOL compilers can be relink-edited and run with LE/VSE Release 4 without recompiling.

The above statements apply only to legacy, error-free applications (developed prior to the end-of-service dates of the old COBOL compilers) to assist with application migration. Unsupported COBOL compilers should not be used for any application development.

See the *COBOL for VSE/ESA Migration Guide*, GC26-8070 for compatibility exceptions and migration details.

Other Language Compiler Compatibility:

Applications generated using the following IBM language compilers are not supported by LE/VSE:

- C/370 Version 2 Release 1
- DOS PL/I Version 1
- DOS/VS RPG II

C/370 applications must be recompiled using the C for VSE/ESA compiler and link-edited with LE/VSE. DOS PL/I applications must be recompiled with the PL/I for VSE/ESA compiler and link-edited with LE/VSE. See the *C for VSE/ESA Migration Guide*, SC09-2423, or the *PL/I for VSE/ESA Migration Guide*, SC26-8056, for migration information.

VSE C Language Run-Time Support

z/VSE provides a full function LE/C runtime environment and library of callable services

Optional Program Support

A number of IBM optional programs can be ordered for use with z/VSE. z/VSE includes dialogs for installing these optional programs. The IBM manual *z/VSE Planning*, SC34-2681, provides information about supported optional programs. For the latest updates refer to the *z/VSE V6.2 Program Directory*.

Specified Operating Environment

Machine Requirements

Processor Storage:

The maximum processor (real) storage supported by z/VSE is 32 GB. z/VSE requires a minimum of 64 MB processor (real) storage. The minimum processor (real) storage to create an installation disk in an LPAR is 512 MB. Once the installation disk is created the processor

(real) storage can be changed. The total amount of processor (real) storage needed for efficient daily operation of a z/VSE system depends on the size of virtual storage and the mix of concurrent work. This mix may include:

- Batch processing
- Transaction processing
- Optional programs
- Online program development
- Communication with other systems

Processor Support:

z/VSE Version 6 Release 2 supports these IBM Z servers:

- IBM z15™ (z15)
- IBM z14 (z14)
- IBM z13® (z13)
- IBM z13s® (z13s)
- IBM zEnterprise® EC12 (zEC12)
- IBM zEnterprise BC12 (zBC12)
- IBM zEnterprise 196 (z196)
- IBM zEnterprise 114 (z114)

You can run z/VSE in an LPAR image or as a guest system under any supported z/VM® release.

Minimum I/O Configuration:

The IBM manual *z/VSE Planning*, SC34-2681, has detailed information about supported devices. For the latest updates refer to the current *z/VSE Program Directory*. For initial installation, z/VSE requires a minimum configuration consisting of:

- A processor
- Two disk volumes of the same disk device type
- A system console
- A tape device or installation disk
- A display station. This can be a terminal or programmable workstation of any supported type

The following are disk device types supported for the installation of z/VSE V6.2:

- IBM 3390
- IBM FBA (also FCP-attached SCSI disk)

The total amount of disk space required by a z/VSE system depends on the amount of additional software installed and the size of user-data files.

Programming Requirements

The following IBM licensed compiler programs, with or without the Debug Tool for VSE/ESA feature, are optional when using LE/VSE:

- C for VSE/ESA Version 1 Release 1 (5686-A01)
- COBOL for VSE/ESA Version 1 Release 1 (5686-068)
- PL/I for VSE/ESA Version 1 Release 1 (5686-069)

The following IBM licensed programs are optional when using LE/VSE:

- DFSORT/VSE Version 3 Release 4 (5746-SM3)
- DL/I VSE Version 1 Release 12 (5746-XX1)
- DB2 Server for VSE and VM Version 7 (5697-F42)

Licensed Program Materials Availability

Restricted Materials – Yes. This licensed program is available with some licensed program materials designated as RESTRICTED MATERIALS OF IBM. The remaining licensed program materials are available and will not be designated as RESTRICTED MATERIALS OF IBM.

z/VSE is shipped partially in object code.

Supplemental Terms

Designated Machine Identification

Designated Machine Identification Required: Yes

Installation/Location License

Not applicable. A separate license is required for each designated machine on which the licensed program materials will be used.

Usage Restriction

Not applicable.

Softcopy Publications

The program that IBM licenses may include licensed publications in displayable or source form. Except as provided in this section, the terms and conditions of the license agreement with IBM apply to these publications and to any copies that are made from them.

The licensed publications may be used in displayable or source form on all machines designated for this program. The licensed publications may also be copied and used on other machines in support of authorized use of this program.

To support authorized use of the program, printed copies of the displayable or source material may be made provided you reproduce the copyright notice and any other legend of ownership on each copy or partial copy.

Additional Supplemental Terms

Variable Charges

Apply: No

Distributed Features

Apply: No

Entry End User/370 Attachment

Applies: No

Type/Duration of Program Services

Central service, including the IBM Support Center, will be available until discontinued by IBM upon six months written notice.

Third Party Notices

The Program may include third party code that IBM, not the third party, licenses to You under this Agreement. Notices, if any, for the third party code ("Third Party Notices") are included for Licensee's information only. These notices can be found in the Program's NOTICES file(s). Information on how to obtain source code for certain third party code can be found in the Third Party Notices.

Excluded Components

The components listed below shall be considered "Excluded Components". Notices and important information IBM is required to provide You with respect to the Excluded Components may be found in the NOTICES.Z file that accompanies the Program. The license terms contained in this IBM Agreement, and not the license terms that may be contained in the NOTICES.Z file, shall govern Your use of the Excluded Components.

Notwithstanding any of the terms in this IBM Agreement, or any other agreement you may have with IBM; (a) all Excluded Components are provided on an "AS IS" basis; (b) IBM AND ITS SUPPLIERS DISCLAIM ANY AND ALL EXPRESS AND IMPLIED WARRANTIES AND CONDITIONS INCLUDING, BUT NOT LIMITED TO, THE WARRANTY OF TITLE, NON-INFRINGEMENT OR INTERFERENCE AND THE IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE EXCLUDED COMPONENTS; (c) IBM and its suppliers will not be liable to You, or defend or indemnify You for any claims related to the Excluded Components; and (d) IBM and its suppliers will not be liable for any direct, indirect, incidental, special, exemplary, punitive or consequential damages, including but not limited to lost data, lost savings, and lost profits, with respect to the Excluded Components. Future Program updates or fixpacks may contain additional Excluded Components. Such additional Excluded Components, and related notices and information, will be listed in another "NOTICES.Z" file that accompanies the Program update or fixpack. By using the Program, future updates or fixpacks after the initial installation (thereby giving you access to the applicable NOTICES.Z file), You acknowledge that You have read the NOTICES.Z file.

Some third party components, including third party components included or embedded in the Program and components referenced in any NOTICES.Z file located in z/VSE library PRD1.BASE.

The Excluded Components are:

- OpenSSL
- zlib

Separately Licensed Code

The provisions of this paragraph do not apply to the extent they are held to be invalid or unenforceable under the law that governs this Agreement. Each of the components listed below is considered "Separately Licensed Code". IBM Separately Licensed Code is licensed to You under the terms of the applicable third party license agreement(s) set forth in the NON_IBM_LICENSE file(s) that accompanies the Program. Notwithstanding any of the terms in the Agreement, or any other agreement You may have with IBM, the terms of such third party license agreement(s) govern Your use of all Separately Licensed Code unless otherwise noted below.

Future Program updates or fixes may contain additional Separately Licensed Code. Such additional Separately Licensed Code and related licenses are listed in another NON_IBM_LICENSE file that accompanies the Program update or fix. You acknowledge that You have read and agree to the license agreements contained in the NON_IBM_LICENSE file(s). If You do not agree to the terms of these third party license agreements, You may not use the Separately Licensed Code.

Note: Notwithstanding any of the terms in the third party license agreement, this Agreement, or any other agreement You may have with IBM: (a) IBM provides this Separately Licensed Code to You WITHOUT WARRANTIES OF ANY KIND; (b) IBM DISCLAIMS ANY AND ALL EXPRESS AND IMPLIED WARRANTIES AND CONDITIONS INCLUDING, BUT NOT LIMITED TO, THE WARRANTY OF TITLE, NON-INFRINGEMENT OR INTERFERENCE AND THE IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SEPARATELY LICENSED CODE; (c) IBM is not liable to You, and will not defend, indemnify, or hold You harmless for any claims arising from or related to the Separately Licensed Code; and (d) IBM is not liable for any direct, indirect, incidental, special, exemplary, punitive or consequential damages including, but not limited to, lost data, lost savings, and lost profits, with respect to the Separately Licensed Code.

Notwithstanding these exclusions, in Germany and Austria, IBM's warranty and liability for the Separately Licensed Code is governed only by the respective terms applicable for Germany and Austria in IBM license agreements.

Warranty

This program is warranted as specified in the IBM license.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

Following the discontinuance of all program services, this program will be provided "As Is" as specified in the IBM license.

Trademarks

IBM, the IBM logo, and ibm.com® are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at <http://www.ibm.com/legal/us/en/copytrade.shtml>.



References in this publication to IBM® products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service.

Any other documentation with respect to this licensed program, including any documentation referenced herein, is provided for reference purposes only and does not extend or modify these specifications.

2019-10-08
Printed in USA

GC33-8354-06

