



Software Product Description

PRODUCT NAME: VSI COBOL for OpenVMS

SPD DO-DCOSPD-01A

DESCRIPTION

This document addresses VSI COBOL Version 3.1-7 for OpenVMS for VSI Alpha and VSI Integrity.

VSI COBOL for OpenVMS Alpha and OpenVMS Integrity is a high-level language for business data processing that operates on the OpenVMS Operating System. VSI COBOL is based upon the 1985 ANSI COBOL Standard X3.23-1985 as modified by the X.23a-1989 amendment.

VSI COBOL adheres to the high level by the National Bureau of Standards for conformance to FIPS PUB 21-3, Federal Standard COBOL.

VSI COBOL includes various industry standard and extensions to COBOL, including screen handling at the source language level, file sharing, the ANSI Report Writer facility, and most X/Open features.

The COPY FROM DICTIONARY statement, a VSI COBOL extension, allows access to common record definitions stored in Oracle CDD/Repository for OpenVMS Alpha and I64. Oracle CDD/Repository must be installed to use this feature. The Data Manipulation Language (DML), another VSI COBOL extension, allows users to write programs that access DBMS databases using the Oracle DBMS database product. A separate manual, *HP COBOL DBMS Database Programming*, describes the syntax and usage of the Oracle CODAYSL DBMS support. Oracle CODAYSL DBMS support and the associated manual are bundled with VSI COBOL on OpenVMS.

VSI COBOL for OpenVMS Alpha and I64 includes the following functionality and documentation:

- Run-time currency sign handling compatible with the draft ANSI-2002 standard
- Enhanced support for extended (>65,535 bytes) alphanumerics
- Enhanced support for RMS Journaling
- Run-time performance improvements with the reenabling of decimal shadowing
- Unified documentation set for VSI COBOL on Alpha and I64

For recent release specific technical information such as feature enhancements, bug fixes, restrictions and compatibility charts, please refer to the VSI COBOL Release Notes.

VSI COBOL supports the industry-standard SCREEN SECTION (as specified in the X/Open Portability Guide, Release 3). The SCREEN SECTION makes it easier and more efficient to design user-interface screens and to accept and display a full screen of data with a single ACCEPT statement and a single DISPLAY statement, instead of multiple statements.

VSI COBOL for OpenVMS

For added flexibility, the following additional extensions to COBOL are implemented in VSI COBOL:

- Screen handling is implemented using the DISPLAY and ACCEPT statements. The DISPLAY statement enables a programmer to display information or prompts anywhere on a video screen. The ACCEPT statement takes information typed anywhere on the screen and returns the value to a running COBOL program. The DISPLAY statement converts data from internal numeric format to ASCII display format; and the ACCEPT WITH CONVERSION statement converts ASCII display input characters to internal numeric formats, as appropriate. The terminal-type is recognized at run time from information provided by the operating system.
- RMS-STS and RMS-STV special registers may be examined to assist debugging. These registers contain status values from the Record Management System (RMS) for OpenVMS.
- File sharing and record locking features enable more than one user to access data at the same time.
- Many file capabilities are available through RMS, including extensions for descending keys and duplicate primary keys.
- Conditional compilation serves to make debugging easier.
- Source program terminal format recognition is supported.
- ACCEPT support for 4-digit years.

VSI COBOL implements several statements designed to make programming easier in the OpenVMS environment:

- CALL statement extensions: BY VALUE, BY DESCRIPTOR, OMITTED, and GIVING
- VALUE IS EXTERNAL — Access to link time constants
- USAGE IS POINTER — Address data type
- VALUE IS REFERENCE — Compile time address evaluation
- SET TO REFERENCE — Run-time address evaluation
- SUCCESS/FAILURE — Class conditions

Other extensions include:

- 31-digit numeric user items and 32-digit intermediates
- D-float, F-float, G-float, and IEEE floating point handling
- X/Open SCREEN SECTION
- X/Open specified RETURN-CODE special register
- X/Open specified ASSIGN TO syntax
- X/Open file sharing and record locking features
- X/Open command line and logical names support via ACCEPT and DISPLAY
- X/Open LINE SEQUENTIAL
- Enhanced support for “foreign” extensions with improved diagnostic messages

The VSI COBOL compiler produces an object module from a source program. The compiler is capable of producing a source listing with embedded diagnostics indicating the line and position of a source-code error, a machine language listing, a file-name map, a dataname map, a procedure-name map, an external program name map, and a cross-reference listing. The cross-reference listing and maps may be produced in either alphabetical order or in order of declaration. The cross-reference listing distinguishes destructive references to data from read-only references.

VSI COBOL provides support for error diagnostics and cross-reference information to VSI Language-Sensitive Editor/Source Code Analyzer.

Object modules produced by the compiler can be linked with other object modules produced by many other languages, including VSI C and VSI Fortran. VSI COBOL is supported by the OpenVMS Run-Time Libraries and the OpenVMS Debugger.

The VSI COBOL product includes a COBOL compiler and the REFORMAT utility. The REFORMAT utility converts source programs from VSI terminal format to ANSI-standard COBOL format and vice versa.

VSI COBOL for OpenVMS

HARDWARE REQUIREMENTS

Processors Supported:

- Integrity: Any Integrity system capable of running the VSI OpenVMS Integrity Operating System Version 8.4-2 or higher.
- Alpha: Any AlphaServer system capable of running the VSI OpenVMS Alpha Operating System Version 8.4-2L1 or higher.

Refer to the latest VSI OpenVMS Integrity or Alpha Software Product Description for information about supported servers.

DISK SPACE REQUIREMENTS

These counts refer to the disk space required on the system disk. The sizes are approximate. Actual sizes may vary depending on the user's system environment, configuration, and software options.

Requirement	VSI OpenVMS Alpha	VSI OpenVMS Integrity
Disk space required for kit installation:	26,000 blocks (13MB)	48,000 blocks (24MB)
Disk space required for use (permanent):	22,000 blocks (11MB)	44,000 blocks (22MB)

OPTIONAL HARDWARE

A VT100 family, VT200 family, VT300 family, or VT400 family terminal is required for the screen handling extensions to the ACCEPT and DISPLAY statements.

SOFTWARE REQUIREMENTS

On Integrity servers, VSI OpenVMS Integrity Version 8.4-2 or higher is the required operating system version for this product. On AlphaServer systems, VSI OpenVMS Alpha Version 8.4-2L1 or higher is the required operating system version for this product.

SOFTWARE LICENSING

A software license is required in order to use the VSI COBOL software product.

- For Integrity servers, the license is a Concurrent Use license. Version update licenses are not available for the Integrity servers platform. Rights to use future revisions of VSI COBOL are available only through a Support Agreement or through a new license purchase.
- For AlphaServer systems, the license to use VSI COBOL is included in the ALPHA-LP license.

For more information about OpenVMS licensing terms and policies, contact your VSI account representative.

Information is also available at the following VSI website:

<http://vmsssoftware.com/services>

LICENSE MANAGEMENT FACILITY SUPPORT

VSI COBOL for OpenVMS supports the *OpenVMS License Management Facility*.

For more information about the License Management Facility, refer to the *VSI OpenVMS License Management Utility Manual* in the VSI OpenVMS documentation set.

CLUSTER ENVIRONMENT

This layered product is fully supported when installed on any valid and licensed VSI OpenVMS Cluster configuration, which are fully described in the *OpenVMS Cluster Software Product Description (SPD DO-VIBHAA-032)*. See the HARDWARE REQUIREMENTS section in this document for hardware requirements.

VSI COBOL for OpenVMS

OPTIONAL SOFTWARE

The following optional software may be needed, depending on the tasks you wish to perform:

- VSI Language-Sensitive Editor/Source Code Analyzer (LSE/SCA), included in VSI DECset.
 - Required to use /ANALYSIS_DATA qualifier or Language-Sensitive Editor Component.
- Oracle CDD/Repository
 - Required to use VSI COBOL COPY FROM DICTIONARY feature.
- Oracle CODASYL DBMS
 - Required to use Data Manipulation Language (DML) extensions.

GROWTH CONSIDERATIONS

The minimum hardware and software requirements for any future version of this product may be different from the requirements for the current version.

ORDERING INFORMATION

For VSI COBOL on OpenVMS, licenses are available as electronic licenses (E-LTU) or physical licenses (P-LTU):

For VSI Integrity:

- | | |
|--|---------------|
| • VSI COBOL - VMS I64 Concurrent E-LTU | SL-LICO0E-30V |
| • VSI COBOL - VMS I64 Concurrent P-LTU | SL-LICO0P-30V |

For VSI Alpha:

- | | |
|-------------------------|---|
| • VSI COBOL for OpenVMS | Included in the ALPHA-LP license bundle |
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SOFTWARE PRODUCT SERVICES

A variety of service options are available from VSI. For more information, contact your VSI account representative or distributor. Information is also available at the following VSI website:
<http://vmssoftware.com/services>

SOFTWARE WARRANTY

This software product is provided by VSI with a 90-day conformance warranty in accordance with the VSI warranty terms applicable to the license purchase.

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