Software Product Description

PRODUCT NAME: HP COBOL Version 2.8 for OpenVMS Alpha and OpenVMS I64   SPD 45.92.15

DESCRIPTION

HP COBOL for OpenVMS Alpha and OpenVMS Industry Standard 64 for Integrity servers is a high-level language for business data processing that operates on the OpenVMS Operating System. HP COBOL (formerly named Compaq COBOL) is based upon the 1985 ANSI COBOL Standard X3.23-1985 as modified by the X.23a-1989 amendment and is closely compatible with Compaq COBOL for OpenVMS VAX and Compaq COBOL for Tru64 UNIX.

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

HP 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 HP 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 HP 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 in HP COBOL. Oracle CODAYSL DBMS support and the associated manual are bundled with HP COBOL on OpenVMS I64. An optional HP COBOL DBMS programming license is required to make use of these features with HP COBOL on OpenVMS Alpha.

HP COBOL V2.8 for OpenVMS Alpha and I64 includes the following new 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 HP COBOL on VAX, Alpha and I64.

For recent release specific technical information such as feature enhancements, bug fixes, restrictions and compatibility charts, please refer to the HP COBOL V2.8 Release Notes.

HP 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.

For added flexibility and for compatibility with HP COBOL for OpenVMS VAX Systems, the following additional extensions to COBOL are implemented in HP 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.

HP 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 HP 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 data-name 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.

HP COBOL provides support for error diagnostics and cross-reference information to HP 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 HP C and HP Fortran. HP COBOL is supported by the OpenVMS Run-Time Libraries and the OpenVMS Debugger.

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

Run-Time Library Redistribution (OpenVMS Alpha only)

The HP COBOL kit includes updated Run-Time Library shareable images. HP grants the user a nonexclusive, royalty-free, worldwide right to reproduce and distribute the executable version of the run-time libraries designated as DEC$COBRTL.EXE and LIBOTS2.EXE (the "RTLs") for HP COBOL on the OpenVMS Alpha platform, provided that the user:

- Distributes the RTLs only in conjunction with and as a part of the user's software application product that is designed to operate in the OpenVMS environment.

- Does not use the HP name, logo, or trademarks to market the user's software application product.

- Includes the HP copyright notice for HP COBOL on the user's product disk label and on the title page of the documentation for software application product.

- Agrees to indemnify, hold harmless, and defend HP from and against any claims or lawsuits, including attorney's fees, that arise or result from the use or distribution of the software application product. Except as expressly provided herein, HP grants no implied or express license under any of its patents, copyrights, trade secrets, trademarks, or any license or other proprietary interests and rights.

HARDWARE REQUIREMENTS

For Alpha systems: Any system capable of running OpenVMS Alpha V6.2 to V7.3-2, or V8.2-1

For Integrity servers: All Integrity Servers are supported by OpenVMS I64 V8.2-1.

Disk Space Requirements (Block Cluster Size = 1)

	Alpha	I64
Installation	26,000 blocks	48,000 blocks
	13 Mb	24 Mb
Permanent Use	22,000 blocks	44,000 blocks
	11 mb	22 Mb

These block 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 selected.

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

OpenVMS Alpha:
V6.2 to V7.3-2 (SPD 25.01.xx), or V8.2 and later (SPD 82.35.xx)

OpenVMS I64:
V8.2-1 (SPD 82.35.xx).

Refer to the appropriate OpenVMS Operating System Software Product Description (SPD) for additional details.

CLUSTER ENVIRONMENT

This layered product is fully supported when installed on any valid and licensed OpenVMS Cluster configuration without restrictions. The *HARDWARE REQUIREMENTS* section of this Software Product Description detail any special hardware required by the software.

OpenVMS Cluster configurations are fully described in the HP OpenVMS Cluster Software Product Description (29.78.xx) and include CI, Ethernet, DSSI, FDDI, SCSI, and Mixed Interconnect configurations.

OpenVMS Tailoring

The following OpenVMS classes are required for full use of features of this software:

- OpenVMS Required Save Set

- Programming Support

- Utilities

For more information on OpenVMS classes and tailoring, refer to the OpenVMS Operating System Software Product Descriptions (SPD 25.01.xx or 82.35.xx).

OPTIONAL SOFTWARE

HP Language-Sensitive Editor/Source Code Analyzer (LSE/SCA) V4.7 (included in HP DECset V12.4 or later) for OpenVMS Alpha and I64 (SPD 42.29.xx).

Required to use /ANALYSIS_DATA qualifier or Language-Sensitive Editor Component.

Oracle CDD/Repository

Required to use HP COBOL COPY FROM DICTIONARY Feature.

Oracle CODASYL DBMS

Required to use Data Manipulation Language (DML) extensions.

GROWTH CONSIDERATIONS

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

Note: A version update represents a complete distribution media replacement for the previous release of HP COBOL. All user-developed source modules that comprise an application must be recompiled and rebuilt using only HP COBOL software for that version update. Individual components of HP COBOL software from the latest version update cannot be used in conjunction with components from a previous version.

SOFTWARE LICENSING

This software is furnished only under a license and the license is required in order to use this software. For more information about licensing terms and policies of HP, contact your local HP office or visit the Software Licensing site at:

http://licensing.hp.com/swl/view.slm?page=index.

OpenVMS Alpha licenses:

- Traditional Unlimited Use - Allows unlimited use of the software on a single, specified system.

- Personal Use - Allows one identified individual to use the software.

- Concurrent Use - Allows any one individual at a time to use the software for each Concurrent Use license.

OpenVMS I64 licenses:

- Concurrent Use only.

- **Note:** Version update licenses are not available on OpenVMS I64. Rights to use future revisions of the software are available only through a support agreement or through a new license purchase.

License Management Facility Support

This software product uses the OpenVMS License Management Facility (LMF) as part of enforcing the software licensing terms.

ORDERING INFORMATION

When purchasing this software both a license and media must be ordered.

- The license provides the LMF Product Authorizaion Key (PAK) required to use the software.

- The media provides the software binary installation kit and documentation.

Optional hardcopy documentation is also available and can be ordered separately.

For OpenVMS Alpha:

Traditional Unlimited Use License: QL-0JUA*-**
Personal Use License: QL-099AA-2B
Concurrent Use License: QL-099A*-3*
Documentation (hardcopy): QA-0JUA*-GZ

DBMS Support (OpenVMS Alpha only):
  Traditional Unlimited Use License: QL-355A*-**
  Concurrent Use License: QL-355A*-3*
  Documentation (hardcopy): QA-355A*-GZ

Note: * and ** Denote variant fields. For additional information refer to the appropriate price book.

For OpenVMS I64:

Concurrent Use License: BA350AC
Software Documentation (hardcopy): BA350MN

The above information is valid at time of release. Please contact your local HP office for the most up-to-date information.

DISTRIBUTION MEDIA

For OpenVMS Alpha:

The following packages contain the software binaries and on-line documentation in HTML or PDF format.

- OpenVMS Alpha Software Layered Products Library Package (QA-03XAA-H8) (binaries and documentation)

- OpenVMS Alpha Software Products Library (QA-4KL8A-A8) (binaries only)

- OpenVMS Alpha Online Documentation Library (QA-4KM8A-G8) (documentation only)

For OpenVMS I64:

The software binaries and on-line documentation are available on the Layered Products media within each of the OpenVMS I64 Operating Environment (OE) packages:

- Foundation OE Media (BA322AA)

- Enterprise OE Media (BA323AA)

- Mission Critical OE Media (BA324AA)

SOFTWARE PRODUCT SERVICES

A variety of service options are available from HP. For more information, contact your local HP account representative or distributor. Information is also available at www.hp.com/hps/software.

SOFTWARE WARRANTY

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