Software Product Description

PRODUCT NAME: VAX COBOL, Version 4.4 **SPD 25.04.22**

DESCRIPTION

VAX COBOL is a high level language for business data processing that operates under the VMS Operating System, taking full advantage of the system facilities and the VAX Information Architecture. It is based upon the 1985 ANSI COBOL Standard X3.23-1985.

VAX COBOL shares some common syntax with COBOL-81/RSTS/E and COBOL-81/RSX and includes a COBOL-81 subset flagger. It is integrated with the VAX Information Architecture and includes various Digital extensions to COBOL, including screen handling at the source language level.

VAX COBOL has been validated by the National Bureau of Standards for conformance to ''FIPS PUB 21-2, Federal Standard COBOL'' at the high level.

Two features provide access to the VAX Information Architecture from VAX COBOL. The Data Manipulation Language (DML) allows users to access DBMS databases with VAX DBMS. VAX DBMS must be installed to use this feature. The COPY FROM DICTIONARY statement, a Digital extension to COBOL, allows access to common record definitions stored in VAX CDD/Plus. VAX CDD/Plus must be installed to use this feature.

VAX COBOL, COBOL-81/RSTS/E and COBOL-81/RSX share many common features. These features are implemented with the same syntax and semantics on both compilers. In this way, a VMS system may be used to develop code that will eventually be compiled using COBOL-81. A COBOL-81 subset flagger may be used to check code designed for eventual use on COBOL-81. Additionally, code developed using COBOL-81 may be migrated to VAX COBOL.

The following Digital extensions to COBOL are implemented in VAX COBOL:

- Screen handling is implemented using the DISPLAY and ACCEPT statements. The DISPLAY statement enables the 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 VAX 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 (VAX RMS).
- File sharing and record locking features enable more than one user to access data at the same time.
- Many file capabilities are available through VAX RMS including extensions for descending keys and duplicate primary keys.
- Conditional compilation serves to make debugging easier.
- The /INSTRUCTION_SET qualifier customizes object code generation to target the different classes of VAX processors, maximizing specific processor features.

VAX COBOL implements several statements designed to make programming easier in the VMS environment:

- 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:

- Thirty-one character user-names
- ACCEPT AT END statement
- Single-quote-delimited, non-numeric literals
- Hyphen/underscore equivalence in user-names
- Non-numeric literal argument passing

The VAX 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, subschema information 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.

VAX COBOL provides support for error diagnostics and cross-reference information to VAX Language-Sensitive Editor/Source Code Analyzer. Additionally, VAX COBOL provides support for the processing of pseudocode and design comments which are used by VAX Language-Sensitive Editor/Source Code Analyzer for low level program design.

Object modules produced by the compiler can be linked with other object modules produced by many other languages, including VAX BASIC and VAX FORTRAN. VAX COBOL is supported by both the VAX Common Run-Time Library (VAX RTL) and the VAX Symbolic Debugger.

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

HARDWARE REQUIREMENTS

VAX, MicroVAX, VAXstation or VAXserver configuration as specified in the System Support Addendum (SSA 25.04.22-x).

SOFTWARE REQUIREMENTS

For Systems Using Terminals (No DECwindows Interface):

VMS Operating System

For Workstations Running VWS:

VMS Operating System
VMS Workstation Software

For Workstations Running DECwindows:

VMS Operating System (and necessary components of VMS DECwindows)

VAX COBOL supports a DECwindows compiler interface for compile qualifier selection on workstations. This interface is accessible from FileView.

Refer to the System Support Addendum (SSA 25.04.22-x) for availability and required versions of prerequisite/optional software and for information regarding components of VMS DECwindows.

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