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Software Product Description

PRODUCT NAME: VAX-11 FORTRAN, Version 2.0
(Formerly VAX-11 FORTRAN IV-PLUS)

DESCRIPTION:

VAX-11 FORTRAN is an implementation of full language FORTRAN-77 conforming to American National Standard FORTRAN, ANSI X3.9-1978. It includes optional support for programs conforming to the previous standard, ANSI X3.9-1966. The shareable, re-entrant compiler operates under the VAX/VMS operating system to take advantage of the VAX-11 floating point and character string instruction set and the VAX/VMS virtual memory operating system.

VAX-11 FORTRAN includes the following extensions to the ANSI standard:

- Language elements for keyed and sequential access to VAX-11 RMS multikey ISAM files

- A set of data types beyond those specified for full language FORTRAN-77:
  - LOGICAL*1, BYTE
  - LOGICAL*2
  - INTEGER*2
  - COMPLEX*16, DOUBLE COMPLEX

- Explicit specification of storage allocation units for data types (e.g., REAL*8, INTEGER*4)

- Data initialization in type declaration statements

- DO WHILE, ENDDO statements

- Bit manipulation functions

- Hexadecimal and octal constants and Z and O format edit descriptors applicable to all data types

- ENCODE, DECODE statements

- ACCEPT, TYPE input/output statements

- DEFINE FILE statement

- USEROPEN subroutine invocation at file OPEN time

- INCLUDE statement

- 31-character identifiers that can include dollar sign ($) and underline(__)

- Comments allowed at end of each source line

- Debug statements in source

Additional features:

- Support for calls to VAX/VMS system service procedures

- Generation of symbol tables for the VAX-11 symbolic debugger
- Generation of shareable code
- Up to 255 actual arguments in a CALL statement
- Up to 250 named COMMON blocks per subprogram

VAX-11 FORTRAN compiler optimizations include:

- Constant folding
- Optimizations of arithmetic IF, logical IF, and block IF-THEN-ELSE
- COMMON subexpression elimination
- Removal of invariant expressions from DO loops
- Allocation of general registers across DO loops

MINIMUM HARDWARE REQUIRED:

Any valid VAX/VMS Operating System configuration

OPTIONAL HARDWARE:

FP780 floating point accelerator

PREREQUISITE SOFTWARE:

VAX/VMS Operating System, Version 2.0

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:
DIGITAL SUPPORTED
VAX-11 FORTRAN is a DIGITAL Supported Software Product.

SOFTWARE INSTALLATION:
CUSTOMER INSTALLED
VAX-11 FORTRAN is a software product engineered to be installed by the customer and includes other Software Product Support Services listed below.

SOFTWARE PRODUCT SUPPORT:

VAX-11 FORTRAN includes standard warranty services as defined in the Software Support Categories Addendum of this SPD.

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Source/Listings Options

QE100   -E— Sources (media: M)

Update Options

Users of VAX-11 FORTRAN IV-PLUS whose specified Support Category warranty has expired may order under license the following software update at the then current charge for such update. The update is distributed in binary form on the appropriate medium; it includes no installation or other services unless specifically stated.

QE100   -H— Binaries, documentation (media: Y)

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NOTE: VAX-11 FORTRAN sources are written in VAX-11 BLISS-32; therefore, a VAX-11 BLISS-32 compiler is required for compilation.

Miscellaneous Options

QE100   -G— Documentation only kit (media: Z)

ADDITIONAL SERVICES:

Post-warranty Software Product Services for this software are available with the prerequisite being the purchase of the VAX/VMS Self-Maintenance Service for Software. Customers should contact their local DIGITAL office for additional information.