Software Product Description

DESCRIPTION

PDP-11 Symbolic Debugger is a fully symbolic debugger for COBOL-81, FORTRAN-77, and MACRO-11 programs running on RSTS/E. PDP-11 Symbolic Debugger is a tool to aid users in locating programming errors in successfully compiled programs that do not execute properly.

PDP-11 Symbolic Debugger runs as a two-task debugger. A small portion of the code, necessary to debug applications, is linked with the user task and the major portion of the debugger runs as a separate task.

PDP-11 Symbolic Debugger provides access to program symbols by reading the symbol table file produced by the task builder. PDP-11 Symbolic Debugger can understand symbols produced by COBOL-81, FORTRAN-77, and MACRO-11.

Features

- DEPOSIT and EXAMINE all data types supported by COBOL-81 and FORTRAN-77 (except virtual array elements).

- Full tracepoint and breakpoint functionality for monitoring the execution of user applications, including the ability to delay the activation of a tracepoint or breakpoint until after it has been encountered a specified number of times. The user also has the ability to specify an action to perform on encountering a tracepoint or breakpoint. The user has the option to specify conditional tracepoints or breakpoints using the WHEN mechanism (except the WHEN qualifier for COBOL-81).

- Control of execution using STEP by LINE or INSTRUCTION, STEP INTO routines or OVER routines, and the GO command.

- Computation of the value of source language expressions or of address expressions using the EVALUATE command.

- Full support for overlaid code, including the ability to set tracepoints and breakpoints on locations not currently resident. PDP-11 Symbolic Debugger can

distinguish among multiple copies of modules located at different points in the overlay structure.

- The ability to drive a debugging session using indirect command files and to record the results of a debugging session by command logging. PDP-11 Symbolic Debugger can be used interactively or in batch mode.

- On-line Multi-level Prompting HELP Facility that allows the user to receive information about the commands accepted by PDP-11 Symbolic Debugger during a debugging session.

- DATA-TYPE Table showing the supported languages and their equivalent Data Types in the on-line HELP file.

- A SET LANGUAGE command allows the user to set the default language of the debugger to the language of the program to be debugged.

- Instruction and data space support for user tasks on systems where both the hardware and software support this feature.

- Indirection of address expressions for examining data structures at one level of indirection in only one step.

- Installation via Auto-Install.

At Compile Time

To enable debugging of COBOL-81 programs, the user must specify a switch in the compiler command line. This switch specifies that information about the symbols in the COBOL-81 application will be put into the object file.

A switch must also be specified in the BLDODL utility. This switch instructs the BLDODL utility to include references in the program's ODL file.

To enable debugging of FORTRAN-77 programs, the user must specify a switch in the compiler command line. This switch specifies that information about the symbols in the FORTRAN-77 application will be put into the object file created by the compiler.

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To enable debugging of MACRO-11 programs, the user must specify a switch in the assembler command line. This causes information about the symbols in the assembly language program to be available to PDP-11 Symbolic Debugger.

At Taskbuild Time

When taskbuilding the application which will be run under control of PDP-11 Symbolic Debugger, the user must modify the taskbuilder command line and overlay description file to include the PDP-11 Symbolic Debugger kernel.

HARDWARE REQUIREMENTS

Any valid mapped RSTS/E system configuration with the following:

- A user area of at least 48K bytes of memory if using an RMS resident library, 52K bytes for other applications

- At least 2000 free blocks of on-line storage on the public disk structure, plus additional space for user programs and data files

Disk Space Requirements (Block Cluster Size =1):

Disk space required for installation:	2,000 blocks (1,000K bytes)
Disk space required for use (permanent):	1,700 blocks (850K bytes)
Contiguous space required:	400 blocks (200K bytes)

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.

OPTIONAL HARDWARE

None

SOFTWARE REQUIREMENTS

- RSTS/E Operating System

Refer to the RSTS/E Optional Software Cross Reference Table (SPD 20.97.xx) for the required version.

OPTIONAL SOFTWARE

Any of the following languages can be used to write applications that can be debugged by the PDP-11 Symbolic Debugger:

- COBOL-81/RSTS/E

- PDP-11 FORTRAN-77/RSTS/E

- MACRO-11 (included as part of the prerequisite operating system)

A single application program composed of modules written in either FORTRAN-77 and MACRO-11 or COBOL-81 and MACRO-11 can be debugged using PDP-11 Symbolic Debugger.

GROWTH CONSIDERATION

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

ORDERING INFORMATION

The distribution Media Codes used are described below. Specify the desired Media Code at the end of the Order Number (e.g., QY233-HH = binaries on RL02 Disk Cartridge).

5	=	TK50 Tape Cartridge
D	=	9-track 800 BPI Magtape (NRZI)
H	=	RL02 Disk Cartridge
M	=	9-track 1600 BPI Magtape (PE)
V	=	RK07 Disk Cartridge

Note: The availability of these software product options and services may vary by country. Customers should contact their local Digital office for information on availability.

For Class L Systems[1]

Single-Use License: QY233-UZ

Distribution and Documentation Option: QY233-H* (Media: 5, H, M)

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Documentation-Only Option: QY233-GZ

Installation Service Option: QY233-I* (Media: 5, H, M)

DECsupport Service: QY233-9* (Media: 5, H, M)

Basic Service: QY233-8* (Media: 5, H, M)

Self-Maintenance Service: QY233-3* (Media: 5, H, M)

For Class H Systems[2]

Single-Use License: QP233-UZ

Distribution and Documentation Option: QP233-H* (Media: 5, D, H, M, V)

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[1] All Q-bus models and systems; KD11, KDF11, KDJ11 CPU modules; DCT11, DCF11, DCJ11 microprocessor chips

[2] All UNIBUS models and systems

Software Revision Right-To-Copy Option: QP233-HZ

Documentation-Only Option: QP233-GZ

Installation Service Option: QP233-I* (Media: 5, D, H, M, V)

DECsupport Service: QP233-9* (Media: 5, D, H, M, V)

Basic Service: QP233-8* (Media: 5, D, H, M, V)

Self-Maintenance Service: QP233-3* (Media: 5, D, H, M, V)

* Denotes variant fields. For additional information on available licenses, services and media, refer to the appropriate price book.

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