Software Product Description

PRODUCT NAME: DECmigrate Version 1.1A for OpenVMS AXP Systems **SPD 39.44.00**

DESCRIPTION

DECmigrate for OpenVMS AXP Systems is a product that translates existing OpenVMS VAX applications to OpenVMS AXP systems, with facilities to:

- Translate OpenVMS VAX user mode executable files and shareable images to their OpenVMS AXP equivalents, subject to limitations defined below
- Identify dependencies on user-supplied shareable images which might also need to be translated or recompiled
- Identify non-portable code that might need to be rewritten in order to run successfully on OpenVMS AXP systems

DECmigrate for OpenVMS AXP Systems operates much like a compiler, except that the input file is a VAX binary executable file rather than source code of any level, high or low. In general, the performance of a translated program on an AXP System will be comparable to the performance of the original program on a VAX system of similar size, but slower than if that program has been recompiled from source code for the AXP system environment. Actual performance will vary from program to program, depending on each program's reliance on specific VAX features.

An application can combine translated VAX executable and shareable images with OpenVMS AXP executable and shareable images that have been compiled with native AXP compilers.

DECmigrate for OpenVMS AXP produces a working OpenVMS AXP executable from any OpenVMS VAX executable that meets the criteria outlined below. This translation is completed in a single pass, without requiring the user to understand the internals of the program or interact with DECmigrate during the translation process. DECmigrate works without accessing the program source code. Performance of the translated application can sometimes be improved by successive translations, using the automatic feedback capability incorporated in DECmigrate. The output from DECmigrate is optimized Alpha AXP code, not interpreted or emulated VAX code.

Run-time support for translated images is bundled with the OpenVMS AXP system, making it possible for software developers to distribute translated versions of their software products to customers who have OpenVMS AXP systems, whether or not those customers have purchased DECmigrate.

CRITERIA

DECmigrate cannot generate a working program when the original program:

- Doesn't work
- Uses undocumented interfaces into the operating system
- Uses user-written system services
- Has been linked such that code and data are tied to fixed addresses
- References system memory space
- Executes privileged instructions
- Executes vector instructions
- Was linked on a version of VMS prior to version 4.0
- Was written in Ada
- Depends on specific VAX architecture features, such as 512-byte page granularity
- Is a shareable image that includes both shared and copy-on-reference writeable image sections that are located on the same 64 KB Alpha AXP page
- Depends on shareable images which have not been translated or recompiled for OpenVMS AXP systems

Examples of untranslatable programs and programming practices include:

- Exception handlers which use the value of the program counter or depend on the value of the PSL at the time of the exception
- Programs that search memory for specific VAX instructions
- Device drivers

In most cases where DECmigrate is unable to complete the translation, error messages describe causes or possible solutions that may be applied at the source program level.

Finally, a very few programs will be so large that, with the additional memory required for the translated image to execute, they will be unable to fit in memory.

CONFORMANCE TO STANDARDS

For this product, there is no business need for standards conformance.

HARDWARE REQUIREMENTS

Processors Supported

Alpha AXP:	DEC 3000 Model 400 AXP Workstation, DEC 3000 Model 400 AXP Server, DEC 3000 Model 500 AXP Workstation, DEC 3000 Model 500 AXP Server
	DEC 4000 Model 610 AXP System
	DEC 7000 Model 610 AXP System
	DEC 10000 Model 610 AXP System

Disk Space Requirements (Block Cluster Size = 1):

Disk space required for installation:	22,000 blocks
	(11.5 Mbytes)
Disk space required for permanent use:	10,000 blocks
	(5.2Mbytes)

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.

Memory Requirements for DECwindows Support

The minimum supported memory for this application running in a standalone DECwindows environment with both the client and server executing on that same system is 8MB.

SOFTWARE REQUIREMENTS

For Systems Using Terminals:

- OpenVMS AXP Operating System

For Workstations Running DECwindows Using Motif®:

- OpenVMS AXP Operating System
- DECwindows Motif for OpenVMS AXP

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

CD–ROM

This product is available as part of the AXP Operating System Consolidated Software Distribution on CD–ROM. It is also sold separately.

The software documentation for this product is available as part of the AXP Operating System Online Documentation Library on CD–ROM. It is also sold separately.

ORDERING INFORMATION

This product is distributed on the Digital CD-ROM Software Library for OpenVMS AXP (order number QA-03XAA-H8).

Software Licenses: QL-MWWMA*-**
Software Media: QA-MWMAA-**
Software Documentation: QA-MWMA*-GZ
Software Product Services: QT-MWMA*-**

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SOFTWARE LICENSING

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License Management Facility Support:

This layered product supports the License Management Facility.

License units for this product are allocated on an Unlimited System Use basis.

For more information on the License Management Facility, refer to the OpenVMS AXP Operating System Software Product Description (SPD 41.87.xx) or the AXP Operating System documentation.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Digital. For more information, contact your local Digital office.

SOFTWARE WARRANTY

Warranty for this software product is provided by Digital with the purchase of a license for the product.

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