PRODUCT NAME: HP Pascal Version 5.8 for Tru64 UNIX ®   **SPD 42.46.10**

DESCRIPTION

HP Pascal is an implementation of the Pascal* language that accepts programs compatible with either level of the ISO specification for Programming languages — Pascal [ISO 7185-1987] as well as ANSI/IEEE 770X3.97-1987. *HP Pascal* also meets the Federal Information Processing Standard Publication (FIPS-109) requirements by accepting programs conforming to the ANSI standard. *HP Pascal* also accepts many features from the Extended Pascal standard (ANSI/IEEE 770X3.160-1989 and ISO 10206).

The compiler has been validated for both levels of the ISO unextended Pascal standard and for conforming to FIPS-109. Containing extensions to the standards, *HP Pascal* generates optimized, shareable code that takes full advantage of the Alpha hardware and the virtual memory capabilities of the *HP Tru64 UNIX Operating System*. The language contains control statements, data types, and predeclared procedures and functions.

Major Pascal Language Elements

• INTEGER, REAL, CHAR, BOOLEAN, enumerated, and subrange data types

• ARRAY, RECORD, SET, and FILE structured data types

• Schemata type denoting families of types

• STRING schema denoting variable-length character strings up to 65,535 characters

• FOR, REPEAT, and WHILE repetitive control statements

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* K. Jensen and N. Wirth, *Pascal User Manual and Report,* 2nd ed., Spring-Verlag, New York 1974.

• CASE, IF-THEN, and IF-THEN-ELSE conditional statements

• BEGIN...END compound statement

• User-defined procedures and functions that can return structured types (other than file types)

• GET, PUT, READ, WRITE, READLN, and WRITELN input and output procedures

• Concatenation operator and set of predefined character string functions including INDEX, LENGTH, and SUBSTR

• Standard set of functions, procedures, and operators

• Module initialization and finalization

• Initial state specification

• Enhanced structured value constructors

• Implementation characteristics (MAXCHAR, MINREAL, MAXREAL, EPSREAL)

• OTHERWISE clause and case ranges for CASE statement and variant records

• Date and Time functions and procedures

• Short Circuit Boolean Operators (AND_THEN and OR_ELSE)

• Non-Decimal representation of numbers

• Exponentiation operator (**)

Pascal Extensions

• DOUBLE (IEEE T_floating) data type that supports the Alpha extended range and extended precision floating point architectural features

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- QUADRUPLE (IEEX_floating) data type that supports the Alpha extended range and extended precision floating point architecturalfeatures

- Support for null-terminated strings via the C-STR-T predefined type and the MALLOC_C_STR, C_STR, PAS_STRCPY and PAS_STR predefined functions

- VARYING data type denoting variable-length character strings up to 65,535 characters

- Optional attributes specification on constants, variables, types, type identifiers, routines, routine parameters, schema discriminants, and compilation units

- MODULE capability for combining procedures, functions, and other declarations for compilation separate from the main program

- ENVIRONMENT and INHERIT attributes to control separate and independent compilation

- UNSIGNED, CARDINAL, INTEGER_ADDRESS, INTEGERnn, UNSIGNEDnn, POINTER, and SINGLE predefined types

- VALUE initialization section and optional value initialization in declaration section program level

- External procedure and function declarations

- Nonpositional passing of parameters

- RETURN, BREAK, CONTINUE, EXIT, and NEXT statements

- Default values for parameters

- Double-quoted character strings with backslash constants

- 31-character identifiers that can include dollar sign ($) and underscore (_)

- Conditional compilation facility including the %IF directive and the -constant command line option to provide for compilation of code that has many variants or configurations

- Many compiler directives such as %ARCH_NAME, %SYSTEM_NAME, %COMPILER_VERSION, %FILE, etc. to allow compile-time information to be inserted into the compiled program

Options available to *HP Pascal* users at compile time include:

- Run-time checks for array, character string, and subrange bounds

- Run-time checks for arithmetic overflow, valid case selector values, and null pointer variables

- Run-time checks for invalid declarations and illegal GOTO usage

- Creation of an environment file facilitating separate compilation

- Cross-reference listing

- Creating in the listing file a representation of the object code generated by the compiler

- Printing of information-level messages, flagging uses Pascal extensions to the ISO and ANSI standards

Run-Time Library Redistribution

The *HP Pascal* kit may include 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 Library (the "RTLs") provided that the user:

- distributes the RTLs only in conjunction with and as a part of the user's software application product which is designed to operate in the *HP Tru64 UNIX* environment;

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

- includes HP's copyright notice for *HP Pascal* on the user's product disk label and/or on the title page of the documentation for software application product; and

- 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.

For *HP Tru64 UNIX* systems, the RTL images are designated as:

- /usr/lib/libpas.so

- /usr/lib/nls/msg/en_US.88591/libpas_msg.cat

HARDWARE REQUIREMENTS

Processors Supported

Any Alpha system capable of running the *HP Tru64 UNIX Operating System*. Refer to the *Tru64 UNIX* operating system's Software Product Description (SPD 41.61.xx) for details.

Disk Space Requirements (Block Cluster Size = 1)

Disk space required for installation:

Root file system:	/ 0 Kbytes
Other file systems:	/usr 7,100 Kbytes
	/tmp 400 Kbytes
	/var 0 Kbytes

Disk space required for use (permanent):

Root file system:	/ 0 Kbytes
Other file systems:	/usr 6,500 Kbytes
	/var 0 Kbytes

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.

SOFTWARE REQUIREMENTS

- *HP Tru64 UNIX Operating System* Version 4.0B to Version 5.0A (SPD 41.61.xx)

- *Developers' Toolkit for HP Tru64 UNIX* (SPD 44.36.xx)

SOFTWARE LICENSING

This software is furnished only under a license. For more information about HP's licensing terms and policies, contact your local HP office.

LICENSE MANAGEMENT FACILITY SUPPORT:

This layered product supports the *HP Tru64 UNIX* License Management Facility.

License units for this product are allocated on a Capacity Use, Personal Use and Concurrent Use basis.

Each Personal Use license allows one identified individual to use the layered product. Each Concurrent Use license allows any one individual at a time to use the layered product.

For more information on the License Management Facility, refer to the *HP Tru64 UNIX Operating System* Software Product Description or the License Management Facility manual of the *HP Tru64 UNIX Operating System* documentation set.

For more information about HP's licensing terms and policies, contact your local HP office.

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

HP Pascal for Tru64 UNIX is available on the *HP Tru64 UNIX* Alpha Software Layered Products Library Package (QA-054AA-H8). The library package includes media and documentation on CD-ROM.

The software documentation for this product is also available as part of the *HP Tru64 UNIX* Alpha Online Documentation Library (QA-4KP8A-G8). A hardcopy documentation set can be ordered separately (QA-MUKAA-GZ).

SOFTWARE WARRANTY

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

ORDERING INFORMATION

HP Pascal for Tru64 UNIX license:

Software Licenses:

    Personal Use: QL-MUKAM-2B

    Concurrent Use: QL-MUKAM-3*

    Traditional/Capacity Use: QL-MUKA*-AA

Software Update Licenses:

    Personal Use: QL-MUKAM-4B

    Concurrent Use: QL-MUKAM-5*

    Traditional/Capacity Use: QL-MUKA*-RA

Software Media/Documentation: QA-054AA-H8

Software Documentation (hardcopy): QA-MUKAA-GZ

Software Product Services: QT-MUKA*-**

*   The "*" denotes variant fields.

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

SOFTWARE PRODUCT SERVICES

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

TRADEMARK INFORMATION

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