COMPAQ

Software
Product
Description

PRODUCT NAME: Compaq C++ Version 6.5 for Tru64 UNIX   **SPD 41.91.17**

DESCRIPTION

Compaq C++ for *Tru64™ UNIX* is a native programming language product, which generates optimized object code without employing an intermediate translation to C. *Compaq C++* for *Tru64 UNIX* is based on the ANSI/ISO C++ International Standard, reference designation number ISO/IEC 14882:1998. In addition to this standard, C++ supports the ARM, CFRONT, GNU, and MS dialects. *Compaq C++* used along with the Developers' Toolkit for *Tru64 UNIX* and Compaq FUSE offers application developers a complete C++ development environment.

Compaq C++ includes:

- The native *Compaq C++* compiler, which implements most features of the ANSI/ISO C++ International Standard. *Compaq C++* includes support for automatic instantiation of templates, precompiled headers, and C++ exception handling.

- The highly optimizing, reliable Alpha code generator for speed of generated code.

- The C++ Standard Library, which is an implementation of the ANSI/ISO C++ Standard Library. This library is comprised of a suite of header files and the run time code needed to implement the string library, numeric limits, auto pointer, exceptions, complex math, and the STL (Standard Template Library). Portions of the C++ Standard Library have been implemented using source licensed from and copyrighted by Rogue Wave Software, Inc.

- The Compaq C++ Class Library, which is a set of headers and other files implementing a collection of basic C++ classes that are identical to those provided with previous versions of the compiler. This library is

provided to support software developers using *Compaq C++* Version 6.5 with software developed previously.

- Features to facilitate porting between *Compaq C++* and other implementations of the C++ language. The compiler allows you to choose from several C++ language dialects that have evolved over the past several years:

  — the *ms* dialect for maximizing compatibility with Microsoft's Visual C++ product.

  — the *cfront* dialect for compatibility with the AT&T cfront translator.

  — the *gnu* dialect for compatibility with the g++ compiler.

  — the *arm* dialect for compatibility with *The Annotated C++ Reference Manual* by Ellis and Stroustrup. Using this dialect minimizes the source changes necessary for applications that compile with Compaq C++ Version 5.6.

  — the *strict ANSI* dialect for developers who want to write applications that comply with the C++ International Standard.

- A tool to decode compiler-generated names, that enables other tools (besides the compiler and debugger) to present these decoded names to the user.

Application developers using *Compaq C++* are required to purchase a license for the Developers' Toolkit for *Tru64 UNIX*. This product provides a set of UNIX development tools that include: a symbolic source-level debugger (Ladebug), ATOM based performance and analysis tools, program analysis tools (profiling and performance analysis), two ANSI conformant C Compilers (including Compaq C for *Tru64 UNIX*), reordering tools

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(cord, feedback, and runcord), and the Porting Assistant, which aids in porting to *Tru64 UNIX* from other UNIX platforms and from OpenVMS Systems. For further information on these products, please see SPD 44.36.

The Ladebug debugger provides basic debugging capabilities as well as specific support for the C++ language, including function name and operator overloading, C++ scoping, templates, C++ exception handling, multiple inheritance, virtual base classes, and virtual functions. Both window-based and dbx-style command-line interfaces are provided. C++ debugging on *Tru64 UNIX* is not supported by dbx, only by Ladebug.

Application developers interested in an integrated, graphical, GUI-based, extensible development environment may be interested in purchasing licenses for Compaq FUSE and the Compaq FUSE C++ Support option. For more information, please see SPD 44.71.

For more information on the Developers' Toolkit, C Developers' Extensions and Compaq FUSE, please see the Optional Software section below.

Compaq C++ supports the *Tru64 UNIX* features of shared libraries and 64-bit computing.

The *Compaq C++* documentation provides comprehensive reference and usage information for all product components. Online reference pages (man pages) are provided with the software, and browser-based (HTML) documents are provided on the Layered Products Documentation CD-ROM for the following manuals:

- *Using Compaq C++ for Tru64 UNIX*
- *Compaq C++ Installation Guide for Tru64 UNIX*
- *Compaq C++ Class Library Reference Manual*

HTML files are provided for the release notes and some of the product manuals for use with a web browser.

Hardcopy documentation is available by ordering the separate software documentation kit. The hardcopy documentation kit also includes a copy of an authoritative book on C++, *The C++ Programming Language*, 3rd Edition, by Bjarne Stroustrup.

Features

- Extensive error checking and generation of diagnostics
- Automatic template instantiation including compatibility between version 5.x and 6.x compilers
- Enhanced debugger support
- Language mode and diagnostic message options increase compatibility with earlier versions

- Fast compilation and increased code optimization by directly translating C++ source programs to *Tru64 UNIX* object files
- Extensive global and local optimizations of generated code for increased performance with the *Tru64 UNIX* operating system
- Option for running only the preprocessor phase of compilation
- Pragmas to control compiler options
- Pragmas to control extern models, sharing of data between concurrent processes, and structure member alignment
- Separate and combined compilation capabilities
- Compiler-generated listing file, including optional:
  — Machine code
  — Macro expansion
  — Compilation statistics
- Data types for numeric, nonnumeric, and systems programming, as follows:
  — 8, 16, 32, and 64-bit [un]signed integers
  — 32, 64, and 128-bit IEEE floating point
  — 32 and 64-bit VAX floating-point
- Support for ANSI/ISO conforming <cname> headers

Compaq C++ Class Library

The *Compaq C++* Class Library Run-Time components are distributed with the *Tru64 UNIX* operating systems. The Class Library provides the following packages: iostream, complex, generic, objection, stopwatch, string, task, message and vector.

Run-Time Library Redistribution:

The *Compaq C++* kit includes updated Run-Time Library shareable images. Compaq grants the user a nonexclusive royalty-free worldwide right to reproduce and distribute the executable version of the Run-Time Library ("the RTL's") provided that the user:

- distributes the RTL's only in conjunction with and as a part of the users's software application product which is designed to operate in the *Tru64 UNIX* environment;
- does not use Compaq's name, logo, or trademarks to market the user's software application product;
- includes Compaq's copyright notice for *Compaq C++* on the user's product disk label and/or on the title page of the documentation for the software application product; and

- agrees to indemnify, hold harmless, and defend Compaq 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, Compaq 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 *Tru64 UNIX*, the RTL images are designated as:

- libcomplex.a,
- libcxx.a, libcxx.so, CXXREDIST630.tar
- libcxxstd.a,
- libcxxstd_noinst.a,
- libcxxstd_oldcxx.a,
- _main.o,
- libtask.a,
- cxxl.cat, cxxl_messages.cat

Refer to the *Compaq C++ Version 6.5 Release Notes for Tru64 UNIX* for details on how to redistribute the RTL images provided with this *Compaq C++* kit.

HARDWARE REQUIREMENTS

Any Alpha system that is capable of running *Tru64 UNIX* Version 4.0D or later.

Disk Space Requirements

Disk space required for installation:

	On *Tru64 UNIX* V4.0
Root file system:	/ 0 MB
Other file systems:	/usr 50.00 MB /tmp 50.00 MB /var 0.00 MB

Disk space required for use (permanent):

	On *Tru64 UNIX* V4.0
Root file system:	/ 0 MB
Other file systems:	/usr 50.00 MB /var 0.00 MB

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

- *Tru64 UNIX* Operating System Version 4.0D or later

- *Tru64 UNIX* Developers' Toolkit, Version 4.0D or later

A license for the Developers' Toolkit is required. It is through this product that application developers gain access to Ladebug, a symbolic source-level debugger, and other useful development tools.

For more information on the Developers' Toolkit, please see SPD 44.36.

SOFTWARE LICENSING

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

License Management Facility Support (LMF)

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

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

This layered product offers a Personal Use license. Each Personal Use license allows one identified individual to use the layered product.

This layered product offers a Concurrent Use license. 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 *Tru64 UNIX Operating System Software Product Description* or the *License Management Facility* manual of the Compaq's *Tru64 UNIX* Operating System documentation set.

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

OPTIONAL SOFTWARE REQUIREMENTS

Compaq FUSE and the Compaq FUSE C++ Support option provide an integrated, graphical, GUI-based, extensible software development environment for C, C++, and Fortran application development. These tools include special support for C++, such as C++ class browsing, online tutorial, hypertext-based help, code-management tools, and more. Refer to the Compaq FUSE for *Tru64 UNIX* Software Product Description (SPD 44.71).

This release of *Compaq C++* includes a version of the Ladebug debugger and debugger graphical user interface. This debugger can be invoked through the graphical user interface that is provided.

In summary, optional software products are:

- Compaq FUSE for *Tru64 UNIX*, and

- Compaq FUSE C++ Support for *Tru64 UNIX*

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version. A version update represents a complete distribution media replacement for the previous release of *Compaq C++* binaries. Product changes and functional enhancements in a version update may require the recompilation and relinking of all modules in an application built with a prior version of *Compaq C++* to provide for proper operation with the new release of *Compaq C++*.

DISTRIBUTION MEDIA

This product is available on the Compaq CD-ROM Software Library for *Compaq Tru64 UNIX* (QA-054AA-H8) or on a CD-ROM containing only the *Compaq C++* for *Compaq Tru64 UNIX* (QA-MTRAA-H8) software and documentation. Documentation in hardcopy format can be ordered separately.

SOFTWARE WARRANTY

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

ORDERING INFORMATION

Software Licenses:

- Software Licenses:

    Personal Use: QL-MTRAM-2B
    Concurrent Use: QL-MTRAM-3B
    Unlimited System Use: QL-MTRA*-AA

- Software Media: QA-MTRAA-H8

- Software Documentation: QA-MTRA*-GZ

- Software Product Services: QT-MTRA*-**

* Denotes variant fields.

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

SOFTWARE PRODUCT SERVICES

Various service options are available from Compaq. For more information, contact your local Compaq office.

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