Intel® Software Development Products for Intel Platforms and Technologies

Intel® Visual Fortran Compiler
Standard Edition for Windows

Overview

Intel® compilers help software run at top speed. With Intel® Visual Fortran Compiler 8.0 for Windows*, Intel has joined the language features of Compaq Visual Fortran* (CVF) with the code-generation and optimization features of Intel compiler technology. The compiler is a fully-featured Fortran 95 compiler with advanced optimizations to make Fortran applications run fast on Intel® IA-32 and Intel Itanium® 2 processors. The compiler offers command-line interaction and plugs into Microsoft Visual Studio* to support the way most developers work and preserve development-tools investment. It features over 250 CVF and Intel® Fortran commands and synonyms to make it easy to use. All Intel compilers include one year of support that comes directly from Intel, including updates, technical support and expertise about the Intel architecture.

Features and Benefits

- **Substantial compatibility with Compaq Visual Fortran*** adds performance to Fortran applications and preserves your investment in software development
- **Plug-in compatibility with Microsoft Visual Studio* and .NET environments** protects your investment in software tools
- **Handles big-endian files.** The compiler reads and writes data files in big-endian mode
- **Advanced optimization features** include floating-point emulation library functions, interprocedure optimization (IPO) and profile-guided optimization (PGO) that improve application performance
- **Multi-threaded application support** for OpenMP* and auto-parallelization is available.
- **Intel® Debugger** saves you effort
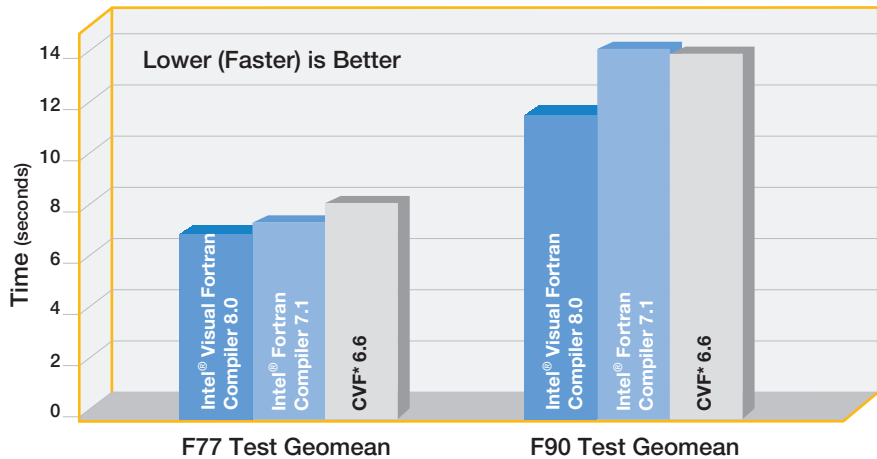- **Fully-functional trial version** is available

What's New in the Intel Visual Fortran Compiler for Windows

- Compaq Front-end, Intel Back-end: Combines the Compaq Visual Fortran front-end (Fortran language features) with the Intel Visual Fortran back-end (code generator and optimizer) to bring the next-generation Intel Fortran Compiler to developers working on IA-32 or Itanium 2 processors using Windows. Intel Fortran Compiler 8.0 for Linux* brings similar capabilities to Linux-based developers.

- Commands: Over 250 commands and synonyms common to both Intel Fortran and CVF support users of earlier compilers.

- Expanded Usability: The new Intel Fortran compiler brings the CVF front-end and Intel back-end to Fortran developers on IA-32 or Itanium 2 processors using Windows or Linux. (Windows and Linux compilers are packaged and sold separately.)

- New Processor Support: The IA-32 compiler provides optimization support for the latest Intel processors, including the Intel processor code-named Prescott, a new generation of IA-32 processors. The compiler for Intel® Personal Internet Client Architecture (Intel® PCA) processors supports the Intel processor code-named Bulverde which features Intel® Wireless MMX™ technology.

- Advanced optimizations: Full support for Streaming SIMD Extensions for IA-32 processors, interprocedural optimization, profile guided optimization, data prefetching, automatic vectorizer, auto-parallelization and more

- Compiler Code-Coverage Tool: Visually presents how much application code is actually used when applied against specified workloads. Use this tool in a variety of ways to improve development efficiency, reduce defects, and increase application performance.

- Compiler Test-Prioritization Tool: Lets you select and prioritize application tests as the profile of applications change. With knowledge gained from using the code-coverage tool, developers can use the test prioritization tool to target and maintain efficient testing procedures.

- Coming soon: Intel Visual Fortran Compiler 8.0 Professional Edition for Windows will be available soon. It will provide all the components licensed in the Standard Edition plus the IMSL* Fortran 5.0 Library for Windows.

Intel®
**software
development**
products

Polyhedron* on IA-32 and Windows*

Polyhedron Tests
Lower (Faster) is Better

F77 Test Geomean	
Intel® Visual Fortran Compiler 8.0	6.13
Intel Fortran 7.1 Compiler	6.53
CVF* 6.6	7.83

F90 Test Geomean	
Intel Visual Fortran Compiler 8.0	10.82
Intel Fortran Compiler 7.1	13.43
CVF 6.6	13.32

Configuration: Intel® Visual Fortran Compiler 8.0 for Windows*,
Compaq Visual Fortran* 6.6, Intel® Pentium® 4 (1.8 GHz, 256 MB), Windows* 2000

Results of performance comparisons between Intel® Visual Fortran Compiler 8.0 for Linux*, Intel® Fortran Compiler 7.1 and Compaq Visual Fortran* 6.6. **Lower is better.** Performance tests done by Polyhedron* on Polyhedron configurations. This information is published on their web site at www.polyhedron.com and is reproduced here with permission.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel Products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products go to www.intel.com/software/products

PERFORMANCE
Optimize Your Applications

The Intel Visual Fortran Compiler is designed to take advantage of the performance features of the Intel architecture, both IA-32 and Itanium 2 processors. Advanced optimization features, such as interprocedural optimization and profile guided optimization, can help developers deliver even more processor performance. Intel Visual Fortran also provides support for threaded application development and optimization through OpenMP* 2.0 and the auto-parallelization and auto-vectorization options.

COMPATIBILITY
CVF Front-end, Intel Back-end: Next Generation Fortran

Compaq Visual Fortran compiler front-end language features have been combined with the Intel back-end code-generation and optimization features to form Intel Visual Fortran Compiler 8.0 for Windows. Over 250 commands and synonyms that are common to both CVF and Intel Fortran make it easy for Compaq Visual Fortran and Intel Visual Fortran developers to use the

compiler. The compiler plugs into the Microsoft Visual Studio .NET environment, offering developers the leading Integrated Development Environment (IDE) for Windows-based Fortran development.

SUPPORT
Intel® Premier Support

Every purchase of an Intel® Software Development Product includes a year of support services, which provides access to Intel® Premier Support and all product updates during that time. Intel Premier Support gives you online access to technical notes, application notes, and documentation. Install the product, and then register to get support and product update information.

REQUIREMENTS
Hardware and Software

For IA-32 and Intel Itanium processor system requirements visit: www.intel.com/software/products/compilers

Intel provides both the tools and support to enhance the performance, functionality and efficiency of software applications.

Compatible with leading Windows* and Linux* development environments, Intel® Software Development Products are the fastest and easiest way to take advantage of the latest features of Intel processors. Intel Software Development Products are designed for use in the full development cycle, and include Intel® Performance Libraries, Intel Compilers (C++, Fortran for Windows and Linux), Intel® VTune™ analyzers, Intel® Threading Tools and Intel® Cluster Tools.

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