

IMSL®

Fortran Numerical Library

IMSL Fortran Numerical Library for Microsoft Windows and PGI Compilers

"We've been working with Visual Numerics to bring this valuable resource to PGI's complete line of Windows compilers including support on native Windows, the Windows Subsystem for Unix Applications (SUA), and within applications built using PGI Visual Fortran."

DOUGLAS MILES
DIRECTOR
THE PORTLAND GROUP

"PGI compilers are popular in technical and high-performance computing, a key target market segment for the IMSL Libraries. With this new product, we extend to PGI and HPC developers on Windows the same high standards for quality and reliability that IMSL Libraries are known for worldwide."

DR. ED STEWART
IMSL PRODUCT MANAGER
VISUAL NUMERICS, INC.

PGI and the IMSL Fortran Library

The Portland Group and Visual Numerics have teamed up to offer a version of the high-performance IMSL Fortran Numerical Library for Windows compatible with PGI® compilers.

Now Fortran application developers can leverage the robust mathematical and statistical algorithms of the IMSL Fortran Library with the code optimization capabilities of PGI compilers to build high-performance applications on Microsoft Windows-based systems.

PGI offers single-user 64-bit and 32-bit versions of the IMSL Fortran Numerical Library for Windows, Windows Subsystem for UNIX-based Applications (SUA), and a 32-bit version for Windows Services for UNIX (SFU). Multi-user versions are available from Visual Numerics.

IMSL Fortran Library Overview

The Visual Numerics IMSL Fortran Library is a convenient-to-use mathematics and statistics library. Since 1970, customers have trusted the library for its:

- Accuracy and reliability based on 35+ years of refinement from thousands of users
- Cohesive package of advanced numerical algorithms
- Powerful interface modules
- Complete backward compatibility

Accuracy and Reliability

Highly accurate and reliable, the IMSL Fortran Library contains proven technology that has been thoroughly tested, well documented, continuously maintained and used by developers worldwide for more than three decades. Instead of writing, testing and documenting complex mathematical and statistical algorithms from scratch, the IMSL Fortran Library offers programmers widely used routines that significantly help accelerate development time.

Cohesive Package of Numerical Algorithms

Lying at the heart of the IMSL Numerical Libraries are the comprehensive and trusted mathematical and statistical numerical algorithms. The IMSL Libraries are well known comprehensive libraries of numerical computing algorithms that software developers can embed into their applications.

The version of the IMSL Fortran Numerical Library available with the Portland Windows Visual Fortran Compiler is comprised of all of the trusted algorithms from past versions of the IMSL family of Fortran libraries, including the IMSL F90 Library and the IMSL FORTRAN 77 Library.

KEY SPECIFICATIONS

**IMSL Fortran Library for PGI
Windows Compiler**

• **Versions available for use with all
PGI Windows compiler products**

• **Available for:**

- 64-bit Windows
- 32-bit Windows
- 32-bit Windows SUA
- 64-bit Windows SUA
- 32-bit Windows SFU

Powerful Interface Modules

The IMSL Fortran Numerical Library includes interface modules for all applicable routines, which accomplish the following:

- Allows users to utilize the fast, convenient optional arguments of the modern Fortran syntax for 100% of the relevant algorithms in the library, allowing for greater control and faster, simpler code development
- Only require a short list of required arguments for each algorithm to facilitate development of simpler Fortran applications
- Provide full depth and control via optional arguments for experienced programmers
- Reduce development effort by checking data-type matches and array sizing at compile time
- With operators and function modules, provide faster and more natural programming through an object-oriented approach
- A simple and flexible interface to the library routines speeds programming and simplifies documentation

Complete Backward Compatibility

For more than two decades, the IMSL Fortran Numerical Library has maintained full backward compatibility with all previous versions of the Library. No code modifications are required for existing applications that rely on previous versions of the IMSL Fortran Numerical Library. Calls to routines from the IMSL FORTRAN 77 Library with the F77 syntax continue to function.

About Visual Numerics, Inc.

Visual Numerics has provided technical software solutions for numerical analysis and visualization for more than three decades. The company's software products help users understand complex data from a variety of sources and build business-critical applications. Visual Numerics offers two product lines: the IMSL[®] Numerical Libraries for powerful mathematical and statistical analysis and the PV-WAVE[®] visual data analysis development environment. Visual Numerics also offers consulting services for applications that involve mathematical, statistical, or visual data analysis to meet today's business analytical needs.

About The Portland Group

The Portland Group[®], a wholly-owned subsidiary of STMicroelectronics, is the premier supplier of high-performance Fortran, C, and C++ compilers and tools for high-performance computing on x64 processor-based workstations, servers, and clusters. Further information on The Portland Group products can be found at www.pgroup.com, by calling Sales at (503) 682-2806.



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