

Technical Features

Visual Studio Integration

- Fortran syntax coloring
- Fortran intrinsics tips
- Keyword completion
- Fortran debug engine
- Automatic Dependency Analysis
- Interoperable with Microsoft Visual C++
- Sample projects
- Bundled Visual Studio 2008 IDE
- Bundled ACML high-performance math library
- Supports multi-threaded execution with Intel MKL 10.1 and later
- Optional IMSL Fortran numerical library available

Fortran Compilers

- Features
 - Full 64-bit support on AMD64 and Intel 64
 - PGI Unified Binary optimized for both AMD64 and Intel 64
 - Full 32-bit support and optimization for x86/x87 targets
 - Auto-parallelization
 - OpenMP 3.0 parallelization
 - Inter-language calling
 - IEEE arithmetic options
 - Vectorization/Optimization directives
 - Integrated *cpp* pre-processor
 - Fast compile times
 - Compile-time optimization listings
 - Annotated assembly code listings
 - [Documentation](#) integrated with Visual Studio Help
- Optimizations
 - AMD64 and Intel 64 cross-target optimization
 - Interprocedural Analysis (IPA)
 - Scalar SSE code generation
 - Function inlining
 - Loop fusion
 - Profile feedback optimization
 - Memory heirarchy and memory allocation optimization
 - Huge pages support
 - Instruction scheduling
 - Invariant code and conditional hoisting
 - Common sub-expression elimination
 - Global constant propagation
 - Global dependence analysis
 - Global flow analysis
 - Integrated local, global and vector register allocation
 - Induction variable analysis
 - Load/store analysis
 - Tail recursion elimination
 - Scalar expansion, scalar replacement
 - Value propagation, strength reduction
 - Dead code elimination

- Vector/Parallel Transformations
 - State-of-the-art dependence analysis
 - Nested loop autoparallelization
 - Nested loop vectorization
 - Loop interchange
 - Loop splitting, unroll & jam
 - Iteration peeling
 - Aligned access optimizations
 - Scalar promotion
 - Temporary vector creation
 - Stripmining, Cache Tiling
 - Concurrent call support
 - Inline concurrent code segments
 - Vector SSE code generation
 - Software prefetching

Parallel Debug Engine

- 64-bit and 32-bit targets
- Debug Fortran and Visual C++
- Debug parallel OpenMP and multi-threaded programs
- One touch breakpoint setting
- Step into, over, out of functions
- Attach to running processes
- Traceback, Log files, Help
- One touch symbolic display
- Multiple format display of values or strings
- Track register states
- Debug 32-bit or 64-bit SUA applications
- Attach to running SUA processes

System Requirements

- **Processor:** 64-bit AMD64, 64-bit Intel 64 or 32-bit x86 processor-based workstation or server with one or more single core or multi-core microprocessors.
- **Operating System:** Microsoft* Windows* Vista, XP Professional x64 Edition or Windows Server* 2008 x64 Edition. Microsoft Windows Vista, XP or Windows Server 2008 (32-bit only). Building 64-bit applications requires a 64-bit operating system.
- **Visual Studio:** Visual Studio 2005 or Visual Studio 2008 (not Express Editions).
- **Memory:** 256 MB or more.
- **Hard Disk:** 1 GB during installation, 500 MB to hold installed software.
- **Peripherals:** Mouse or compatible pointing device. DVD disk drive for installation, unless products are downloaded and installed electronically.
- **Other:** Adobe Acrobat Reader for viewing some documentation.