

ORACLE SOLARIS STUDIO 12.2

KEY FEATURES AND BENEFITS

DEVELOP SCALABLE,
SECURE AND RELIABLE
MISSION-CRITICAL
APPLICATIONS

FEATURES

- Integrated environment for Oracle Solaris and Linux application development
- Parallelizing C, C++ and Fortran compilers optimized for SPARC and x86 platforms
- Code-level, memory, and thread debugging tools
- Advanced profiling and observability tools for single and multinode applications
- Specialized tools for technical computing developers

BENEFITS

- Maximize application performance
- Improve software quality
- Increase development productivity

Oracle Solaris Studio is the #1 development platform for building mission-critical C, C++ and Fortran applications for the #1 enterprise Operating System, Oracle Solaris. Oracle Solaris Studio is optimized for Oracle Sun Servers (SPARC and x86) and offers an advanced integrated toolset that leverages Oracle Solaris features enabling developers to build high-performance reliable and secure applications faster.

Integrated Development Environment

Oracle Solaris Studio delivers an advanced suite of tools designed to work together to provide an optimized environment for the development of single, multithreaded, and distributed applications. The debugging and analysis tools take advantage of compiler features to provide application context with high levels of accuracy, leading to more-robust software. Oracle Solaris Studio also comes with an integrated development environment (IDE) tailored for use with the included compilers, the debugger, and the analysis tools. This IDE increases developer productivity with a code-aware editor, workflow, and project functionality. In addition, the parallelizing C, C++, and Fortran compilers; enhanced math routines; and performance analysis tools enable users to maximize the performance of their applications on Oracle Sun SPARC Enterprise and x86 servers, generating higher ROI from deployment hardware systems.

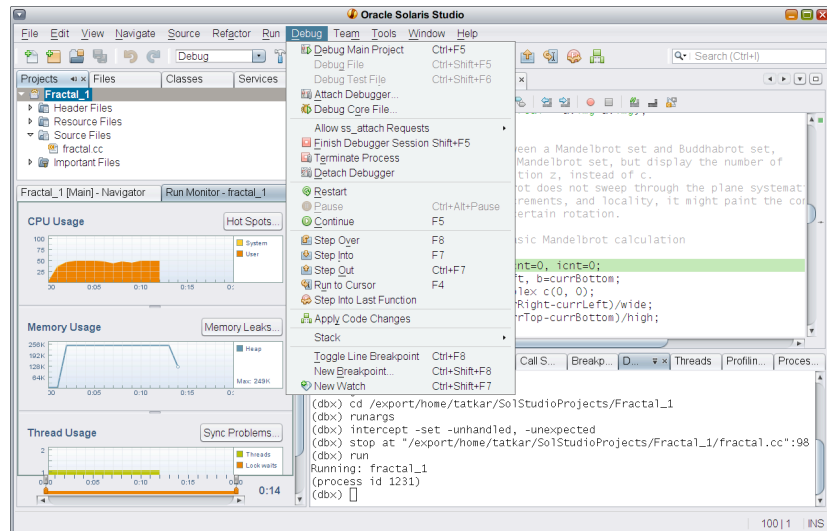
C and C++ Compilers

Oracle Solaris Studio delivers compilers that produce record-setting application performance—consistently exceeding that of open source alternatives. The C and C++ compilers provide a solid foundation for building robust, high-performance parallel code for the newest Sun SPARC Enterprise servers and Sun x86 Intel and AMD processor-based servers. In addition to supporting the latest language standards, Oracle Solaris Studio software includes GNU C/C++ compatibility features and is source- and object-level- compatible with prior releases.

To take advantage of hardware concurrency in multicore systems, the compilers simplify the creation of parallel applications with autoparallelization features. These features enable the compiler to identify safe and profitable parallelization opportunities in single-threaded code and automatically convert those segments into multithreaded code. In addition, the compilers support the OpenMP 3.0 specification that introduces task-based parallelism.

The compilers in Oracle Solaris Studio include an array of optimization options for increasing application performance. For generating everything from

microarchitecture-specific instructions and profile feedback to whole-program optimizations, the compilers provide both a wide selection of individual options and easy-to-use metaoptions for aggressively optimizing application performance.



Oracle Solaris Studio IDE

Debugger

The dbx debugger is an interactive, source-level, postmortem and real-time debugging tool available through the command line, the IDE, and the standalone graphical debugger (dbxtool). Ensuring application reliability, the dbx debugger is scriptable and multithread-aware. It also provides memory leak, access, and usage information to track down difficult bugs.

Thread Analyzer

Improving developer productivity and software robustness, the thread analyzer tool identifies hard-to-detect threading errors before they occur. It can detect potential race and deadlock conditions at runtime, map them to source lines in the application, and then enable the user to view the results by using command-line or graphical user interface (GUI) options.

Application Performance Analyzer

The performance analyzer tool identifies application performance bottlenecks, by specifying not only which functions, code segments, and source lines are having an impact on performance but by also providing the tools necessary to do tuning for optimal performance. From annotated compiler commentary listings in which the compiler indicates a range of information to optimization status and runtime thread performance, users can visualize performance hotspots with the GUI. The performance analyzer tool can be used to profile single-threaded as well as

multithreaded applications.

Oracle Solaris DTrace and DLight

Oracle Solaris DTrace technology enables you to explore your system, understand how it works, and track down performance problems across many software layers, by giving you a comprehensive view of the entire system—from the kernel to the application. Oracle Solaris Studio DLight is a visual profiling tool that unifies application and system profiling, using DTrace technology on Oracle Solaris platforms, providing new levels of insight to dramatically reduce development timelines.

Technical Computing

Oracle Solaris Studio provides many features to support the development of performance-demanding technical computing applications, including the following:

Fortran Compiler

Oracle Solaris Studio delivers a Fortran compiler that produces record-setting runtime performance. The compiler provides compatibility options for the Fortran77, Fortran90, and Fortran95 standards to support the existing base of codes in the technical market. Support for the OpenMP 3.0 specification is included. It uses the same high-performance code generation technology as the C and C++ compilers, ensuring that the resulting application generates the highest-performance parallel code for the newest Sun SPARC Enterprise and x86 Intel and AMD processor-based servers.

Oracle Solaris Performance Library

The Oracle Solaris performance library is a set of optimized, high-speed mathematical subroutines for solving linear algebra and other numerically intensive problems. It provides a performance boost to high-performance computing, financial, and other compute-intensive applications. The Oracle Solaris performance library contains enhanced and newly added standard routines such as BLAS, FFTPACK, LAPACK, ScaLAPACK, Sparse Solvers, and SuperLU.

MPI Analyzer

The MPI analyzer tool enables developers to visualize the performance of distributed MPI-based applications via intuitive graphs to reveal performance hotspots in a clustered environment. Basic application profiling data is available, as are various MPI message statistics such as message length, internode message count, and message latency.

System Requirements

Oracle Solaris Studio 12.2 is available for the following platforms:

- Oracle Solaris 10 1/06 and subsequent updates (SPARC and x86)
- Oracle Enterprise Linux 5 (x86)
- SuSE Linux Enterprise Server 11 (x86)
- Red Hat Enterprise Linux 5 (x86)

RELATED PRODUCTS AND SERVICES

COMPANION PRODUCTS

- NetBeans
- Oracle Message Passing ToolKit

SUPPORT OFFERING

- [Oracle Solaris Development Tools Support](#)

For more information please visit <http://www.oracle.com/technetwork/server-storage/solarisstudio/overview/index-jsp-139533.html>

Licensing and Support

The software license for Oracle Solaris Studio 12.2 is free of charge. Support for Oracle Solaris Studio is available with the Oracle Solaris Development Tools Support offering available through the Oracle Store to ensure high developer and team productivity.

Contact Us

For more information about Oracle Solaris Studio please visit oracle.com/goto/solarisstudio or call +1.800.786.0404 to speak to an Oracle representative.

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