Sun™ x64 Systems
For Software Development

> "It's tremendous to run an operating system on different processors and have the environment be functionally identical. The Solaris 10 OS running on Sun systems featuring the AMD Opteron processor are the fastest UNIX platforms we've used."
> —John Eurich, President and CEO of Engineering DataXpress

Solution features and benefits

- Sun Ultra™ 20 Workstation, with the Solaris™ 10 OS preinstalled, setting a new standard for price/performance
- Sun Java™ Workstation W2100z and Workstation W1100z, featuring industry-leading memory capacity
- Sun Java™ Studio Creator 2 environment
- Sun Java™ Studio Enterprise 7 platform
- Sun™ Studio 10 software
- Sun Java™ Desktop System 3, for the best of open-source software and Microsoft interoperability for Solaris OS on x64 and Linux
- Solaris 10 OS Operating System, the most advanced operating system on the market
- AMD Opteron™ processor, for record-breaking performance
- NVIDIA's award-winning Quadro graphics software
- PCI-Express graphics to visualize complex data sets
- Flexibility and integration of Linux, Windows, or Solaris 10 OS

Sun innovation for unmatched performance

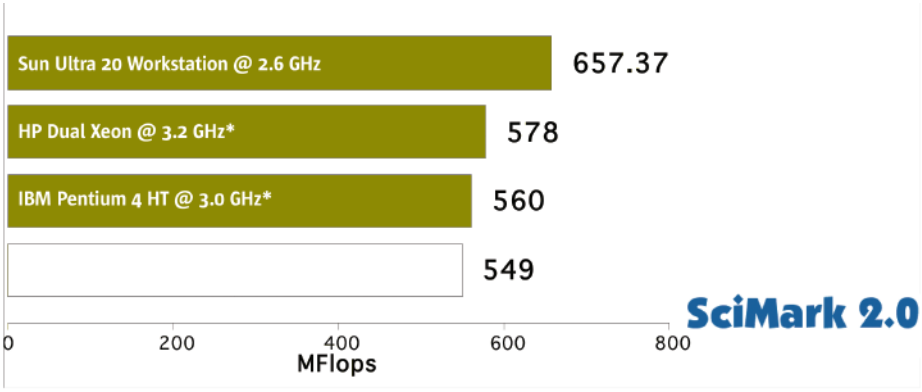
Sun has applied 20-plus years of innovative experience to the creation of comprehensive solutions for software development that deliver the features, flexibility, and performance you need at a price you can afford. Sun understands that keeping up with the demands of business translates into tremendous time pressure in developing and delivering applications. Sun solutions offer the ability to code, compile, and deploy across platforms from a single, high-performing workstation. Sun's x64 systems featuring the record-breaking AMD Opteron processor offer unmatched performance across platforms that can integrate with your existing environment, providing operating system flexibility. Our development tools, including Sun Java Studio Creator, Sun Java Studio Enterprise and Sun Studio 10 software, deliver innovative features for programmers of all skill sets. And to leverage the knowledge base and experience of hundreds of thousands of your peers, Sun brings together a valuable community of software developers in the Sun Developer Network. Through this community, Sun has built a collective resource that puts code samples, training, technical articles, student developer programs, and much more at your disposal.

Designed especially to benefit software developers, the Sun Ultra 20 Workstation delivers the ability to program right out of the box. Preloaded with the cutting-edge innovation of the Solaris 10 Operating System, Java Studio Creator, Java Studio Enterprise, Sun Studio 10, and a whole suite of developer tools, the Sun Ultra 20 Workstation is compatible with eight different operating systems, including various Windows and Linux configurations.

The ability to rapidly and simultaneously generate binaries and develop and compile multiple codes and subroutines gives developers a head start in meeting tight deadlines.

Seamless developer solutions

Sun™ x64 AMD Opteron processor systems have changed the landscape of software development. Now you can execute all stages of development—from coding to deployment—from the same powerful workstation, without requiring a server. And should a server become necessary, Sun server platforms are among the industry's fastest—cutting development time and speeding time to market. Sun's x64 solutions for software development feature the Sun Java Workstation W2100z and Sun Java Workstation W1100z, both with exceptional memory capacity (eight GB for the W1100z and 16 Gb for the W2100z) and the AMD Opteron processor, delivering unmatched performance. The Sun Ultra 20 Workstation, the newest addition to the Sun line, supports multi-development environments and offers the performance of the AMD Opteron processor—and it starts at only US$895. And the system's Serial ATA interface makes it possible to locally store and quickly retrieve large amounts of data. Sun has demonstrated its leadership in designing workstations, having shipped more than two million 64-bit workstations in the past 10 years. These systems have been organically architected from the ground up to work with Sun tools so that development becomes a seamless process. Developers can get right to work on software projects and see them through to the end without worrying about system crashes or the right fit of software to hardware. And the AMD Opteron processor's benchmark-setting performance makes it ideal for smooth and speedy coding and compiling at the workstation. In addition, developer tools from Sun, including Sun Studio 10, are optimized for Sun x64 systems.



* Source: math.nist.gov/cgi-bin/ScimarkSummary/complete
Note: HT = Hyper-Threading

Delivering Benefits to Software Developers

Sun Ultra 20 workstations deliver ultimate Java technology performance.

Sun Studio has already proven how simple the delivery of scalable 32-bit and 64-bit applications can be in C, C++, and Fortran for the Solaris Operating System in SPARC and x86 platforms. With the advent of Sun Studio 10 as well as the Sun Studio 10 IDE, performance tools and debuggers also help you to develop 32-bit applications on Linux. With Sun Studio 10 software Sun reaches a new level of excellence in its developer tool suite for C, C++, and Fortran application development. The common debugger in Sun Studio 10 enables you to visually debug single and multithreaded C, C++, and Fortran code. Sun Studio 10 is easily upgradable from previous versions, and its breakthrough technology delivers the unique ability to handle intermixed Java and native code, all within a NetBeans integrated development environment (IDE). Sun Studio 10 software also delivers performance analysis tools and an intuitive debugger for Linux operating systems.

For developers with the broader programming needs to support business processes and tactical applications, Sun offers Sun Java Studio Creator. Sun Java Studio Creator is the premier next-generation tool for Java platform-based Web application development. Based on the open-source NetBeans Tools Platform, Java Studio Creator is designed primarily for the easy creation of dynamic Web applications that consume data and services from within the enterprise. Through a unique set of designer tools and a simple drag-and-drop metaphor, developers can rapidly prototype and build complex Web pages which bind and incorporate data and services from a variety of sources. These sources are typically pre-existing and may have, in fact, been created with other tools such as NetBeans. An intuitive model, easy-to-use tools, and an extensive pool of JavaServer™ Faces components, make Java Studio Creator 2 IDE well-suited for a much broader audience than other comparable visual development environments.

For enterprises and development teams that are responsible for creating the services and transactional applications that represent and provide access to various business functions, Sun Java Studio Enterprise delivers an awe-inspiring array of enterprise-centric features and services. These include innovations that enable businesses and developers to model, globally collaborate, and tune enterprise applications. Furthermore, there is a complete develop-debug-test-deploy solution for

anything from simple Web applications to portlet components of Web portals to sophisticated enterprise applications and Web services. This enterprise-grade IDE empowers enterprise developers and architects to deliver even faster to market, high-caliber, enterprise-grade applications that leverage this latest platform and the latest innovative technologies from Sun Microsystems.

Key Business Results

- Designed especially to benefit software developers, the Sun Ultra 20 Workstation delivers the ability to program right out of the box
- Record-setting performance in compile time and runtime
- Ability to run Solaris OS, Linux, or Windows for easy deployment of applications on multiple platforms from one machine
- Ability to use multiple displays from a single workstation
- Increased developer productivity on Windows, Linux, or Solaris OS through Sun's platform and native developer tools
- Leverage the expertise and community of the Sun Developer Network from sample code and technical articles to forums, user groups and more
- Headroom for growth, including 32-bit and 64-bit flexibility, delivering maximum value for your money today and investment protection for the future

A total environment for every development need

Java Studio Creator 2 is also based on the NetBeans developer platform. Expert developers deploying strategic applications for ciritical projects can share code with less-experienced programmers, overcoming the barriers of proprietary languages and runtimes. At the same time, Java Studio Creator 2 provides an easy-to-use visual tool for developers who are less experienced with Java. The IDE visually represents development components and allows for drag-and-drop linking of Web pages and databases without any coding at all. The synchronized editing feature means that a change made in one view is reflected in them all, so that component properties are kept in synch at all times. A Java Studio Creator 2 developer has access to JavaServer Faces technology, Java™ DataBase Connectivity (JDBC) Rowsets, and the Java™ Web Services Developer Pack. A visual, automatic interface enables developers to use these powerful features without having to master the technologies themselves. Developers can build and test applications and easily connect applications to Web services. In addition, Java Studio Creator 2 makes JavaServer Faces components data-aware, so the drag-and-drop features automatically link data in the dropped object to the control. The IDE has intelligence capabilities that can choose, for example, how to display the data or which events to launch. The award-winning Sun Java Studio Enterprise 7, which is also based on the popular NetBeans Platform, provides integrated modeling and design capabilities based on the latest UML standards, with real time, markerless, bi-directional model-to-code synchronization. It delivers enhanced development and debugging support for Web services and Java 2 Platform, Enterprise Edition (J2EE™) application development. With smart editing and refactoring support, all of this translates to high levels of developer productivity. The ability to tune applications with an optimal end-user experience that simulates usage behavior for Web applications with the built-in load generation, allows for teams to deliver the maximum performance in their applications. Also, for the first time in an enterprise-grade IDE, distributed development teams can dynamically work together by sharing code in real time, once again reducing overhead and improving team productivity.

Sun Studio 10 enables you to solve large, complex problems with 64-bit application development as it is equipped with technical computing features for both the AMD and Intel platforms, improving performance on both. In addition to its intuitive, visual debugging capabilities, Sun Studio 10 also supports multithreaded applications.

Code, compile, debug, and deploy across operating systems from one workstation

Sun Studio 10, Sun Java Studio Enterprise 7, and Java Studio Creator 2 speed development on Sun Java workstations. The benchmark-setting AMD Opteron processor powers the Sun Java Workstation W2100z, the Sun Java Workstation W1100z, and the Sun Ultra 20 Workstation, with unmatched speed and power. Based on recent OCUS benchmark results with PTC's Pro/ENGINEER Wildfire application, the Sun Ultra 20 Workstation delivered superior performance and price/performance compared to the nearest HP, IBM, and Dell workstations.[1] The Sun Ultra 20 Workstation achieved new world-record benchmark performance with SciMark, a Java-based benchmark for scientific and numerical computing.[2] Similarly, the Sun Java Workstation 2100z, running the Solaris 10 OS, tested up to 44 percent faster than a Dell.[3] In addition, the Sun Java Desktop System delivers the best of open-source software and Microsoft interoperability to developers working on the Solaris x64 OS or Linux. Sun's experience in helping hundreds of clients move from 32-bit to 64-bit computing and from single threaded to multi-threaded applications has provided the expertise to develop an optimal, flexible development environment. The Sun solution

integrates into mixed environments, enabling use of multiple operating systems. Sun x64 systems handle simultaneous 32-bit and 64-bit computing to accommodate a wide variety of applications, with a huge memory footprint to facilitate development.

Sun optimizes graphics

Sun Java workstations feature NVIDIA's Quadro graphics accelerator, which provides state-of-the-art graphics capabilities that were once only available on large systems. Quadro delivers high-resolution and 3-D images on multiple monitors from one workstation. Sun x64 systems, Java tools, and Quadro graphics form a powerful, comprehensive solution that enables you to code, compile, debug, deploy, and visualize—all from a single Sun Java Workstation. The Sun Ultra 20 Workstation features PCI-Express graphics, enabling you to visualize more complex datasets, with NVIDIA graphics options as well.

Pioneering a tradition

Sun's 20-plus years of innovation have also produced the one-million-strong Sun Developer Network, an incomparable resource for developers of all skill levels. Rich with extensive technical archives, sample code, and tutorials, Sun Developer Network provides a wealth of tools to assist developers. More importantly, it provides the opportunity to interact with other developers via the more than 700 user groups and over 170 forums that provide concrete support in problem-solving. In addition to hands-on training and onsite support, Sun Developer Network offers continual access to the development community through dialogue and events.

Maximum flexibility for multiple needs

With Sun x64 systems, you not only get a powerful machine, but Sun's commitment to developers as well. The flexibility of the Solaris OS lends itself to integration within a variety of computing environments. The Dynamic Tracing (DTrace) feature in the Solaris OS enables real-time application debugging and optimization, speeding application development and performance. It also works in tandem with Sun Studio 10 to deliver advanced development and compiler capabilities, further enhancing application performance. Using partitioning in the Solaris 9 OS or Solaris™ Containers in the Solaris 10 OS, you can code, compile, and deploy applications on Windows, Linux, and Solaris OS. For developers working in Windows or Linux, Sun's special offers for x64 systems make it easy and affordable to integrate Sun's AMD Opteron processor-based systems and the Solaris OS within a mixed environment. You can become independent of proprietary systems without compromising any development capabilities. With Sun x64 systems, you not only get a powerful, affordable machine, but investment protection as well. Sun x64 solutions for software development serve multiple developer communities with varying needs. Sun's comprehensive approach to solutions serves Java programmers, open-source developers, and content developers. Sun x64 systems and tools deliver industry-leading performance and flexibility for optimal software development at an affordable price.

Learn More

For more information on Sun x64 systems featuring AMD Opteron processors, visit sun.com/amd or talk to your local Sun representative about scheduling a half-day session.

Most impressive of all, Sun x64 solutions streamline the development process for maximum efficiency by integrating hardware, software, and services into almost any environment. Sun solutions provide a comprehensive development strategy that affords developers the opportunity to go from code to product—right at the workstation.

1. As of 06/27/05, the Sun Ultra 20 Workstation is 11 percent faster and 34 percent better in price/performance than the HP XW9300; 30 percent faster and 12 percent better in price/performance than the DELL Precision 380; 25 percent faster and 53 percent better in p/p than the IBM IntelliStation. Pro/E Wildfire is a registered trademark of Parametric Technology Corporation. Windows XP 64 Edition is a registered trademark of Microsoft Corporation. FX Quadro 1400 is a registered trademark of NVIDIA Corporation. Olaf Corten is the proprietor and developer of the OCUS Benchmark. Results are published at proesite.com.
2. SciMark 2.0, results as of 6/27/05. For more information, visit math.nist.gov/scimark2/index.html.
3. The Sun Java Workstation W2100z, running Solaris 10 OS, completed the nt.3283410 suite up to 40 percent faster than the single-CPU Dell, and completed the nt.5706771 suite up to 44 percent faster than the two-way Dell. The BLAST v2.2.10 benchmark, which models a BioInformatics application performing pattern matching for nucleotides and amino acids, was provided by the National Center for Biotechnology Information.

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