

PLATFORM CHOICE AND ORACLE SOLARIS 10

KEY FEATURES AND BENEFITS

Innovation matters—increase business efficiency and lower costs.

BENEFITS

- **Virtualization.** Optimize resource utilization to deliver predictable service levels with Oracle Solaris Containers.
- **Networking.** Attain near-wire-speed throughput with the open, programmable Oracle Solaris networking stack.
- **Security.** Implement a secure foundation for deploying services with Oracle Solaris leading-edge security features.
- **Availability.** Increase uptime with the predictive self-healing feature.

Oracle Solaris 10 is the strategic platform for today's demanding enterprise, delivering proven results on everything from mission-critical enterprise databases to high-performance Web farms, and from large-scale symmetric multiprocessing (SMP) systems to industry-standard x86 systems. For customers facing challenging business and technical requirements—such as lowering costs, simplifying system administration, and maintaining high service levels—Oracle Solaris 10 is the ideal cross-platform choice.

Meeting the IT Challenge

Enterprises are under tremendous pressure to do more with less, roll out new business services faster, fit more servers into the same space, and comply with new regulations—all while their budgets are shrinking and head counts are frozen. Can an operating system (OS) really help you address these issues and turn IT into a business advantage? With Oracle Solaris 10, the answer is yes. Its innovative built-in features deliver breakthrough virtualization and utilization, high availability, advanced security, and industry-leading performance—all at a great price.

Unparalleled Innovation

The demonstrated innovation of Oracle Solaris 10 pays off by delivering benefits that can save companies time, hardware costs, and power and cooling while preserving investments in software and training. In short, innovation matters because it saves you money.

Great Price

Oracle Solaris 10 support pricing is 20 to 50 percent lower than equivalent support from other open OS vendors. No-cost end-user licensing lowers barriers to entry, while overall efficiency lowers the cost of operation.

Open Source

The Oracle Solaris 10 code base serves as the foundation for the OpenSolaris open source community (visit opensolaris.org). In addition, Oracle Solaris 10 includes the leading Web 2.0 open source packages, ready to run and optimized for the more than 1,000 x86 and SPARC system platforms supported by Oracle Solaris 10.

Application Compatibility

Oracle Solaris 10 delivers binary compatibility from release to release and source compatibility between SPARC and x86 processors. And for the ultimate ease in conversion, use Oracle Solaris 8 and Oracle Solaris 9 Containers on Oracle Solaris 10, providing a “physical to virtual” way to quickly and easily run your existing application environments on the latest SPARC systems.

Single Source Code Base

With a single source code base, Oracle Solaris 10 runs on x86 and SPARC processor-based systems—delivering the same features across all platforms. This means that you can develop and optimize applications on Oracle Solaris 10 for use on more than 1,000 system models from leading vendors.

Secure Operation

The leading-edge security features in Oracle Solaris 10 help you reduce the risk of intrusions, secure your applications and data, assign the minimum set of privileges and roles needed by users and applications, and control access to data based on its sensitivity label. Oracle Solaris 10 has been independently evaluated at EAL4+ at three Protection Profiles, one of the highest levels of Common Criteria certifications.

Designed for Observability and Virtualization

Oracle Solaris DTrace technology makes it fast and easy to identify performance bottlenecks, especially on production systems. System administrators can use this feature to troubleshoot even the most difficult problems in minutes instead of days. And developers can use it to optimize applications to yield significant performance gains.

Oracle Solaris 10 also offers powerful built-in virtualization features. With Oracle Solaris Containers, you can maintain a one-application-per-virtual-server deployment model while consolidating dozens or even hundreds of applications onto a single server and OS instance. These features let you share hardware resources while maintaining predictable service levels, increase utilization rates, and cut system and licensing costs while gaining the ability to quickly provision and move workloads from system to system. Domains and Xen-based paravirtualization support add even more virtualization flexibility.

Designed for High Availability and Performance

Predictive self-healing is a key feature in Oracle Solaris 10 that helps you increase system and service availability. It automatically detects, diagnoses, and isolates system and software faults before they cause downtime. And it spans the full range from diagnosis to recovery on SPARC, AMD Opteron and Athlon, and Intel Xeon and Core Duo processor-based systems.

Setting numerous price/performance records since its release, Oracle Solaris 10 unleashes even more power from existing applications. Download the latest Oracle Solaris Studio compilers and developer tools to bring even greater performance to your applications.

Oracle Solaris 10 offers the technology, flexibility, and versatility you need to get down to business immediately, whether you're a small developer, a large enterprise, or anything in between.

OpenSolaris Participation and OS Release

More than just an open source project, OpenSolaris is also a community, a Website for collaboration, and now a provider of supported, leading-edge releases every six months. The OpenSolaris release is available at opensolaris.com, and Oracle Solaris source code, downloads, developer tools, mailing lists, user groups, and events are all available at opensolaris.org. OpenSolaris technology features a single source base for SPARC and x86 platforms. It includes the key innovations delivered in Oracle Solaris 10 and provides access to new technologies as they're being developed. The OpenSolaris Project and release provide a low-risk option for evaluating emerging OS technologies and an excellent opportunity to participate in shaping the direction of Oracle Solaris.

Development Tools

Developers need integrated, ready-to-use tools that are compatible with all the environments in which they must deploy applications. With that in mind, Oracle includes popular software tools from the free and open source world, and complements them with access to key Oracle developer technologies like the Oracle Solaris Studio compilers and tools and unique Oracle Solaris 10 utilities such as DTrace.

Oracle Solaris 10 Technologies

With Oracle Solaris 10, you get compelling new features that your applications can take advantage of immediately, with few if any changes. Binary and source compatibility with previous releases also makes it easier to move to Oracle Solaris 10 from earlier releases of Oracle Solaris.

Oracle Solaris DTrace

System administrators, integrators, and developers can use the dynamic instrumentation and tracing capabilities in Oracle Solaris to see what's really going on in the system. DTrace can be safely used on production systems—without modifying applications. It is a powerful tool that gives a comprehensive view of the entire system, from kernel to application, even those running in a Java Virtual Machine. This level of insight reduces the time for diagnosing problems from days and weeks to minutes and hours, and ultimately reduces the time required to fix those problems.

Oracle Solaris Containers

Oracle Solaris Containers is an OS-level virtualization technology built in to Oracle Solaris 10. Using flexible, software-defined boundaries to isolate software applications and services, this breakthrough approach allows multiple private execution environments to be created within a single instance of Oracle Solaris 10. Each environment has its own identity, including a discrete network stack, separate from the underlying hardware, so that it functions as if it's running on its own system—making consolidation simple, safe, and secure.

By dynamically controlling application and resource priorities, businesses can define and achieve predictable service levels. System administrators can easily meet changing requirements by quickly provisioning new Oracle Solaris Containers, or moving them from system to system or disk to disk within the same system as capacity or configuration needs change.

Oracle Solaris Containers can be patched in parallel, increasing speed by up to 300

percent on systems with multiple containers configured. This also raises the bar on the number of containers that can realistically be run on a system. Oracle Solaris Containers are also able to emulate other environments and prior Oracle Solaris releases, as well as offer support for Linux applications.

In addition to Oracle Solaris Containers, Oracle offers Oracle VM Server for SPARC (previously called Sun Logical Domains), a hardware partitioning technology that allows multiple instances of Oracle Solaris 10 to run on a single Oracle Solaris CoolThreads server.

Oracle Solaris ZFS

Oracle Solaris ZFS is designed from the ground up to deliver a general-purpose file system that spans from the desktop to the datacenter. Anyone who has ever lost important files, run out of space on a partition, spent weekends adding new storage to servers, tried to grow or shrink a file system, or experienced data corruption knows the limitations of traditional file systems and volume managers. Oracle Solaris ZFS addresses these challenges efficiently and with minimal manual intervention.

Predictive Self-Healing

Predictive self-healing is an innovative Oracle Solaris 10 feature that automatically diagnoses, isolates, and helps you recover from many hardware and application faults. As a result, business-critical applications and essential system services can continue uninterrupted in the event of software failures, major hardware component failures, and even software configuration problems.

- **Oracle Solaris' fault management architecture** continuously monitors data relating to hardware and software errors. Automatically and silently detecting and diagnosing the underlying problem, it can automatically take the faulty component offline on SPARC, Intel Xeon, and AMD Opteron processor-based systems. Easy-to-understand diagnostic messages link to articles in Oracle's knowledge base to help clearly guide administrators through corrective tasks requiring human intervention.
- **Oracle Solaris' service management facility** creates a standardized control mechanism for application services by turning them into first-class objects that administrators can observe and manage in a uniform way. These services can automatically be restarted if they're accidentally terminated by an administrator, fail as the result of a software programming error, or are interrupted by an underlying hardware problem.

Performance

Achieving optimal performance and efficiency in Oracle Solaris 10 depends on many factors, including underlying technologies, system configuration and utilization, tools, applications, and system tuning. An enhanced networking stack minimizes latency and offers improved network performance for most applications out of the box. With DTrace, you can delve deeply into today's complex systems when troubleshooting systemic problems or diagnosing performance bottlenecks—in real time and on the fly. Additional built-in technologies that help deliver increased application performance include

- High-performance networking stack

- File system performance
- Tools and libraries
- Multiple page-size support
- Memory placement optimization

Security

Security is more than a mix of technologies; it's an ongoing discipline. Oracle understands this and is committed to enhancing security in Oracle Solaris. Oracle Solaris' user management and process rights management and Oracle Solaris Containers together enable hundreds of applications and multiple customers to be hosted on the same system. Administrators can use features such as Secure by Default to minimize and harden Oracle Solaris even more. In addition, Oracle Solaris with trusted extensions provides true multilevel security for the first time in a commercial-grade OS, running all of your existing applications and supported on more than 1,000 system models.

With Oracle Solaris 10, you can

- Verify your system's integrity by using Oracle Solaris' digitally signed binaries and file verification features
- Reduce risk by granting only the privileges needed for users and processes
- Simplify administration and increase privacy and performance by using the standards-based key management and cryptographic frameworks in Oracle Solaris
- Secure your system using dynamic service profiles, including a built-in, reduced-exposure network services profile
- Control access to data based on its sensitivity level by using the labeled security technology in Oracle Solaris with trusted extensions

Networking

Exponential growth in Web connectivity, services, and applications is generating a critical need for increased network performance. With Oracle Solaris 10, Oracle meets current and future networking challenges by significantly improving network performance without requiring changes to existing applications. Oracle Solaris 10 speeds application performance via the Network Layer 7 Cache and enhanced TCP/IP and UDP/IP performance. The latest networking technologies, such as 10-Gigabit Ethernet (GbE) and hardware offloading, are all supported out of the box.

In addition, Oracle Solaris 10 supports current IPv6 specifications, high availability, streaming, and Voice over IP (VoIP) networking through extended routing and protocol support—meeting the carrier-grade needs of a growing customer base.

Platform Choice

Oracle Solaris 10 is optimized for systems running 64-bit SPARC, AMD, and Intel processors. This makes it possible to create horizontally and vertically scaled infrastructures and offers the flexibility to add compute resources easily. The OS runs on hardware ranging from laptops and single-board computers to datacenter and grid installations, while serving applications ranging from military command-and-control systems to telecommunications switch gear and stock trading.

Interoperability

Oracle Solaris 10 provides interoperability from the desktop to the datacenter across a range of hardware systems, operating platforms, and technologies, making it the ideal platform for today's heterogeneous compute environments. Not only does it interoperate with both Linux and Microsoft Windows, it also supports popular open source applications and open standards such as Universal Description, Discovery, and Integration (UDDI), Simple Object Access Protocol (SOAP), Web Services Description Language (WSDL), and Extensible Markup Language (XML).

Oracle Solaris 10 provides the following interoperability features:

- Source and binary compatibility for Linux applications and interoperability with Microsoft Windows systems
- Perl, PHP, and other widely used scripting languages
- Apache, Samba, sendmail, IP Filter, BIND, and other popular open source software
- Support for Java application development and deployment with the Java Platform, Enterprise Edition (Java EE), and Java Platform, Standard Edition (Java SE)
- Authentication support for LDAP-based directory servers and Kerberos-based infrastructures

Contact Us

For more information about Oracle Solaris 10, visit oracle.com/solaris or call +1.800.ORACLE1 to speak to an Oracle representative.



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