



THE SOLARIS™ 8 OPERATING ENVIRONMENT IN THE WIRELESS WORLD

FROM WIRED TO WIRELESS

Character mode screens over slow lines. Networked PCs and workstations. Client/server, Web-enabled computing. Each of these stages has been part of the evolution of computing. But the real key to the realization of true anytime, anywhere access to information has been Java™ technology from Sun. Through its widespread industry acceptance and implementation, Java technology has enabled wireless connectivity, a ubiquitous style of computing that lets devices such as cell phones, pagers, and PDAs connect to a network regardless of location.

The adoption and use of mobile and wireless devices is increasing at a phenomenal rate. Much like cell phones, as demand and volume increase, costs of devices are expected to decrease. What really becomes important is the services that the devices enable. Eventually, the cost for the devices really applies to the services chosen — the device is free. In fact, Gartner Group¹ estimates that 70 percent of all PDAs will be free or subsidized by the end of 2003. So as the device market grows, the market for applications and services to run on these devices is also increasing at an exponential rate.

SUCCEEDING IN A WIRELESS WORLD

Just like any other market, the winners in the wireless market will be those vendors that can provide any — if not all — of the services users need. When convincing customers to implement a wireless infrastructure, companies need to set realistic expectations of what can be delivered. The vendor infrastructure — and its services and solutions — must map with the customers' top priorities, fit with their corporate goals, and possibly even accelerate meeting those goals.

The Solaris™ 8 Operating Environment can deliver the type of infrastructure needed to compete in the wireless market. Solaris software is based on open industry standards. Networking has been at the forefront of Solaris right from the start. And as the creator of Java, Sun has integrated Java technology into the Solaris Operating Environment. There's no better platform to run Java than on Solaris.

As a deployment platform, Solaris 8 software provides the complete feature set to enable outstanding availability, reliability, and scalability. From small workgroups to large enterprise environments, the Solaris 8 Operating Envi-

ronment offers data center-class performance and functionality. And as a development platform, Solaris enables developers to create powerful applications and services that optimize both Solaris and Java technologies.

Much of the growth of wireless voice and data network services hinges on the following key business factors.

RETAINING EXISTING CUSTOMERS — AND ATTRACTING NEW SUBSCRIBERS

This not only includes the growth rate of the customer base, but also that with which customers adopt outsourced services. To do this, wireless carriers must build customer confidence in the reliability, scalability, quality, and security of the services that they offer.

With the Solaris 8 Operating Environment, Sun Microsystems can help. The Solaris 8 platform is the industry's premier dot-com operating environment. Available for both SPARC™ and Intel Architecture platforms, the Solaris 8 Operating Environment combines new levels of availability and reliability — to help enable continuous, 24x7 uptime — with massive scalability, sophisticated manageability, and advanced security. It enables enterprises adapting to the Internet age, as well as dot-com businesses adopting the disciplines of the data center, to increase their service levels while at the same time reduce risks and lower service costs.

COST-EFFICIENT AND RAPID DELIVERY OF SERVICES

Deploying and provisioning wireless networks and services are much more cost-efficient than traditional landline copper and switch infrastructures. Products and services must be built quickly. Time to market is critical to maintain competitive advantage.

Sun is fully committed to wireless computing and ensuring that products work together today as well as in the future. With the Solaris 8 Operating Environment, Sun can help lower the total solution cost, not just the cost of computing. Solaris 8 software delivers proven investment protection as well as backward compatibility with all our systems. In addition, Sun Microsystems Wireless Competency Centers allow trial integrations and deployments that simulate an infrastructure and applications before they are put into production. This helps to ensure that the new products and services will work when rolled out to a vendor's customers, and in turn, will also help increase customer adoption rates.

1. Gartner Group, Gartner Interactive Press Release, April 11, 2000.

HIGHLIGHTS

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| <ul style="list-style-type: none"> Provides the solid foundation for enabling successful and secure development and deployment of wireless services and solutions Enables access to information and services through Java technology's anytime, anywhere capabilities | <ul style="list-style-type: none"> Combines new levels of availability and reliability to help enable continuous, 24x7 uptime Keeps mission-critical applications available; ensure high-speed, reliable access to data | <ul style="list-style-type: none"> Scale from one to 64 processors; on 32-bit and 64-bit systems; in two-, four-, and soon eight-node clusters Protect your data, and your business, while at the same time, providing unprecedented levels of access |
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To further ensure compatibility and investment protection, Sun also offers the Solaris Application Guarantee Program. This program guarantees application compatibility with earlier versions of the Solaris Operating Environment, improving system reliability and saving your customers time and money. No other operating system vendor can make this claim.

24x7 Is A Must

Today's customers demand 24x7 availability, 100-percent service-level agreements, and bug-free products and solutions. And concerns about downtime continue to top the list. Computer downtime — whether planned or unplanned — can cost companies thousands, or even millions, of dollars in lost revenues and productivity. Not to mention the negative impact on customer loyalty. The need for near-zero system downtime is no longer just a wish; it's a requirement.

To dramatically reduce downtime, the Solaris 8 Operating Environment provides data center-class reliability, availability, and serviceability (RAS) right out of the box. The Solaris Operating Environment is acknowledged by the industry to be the premier reliable UNIX® environment. It helps minimize planned and unplanned downtime, and in the case of a failure, enables rapid recovery. And because the Solaris Operating Environment is based on a smaller, more stable kernel and has better load balancing across multiple processors than other operating systems, it dramatically decreases an enterprise's exposure to system crashes.

The Solaris 8 Operating Environment helps keep mission-critical applications available and ensures high-speed, reliable access to data through features such as:

- **Automated Dynamic Reconfiguration:** Change hardware configuration and system boards automatically, without rebooting.
- **Clustering:** Failover to a backup system within minutes.
- **Dynamic System Domains:** Divide a server into partitions, allowing multiple applications to run in isolated environments. Partitions can dynamically adjust according to the load and application requirements.
- **Hot Patching:** Apply patches to the operating environment — without rebooting.

- **IP Network Multipathing:** Provides load spreading and failovers with multiple network interface cards.
- **Live Upgrade:** Build a new upgraded operating environment image while the system is still running a full application service load.
- **Mobile IP:** Staying connected to your network regardless.
- **UNIX File System (UFS) Logging:** Store transactions (changes that make up a complete file or directory operation) in a log before they are applied to the file system.

GROW WITH YOUR BUSINESS

One of the key factors in being able to successfully support increasing demand for services and applications is a foundation that can grow to meet your needs. This infrastructure must be able to scale economically — from initially small configurations to larger, globally dispersed networks — in order to keep up with customer demand.

Scalability is built into the Solaris Operating Environment. The Solaris platform leads most operating environments in scaling — from one to 64 processors; on 32-bit and 64-bit systems; in two-, four-, and soon eight-node clusters. With a multithreading design that delivers much faster performance for key enterprise applications and core system functions, Solaris software easily handles heavy traffic, huge data sets, and enormously compute-intensive problems. From smaller departmental servers to massive, clustered 64-CPU servers, Solaris software delivers a consistent software environment.

Through a unique blending of performance and scalability, combined with a vast array of development and deployment capabilities, the Solaris 8 Operating Environment is the premier choice for wireless applications.

PLAY IT SAFE

Security can be a double-edged sword. First, you need to be able to protect your data, and your business, from break-ins and intrusion. Yet at the same time, you need to provide unprecedented levels of access to customers — for the services they have requested — as well as suppliers and employees — the resources they need to conduct business. Plus, as more and more companies implement work-at-home tele-

commuting, teleworking, as an effective way to reduce costs, IT managers must address the associated security risks. The technologies that have given today's workforce unprecedented mobility and access have also increased security threats to networks from unauthorized dial-up and wireless access.

The Solaris 8 Operating Environment delivers an extensive array of security capabilities designed to help organizations offer an accessible, yet secure, network. A few of the key security features in the Solaris 8 Operating Environment include:

- **IPSec:** System-to-system authentication and authorization
- **Kerberos v5:** User identification and authentication
- **Pluggable Authentication Modules:** Flexible security standards
- **Role-Based Access Control (RBAC):** Division of super-user rights
- **Secure Sockets Layer (SSL):** E-commerce security for other applications
- **Shared-Secret and Public-Key Encryption:** 56-bit, 128-bit, 168-bit algorithms
- **Smart Card Support:** Card and authentication method for access control

SOLARIS 8 IN THE WIRELESS WORLD

To enable comprehensive wireless connectivity requires a complete and extensive infrastructure that delivers the services customers need today plus offers the ability to grow to meet demands in the future. Sun supplies software solutions designed specifically to meet these needs.

With Java technology, Sun delivers the capabilities for anytime, anywhere access to information — regardless of platform. The Solaris 8 Operating Environment provides the solid foundation for enabling successful and secure development and deployment of wireless services and solutions. In addition, Sun also provides additional software products and an extensive suite of service and support options that complement and extend Java and Solaris technologies.

With Java technology and the Solaris 8 Operating Environment, Sun offers the ultimate combination for succeeding in the wireless space.

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