



# Solaris 8 7/01 What's New Supplement

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Part No: 816-1169-11  
July 2001

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# Preface

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The *Solaris 8 7/01 What's New Supplement* describes new features in Solaris™ Update releases.

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**Note** – The Solaris operating environment runs on two types of hardware, or platforms—SPARC™ and IA (Intel Architecture). The Solaris operating environment also runs on both 64-bit and 32-bit address spaces. The information in this document pertains to both platforms and address spaces unless called out in a special chapter, section, note, bullet, figure, table, example, or code example.

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# Typographic Conventions

The following table describes the typographic changes used in this book.

**TABLE P-1** Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
<b>AaBbCc123</b>	What you type, contrasted with on-screen computer output	<code>machine_name%</code> <b>su</b> Password:
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	To delete a file, type <b>rm</b> <i>filename</i> .
<i>AaBbCc123</i>	Book titles, new words, or terms, or words to be emphasized.	Read Chapter 6 in <i>User's Guide</i> . These are called <i>class</i> options. You must be <i>root</i> to do this.

## What's New at a Glance

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The *Solaris 8 7/01 What's New Supplement* highlights new features that have been added to the Solaris 8 operating environment for the Update releases.

This book is the only new supplement available for the Solaris 8 7/01 release. Previous update supplements documented how to use new features. This book provides feature summaries only.

The *Solaris 8 7/01 What's New Supplement* contains the following chapters:

- What's New for Desktop Users
- What's New for System Administrators
- What's New for Installation
- What's New for Developers

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## New Features in the Solaris 8 7/01 Release

The *Solaris 8 7/01 What's New Supplement* briefly describes all features released in all Solaris 8 updates.

The following list identifies features that are new in this Solaris 8 7/01 release.

### New Features for System Administrators

- Dynamic Host Configuration Protocol Service
- Solaris PPP 4.0
- Solaris Network Cache and Accelerator
- Sendmail 8.10
- IPMP Reboot Safe

- Sun Gigaswift Ethernet Driver
- Revised *Solaris Tunable Parameters Reference Manual*

#### New Features for Installation

- Custom JumpStart™ enhancement
- Revised *Solaris 8 Advanced Installation Guide*

#### New Features for Developers

- `sendfilev()`
- Dynamic Host Configuration Protocol Service
- Revised *Linkers and Libraries Guide*



## What's New for Desktop Users

This chapter highlights new desktop features that have been added to the Solaris 8 Update releases.

**Note** – For the most current man pages, use the man command. The Solaris 8 Update release man pages include new feature information not found in the *Solaris 8 Reference Manual Collection*.

**TABLE 2–1** Solaris 8 Update Features for Desktop Users

Feature Description	First Released
<b>Window Manager Enhancements</b>	
Graphical Workspace Manager provides a graphical representation of all workspaces, the ability to navigate across different workspaces with the press of a button, and the ability to drag and drop applications across different workspaces. With the 4/01 release, you are no longer limited to viewing nine workspaces. Also, the Graphical Workspace Manager Options dialog box has been added to provide a number of additional display options.	6/00 Updated 4/01
For more information, see “Graphical Workspace Manager” in the <i>Solaris 8 Desktop User Supplement</i> .	
Window List provides a list of all currently running applications. The Window List enables you, with the click of a mouse button, to locate any application, even those in workspaces other than the current workspace. The Window List also provides the ability to perform window actions on a selected group of applications. With the 4/01 release, you can choose to display or not display the Workspace column.	6/00 Updated 4/01
For more information, see “Window List” in the <i>Solaris 8 Desktop User Supplement</i> .	

**TABLE 2-1** Solaris 8 Update Features for Desktop Users (Continued)

Feature Description	First Released
The Workspace Manager provides a graphical user interface (GUI) for controlling behavior and the number of workspaces. You can add and delete workspaces by using a slider. You can also display the Graphical Workspace Manager in the Workspace Switch Area of the Front Panel.	4/01
For more information, see “Workspace Manager” in the <i>Solaris 8 Desktop User Supplement</i> .	
Adding Multiple Files to Email	
This feature enables you to keep the Mailer - Attachment - Add dialog box open in order to add two or more files to an email. The need to select Add Files from the Attachment menu multiple times is eliminated.	1/01
For more information, see “Adding Multiple Files to Email” in the <i>Solaris 8 Desktop User Supplement</i> .	
Removable Media Manager	
Removable Media Manager centralizes access to removable devices in one window. You can format, query properties, view directory structures, and where applicable, protect and slice media.	6/00 Updated 10/00
For more information, see “Using Removable Media Manager” in the <i>Solaris 8 Desktop User Supplement</i> .	
Early Access	
This release includes an Early Access (EA) directory with EA software. For more information, see the README on the Solaris Software CD 2 of 2.	

## What's New for System Administrators

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This chapter highlights new system administration features that have been added to the Solaris 8 Update releases.

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**Note** – For the most current man pages, use the man command. The Solaris 8 Update release man pages include new feature information not found in the *Solaris 8 Reference Manual Collection*.

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**TABLE 3–1** Solaris 8 Features for System Administrators

Description	First Released
Managing With System Administration Tools	

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
<p>Solaris Management Console™ (SMC) 2.0 is a GUI-based "umbrella application" that serves as the launching point for a variety of management tools. The SMC comes complete with a default toolbox that contains the following tools:</p> <ul style="list-style-type: none"><li>■ Processes – Suspend, resume, monitor, and control processes.</li><li>■ Users – Set up and maintain user accounts, user templates, groups, mailing lists, Administrative Roles, and Rights. Grant or deny rights to users and to administrative roles—to control the specific applications each can work with and which tasks each user can perform.</li><li>■ Scheduled Jobs – Schedule, start, and manage jobs.</li><li>■ Mounts and Shares – View and manage mounts, shares, and usage information.</li><li>■ Disks – Create and view disk partitions.</li><li>■ Serial Ports – Configure and manage existing serial ports.</li><li>■ Log Viewer – View application and command-line messages and manage log files.</li></ul>	1/01

You can also manage diskless clients, but with commands only, not through the GUI.

You can add or delete tools from the default toolbox or create a new toolbox to manage a different set of tools by using the SMC Toolbox Editor.

For more information about using the command-line interface, see "Solaris Management Console Overview" in the *Solaris 8 System Administration Supplement*. For information on how to start SMC, see "Starting Solaris Management Console" in the *Solaris 8 System Administration Supplement*. Also, see the help associated with each tool.

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
<p>Web-Based Enterprise Management (WBEM) includes standards for web-based management of systems, networks, and devices on multiple platforms. This standardization enables system administrators to manage desktops, devices, and networks.</p>	<p>10/00 Updated 1/01 and 4/01</p>
<p>In the 10/00 Update release, additions include a description of the system properties that the CIM Object Manager uses and descriptions of the new <code>Solaris_Printer</code> and other printing definition classes.</p>	
<p>In the 1/01 Update release, additions include:</p>	
<ul style="list-style-type: none"> <li>■ Updated description of <code>init.wbem</code> command, which now starts the Solaris Management Console (SMC) server as well as the CIM Object Manager</li> <li>■ Added section that describes how to upgrade the CIM Object Manager repository</li> <li>■ Updated Security chapter refers the user to Solaris Management Console (SMC) for implementing role-based access control (RBAC)</li> <li>■ <code>wbemlogviewer</code> application replaced with Solaris Management Console (SMC) Log Viewer for viewing log file information</li> <li>■ Added description of new <code>Solaris_Network1.0.mof</code> file and <code>Solaris_Users1.0.mof</code> file</li> </ul>	
<p>In the 4/01 Update release, additions include:</p>	
<ul style="list-style-type: none"> <li>■ Sun WBEM SDK 2.4 – Prior to this update, Sun WBEM SDK had been delivered as a component of the Solaris Management SDK CD. Sun WBEM SDK 2.4 implements the CIM Event model. The documentation for the Sun WBEM SDK includes man pages, context-sensitive online help for CIM Workshop, Javadoc reference pages for the WBEM application programming interfaces, and an AnswerBook™ version of the <i>Sun WBEM SDK Developer's Guide</i>.</li> </ul>	
<ul style="list-style-type: none"> <li>■ New providers: <ul style="list-style-type: none"> <li>■ SNMP Provider</li> <li>■ Product Registry Provider</li> <li>■ Performance Provider</li> </ul> </li> </ul>	
<p>The providers are documented with HTML pages derived from the related MOF files at <code>/usr/sadm/lib/wbem/doc</code>.</p>	
<ul style="list-style-type: none"> <li>■ MOF Compiler (<code>mofcomp</code>), which contains enhancements to support standalone mode and conversion of MOF files to XML. Two arguments have been added to the <code>mofcomp</code> command: <ul style="list-style-type: none"> <li>-x converts CIM classes that are defined in the MOF file to XML documents.</li> <li>-o <code>dirname</code> sets the MOF Compiler to run in standalone mode, without a CIM Object Manager.</li> </ul> </li> </ul>	

To view the book, see the *Solaris WBEM Services Administrator's Guide*.

Managing Servers and Clients

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
<p>Diskless Client Management is available through the command line. You can manage diskless clients, list OS services for diskless clients, and manage patches on all existing diskless clients.</p>	1/01
<p>For information on diskless client management, see “Managing Diskless Clients Overview” in the <i>Solaris 8 System Administration Supplement</i>.</p>	
<b>Managing System Security</b>	
<p>The role-based access control (RBAC) databases can be managed through the Solaris Management Console (SMC) graphical interface. Rights can contain other rights. Rights can now be assigned by default in the <code>policy.conf</code> file.</p>	1/01
<p>For more information, see “Role-Based Access Control” in the <i>Solaris 8 System Administration Supplement</i>.</p>	
<p>The Generic Security Services Application Programming Interface (GSS-API) is a security framework that enables applications to protect the data they transmit. The GSS-API provides authentication, integrity, and confidentiality services to applications. The interface permits those applications to be entirely generic with respect to security. That is, they do not have to know the underlying platform (such as the Solaris platform) or security mechanism (such as Kerberos) being used. This means that applications that use the GSS-API can be highly portable.</p>	6/00
<p>For more information, see the <i>GSS-API Programming Guide</i>.</p>	
<p>SPARC: The <i>Solaris Smart Cards Administration Guide</i> has been updated. Information on setting up internal card readers has been added. Step-by-step instructions for setting up smart-card support have been streamlined to make setting up smart cards easier.</p>	1/01
Updated 4/01	
<p>In the 4/01 release, previous technical inaccuracies have been corrected. Also, a new chapter describes the tasks that you need to perform for smart-card setup. Another new chapter describes additional configuration tasks that you might need to perform if the default smart-card properties are not sufficient for your security environment.</p>	
<p>To view this book, see the <i>Solaris Smart Cards Administration Guide</i>.</p>	
<b>Managing Networks</b>	

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
<p>The Dynamic Host Configuration Protocol (DHCP) service enables host systems to receive IP addresses and network configuration information at boot time from a network server. The Solaris DHCP service has been enhanced in several ways to enable it to support larger numbers of clients:</p> <ul style="list-style-type: none"><li>■ The Solaris DHCP server now uses multithreading to serve multiple clients simultaneously.</li><li>■ A new data store that stores data in binary files can support larger numbers of clients with faster access than with the ASCII files and NIS+ data stores.</li><li>■ Access to files and NIS+ data stores has been redesigned to support server multithreading.</li><li>■ Data access architecture has been changed to enable third parties to write code modules to enable the DHCP server to use any data service to store DHCP data.</li></ul> <p>In addition, the Solaris DHCP server now supports dynamic DNS updates. You can enable the DHCP service to update the DNS service with the host names of DHCP clients that request a specific host name.</p>	7/01
<p>The Solaris DHCP client can now be configured to request a specific host name.</p> <p>For more information, see the <i>Solaris DHCP Administration Guide</i>.</p>	
<p>Solaris PPP 4.0 enables a system in one location to communicate over telephone lines or leased communications media with a system at a remote location. This implementation of Point-to-Point Protocol (PPP) is based on the widely used Australian National University (ANU) PPP, and is entirely new for the Solaris operating environment. PPP 4.0 is easily configured through a set of files. It supports both asynchronous and synchronous communications and offers Password Authentication Protocol (PAP) and Challenge Handshake Authentication Protocol (CHAP) authentication. Because Solaris PPP 4.0 is highly configurable, customers can easily tailor PPP to fit their remote communications needs.</p>	7/01
<p>For further information, see the <code>pppd(1m)</code> man page.</p> <p>For information on licensing terms, please refer to the incorporated material at the following locations:</p>	
<pre>/var/sadm/pkg/SUNWpppd/install/copyright /var/sadm/pkg/SUNWpppdu/install/copyright /var/sadm/pkg/SUNWpppg/install/copyright</pre>	
<p>The Solaris Network Cache and Accelerator (NCA) has been improved with the addition of a sockets interface to NCA through which any web server can communicate with NCA with minimal modifications. Web servers such as Apache, iPlanet iWS and Zeus are able to make use of NCA performance by using standard socket library functions.</p>	7/01
<p>For more information about NCA, see "Solaris Network Cache and Accelerator (NCA)" in the <i>System Administration Guide, Volume 3</i>.</p>	

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
<p>Berkeley Internet Name Domain (BIND) version 8.2.2 new functionality includes:</p> <ul style="list-style-type: none"> <li>■ In.named configuration options – See <code>conf(4)</code> man page.</li> <li>■ Extensions to the resolver (3RESOLV) interface that are safe to use in multithreaded applications.</li> <li>■ The addition of the <code>ndc(1M)</code> command, which is used to start or stop reconfigure <code>in.named</code>, and the <code>dnskeygen(1M)</code> command, which is used to create TSIG and DNSSEC keys.</li> </ul>	4/01
<p><code>sendmail</code> version 8.10 has new command-line options, new and revised configuration file options, new defined macros, new and revised <code>m4</code> configuration macros, new and modified compile flags, new delivery agent flags, new equates for delivery agents, new queue features, new uses for LDAP, new rule set features, new file locations, and a new built-in mailer feature. “Mail Services” also describes changes to <code>mail.local</code>, changes to <code>mailstats</code>, and changes to <code>makemap</code>.</p>	4/01 Updated 7/01
<p>For more information, see “Mail Services” in the <i>Solaris 8 System Administration Supplement</i>.</p>	
<p>IP network multipathing provides your system with recovery from single-point failures with network adapters and increased traffic throughput. In the 10/00 release, if a failure occurs in the network adapter, and if you have an alternate adapter connected to the same IP link, the system switches all the network accesses automatically from the failed adapter to the alternate adapter. This process ensures uninterrupted access to the network. Also, when you have multiple network adapters connected to the same IP link, you achieve increased traffic throughput by spreading the traffic across multiple network adapters.</p>	10/00 Updated 4/01 and 7/01
<p>In the 4/01 release, dynamic reconfiguration (DR) uses IP network multipathing to decommission a specific network device with no impact on existing IP users.</p>	
<p>The 7/01 release introduces the new IPMP Reboot Safe feature. When a failed NIC is removed from the system by using dynamic reconfiguration, and a reboot occurs prior to reinsertion of a functioning NIC, the system attempts, but fails, to plumb an interface for the missing NIC. Rather than losing the IP address, the IPMP Reboot Safe feature transfers the IP address to another NIC in the IPMP interface group.</p>	
<p>For more information, see the <i>IP Network Multipathing Administration Guide</i>.</p>	
<p>Mobile Internet Protocol (IP) enables the transfer of information to and from mobile computers, such as laptop and wireless communications. In the 6/00 release, the mobile computer can change its location to a foreign network and still access and communicate with and through the mobile computer’s home network. The Solaris implementation of Mobile IP supports only IPv4.</p>	6/00 Updated 4/01
<p>In the 4/01 release, Mobile IP enables system administrators to set up reverse tunnels. By setting up a reverse tunnel from the mobile node’s care-of address to the home agent, you ensure a topologically correct source address for the IP data packet. By using reverse tunnels, system administrators can also assign private addresses to mobile nodes.</p>	
<p>For more information, see the <i>Mobile IP Administration Guide</i>.</p>	



**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
SPARC: Lightweight Directory Access Protocol (LDAP) is now supported in the iPlanet™ Web Server directory server. To set up the iPlanet directory server to support Solaris clients, see the <i>LDAP Setup and Configuration Guide</i> .	1/01
<b>Managing File Systems</b>	
Improved UFS functionality: The performance of direct I/O, which is used by database applications to access unbuffered file-system data, has been improved by allowing concurrent read access and write access to regular UFS files.	1/01
For more information on direct I/O concurrency, see “Improved UFS Direct I/O Concurrency” in the <i>Solaris 8 System Administration Supplement</i> .	
UFS Snapshots provides the new <code>fsnap</code> command for backing up a file system while the file system is mounted. A snapshot is a temporary image of a file system, intended for backup operations. Previously, the documentation recommended when using the <code>ufsdump</code> command, you bring the system to single-user mode to keep the file system inactive during a backup.	1/01
For more information on UFS Snapshots, see “Creating UFS Snapshots” in the <i>Solaris 8 System Administration Supplement</i> .	
The <code>mkfs</code> command has been updated to improve performance when you create file systems. Improved <code>mkfs</code> performance is often 10 times faster than in previous Solaris releases. Performance improvements are seen on systems when you create both large and small file systems. However, the biggest <code>mkfs</code> performance improvements occur on systems with high-capacity or high-speed disks.	1/01
<b>Managing Removable Media</b>	
Removable media management now fully supports removable media such as DVD-ROMs, Zip drives, Jaz drives, CD-ROMs, and diskettes. For information on how to use this feature, see “Managing Removable Media” in the <i>Solaris 8 System Administration Supplement</i> .	6/00 Updated 10/00
<b>Managing Devices</b>	
Sun Gigaswift Ethernet Driver: The Solaris 7/01 release adds support for the Sun Gigaswift 1000Base-T Ethernet driver. This product gives exceptional performance of a 1Gbyte twisted-pair copper Ethernet link.	7/01
Reconfiguration Coordination Manager (RCM) scripts enable a Solaris system administrator to use a script that cleanly shuts down devices and applications during a dynamic reconfiguration operation.	4/01
For more information, see “Reconfiguration Coordination Manager (RCM) Scripts” in the <i>Solaris 8 System Administration Supplement</i> .	

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

Description	First Released
<p>You can use Solaris Print Manager to set up a Universal Serial Bus (USB) printer that is attached to a SPARC system with USB ports. For more information, see “USB Printer Support” in the <i>Solaris 8 System Administration Supplement</i>.</p>	10/00
<p>For an overview of USB, see “Overview of USB Devices” in <i>Solaris 8 System Administration Supplement</i>.</p>	Updated 1/01 and 4/01
<p>In the <code>mp</code> program enhancement, the <code>mp (1)</code> command is modified to work as an X Print Server client. With a properly configured X Print Server running in the host machine, <code>mp (1)</code> can print output in any Print Description Language that the X Print Server supports. The newly introduced options, <code>-D</code> and <code>-P</code>, can be used for making <code>mp (1)</code> work as an X Print Server client.</p>	4/01
<p>For more information, see the “<code>mp(1)</code> Print Filter Enhancement Overview” in the <i>Solaris 8 Software Developer Supplement</i>.</p>	
<p>Improved dynamic reconfiguration error messages are intended to help system administrators troubleshoot problems when they remove a system resource, such as a configured swap area or a dedicated dump device.</p>	1/01
<p>For more information on dynamic reconfiguration, see “New Dynamic Reconfiguration Error Messages” in the <i>Solaris 8 System Administration Supplement</i>.</p>	
Managing System Resources	
<p>Extended accounting introduces a new variable-length, general-purpose accounting file format that represents general groups of accounting data. Also included is the ability to configure resource utilization that was recorded by the kernel in the various accounting files.</p>	6/00
<p>For information on how to use this feature, see “Extended Accounting Features” in the <i>Solaris 8 System Administration Supplement</i>.</p>	
Managing System Performance	
<p>Dynamic Intimate Shared Memory (DISM) allows a database to dynamically extend or reduce the size of the shared data segment, eliminating the misconfiguration problem and denial-of-service security vulnerability present with Intimate Shared Memory (ISM).</p>	1/01
<p>The ISM is a shared memory segment consisting of large locked memory pages. The ISM number of locked pages remains constant (can not be changed). Dynamic ISM (DISM) is pageable ISM shared memory where the number of locked pages is variable (can be changed). Therefore, the DISM supports releasing or adding more physical memory to the system during dynamic reconfiguration. The size of the DISM can span available physical memory plus disk swap.</p>	
<p>The enhanced directory name look-up cache (DNLC) improves performance when you access files in large directories.</p>	6/00
<p>For information on how to use this feature, see “DNLC Improvements” in the <i>Solaris 8 System Administration Supplement</i>.</p>	

**TABLE 3-1** Solaris 8 Features for System Administrators (Continued)

<b>Description</b>	<b>First Released</b>
<p>The <i>Solaris Tunable Parameters Reference Manual</i> has been updated. Information on the <code>semsys:seminfo_semmnu</code> parameter has been added to this book.</p>	1/01
<p>This book has been updated in the Solaris 8 7/01 release to describe a new parameter, <code>logevent_max_q_sz</code>, first available in the Solaris 8 1/01 release, and corrections to the <code>tcp_slow_start_initial</code> and <code>tmpfs:tmpfs_minfree</code> parameters.</p> <p>To view the book, see the <i>Solaris Tunable Parameters Reference Manual</i>.</p>	Updated 7/01
<b>Early Access</b>	
<p>This release includes an Early Access (EA) directory with EA software. For more information, see the README on the Solaris Software CD 2 of 2.</p>	



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## What's New for Installation

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This chapter highlights new installation features in the Solaris 8 Update releases.

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**Note** – For the most current man pages, use the man command. The Solaris 8 Update release man pages include new feature information not found in the *Solaris 8 Reference Manual Collection*.

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**TABLE 4-1** Solaris 8 Features for Installation

Description	First Released
Installing	
JumpStart enhancements: New options have been added for use with the <code>boot</code> command when you perform a custom JumpStart installation.	7/01
With the <code>boot</code> command, you can specify the location of the configuration files to use to perform the installation. You can specify a path to an HTTP server, an NFS server, or a file that is available on local media. If you do not know the path to the files, you can require that the installation program prompt you for the path after the machine boots and connects to the network.	
The <code>nowin</code> option enables you to specify that the custom JumpStart program not begin the X program. You do not need to use the X program to perform a custom JumpStart installation, so you can shorten the installation time by using the <code>nowin</code> option.	
For detailed instructions about how to use these new options, refer to “Performing a Custom JumpStart Installation” in <i>Solaris 8 Advanced Installation Guide</i> .	

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**TABLE 4-1** Solaris 8 Features for Installation (Continued)

Description	First Released
<p>The <i>Solaris 8 Advanced Installation Guide</i> has been revised. The revised version combines all of the previous Solaris 8 installation guides:</p> <ul style="list-style-type: none"> <li>■ <i>Solaris 8 (SPARC Platform Edition) Installation Guide</i> (806-0955)</li> <li>■ <i>Solaris 8 (Intel Platform Edition) Installation Guide</i> (806-0956)</li> <li>■ <i>Solaris 8 Advanced Installation Guide</i> (806-0957)</li> <li>■ <i>Solaris 8 Installation Supplement</i> (806-7500)</li> </ul>	7/01
<p>The revision also includes the addition of information about new and enhanced Solaris installation technologies. The focus is on task-based procedures, with reference material covered separately in the guide.</p>	
<p>To view this book, see the <i>Solaris 8 Advanced Installation Guide</i>.</p>	
<p>The Web Start Flash installation feature enables you to create a single reference installation of the Solaris operating environment on a machine and then replicate that installation on several machines.</p>	4/01
<p>The system identification utilities automatically attempt to determine the default router during installation.</p>	4/01
<p>During system identification, the system identification utilities can configure systems to be LDAP clients. Prior Solaris releases allowed the configuration of a machine only as a NIS, NIS+, or DNS client.</p>	1/01
<p>The Solaris™ Web Start 3.0 installation method was updated to allow you to modify the selected Solaris Software Group by adding or removing software packages.</p>	1/01
<b>Upgrading</b>	
<p>The Patch Analyzer is now available when you upgrade with the Solaris Web Start 3.0 installation method on the Solaris 8 Installation CD. The Patch Analyzer performs an analysis on your system to determine which (if any) patches will be removed or downgraded by upgrading from the Solaris 8 release to a Solaris 8 Update release.</p>	6/00
<b>Administering and Uninstalling Software</b>	
<p>A new version of the Solaris Product Registry tool has been released. The Solaris Product Registry 3.0 includes these new features:</p> <ul style="list-style-type: none"> <li>■ Ability to uninstall individual system packages.</li> <li>■ All of the Solaris system products that you installed in their localized version appear in the System Software Localizations folder.</li> <li>■ Registry is compatible with more installation wizards.</li> </ul>	1/01
<b>Early Access</b>	
<p>This release includes an Early Access (EA) directory with EA software. For more information, see the README on the Solaris 8 Software 2 of 2 CD.</p>	6/00

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## What's New for Developers

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This chapter highlights new features for Solaris developers that have been added to the Solaris 8 Update releases.

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**Note** – For the most current man pages, use the man command. The Solaris 8 Update release man pages include new feature information not found in the *Solaris 8 Reference Manual Collection*.

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**TABLE 5–1** Solaris 8 Update Features for Developers

Feature	Update Release
Writing Device Drivers	
SPARC: The driver hardening test harness is a Solaris device driver development tool. The test harness injects a wide range of simulated hardware faults when the driver under development accesses its hardware. This fault-injection test harness tests the resilience of a SPARC based device driver.  For more information, see “Driver Hardening Test Harness” in the <i>Solaris 8 Software Developer Supplement</i> .	4/01
“High-Availability Drivers” provides a detailed description of how to design drivers to support high availability through driver hardening and ensuring serviceability. This material extends information provided in the <i>Solaris 8 Writing Device Drivers</i> .  For more information, see “High-Availability Drivers” in the <i>Solaris 8 Software Developer Supplement</i> .	10/00

**TABLE 5-1** Solaris 8 Update Features for Developers (Continued)

Feature	Update Release
<p>You can use the Generic LAN driver (GLD) to implement much of the STREAMS and Data Link Provider Interface (DLPI) functionality for a Solaris network driver. Until the Solaris 8 10/00 release, the GLD module was available only for Solaris <i>Intel Platform Edition</i> network drivers. Now GLD is available for Solaris <i>SPARC Platform Edition</i> network drivers as well.</p>	<p>10/00 Updated 4/01</p>
<p>For the 4/01 release, GLD is updated with bug fixes.</p>	
<p>For more information, see “Drivers for Network Devices” in the <i>Solaris 8 Software Developer Supplement</i>.</p>	
<p>Language Support</p>	
<p>The File System Safe Universal Transformation Format, or UTF-8, is an encoding defined by X/Open as a multibyte representation of Unicode. UTF-8 encompasses almost all of the characters for traditional single-byte and multibyte locales for European and Asian languages for Solaris locales. For the 10/00 release, Russian and Polish and two new locales for Catalan are added. For the 4/01 release, two additional languages, Turkish UTF-8 Codeset and Russian UTF-8 Codeset, are added to a table of already existing Eastern European locales.</p>	<p>10/00 Updated 4/01</p>
<p>For more information, see “Additional Partial Locales for European Solaris Software” in the <i>Solaris 8 Software Developer Supplement</i>.</p>	
<p>The <code>mp</code> program accepts international text files of various Solaris locales and produces output that is proper for the specified locale. The output will also contain proper text layout, for instance, bidirectional text rendering and shaping, as the complex text layout (CTL) is supported in <code>mp</code>. Depending on each locale’s system font configuration for <code>mp</code>, the PostScript™ output file can contain glyph images from Solaris system-resident scalable or bitmap fonts.</p>	<p>4/01</p>
<p>For more information, see “Print Filter Enhancement <code>mp(1)</code>” in the <i>Solaris 8 Software Developer Supplement</i>.</p>	
<p>Thai Wordbreaker: This update includes a new text boundary resolution framework for Asian languages. With this framework, CDE applications and Motif libraries do the proper locale-specific text boundary resolution in all locales. The feature, including changes to the CDE/Motif library, is included in <code>libXm.so.4</code>. The Thai text boundary resolution module is a new feature which provides correct word breaks for sentence strings in the Thai language. The Thai locale now supports correct word-boundary handling of Motif widgets.</p>	<p>1/01</p>
<p>Development Tools</p>	
<p><code>sendfilev()</code>, a vectored <code>sendfile</code> system call, enables better performance for sending out data from application buffers or files. For example, in web performance, a web server can construct an HTTP response (header, data, and trailer as well as SSI server side includes) in a single system call. This feature provides optimal performance with NCA, because it enables the return of multiple chunks, which might come from various files for the response.</p>	<p>7/01</p>
<p>For further information, see the man page, <code>sendfilev(2)</code>.</p>	



**TABLE 5-1** Solaris 8 Update Features for Developers (Continued)

Feature	Update Release
<p>The Dynamic Host Configuration Protocol (DHCP) service enables host systems to receive IP addresses and network configuration information at boot time from a network server. Before this release, DHCP configuration data could only be stored in text files or NIS+. In this release, data access in the Solaris DHCP service has been redesigned to use a modular framework. Solaris DHCP provides an API that enables you to write shared objects to support any data storage facility for storing DHCP data.</p> <p>The <i>Solaris DHCP Service Developer's Guide</i> provides an overview of the data access framework that is used by Solaris DHCP, general guidelines for developers, and a listing of the API functions you use to write a module to support a new data store.</p> <p>For further information, see the <i>Solaris DHCP Service Developer's Guide</i>.</p>	7/01
<p>The <code>appcert</code> utility verifies an object file's conformance to the Solaris ABI. Conforming to the Solaris ABI greatly increases an application's probability of being compatible with future releases of Solaris software.</p> <p>For more information, see "Using <code>appcert</code>" in the <i>Solaris 8 Software Developer Supplement</i>.</p>	4/01
<p>Web-Based Enterprise Management (WBEM) includes standards for web-based management of systems, networks, and devices on multiple platforms. The Sun WBEM Software Developer's Toolkit (SDK) enables software developers to create standards-based applications that manage resources in the Solaris operating environment. Developers can also use this toolkit to write providers, programs that communicate with managed resources to access data. The Sun WBEM SDK includes Client Application Programming Interfaces (APIs) for describing and managing resources in Common Information Model (CIM), and Provider APIs for getting and setting dynamic data on the managed resource. The Sun WBEM SDK also provides CIM WorkShop, a Java application for creating and viewing the managed resources on a system, and a set of example WBEM client and provider programs.</p> <p>For more information, see the <i>Sun WBEM SDK Developer's Guide</i>.</p>	4/01
<p>SPARC: <i>Multithreaded Programming Guide</i> has been updated with bug fixes: 4308968, 4356675, 4356690.</p> <p>To view the book, see the <i>Multithreaded Programming Guide</i>.</p>	1/01

**TABLE 5-1** Solaris 8 Update Features for Developers (Continued)

Feature	Update Release
The <i>Linkers and Libraries Guide</i> has been updated with new features.	10/00
For the 10/00 release, updates include:	Updated 1/01 and 7/01
<ul style="list-style-type: none"> <li>■ The environment variable, <code>LD_BREADTH</code>, is ignored by the runtime linker. See the section, "Initialization and Termination Routines."</li> <li>■ The runtime linker and its debugger interface have been extended for better runtime and core file analysis. This update is identified by a new version number. See the section, "Agent Manipulation." This update expands the <code>rl_flags</code>, <code>rl_bend</code>, and <code>rl_dynamic</code> fields of the <code>rd_loadobj_t</code> structure. See the section, "Scanning Loadable Objects."</li> <li>■ The validation of displacement-relocated data in regard to its use, or possible use, with copy relocations is now provided. See the section, "Displacement Relocations."</li> <li>■ 64-bit filters can be built solely from a mapfile by using the <code>link-editors -64</code> option. See the section, "Generating a Standard Filter."</li> <li>■ Some explanatory notes are provided on why <code>\$ORIGIN</code> dynamic string token expansion is restricted within secure applications. See the section, "Security."</li> <li>■ By using <code>dldinfo(3DL)</code>, you can inspect the search paths that are used to locate the dependencies of dynamic objects.</li> <li>■ <code>dlsym(3DL)</code> and <code>dldinfo(3DL)</code> look-up semantics have been expanded with a new handle, <code>RTLD_SELF</code>.</li> <li>■ The runtime symbol look-up mechanism that is used to relocate dynamic objects can be significantly reduced by establishing direct binding information within each dynamic object. See the sections, "External Bindings" or "Direct Binding."</li> </ul>	
For the 1/01 release, updates include:	
<ul style="list-style-type: none"> <li>■ The symbolic information available from <code>dldaddr(3DL)</code> has been enhanced with the introduction of <code>dldaddr1()</code>.</li> <li>■ You can obtain the <code>\$ORIGIN</code> of a dynamic object from <code>dldinfo(3DL)</code>.</li> <li>■ The maintenance of runtime configuration files that were created with the <code>crle(1)</code> has been simplified with the display of the command-line options that were used to create the configuration file. Also available is an update capability. (See the <code>-u</code> option.)</li> <li>■ The runtime linker and its debugger interface have been extended to detect procedure-linkage-table entry resolution. This update is identified by a new version number. See the section, "Agent Manipulation." This update extends the <code>rd_plt_info_t</code> structure. See the section, "Procedure Linkage Table Skipping."</li> <li>■ An applications stack can be defined non-executable by using the new <code>mapfile</code> segment descriptor <code>STACK</code>. See the section, "Segment Declarations."</li> </ul>	
For the 7/01 release, updates include:	
<ul style="list-style-type: none"> <li>■ Unused dependencies can be determined using <code>ldd(1)</code>. (See the <code>-u</code> option.)</li> <li>■ Various ELF ABI extensions have been added and the associated documentation revised. See "Initialization and Termination Sections," "Initialization and Termination Routines," Table 6, Table 9, Table 16, Table 17, "Section Groups," Table 19, Table 24, Table 45, Table 46, and "Program Loading (Processor-Specific)."</li> <li>■ Greater flexibility in the use of link-editor environment variables has been provided with the addition of <code>_32</code> and <code>_64</code> variants. See "Environment Variables" in the <i>Linker and Libraries Guide</i>.</li> </ul>	

To view the book, see the *Linker and Libraries Guide*.

**TABLE 5-1** Solaris 8 Update Features for Developers (Continued)

Feature	Update Release
<b>System Interface Tools</b>	
The <i>System Interface Guide</i> is updated to incorporate bug fixes. This release corrects several typographical errors in text and source code examples.	6/00
To view the book, see the <i>System Interface Guide</i> .	
<b>Java Releases</b>	
The Java 2 SDK Standard Edition v. 1.3.0, also known as J2SE™ 1.3.0, is an upgrade release for Java 2 SDK. The J2SE release includes the following new features and enhancements.	4/01
<ul style="list-style-type: none"> <li>■ Performance Improvements Java HotSpot™ technology- and performance-tuned runtime libraries make J2SE 1.3.0 the fastest Java™ platform to date.</li> <li>■ Easier Web Deployment New features, such as applet caching and automatic installation of optional packages by J2SE 1.3.0's Java™ Plug-in component, enhance the speed and flexibility with which you can deploy programs on the web.</li> <li>■ Enterprise Interoperability The addition of RMI/IIOP and the Java Naming and Directory Interface™ in J2SE 1.3.0 enhance the interoperability of the Java 2 Platform.</li> <li>■ Security Advances New support for RSA electronic signing, dynamic trust management, X.509 certificates, and verification of Netscape-signed files mean more ways for developers to protect their electronic data.</li> <li>■ Java Sound J2SE 1.3.0 includes a powerful new sound API. Previous releases of the platform limited audio support to basic playback of audio clips. With this release, the Java 2 Platform defines a set of standard classes and interfaces for low-level audio support.</li> <li>■ Enhanced APIs and Improved Ease of Development In response to requests from the development community, J2SE 1.3.0 adds new features to various areas of the Java 2 Platform. These features expand the functionality of the platform to enable development of more powerful applications. In addition, many of the new features make the development process itself faster and more efficient.</li> </ul>	
For more J2SE improvements, see "Java 2 SDK, Standard Edition, version 1.3.0" in the <i>Solaris 8 Software Developer Supplement</i> .	
The J2SE 1.2.2_07a contains fixes for bugs that were identified in previous releases in the J2SE 1.2.2 series. An important bug fix is a fix for a performance regression that was introduced in J2SE 1.2.2_05. For more information about bug fixes in J2SE 1.2.2_07a, see this web site: <a href="http://java.sun.com/j2se/1.2/ReleaseNotes.html">http://java.sun.com/j2se/1.2/ReleaseNotes.html</a> .	4/01
The Java 2 SDK 1.2.2_06 and JDK 1.1.8_12 are improved with bug fixes since the last release.	1/01

**TABLE 5-1** Solaris 8 Update Features for Developers (Continued)

Feature	Update Release
<p>The Java 2 SDK 1.2.2_05a includes the following new features.</p> <ul style="list-style-type: none"><li>■ Scalability improvements to over 20 CPUs</li><li>■ Improved just-in time (JIT) compiler optimizations</li><li>■ Text-rendering performance improvements</li><li>■ poller class demo package</li><li>■ Swing improvements</li></ul>	10/00
<p>For more information, see “Previous Java 2 Standard Edition (J2SE) Releases” in the <i>Solaris 8 Software Developer Supplement</i>.</p>	
<p>32-bit: With the addition of the <code>mod_jserv</code> module and related files, the Apache web server now supports Java servlets.</p>	10/00
<p>For more information, see “Java Servlet Support in Apache Web Server” in the <i>Solaris 8 Software Developer Supplement</i>.</p>	
<b>Early Access</b>	
<p>This release includes an Early Access (EA) directory with EA software. For more information, see the <code>README</code> on the Solaris Software CD 2 of 2.</p>	