



---

# Solaris Resource Manager 1.0 Installation Guide for Solaris 2.6 (SPARC Platform Edition)

---

Sun Microsystems, Inc.  
901 San Antonio Road  
Palo Alto, CA 94303-4900  
U.S.A.

Part No: 805-7481-10  
December 1998

Copyright 1998 Sun Microsystems, Inc. 901 San Antonio Road, Palo Alto, California 94303-4900 U.S.A. All rights reserved.

ShareII Copyright 1989-1998 Softway Pty. Limited. All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, SunOS, SunDocs, Sun Enterprise, Solaris, Solaris Resource Manager, AnswerBook, NFS, and docs.sun.com are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc. ShareII is a trademark or registered trademark of Softway Pty. Limited in the U.S. and other countries.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

**RESTRICTED RIGHTS:** Use, duplication, or disclosure by the U.S. Government is subject to restrictions of FAR 52.227-14(g)(2)(6/87) and FAR 52.227-19(6/87), or DFAR 252.227-7015(b)(6/95) and DFAR 227.7202-3(a).

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

---

Copyright 1998 Sun Microsystems, Inc. 901 San Antonio Road, Palo Alto, Californie 94303-4900 Etats-Unis. Tous droits réservés.

ShareII Copyright 1989-1998 Softway Pty. Limited. Tous droits réservés.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées du système Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, SunOS, SunDocs, Sun Enterprise, Solaris, Solaris Resource Manager, AnswerBook, NFS, et docs.sun.com sont des marques de fabrique ou des marques déposées, ou marques de service, de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc. ShareII est une marque de fabrique ou une marque déposée de Softway Pty. Limited aux Etats-Unis et dans d'autres pays.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

CETTE PUBLICATION EST FOURNIE "EN L'ETAT" ET AUCUNE GARANTIE, EXPRESSE OU IMPLICITE, N'EST ACCORDEE, Y COMPRIS DES GARANTIES CONCERNANT LA VALEUR MARCHANDE, L'APTITUDE DE LA PUBLICATION A REpondre A UNE UTILISATION PARTICULIERE, OU LE FAIT QU'ELLE NE SOIT PAS CONTREFAISANTE DE PRODUIT DE TIERS. CE DENI DE GARANTIE NE S'APPLIQUERAIT PAS, DANS LA MESURE OU IL SERAIT TENU JURIDIQUEMENT NUL ET NON AVENU.



# Contents

---

	<b>Preface</b>	<b>v</b>
<b>1.</b>	<b>Installing Solaris Resource Manager 1.0</b>	<b>1</b>
	Supported Hardware	1
	Preparing for Installation	1
	Required Patches	2
	Disk Space Requirements	2
	Changes That Will Be Made to System Files	3
	Installing From CD-ROM	5
	CD-Mounting on Sun Enterprise 10000 Servers	5
	Installing the Packages	6
	Where to Now?	12
<b>2.</b>	<b>Removing the Solaris Resource Manager Software</b>	<b>13</b>
	Preparing for Removal	13
	Removing the Solaris Resource Manager Packages	14
	Cleanup	17
<b>3.</b>	<b>Troubleshooting</b>	<b>19</b>
	Resolving Installation Problems	19
	Resolving Start-up Problems	20
	Recovering From Boot Failure	21

- ▼ Method A: Booting From Your Current Boot Disk 21
- ▼ Method B: Booting From CD-ROM 22

# Preface

---

This guide describes how to install Solaris Resource Manager™ 1.0 for Solaris™ 2.6 SPARC™ Platform Edition. Troubleshooting tips and instructions on how to remove the Solaris Resource Manager 1.0 software from your system are also provided.

---

**Note** - Read all the information presented in this guide and follow the instructions carefully. Installing the Solaris Resource Manager software makes some significant changes to your system.

---

---

## Who Should Use This Book

This book is for system administrators who want to install Solaris Resource Manager on their servers. It is expected that the administrator has at least 1–2 years of experience with UNIX® administration.

## Packages Covered by This Book

This installation guide covers the Solaris Resource Manager 1.0 packages described in Table 1–3.

## Contents of the CD-ROM

The product CD includes:

<b>File/Directory Name</b>	<b>Description</b>
Copyright	Copyright file
SolarisResourceManager_1.0	Directory containing product and documentation
Installer	Installation script
Uninstaller	Script to remove the product
README_en	Product <i>readme</i> file

---

## How This Book Is Organized

Chapter 1 describes how to install the Solaris Resource Manager product.

Chapter 2 explains how to remove the Solaris Resource Manager product from your system.

Chapter 3 provides information on installation problems and their solutions.

---

## Related Books

The following resources provide configuration, usage, and release information for the Solaris Resource Manager product:

- The *Solaris Resource Manager 1.0 Release Notes for Solaris 2.6 (SPARC Platform Edition)* document is included in the product box. It gives a brief product introduction, identifies patches required to use the product, and provides information on bugs and known problems.
- The *Solaris Resource Manager 1.0 System Administration Guide for Solaris 2.6 (SPARC Platform Edition)* describes how to configure and administer the Solaris Resource Manager software. Read this guide to understand how the product works, and how to configure it to best meet your needs.
- The *Solaris Resource Manager 1.0 Reference Manual for Solaris 2.6 (SPARC Platform Edition)* is the AnswerBook™ version of the Solaris Resource Manager man pages. These entries supplement the Sun™ operating system 2.6 base man pages installed

on your system. The administration guide references these pages. Online versions of the man pages, accessible using the `man` command, are also provided in the Solaris Resource Manager SUNWsrmm package.

---

## Ordering Sun Documents

The SunDocs<sup>SM</sup> program provides more than 250 manuals from Sun Microsystems, Inc. If you live in the United States, Canada, Europe, or Japan, you can purchase documentation sets or individual manuals using this program.

For a list of documents and how to order them, see the catalog section of the SunExpress<sup>TM</sup> Internet site at <http://www.sun.com/sunexpress>.

---

## Accessing Sun Documentation Online

The `docs.sun.com`<sup>SM</sup> Web site enables you to access Sun technical documentation online. You can browse the `docs.sun.com` archive or search for a specific book title or subject. The URL is <http://docs.sun.com>.

The Solaris Resource Manager 1.0 Collection is available on `docs.sun.com`.

---

## 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 in text; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name% You have mail.</code>
<b>AaBbCc123</b>	What you type, contrasted with on-screen computer output	<code>machine_name% su</code> <code>Password:</code>
<i>AaBbCc123</i>	Command-line placeholder: replace with a real name or value	To delete a file, type <code>rm filename</code> .
<i>AaBbCc123</i>	Book titles or words to be emphasized	Read Chapter 6 in <i>User's Guide</i> . You <i>must</i> log in first.

## Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell prompt	<code>machine_name%</code>
C shell superuser prompt	<code>machine_name#</code>
Bourne shell and Korn shell prompt	<code>\$</code>
Bourne shell and Korn shell superuser prompt	<code>#</code>



# Installing Solaris Resource Manager 1.0

---

This chapter provides step-by-step instructions for installing Solaris Resource Manager 1.0.

---

**Note** - Ensure that you have read, understood, and agreed to the terms and conditions set out in the Software License Agreement before installing Solaris Resource Manager.

---

---

## Supported Hardware

Solaris Resource Manager can be installed on the following UltraSPARC™ processor systems:

- Sun Enterprise™ 10000 system platform
- Sun Enterprise 3000, Enterprise 3500, Enterprise 4000, Enterprise 4500, Enterprise 5000, Enterprise 5500, Enterprise 6000, Enterprise 6500, Enterprise 450, and Enterprise 250 system platforms

---

## Preparing for Installation

As a precautionary measure, do a full backup of your system before installing this product.

# Required Patches

Prior to installing Solaris Resource Manager, install these patches on your system:

**105181-11 (or greater)**                      The Solaris 2.6 KU patch, which contains kernel fixes and the hooks necessary to enable Solaris Resource Manager

**106123-02 (or greater)**                      The patch needed to display the Solaris Resource Manager man pages contained in the SUNWsrmm package

---

**Note** - These patches can be obtained from [sunsolve.sun.com](http://sunsolve.sun.com) or through your normal support channels.

---

# Disk Space Requirements

Use this table to calculate the approximate disk space required to run Solaris Resource Manager on your system, and verify that the required disk space is available.

TABLE 1-1 Disk Space Requirements

Volume: / (root)	Size (KB)
System extensions in: <code>/platform/sun4?/kernel</code>	216
Configuration files in: <code>/etc</code>	62
Total for / (root) volume	260
<b>Volume: /usr/lib</b>	138KB
Libraries in: <code>/usr/lib</code>	2152
<b>Volume: /usr</b>	
Class files in: <code>/usr/lib/class/SHR</code>	36
Software in: <code>/usr/srm</code>	235
Total for /usr volume	271

TABLE 1-1 Disk Space Requirements (continued)

<b>Volume:</b> /var	
Inode database in: /var/srm/srmDB <b>Calculate:</b> Number of users on your system multiplied by 2 KB per user; for example, 200 users would require 400 KB.	

## Changes That Will Be Made to System Files

The following system files are modified when you install Solaris Resource Manager.

**TABLE 1-2** Installed and Modified System Files

---

<b>Added</b>
/dev/srmdrv <sup>1</sup>
/etc/init.d/init.srm
/etc/rc0.d/K52shareII
/etc/rc1.d/K52shareII
/etc/rc2.d/S10srm
/etc/srm/limconf
/etc/srm/nolnode
/etc/system.noshload
/kernel/drv/srmdrv
/kernel/drv/srmdrv.conf
/kernel/misc/srmlim
/kernel/sched/SHR
/usr/lib/srm/liblim.so
/usr/lib/srm/liblim.so.1
/usr/lib/srm/srmscru
/usr/srm/lib/limdaemon
/usr/srm/bin/liminfo
/usr/srm/bin/limreport
/usr/srm/bin/srmkill
/usr/srm/bin/srmstat
/usr/srm/bin/srmuser
/usr/srm/sbin/limadm
/usr/srm/sbin/srmadm
/usr/lib/class/SHR/SHRdispadmin
/usr/lib/class/SHR/SHRpriocntl
/usr/lib/security/pam_srm.so
/usr/lib/security/pam_srm.so.1

---

<b>Updated</b>
----------------

---

TABLE 1-2 Installed and Modified System Files (continued)

---

/etc/devlink.tab  
/etc/pamconf  
/etc/passwd  
/etc/shadow  
/etc/system

**Unsupported<sup>2</sup>**

---

/usr/srm/unsupported/passwd\_inodes  
/usr/srm/unsupported/schedtree

---

1. Created during reboot following installation.
2. Useful but unsupported scripts.

## Installing From CD-ROM

Load the Solaris Resource Manager 1.0 CD in the CD-ROM drive. The Solaris Volume Manager (see `vold(1M)`) will mount the CD-ROM automatically onto the file system.

---

**Note** - If you are installing on a Sun Enterprise 10000 server, follow the instructions in the next section.

---

## CD-Mounting on Sun Enterprise 10000 Servers

Sun Enterprise 10000 servers do not come with a CD-ROM drive directly attached. Instead, the System Service Processor (SSP) includes an internal CD-ROM drive. Thus, any installation instructions that involve software on a CD require two additional steps for these servers:

1. **Insert the Solaris Resource Manager 1.0 CD into the CD-ROM drive of the SSP.**
2. **Become the superuser on the SSP and share the CD-ROM:**

```
ssp# share -F nfs -o ro,anon=0 /cdrom/cdrom0
```

Sun Enterprise 10000 systems are divided into domains, each acting as its own server and running its own instance of Solaris. This means that you must install Solaris Resource Manager 1.0 on each domain where you want to have this functionality available. Whenever the instructions in this guide say "system," read it as "domain" for your Sun Enterprise 10000 server.

---

**Note** - It is not necessary to install Solaris Resource Manager on all of the domains in the platform; you can install it on only the domains in which you need its services.

---

---

## Installing the Packages

There are currently seven packages in the Solaris Resource Manager 1.0 product. These packages contain all the necessary software, documentation, and other files to run Solaris Resource Manager.

**TABLE 1-3** Solaris Resource Manager 1.0 Packages

Package	Title	OS
SUNWsrma	Solaris Resource Manager 1.0 AnswerBook Collection	Solaris 2.6 (SPARC Platform Edition)
SUNWsrmb	Solaris Resource Manager User Commands	Solaris 2.6 (SPARC Platform Edition)
SUNWsrmm	Solaris Resource Manager 1.0 Man Pages	Solaris 2.6 (SPARC Platform Edition)
SUNWsrmr	Solaris Resource Manager 1.0 Libraries and System Utilities	Solaris 2.6 (SPARC Platform Edition)
SUNWab2r, SUNWab2s, SUNWab2u	Solaris AnswerBook2 v1.2 documentation server	Solaris 2.6 (SPARC Platform Edition) Solaris 7 (SPARC Platform Edition)

To install the packages:

- 1. Log in to the system where you want to install Solaris Resource Manager, and become the superuser:**

```
$ su
Password:
#
```

**2. Bring the system down to single-user system administration mode:**

```
# shutdown -i 1
```

---

**Note** - This step is not necessary on Sun Enterprise 10000 servers.

---

**3. Change directories to the directory where the CD has been mounted:**

```
# cd /cdrom/cdrom0
```

---

**Note** - On Sun Enterprise 10000 servers, you must NFS™ mount the CD from the SSP that has the internal CD-ROM drive before changing directories:

```
# mkdir -p /cdrom/cdrom0
# mount -F nfs ssp:/cdrom/cdrom0 /cdrom/cdrom0
# cd /cdrom/cdrom0
```

---

**4. To ensure that the CD-ROM is mounted correctly, do a listing of the directory and verify that these files appear:**

```
# ls
Copyright          SolarisResourceManager_1.0
Installer          Uninstaller
README_en
```

5. **Start the product installation tool, Installer. (Note that if the system reports that the package already exists, see “Resolving Installation Problems” on page 19 before continuing.)**

```
# ./Installer
```

The two product packages, SUNWsrmb and SUNWsrmr, will be installed first. You will see a processing message similar to this:

```
Installing.....Solaris Resource Manager 1.0 (SRM)
Processing package instance <SUNWsrmb> from
  </cdrom/srm_1_0/SolarisResourceManager_1.0/Sol_2.6/sparc/Product/locale/C>

Solaris Resource Manager
(sparc) 1.0.0,REV=1998.11.13.14.07
Copyright 1998 Sun Microsystems, Inc. All rights reserved.
Copyright 1998 Sun Microsystems, Inc. Tous droits reserves.

## Executing checkinstall script.

Found Kernel Patch 105181 with Rev >= 11
Using as the package base directory.
## Processing package information.
## Processing system information.
## Verifying package dependencies.
## Verifying disk space requirements.
## Checking for conflicts with packages already installed.
## Checking for setuid/setgid programs.
```

6. **You will be warned that the package contains scripts that will be run with root privileges. Since these scripts are part of the normal package installation process and are required to install the software correctly, type *y* when asked if you want to continue the installation:**



This package contains scripts which will be executed with super-user permission during the process of installing this package.  
Do you want to continue with the installation of <SUNWsrmb> [y,n,?] **y**

As the package is installed onto your system, it will display various messages about the installation process. It should complete in a minute or two.

```
Installing Solaris Resource Manager as <SUNWsrmb>
## Installing part 1 of 1.
/usr/srm/bin/liminfo
/usr/srm/bin/limreport
/usr/srm/bin/srmkill
/usr/srm/bin/srmstat
/usr/srm/bin/srmuser
/usr/srm/lib/limdaemon
/usr/srm/sbin/limadm
/usr/srm/sbin/srmadm
/usr/srm/unsupported/passwd_lnodes
/usr/srm/unsupported/schedtree
[ verifying class ]
```

After the successful installation of the first two packages, this message will display:

```
Installation of <SUNWsrmb> was successful.
```

---

**Note** - During the installation, make sure that you read all the information and follow the instructions displayed on the screen carefully. If you make a mistake, you must wait until the `Installer` command finishes, then use `Uninstaller` to remove Solaris Resource Manager and revert the system to its original state. You can then install the software again as described in Step 5 on page 8.

---

7. You will then be prompted to install the `SUNWsrmm`, `SUNWab2r`, `SUNWab2s`, `SUNWab2u`, and `SUNWsrma` packages. To install them at this time, type `y` at each prompt.

---

**Note** - If you choose to install the AnswerBook server, you will be warned that some of the files are already installed on the system and are being used by another package, and that attribute changes will be made. You should choose to install the updated AnswerBook server supplied with Solaris Resource Manager by typing `y` at the prompt.

The new server is compatible with both Solaris 2.6 and Solaris 7 AnswerBook collections.

---

**Note** - If you encountered any errors or problems during the installation process, refer to Chapter 3. Do not continue with system configuration if these packages were not successfully installed.

---

**8. During the installation of the SUNWsrnr package, three special users were created for the “idle,” “lost,” and “other” inodes.**

User Name	UID
srmiddle	41
srmlost	42
srmother	43

Verify that these UIDs are not in conflict with any existing UIDs on the system by typing:

```
# /usr/bin/egrep 41\|42\|43 /etc/passwd
```

If a conflict exists, you can change the UIDs by editing the password and shadow files, `/etc/passwd` and `/etc/shadow`.

---

**Note** - These special users do not require home directories or login access. The names `lost` and `idle` are only recommended default names. If desired, you can use other names and override the defaults by adding assignments for *LostLnode* and *IdleLnode* in `/etc/init.d/init.srm`. The name `other` is assigned by the system and cannot be changed.

---

**9. Reboot the system. During the reboot sequence, make a note of any errors, particularly those related to device driver configuration.**

```
# reboot
```

When the system is coming up for the first time with Solaris Resource Manager enabled, it will automatically perform some necessary initial configuration that may take a while. This includes creating a new Solaris Resource Manager database by scanning the password file for users registered on the system. You should see messages similar to these:

```
SunOS Release 5.6 Version Generic_105181-11 [UNIX(R) System V Release 4.0]
Copyright (c) 1983-1997, Sun Microsystems, Inc.
Solaris Resource Manager v1.0b3 (allocated 266 lnodes)
configuring network interfaces: le0.
Hostname: patchtest-4m
Configuring the /devices directory
Configuring the /dev directory
Configuring the /dev directory (compatibility devices)
The system is coming up. Please wait.
Enabling Solaris Resource Manager v1.0.
SRM database '/var/srm/srmDB' not present - creating empty database
SRM - creating user lnodes; may take a while
uid      37
Solaris Resource Manager v1.0 Enabled.
ShareII Copyright (C) 1989-1998 Softway Pty. Ltd., Sydney, Australia.
All rights reserved.
...
The system is ready.
```

Once the system has come up and you have logged in on the console, you should see messages similar to these:

```
Last login: Mon Mar 3 08:40:09 on console
Sun Microsystems Inc. SunOS 5.6
```

---

**Note** - If you encountered any errors or problems during the reboot process or when logging in, refer to Chapter 3.

---

---

## Where to Now?

When you have successfully installed Solaris Resource Manager and have confirmed that the system is up and running and you can log in, you may want to perform each of these tasks in the order shown.

1. Use the *Solaris Resource Manager 1.0 System Administration Guide for Solaris 2.6 (SPARC Platform Edition)* to design, set up, and administer Solaris Resource Manager on your system.
2. Test and monitor the performance of your system to attain the configuration that best suits your needs.

Most of all, explore the power to manage system resources that this product provides.

## Removing the Solaris Resource Manager Software

---

To remove the Solaris Resource Manager software from your system, follow the steps in this chapter.

Note that you may not want to remove the Solaris AnswerBook2 v1.2 documentation server (packages SUNWab2r, SUNWab2s, and SUNWab2u) from your system.

---

**Note** - If you are removing this product from a Sun Enterprise 10000 server, refer to the special instructions in “CD-Mounting on Sun Enterprise 10000 Servers” on page 5.

---

---

### Preparing for Removal

---



**Caution** - Do not attempt to remove the Solaris Resource Manager files manually. You will have trouble reinstalling the software later and could end up with an unusable system.

---

Before you remove any of the Solaris Resource Manager software, make a backup of the Solaris Resource Manager database, `/var/srm/srmDB`. This is particularly important if you plan to use this product again in the future. If you lose this file, you will have to reconfigure your Solaris Resource Manager system from scratch. You may also want to back up the database if the information in it is important to you.

---

# Removing the Solaris Resource Manager Packages

Follow these steps to remove the product software from your system.

---

**Note** - Make a full backup of your system before continuing.

---

1. **Log in to the system where you want to remove Solaris Resource Manager, and become the superuser:**

```
$ su
Password:
#
```

2. **Bring the system down to single-user system administration mode using the `shutdown` command:**

```
# shutdown -i 1
```

---

**Note** - This step is not necessary on Sun Enterprise 10000 servers.

---

3. **Verify that Solaris Resource Manager is not running. Although not mandatory, it is suggested that Solaris Resource Manager not be running when you remove it.**

```
# srmadm show fileopen
no
```

4. **Mount the Solaris Resource Manager CD as described in “Installing From CD-ROM” on page 5, and change directories to the directory where the CD has been mounted:**

```
# cd /cdrom/cdrom0
```

---

**Note** - On Sun Enterprise 10000 servers, you must NFS mount the CD from the SSP that has the internal CD-ROM drive before changing directories:

```
# mkdir -p /cdrom/cdrom0
# mount -F nfs ssp:/cdrom/cdrom0 /cdrom/cdrom0
# cd /cdrom/cdrom0
```

---

**5. Start the package removal tool, Uninstaller:**

```
# ./Uninstaller
```

**6. The first package to be removed will be displayed. Type *y* to continue with the removal of Solaris Resource Manager:**

```
Removing....Solaris Resource Manager 1.0 (SRM)
The following package is currently installed:
  SUNWsrmr          Solaris Resource Manager
                   (sparc) 1.0.0,REV=1998.11.13.14.07
```

```
Do you want to remove this package? y
```

**7. You will be warned that the package contains scripts that will be run with root privileges. Since these scripts are part of the normal package removal process and are required to remove the software correctly, type *y* when asked if you want to continue:**

```
## Removing installed package instance <SUNWsrmr>
This package contains scripts which will be executed with super-user
permission during the process of removing this package.
```

```
Do you want to continue with the removal of this package [y,n,?,q]
```

**8. The package will now be removed from your system, and you will see various messages about the removal process:**

```
## Verifying package dependencies.
## Processing package information.
## Removing pathnames in class <shadow>
## Removing pathnames in class <pamconf>
## Removing pathnames in class <etcssystem>
## Removing pathnames in class <passwd>
## Removing pathnames in class <devlinktab>
## Removing pathnames in class <none>
/usr/lib/srm/srmscru
/usr/lib/srm/liblim.so.1
/usr/lib/srm/liblim.so
/usr/lib/srm
/usr/lib/security/pam_srm.so.1
/usr/lib/security/pam_srm.so
/usr/lib/security <shared pathname not removed>
/usr/lib/class/SHR/SHRpriocntl
/usr/lib/class/SHR/SHRdispadmin
/usr/lib/class/SHR
/usr/lib/class <shared pathname not removed>
/usr/lib <shared pathname not removed>
/usr <shared pathname not removed>
/kernel/sched/SHR
/kernel/sched <shared pathname not removed>
/kernel/misc/srmlim
/kernel/misc <shared pathname not removed>
/kernel/drv/srmdrv.conf
/kernel/drv/srmdrv
/kernel/drv <shared pathname not removed>
/kernel <shared pathname not removed>
/etc/srm/nolnode
/etc/srm/limconf
/etc/srm
/etc/rc2.d/S10srm
/etc/rc2.d <shared pathname not removed>
/etc/rc1.d/K52srm
/etc/rc1.d <shared pathname not removed>
/etc/rc0.d/K52srm
/etc/rc0.d <shared pathname not removed>
/etc/init.d/init.srm
/etc/init.d <shared pathname not removed>
/etc <shared pathname not removed>
## Executing postremove script.
## Updating system information.
```

After the package has been removed successfully, you will see this message:

```
Removal of <SUNWsrmr> was successful.
```



and the next Solaris Resource Manager package for removal will be displayed.

---

**Note** - If you encountered any errors or problems during the package removal process, refer to Chapter 3.

---

- 9. Reboot the system so that device reconfiguration can complete the removal of Solaris Resource Manager from your system:**

```
# reboot
```

## Cleanup

The Solaris Resource Manager database file `/var/srm/srmDB` file will not be removed from the system by the normal package removal process. If you will not need it, remove this file manually.

You have now removed Solaris Resource Manager from your system.



## Troubleshooting

If you experienced a problem installing or starting up Solaris Resource Manager 1.0, this chapter provides possible solutions for resolving the problem.

If you require additional assistance, contact your Sun Software Support Provider.

## Resolving Installation Problems

TABLE 3-1 Installation Problems and Solutions

Symptom(s)	Possible Cause/Solution(s)
Checking the OS release fails.	You may not have the Solaris 2.6 (SPARC Platform Edition) operating environment installed. Type <code>uname -psr</code> to find out which release of the operating system you are running.
System reports that there is not enough space on the file systems to install a package.	Make enough space available on the relevant file systems. Restart the installation.
Failure occurred when trying to execute one of the package installation scripts.	Installer was unable to access the file as user nobody. The permissions to all files and directories in the package must allow world read (and execute, where applicable) access. The directories leading from where the package is stored up to the root directory must also be world accessible.

TABLE 3-1 Installation Problems and Solutions (continued)

Symptom(s)	Possible Cause/Solution(s)
An unexpected or internal error occurred in one of the package installation scripts.	Report the problem to your Sun Software Support Provider.
System reported that the package already exists, so an update will occur.	You have already installed the package on the system. If you continue, then the software will bring the current installation back in line with the package. WARNING: Any files that have been modified since the previous installation will be lost during this process.
Installer quits while installing SUNWsrnr.	One of the user names <code>srmiddle</code> , <code>srmlost</code> , or <code>srmother</code> may have already been used in the password file. You must delete the entry for Solaris Resource Manager to install and work.
Installer quits with message that patch not installed.	The KU patch 105181-11 (or greater) is required prior to installing the packages SUNWsrmb and SUNWsrnr. The patch 106123-02 (or greater) is required prior to installing the SGML man page package SUNWsrmm.

---

## Resolving Start-up Problems

TABLE 3-2 Start-up Problems and Solutions

Symptom(s)	Possible Cause/Solution(s)
Solaris Resource Manager did not start on reboot.	Solaris Resource Manager is not installed correctly. Verify that you have installed these packages correctly:  <pre>pkginfo -l SUNWsrmb</pre> <pre>pkginfo -l SUNWsrnr</pre>
A warning that no idle ( <code>srmiddle</code> ) user exists appeared on reboot.	There is no entry in the <code>passwd</code> file for the <code>srmiddle</code> user. Create the user as outlined in Step 8 on page 10 in the section "Installing the Packages" on page 6.

TABLE 3-2 Start-up Problems and Solutions (continued)

Symptom(s)	Possible Cause/Solution(s)
A warning that no lost ( <code>srmlost</code> ) user exists appeared on reboot.	There is no entry in the <code>passwd</code> file for the <code>srmlost</code> user. Create the user as outlined in Step 8 on page 10 in the section “Installing the Packages” on page 6.
A kernel panic occurs during reboot.	There is a conflict with the operating system. Follow the instructions in “Recovering From Boot Failure” on page 21, below. Report the problem immediately to your Sun Software Support Provider.
Unable to log in	There is a problem with the PAM module configuration. Reboot the machine in single-user mode and comment out the line <code>pam_srm.so.1</code> in <code>/etc/pam.conf</code> .

---

## Recovering From Boot Failure

If a kernel panic occurs on boot, there are two ways to boot the machine with Solaris Resource Manager disabled. Try Method A first; if that fails, try Method B.

### ▼ Method A: Booting From Your Current Boot Disk

1. Be at the boot monitor prompt, `ok`. If you are not, then send a break sequence to the console.

2. Boot the system with prompt mode enabled:

```
ok boot -a
Booting from: sd(0,0,0) -a
```

3. Accept the default kernel file to load and module path by pressing the Return key:

```
Enter filename [kernel/unix]: <Enter>
Enter default directory for modules [/platform/SUNW,.../kernel
/kernel /usr/kernel]: <Enter>
SunOS Release 5.6

Version ... [UNIX(R) System V Release 4.0]
```

**4. Type `etc/system.noshrlload` when prompted for the name of the system file to use.**

This is an original version of your `/etc/system` file, as it was prior to the installation of the Solaris Resource Manager product. This copy was generated automatically when you installed Solaris Resource Manager.

```
Name of system file [etc/system]: etc/system.noshrlload
```

**5. Accept the defaults for the remaining questions:**

```
root filesystem type [ufs]: <Enter>
Enter physical name of root device [...]: <Enter>
```

Your system will now boot with Solaris Resource Manager disabled.

## ▼ Method B: Booting From CD-ROM

**1. Boot Solaris from your installation media (CD-ROM):**

```
ok boot cdrom -s
```

**2. Mount the normal root file system disk device.**

```
# mount /dev/dsk/device-name /a
```

3. Use a text editor like `vi` to edit the `/etc/system` file on the normal root file system:

```
# vi /a/etc/system
```

4. Comment out the line that sets `initclass` to `SHR`. Note that the comment character in this file is an asterisk (\*).

```
* set initclass='SHR'
```

5. Unmount the normal root file system:

```
# umount /a
```

6. Reboot the system from the normal disks:

```
# shutdown -i 6
```

Your system will now boot with Solaris Resource Manager disabled.