Sun Java Communications Suite 5 Installation Guide

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Contents

Preface

The *Sun Java™ Communications Suite 5 Installation Guide* contains instructions for installing theSun Java Communications Suite (Communications Suite) software on Sun Solaris™ Operating System (Solaris OS) and Linux. Some instructions in the guide are specific to one platform or are different for each platform, in which case, the information is labeled by platform name. However, most instructions are not labeled by platform name and apply to any UNIX operating system.

Who Should Use This Book

The material here is intended for any evaluator, system administrator, or software technician who wants to install any portion of the Communications Suite software. This guide assumes you are familiar with the following:

- Installation of enterprise-level software products
- System administration and networking on your supported platform
- Clustering model (if you are installing clustering software)
- Internet and World Wide Web

Before You Read This Book

You must be familiar with the following books and release notes before reading this book:

- *Sun Java Enterprise System 5 Release Notes for UNIX*
- *Sun Java Communications Suite 5 Release Notes*
- *Sun Java Communications Suite 5 Deployment Planning Guide*
- *Sun Java Enterprise System 5 Installation Planning Guide*
- *Sun Java Enterprise System 2006Q3 Upgrade Guide*
- *Sun Java Enterprise System 5 Installation Reference for UNIX*

Related Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

Note – Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Documentation, Support, and Training

The Sun web site provides information about the following additional resources:

- Documentation (`http://www.sun.com/documentation/`)
- Support (`http://www.sun.com/support/`)
- Training (`http://www.sun.com/training/`)

Typographic Conventions

The following table describes the typographic conventions that are used in this book.

TABLE P–1 Typographic Conventions

Typeface	Meaning	Example
`AaBbCc123`	The names of commands, files, and directories, and onscreen computer output	Edit your `.login` file. Use `ls -a` to list all files. `machine_name% you have mail.`
`AaBbCc123`	What you type, contrasted with onscreen computer output	`machine_name%` **`su`** `Password:`
aabbcc123	Placeholder: replace with a real name or value	The command to remove a file is `rm` *filename.*

TABLE P–1 Typographic Conventions *(Continued)*

Typeface	Meaning	Example
AaBbCc123	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the *User's Guide*. A *cache* is a copy that is stored locally. Do *not* save the file. **Note:** Some emphasized items appear bold online.

Shell Prompts in Command Examples

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

TABLE P–2 Shell Prompts

Shell	Prompt
C shell	`machine_name%`
C shell for superuser	`machine_name#`
Bourne shell and Korn shell	`$`
Bourne shell and Korn shell for superuser	`#`

◆ ◆ ◆ CHAPTER 1

Preparing for Installation

This chapter provides information that will help you install the Sun Java™ Communications Suite software. Before starting the tasks documented in this guide, you should have already planned your installation according to the *Sun Java Communications Suite 5 Deployment Planning Guide*. You should also be familiar with the reference material associated with installation in the *Sun Java Enterprise System 5 Installation Reference for UNIX*.

This chapter contains the following sections:

How the Communications Suite Installer Works

Communications Suite integrates a number of Sun server and client products to support distributed communication and collaboration applications. In this document, these products are referred to as *product components*. The Communications Suite installer installs the Communications Suite and Java Enterprise System (Java ES) product components and shared components in various combinations, one host at a time. Because of the complex interrelationships of the components, installation requires much more preinstallation and postinstallation effort than is required to install a single product component.

After installation, the installer utilities, logs, and data files are located here:

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5i`
- Linux: `/var/sadm/prod/sun-comm-entsys5i`

This section contains the following subsections:

Communications Suite Components Used in This Release

The Communications Suite software consists of a collection of Sun server and client products and their supporting shared components that work together to support distributed applications across a network. The Communications Suite 5 release includes the following selectable components. (The abbreviated names used in this guide follow the name and version.)

- Sun Java System Delegated Administrator 6.4 (Delegated Administrator)
- Sun Java System Calendar Server 6.3 (Calendar Server)
- Sun Java System Communications Express 6.3 (Communications Express)
- Sun Java System Directory Preparation Tool 6.4 (Directory Preparation Tool)
- Sun Java System Instant Messaging 7.2 (Instant Messaging)
- Sun Java System Messaging Server 6.3 (Messaging Server)

In addition, Communications Suite 5 also includes Sun Java System Connector for Microsoft Outlook 7.2. Connector for Microsoft Outlook is not installed with the Communications Suite installer. Instructions for installing Connector for Microsoft Outlook are available in the *Sun Java System Connector for Microsoft Outlook 7.2 Installation Guide*.

Java ES Components Used in This Release

The Java ES software consists of a collection of Sun server-side products and their supporting shared components that work together to support distributed applications across a network. The Communications Suite 5 release includes the following selectable Java ES components. (The abbreviated names used in this guide follow the name and version.)

- Sun Cluster Agents for Sun Java System (Sun Cluster agents)
- Sun Java System Access Manager 7.1 (Access Manager)
- Sun Java System Application Server Enterprise Edition 8.2 (Application Server)
- Sun Java System Directory Server Enterprise Edition 6.0 (Directory Server)

- Sun Java System High Availability Session Store 4.4 (HADB)
- Sun Java System Message Queue 3.7 UR1 (Message Queue)
- Sun Java System Web Server 7.0 (Web Server)

To see the full list of services and subcomponents as displayed in the installer, refer to Appendix E, "Product Components for This Release." This appendix also lists the shared components that are provided with this release. Some Communications Suite product components work with Java ES products that are not installed with the Communications Suite installer, for example, Sun Java System Monitoring Console 1.0 (Monitoring Console) and Sun Java System Portal Server. Information about installing these Java ES products is available in the *Sun Java Enterprise System 5 Installation Guide for UNIX*.

Available Installer Modes

The Communications Suite installer is an installation framework that uses the Solaris `pkgadd` or Linux `rpm` utility to transfer Communications Suite software to your system. You can install Communications Suite interactively or by means of a reusable script.

- **Graphical Mode (Interactive).** Provides an interactive graphical wizard that leads you through the tasks of installing the software on a graphical workstation.
- **Text-based Mode (Interactive).** Provides the same functionality as that of graphical mode, but you are prompted for responses on a line-by-line basis in a terminal window.
- **Silent Mode.** Provides the ability to run the installer on multiple hosts, using a generated state file to specify input.

Tip – You can run the installer without installing software. This is useful for surveying Communications Suite software on your existing hosts.

How Language Selection Works

The interactive installer runs in the language specified by the operating system locale setting on the host. The following languages are available:

- English
- French
- German
- Japanese
- Korean
- Spanish
- Simplified Chinese
- Traditional Chinese

If your operating system language is not listed, the installer runs in English.

The installer automatically installs English versions of all components. In addition, you can choose to install the localized packages for all languages by selecting the multilingual packages when components are selected for installation.

The installer cannot install additional language packages for previously-installed components. However, you can use the `pkgadd`, `rpm`, or `swinstall` utilities to install language package at any time. Language packages are list in Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

How the Installer Checks for Preexisting Components

During installation, the installer surveys the software that is already installed on the host where you are installing and identifies the following:

- Compatible product components are installed.

  Compatible product components do not need to be reinstalled and will not be available for selection in the installer.

- Incompatible product components are installed.

  If the installer identifies incompatibilities between product components you have selected and product components that are already installed locally, you might be prompted to remove or upgrade the incompatible installed product component. The installer cannot continue until these incompatibilities are resolved. If a component shows as upgradable at component selection, you can go back to the first page of the installer and choose to Upgrade instead of Install. For additional information on upgrading incompatible product components, refer to "How Upgrading Works" on page 22.

- Incompatible shared components are installed.

  It is not uncommon for existing hosts to already contain versions of shared components, such as J2SE or NSS. If the installer finds shared components whose version is incompatible with the version of Communications Suite you are installing, those shared components are listed. If you proceed with installation, the installer automatically upgrades the shared components to compatible versions.

How the Installer Checks Component Dependencies

Many product components depend on the presence of other components to provide their core functions. The installer does extensive cross checking of product components to verify that the product components you select during installation will function properly together. For this reason, the installer might prompt you to include certain product components as you make your selections.

In general, the installer uses the following rules for handling dependencies among the product components:

- **Selecting a Product Component.** In most cases, when you select a product component for installation, the installer automatically selects all its subcomponents.

  The installer also selects the components and subcomponents upon which the selected product component depends. For example, if you select Application Server, the installer automatically selects Message Queue.
- **Deselecting a Product Component.** In most cases, when you deselect a product component, the installer automatically deselects all its subcomponents.

  If you deselect a product component that is required locally or remotely for another selected product component, the installer displays various warnings when you attempt to proceed.
- **Selecting a Subcomponent.** If you select a subcomponent, the installer automatically selects the product component to which it belongs, but not necessarily the other subcomponents.

  If the selected subcomponent depends on other components or subcomponents, the others are automatically selected.
- **Deselecting a Subcomponent.** If you deselect a subcomponent, the installer deselects only that subcomponent and not the other subcomponents.

  If you deselect a subcomponent that is required locally or remotely for another selected product component, the installer displays various warnings when you attempt to proceed.

How the Installer Checks for System Readiness

After the components you have selected are found to be acceptable for installation and you have indicated their target installation directories, the installer performs a system check to determine if your host meets the requirements for the components you selected.

The installer checks for disk space, memory, swap space, operating system, patches and operating system resources based on the components and the installation directories provided and informs you about the state of your system using the following messages:

- `System is ready for installation`. When this message is displayed, the installer can proceed.
- `System is ready for installation, however, a resource, such as memory, is not at the recommended level`. When this message is displayed, the installer can proceed but you should consider providing additional resources.
- `System is not ready for installation`. When this message is displayed, the installer cannot proceed and you must take some action, such as installing missing patches.

How the Installer Handles Configuration and Parameter Setting

Many product components require some degree of installation-time configuration. The extent of installation-time configuration you are required to perform depends on which product components you select and which installation type you choose.

The following configuration types are available in the installer:

- **Configure Later.** During installation, you enter only the minimum values that are necessary for installing, then perform postinstallation configuration.
- **Configure Now.** During installation, you configure product components that permit installation-time configuration. The information you specify might be just a few common parameters (common server settings), or it might include detailed component-specific parameters (product component settings).

It is important to keep track of the configuration information values as you proceed through installation-time configuration or postinstallation configuration. Many of the product components rely on the specifics of other component configuration parameters in order to function correctly. At the end of a Configure Now installation, you can view the configuration parameters that were specified by examining the Installation Summary.

Common server settings are parameters that multiple product components use. For example, most product components require that you specify an administrative ID and password. By setting these common values, you are setting default values for all product component administrative IDs and passwords.

Product component settings are parameters that apply to a particular product component. These settings are requested during installation only if you have selected the Configure Now type. Some of these settings are populated from the common server settings.

How Upgrading Works

Using the graphical installer, you can upgrade shared components and some product components. In a graphical installation session, if upgradable product components are detected on your host, the Choose to Upgrade or Install page is displayed. The components that can be upgraded by the installer are listed in the following table, along with explanation on any Solaris zones issues that might apply.

TABLE 1–1 Upgrade Support Within the Communications Suite Installer

Product Component	Situation Where the Installer Can Upgrade	Solaris Zones Issues
Application Server	Application Server 7.0 bundled with Solaris 9 Application Server 8.0 bundled with Solaris 10 Application Server 8.1.0 installed with Java ES 2005Q1 (release 3) Application Server 8.1.2 installed with Java ES 2005Q4 (release 4)	Before Application Server can be installed into a non-global sparse-root zone, the bundled version must be removed from the global zone.
HADB	HADB installed with Java ES 2005Q1 (release 3) HADB installed with Java ES 2005Q4 (release 4)	
Message Queue	Message Queue bundled with Solaris 9 Message Queue bundled with Solaris 10 Message Queue installed with Java ES 2005Q1 (release 3) Message Queue installed with Java ES 2005Q4 (release 4)	Message Queue can only be installed in the global zone, or in a whole root non-global zone. From the global zone, Message Queue always propagates to non-global zones.
Communications Express		Cannot install UWC in a local, sparse root non–global zone using the installer. Instead, you need to manually add the UWC and Access Manager packages using `pkgadd`.

If you are not planning to install any of these product components, you can choose Install New Software. If you are going to install any of these components, select Upgrade Existing Software to initiate an upgrade session. After the upgrade session finishes, you can then start a new installation session. This functionality is not supported for a text-based installation.

During installation, you might encounter additional upgrade situations if the installer identifies incompatible versions of product components that cannot be upgraded by the installer. In this case, you will receive messages that certain products components must be removed or manually upgraded before you can continue with installation. Such upgrading for Communications Suite product components is fully documented in the *Sun Java Communications Suite 5 Upgrade Guide* and for Java ES product components in the *Sun Java Enterprise System 2006Q3 Upgrade Guide*.

Shared components are upgraded by the installer along with the selected product components. Shared components can also be upgraded in a dedicated installation session that installs only shared components, enabling them to be synchronized to the current release. If you choose to install the Shared Components item, all required shared components for the Communications Suite release are installed or upgraded.

Note – If the installer is run in a non-global Solaris zone with a sparse root file system, the Shared Component item is not available for selection .

How Logging Works

During the course of installation or uninstallation, log records are generated for the operations that occur. These records are saved into a single file in a Unified Logging Format (ULF). The installer Log Viewer (`viewlog` command) provides a user-friendly interface for examining these log records.

After installation is complete, the Log Viewer is located with the installer here:

- Solaris SPARC: `/var/sadm/prod/SUNWcomm-entsys5i/Solaris_sparc`
- Solaris x86: `/var/sadm/prod/SUNWcomm-entsys5i/Solaris_x86`
- Linux: `/var/sadm/prod/sun-comm-entsys5i/Linux_x86`

After uninstallation, the Log Viewer is removed along with the installation and uninstallation utilities. See "How Uninstalling Works" on page 24 for information.

For instructions on using the logs and Log Viewer, refer to "Examining Installation Log Files" on page 190.

How Uninstalling Works

Communications Suite provides an uninstallation utility for removing component products that were installed on your local host using the installer. The uninstaller checks product dependencies for the host on which it is running, issuing warnings when it discovers a dependency.

The uninstaller can be run in graphical, text-based, or silent mode. After installation is complete, the uninstaller is located here:

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

After uninstallation, the Log Viewer is removed along with the installation and uninstallation utilities. The ULF logs themselves are not removed, and are located here:

- Solaris OS: `/var/sadm/install/logs`
- Linux: `/var/opt/sun/install/logs`

For instructions on using the uninstaller refer to Chapter 9, "Uninstalling Communications Suite Product Components."

Surveying Existing Hosts

Before installation, it is important to know what resides on the hosts where you plan to install the software. If your existing hosts have versions of Communications Suite components already installed, you might need to upgrade or remove some software before running the installer for the new release.

This section contains the following subsections:

When Incompatible Components Are Installed

During installation, the installer verifies that any Communications Suite components that are already installed on the host are compatible with the release of Communications Suite you are installing. If some components are not compatible, your installation is likely to be interrupted by incompatibility error messages. Therefore, it is best to survey installed software and do any upgrading before actually installing the Communications Suite software.

When you run the installer, you can see which incompatible components are on your host. If you want to install Application Server, Message Queue, or HADB, you can choose to Upgrade Software and let the installer upgrade these components in a separate upgrade session. For other product components, you cannot use the installer to upgrade, but instead must remove or upgrade the incompatible components by following instructions in the *Sun Java Enterprise System 2006Q3 Upgrade Guide* (for Java ES components) and the *Sun Java Communications Suite 5 Upgrade Guide* for Communications Suite components.

The installer upgrades or installs any shared components that are required for the product components you are installing.

Using the Installer to Survey Installed Software

You can use Solaris commands such as `prodreg` and `pkginfo` or the Linux `rpm` command to examine installed software. You can also use the installer itself to examine package-based software installations as described in the procedures in this section.

Note – Do not rely only on the installer for information about installed software. You must also perform an independent survey of the host to determine what software is currently installed.

The following table lists the basic package command equivalencies for the UNIX platforms.

TABLE 1–2 UNIX Package Command Equivalencies

Task	Solaris	Linux
Show installed package	`pkginfo`	`rpm –qa`
Install package	`pkgadd`	`rpm -i`
Remove package	`pkgrm`	`rpm –e`

▼ To Provide Access to Your Local Display for the Graphical Installer

1 Set your DISPLAY environment variable.

If you are logging in to a remote host, make sure your DISPLAY environment variable is properly set to the local display. If the DISPLAY variable is not set properly, the installer runs in text-based mode.

- Example for C Shell (host name `myhost`):

```
setenv DISPLAY myhost:0.0
```

- Example for Korn Shell (host name `myhost`):

```
DISPLAY=myhost:0.0
```

2 Grant display authorization.

You might need to grant display authorization to run the installer on your local display. For example, you can use the following command to grant display authority from `myhost` to the root user on `serverhost`:

```
myhost\> xauth extract - myhost:0.0|rsh -l root serverhost xauth merge -
```

Note – For full instructions on granting such authorization safely, refer to the "Manipulating Access to the Server" chapter in the *Solaris X Window System Developer's Guide*.

▼ To Use the Installer for Identifying Upgrade Issues

1 Start the installer using the `-no` option to indicate that no software is to be installed.

For the graphical installer:

```
./installer -no
```

For the text-based installer:

```
./installer -nodisplay -no
```

2 Proceed to component selection.

3. **Select the product components you are planning to install on this host.**

   The Status column indicates products that are required for the product components you have selected.

4. **If an incompatible version of a selectable product component is detected by the installer, you are prompted to upgrade or remove the incompatible version.**

   In the case of bundled Application Server, Message Queue, and HADB, you can have the installer do the upgrading. For further information, refer to "How Upgrading Works" on page 22.

   After resolving the problem, you can refresh the selection list, make your selection, and then ask the installer to proceed.

5. **If an incompatible version of a shared component is detected by the installer, the Shared Component Upgrades Required list is displayed.**

   For each shared component listed, review the Installed Version against the Required Version to determine if any upgrading will need to be done. You must determine whether the newer versions of shared components are compatible with other installed applications on the host.

6. **Exit the installer and do any upgrading necessary.**

   - For Communications Suite product components, refer to the *Sun Java Communications Suite 5 Upgrade Guide*.
   - For Java ES product components, refer to the *Sun Java Enterprise System 2006Q3 Upgrade Guide*.
   - For shared components, most upgrading can be done during installation.

7. **Repeat the procedure for each host.**

Note – The installer detects the Directory Server version that is distributed with the Solaris OS and warns you that the Directory Server script belonging to the Solaris distribution will be renamed by the installer. No action is required.

Determining If Your Hosts Are Ready

Before you start the installer, review the issues that determine system readiness:

- "Access Privileges" on page 28
- "System Requirements" on page 28
- "Memory, Disk Space, and Swap Space Requirements" on page 28
- "Patch Requirements" on page 28

Access Privileges

To install Communications Suite software, you must be logged in as `root`, or become superuser.

System Requirements

Before you install, ensure that the hosts in your deployment meet the minimum hardware and operating system requirements. For the latest information on the supported platforms and software and hardware requirements, refer to the following:

- For Communications Suite product components, see the*Sun Java Communications Suite 5 Release Notes*.
- For Java ES product components, see "Platform Requirements and Issues" in *Sun Java Enterprise System 5 Release Notes for UNIX*.

If the operating system found on the host does not satisfy Communications Suite recommendations, the installer cannot proceed. You must resolve this problem before installation.

Memory, Disk Space, and Swap Space Requirements

The installer runs a check to determine if your host has sufficient memory and disk space for the components you selected.

- If the memory found on the host does not satisfy Communications Suite recommendations, the installer displays a warning. Installation can proceed, but you should upgrade memory later.
- If the disk space or swap space found on the host is insufficient, the installer cannot proceed. You must resolve the problem before you can resume the installation.

Note – On Solaris 10, memory check is not performed if you are installing into a non-global zone.

Patch Requirements

During installation, the installer will discover any missing software patches. You cannot proceed with installation until these patches are installed.

▼ To Install a Patch

the following example provides an example for installing a Solaris OS patch.

1. **Go to the Sunsolve site:** `http://sunsolve.sun.com`

   (Location for Linux patches: `http://www.redhat.com`)

2. **Click Patches and Updates.**

3. **Enter the patch number in the PatchFinder text box, and click Find Patch.**

4. **Download the zip file for the patch.**

5. **Expand the zip file.**

   For example:
   ```
   unzip 112785-44.zip
   ```

   A directory is created for the patch files.

6. **Apply the patch.**

   For example:
   ```
   patchadd 117885-44
   ```

   A directory is created for the patch files.

7. **In the installer, click Check Again.**

   All system requirements are rechecked. Additional material on patches can be found in the following release notes:

   - Communications Suite – *Sun Java Communications Suite 5 Release Notes*
   - Java ES – *Sun Java Enterprise System 5 Release Notes for UNIX*

Determining If You Can Use an Installation Sequence Example

The order in which you install the product components on the hosts of your system is crucial to installation success. You might be able to use one or more of the sequence examples provided in Chapter 2, "Example Installation Sequences" to guide you. These sequences include the high-level tasks that are required for some typical installations.

Full instructions for planning your installation are contained in the *Sun Java Enterprise System 5 Installation Planning Guide*.

Verifying General Installation Prerequisites

The following table lists the tasks that you should perform before beginning any type of installation. The left column lists the order in which you should perform the tasks. The right column contains the location of instructions and other useful information. Not all tasks are required for all installations.

TABLE 1–3 Preinstallation Checklist

Task	Instructions and Helpful Information
1. Plan your installation.	Refer to the *Sun Java Enterprise System 5 Installation Planning Guide*. If installing Sun Cluster software, see "Sun Cluster Software Example" on page 45. If installing Monitoring Console, see *Sun Java Enterprise System 5 Installation Guide for UNIX*.
2. Determine if any release noted issues affect your installation.	Before performing any of the procedures described in the Installation Guide, you should read the *Sun Java Communications Suite 5 Release Notes* and the *Sun Java Enterprise System 5 Release Notes for UNIX*. These notes contain installation issues that might pertain to your deployment.
3. Survey your hosts for existing software.	Refer to "Surveying Existing Hosts" on page 25. If you need to upgrade Communications Suite product components, refer to the *Sun Java Communications Suite 5 Upgrade Guide*. If you need to upgrade Java ES product components, refer to the *Sun Java Enterprise System 2006Q3 Upgrade Guide*.
4. Upgrade any existing components that are incompatible with the Communications Suite 5 release.	"When Incompatible Components Are Installed" on page 25 *Sun Java Communications Suite 5 Upgrade Guide* *Sun Java Enterprise System 2006Q3 Upgrade Guide* For information on using the platform package commands, refer to their respective man pages.
5. Verify that system requirements are met.	Refer to "Determining If Your Hosts Are Ready" on page 27. *Sun Java Communications Suite 5 Release Notes* and "Platform Requirements and Issues" in *Sun Java Enterprise System 5 Release Notes for UNIX*
6. Determine if an installation sequence example can be used.	Refer to Chapter 2, "Example Installation Sequences."
7. For a Configure Now installation, gather configuration information for product components.	Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX* provides product component configuration information. Chapter 4, "Configuration Worksheets," in *Sun Java Enterprise System 5 Installation Reference for UNIX* provides worksheets for gathering your data.

TABLE 1–3 Preinstallation Checklist *(Continued)*

Task	Instructions and Helpful Information
8. Make a copy of the product registry file. A backup copy is helpful in recovering if installation fails.	Solaris OS: `/var/sadm/install/productregistry` Linux: `/var/opt/sun/install/productregistry`
9. To run as a non-root user for Directory Server, create system accounts before configuring.	Create the necessary system accounts required for non-root.
10. If installing product components that depend on servers or services that are already installed, ensure that the existing servers and services are accessible.	
11. If installing Directory Server, verify that Perl is installed.	Solaris: Perl packages (`SUNWperl5*`) can be found on the Solaris media. Linux: `/usr/bin/perl` must be present before installation. If Perl is not present, use `pkgadd`, `rpm -i`, or `swinstall` to add the packages.
12. If you are installing a communications product component, verify that the domain name of the host on which Access Manager will be installed is set.	To set the domain name, do one of the following: ■ If the file `/etc/resolv.conf` exists, enter the fully qualified domain name in the `domain` configuration entry. Example: `domain mycomputer.company.com` ■ If the file `/etc/resolv.conf` does not exist, enter the following command syntax: `# domainname` *fully_qualified_domain_name*
13. Verify that the second column in the `/etc/hosts` file contains the fully-qualified domain name (FQDN) rather than a simple host name. For example: `192.18.99.999 mycomputer.company.com mycomputer loghost`	
14. Verify that the second column returned by `getent hosts` for your target system contains the FQDN rather than the simple hostname.	For example: `getent hosts` *ip-address*
15. When installing the Load Balancing Plugin with Apache Web Server, Apache Web Server must be installed and configured before beginning installation. On Linux only, you must first install Application Server, then install Apache Web Server, and finally install the Load Balancing Plugin.	If not already done, install and configure Apache Web Server. For more information, see Chapter 4, "Configuring Web Servers for Load Balancing," in *Sun Java System Application Server Enterprise Edition 8.2 High Availability Administration Guide*.

TABLE 1–3 Preinstallation Checklist *(Continued)*

Task	Instructions and Helpful Information
16. If installing Access Manager for deployment on a third-party web container, you must choose the Configure Later type and run a postinstallation configuration script.	For more information, see the *Sun Java System Access Manager 7.1 Postinstallation Guide*.
17. If this is a reinstallation, verify that the Web Server installation directory does *not* exist. If it does, remove or rename the directory.	Default installation directory for Web Server: Solaris OS: `/opt/SUNWwbsvr7` Linux: `/opt/sun/webserver7`
18. If you are upgrading J2SE software, verify that you have stopped other products that depend on the J2SE component you are upgrading.	Refer to the *Sun Java Enterprise System 2006Q3 Upgrade Guide*.

19. If you are implementing Messaging Server, verify that `sendmail` is disabled.	If needed, disable sendmail on Solaris 9 and Linux as follows:
	`/etc/init.d/sendmail stop`
	If needed, disable sendmail on Solaris 10 as follows:
	`svcadm disable sendmail`

20. If your host does not have direct connectivity to the Internet, an HTTP proxy needs to be specified.	An Application Server example can be found in the *Sun Java System Application Server Enterprise Edition 8.2 Administration Guide*
21. On Linux, remove the `/usr/share/bdb/db.jar` link if it exists.	
22. On Linux, verify that Ant 1.5.2 is not on the host: `rpm –qa | grep ant`	To remove it: `rpm –e ant-1.5.2-23 ant–libs-1.5.2-23`
23. On Linux, verify that Korn shell is installed.	To install Korn shell, go to the RPM directory and run the `rpm –i pdksh` command.

Getting the Communications Suite Software

You can get the Communications Suite software in the following ways:

- **As a web download**

  You can download Communications Suite software in several formats from the Sun Download Center at `http://www.sun.com/download`. These formats are available:

  - ISO CD set image of all installation files for a single operating system
  - Compressed archive of all installation files for a single operating system
  - Compressed archive of all installation files for a suite

- **On CD or DVD**

You can get a media kit containing CDs or a DVD at `http://www.sun.com/software/javaenterprisesystem/index.html` or by contacting your Sun sales representative. Each CD set contains the installation files for a single operating system, the installer program, and all the component packages. The DVD contains the installation files for the operating systems, the installer program, and all the component packages.

- **From a file server on your network**

  Depending on the operations procedures at your company, the Communications Suite installation files might be available on your internal network. Contact your system operations or administration staff to find out if this is the case.

  If you are responsible for making the Communications Suite installation files available, see "Making an Installation Image" on page 33.

For a listing of the distribution bundles for this release, refer to Chapter 1, "Java ES Distribution Bundles," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

Making an Installation Image

The Communications Suite distribution is designed so that you can put the installation files in a shared location. The benefit of this is that the installation files can then be run from this shared location as often as needed.

▼ To Create an Image on Your Network

This section provides instructions for making a Solaris SPARC installation image available on your site network.

1 **Log in as `root` or become superuser.**

2 **Create a shared directory on your network. For example:**

```
mkdir shared-location/comms5
```

3 **Access your installation files from the web site, the CD, or the DVD, then prepare the installation files to be shared.**

Note – Installation cannot be done directly from a mounted ISO image. Instead, the image must be copied onto your network.

---

a. **Create an installation image from the mounted ISO image. For example:**

```
unzip compressed-file.zip
lofiadm -a pathname/image.iso /dev/lofi/1
```

If `/dev/lofi/1` is already in use, refer to the `lofiadm` (1M) man page.

```
mkdir mountpoint
mount -F hsfs /dev/lofi/1 mountpoint
cd mountpoint
find . -print | cpio -pdum shared-location/comms5
```

After copying is done, unmount the ISO image:

```
cd
umount mountpoint
lofiadm -d /dev/lofi/l
```

Repeat this step for the remaining ISO images.

b. Create an installation image from the CD or DVD. For example:

```
cd /cdrom/cdrom0
find . -print | cpio -pdum shared-location/comms5
```

Repeat this step for the remaining CDs.

c. Create an installation image from the compressed archive.

For example:

```
cd shared-location/comms5
unzip pathname/archive.zip
```

Repeat this step for the remaining compressed archive files.

Note – If you copy files for multiple platforms to the shared location, you will receive a query similar to the following in relation to the `README` file and the `COPYRIGHT` file:

```
File already exists. OK to overwrite?
```

Type **Yes**. These files are identical for all platforms.

◆ ◆ ◆ CHAPTER 2

Example Installation Sequences

This chapter provides sequencing guidelines for some common Communications Suite installations.

This chapter contains the following sections:

How to Use This Chapter

The example installation sequences in this chapter are intended to provide high-level guidelines for some common Communications Suite installations. These are not literal procedures, but instead provide the sequential steps required to implement particular deployment scenarios.

The single-session examples describe typical steps for installing one or a number of product components on a single host in a single installation session. The remaining examples describe situations where multiple installation sessions are performed on multiple hosts, for a variety of solutions. For the most part, the sequences in this chapter are based on the relationships among the product components as shown in *Sun Java Enterprise System 5 Installation Planning Guide*.

At component selection, the installer identifies incompatible versions of components as well as unmet requirements. You receive warning messages that identify the problem and tell you what you need to do. Many of these messages tell you about requirements that are not yet met. Other messages tell you that incompatible versions of some or all of the components you are trying to install are already on the local host. You can use the installer to identify components that are already on your local host. For instructions, refer to "When Incompatible Components Are Installed" on page 25.

Tip – Installation goes most smoothly if any incompatible versions of Communications Suite components are identified and removed or upgraded before starting the installer.

TABLE 2–1 Installation Sequence Guidelines

Installation Guideline Topic	Description
Sun Cluster software	If you are using this product component with Sun Cluster software, you must perform a precise series of tasks before installing any product components. Communications Suite components that can be configured for Sun Cluster are Calendar Server, Instant Messaging, and Messaging Server. Several Java ES components can also be configured for Sun Cluster. See the *Sun Java Enterprise System 5 Installation Guide for UNIX* for instructions. Also, refer to "Sun Cluster Software Example" on page 45 to see Sun Cluster guidelines.
Monitoring	Monitoring Console cannot be run on the same host as Communications Suite or Java ES product components that it monitors. Therefore, it should be installed on another host in a separate installation session. See the *Sun Java Enterprise System 5 Installation Guide for UNIX* for information on installing Monitoring Console.
Installation-time configuration	The following components can be installed in a Configure Now installation, but configuration cannot be done during installation: Sun Cluster components and Communications Suite components.
Upgrading	You might receive messages asking you to remove or upgrade product components that are already on the host. For some components (Application Server, Message Queue, and HADB), you can return to the beginning of installation and choose to Upgrade Existing Software. After you have upgraded, you can then start the installation. For full instructions on upgrading Communications Suite components without using the installer, see the *Sun Java Communications Suite 5 Upgrade Guide*, for Java ES components, refer to *Sun Java Enterprise System 2006Q3 Upgrade Guide*

TABLE 2–1 Installation Sequence Guidelines *(Continued)*

Installation Guideline Topic	Description
Solaris 10 zones	In a Solaris 10 zones environment, shared components must be installed separately in the global zone before installing into a local zone. Message Queue can only be installed in the global zone, after which it is propagated to all non-global zones.
Remote component	If you are using a remote product component to fulfill dependencies, the remote product component must be installed and running before installing any product components that depend on it.
Third-party component	If you are using a third-party product, such as a WebLogic web container, the third-party product component must be installed and running before installing any Communications Suite product components that depend on it.
Access Manager modes	You must use Access Manager Legacy (6.x) installation type if you are installing Access Manager with Communications Suite product components. Access Manager Realm (7.x) installation type cannot be used with Communications Suite.
LDAP Schema 1	The "Calendar-Messaging Schema 1 Example" on page 55 is the only example based on LDAP Schema 1. All other examples in this chapter are based on Schema 2. See: "Understanding Schema Choices" in *Sun Java Communications Suite 5 Deployment Planning Guide* for more information.

Single-Session Installation Examples

The following examples apply to installing on a single host in a single session:

Evaluation Example

An evaluation installation is generally considered a trial deployment, that is, a quick installation to see how things go. This example uses the graphical interface and the Configure Now type When you are presented with configuration pages, you accept defaults wherever possible.

This example installs all the Communications Suite and Java ES product components except Sun Cluster software on a single host in a single installation session. Because Web Server is used as the web container, Application Server is not installed.

▼ To Develop a Sequence for Evaluation

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Starting the graphical installer**

   Use either the graphical or text-based installer.

4. **At component selection, choosing Select All, then deselecting the Application Server and Sun Cluster software product components**

   The installer verifies software on your host and provides guidance if incompatibilities are identified.

5. **Verifying installation directories**

6. **Selecting the Configure Now type**

   Messages indicate which product components cannot be configured during installation.

7. **Accepting configuration defaults when they are offered**

   If you want to use non-default information, review the appropriate configuration tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

8. **Viewing the Installation Summary and Log**

9. **Completing post-install configuration**

   Chapter 6, "Completing Communications Suite Postinstallation Configuration" contains instructions for post-install configuration.

10. **Starting the product components**

    "Verifying After Post-Installation Configuration" on page 134 contains the preferred Communications Suite startup sequence. Startup procedures follow the table.

Instant Messaging Only Example

This example describes installation of only Instant Messaging in a single session. It is not uncommon for Instant Messaging to be installed in a separate installation session after other product components have been installed and configured.

Note – If you are using single sign-on or Access Manager managed policies, Access Manager is required. For guidelines, refer to "Instant Messaging and Access Manager Example" on page 58.

Sequence Issues

If you are deploying other product components with Instant Messaging, the other product components must be configured before configuring Instant Messaging. Communications Suite product components that are commonly used with Instant Messaging include Messaging Server, Calendar Server, and Portal Server (with Access Manager).

Note – Portal Server installation is not documented in this guide. See the *Sun Java Enterprise System 5 Installation Guide for UNIX* for information on Portal Server.

▼ To Develop a Sequence for Instant Messaging

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Running the installer**

4. **At component selection, choosing Instant Messaging**

   Directory Server and Directory Preparation Tool are automatically selected. If you do not select a web container, you will be prompted to select either Web Server or Application Server to fulfill the Instant Messaging requirement for a local web container.

5. **Resolving incompatibilities**

   The installer verifies software on your host and provides guidance if incompatibilities are identified.

6. **Verifying installation directories**

7. **Selecting the Configure Later type**

   Instant Messaging cannot be configured during installation.

8. **Running the installation**

9. **Viewing the Installation Summary and Log**

10. **Completing post-install configuration**

    "Configuring Instant Messaging After a Configure Later Installation" on page 122

11. **Starting Instant Messaging (after starting any other product components that Instant Messaging might depend on)**

    "Starting and Stopping Instant Messaging Server and Multiplexor" on page 139

The following table contains additional Instant Messaging information.

Task	Relevant Information
Postinstallation configuration	"Configuring Instant Messaging After a Configure Later Installation" on page 122
Starting and stopping	"Starting and Stopping Instant Messaging Server and Multiplexor" on page 139
Uninstalling	"Instant Messaging Uninstallation Behavior" on page 173
Troubleshooting	"Instant Messaging Troubleshooting Tips" on page 208
Upgrading	*Sun Java Communications Suite 5 Upgrade Guide*
Deployment scenarios	*Sun Java Communications Suite 5 Deployment Planning Guide*

Solaris 10 Zones

This section contains a brief description of Solaris 10 zones support for the current release of Communications Suite. An installation sequence example is included. The following topics are addressed in this section:

Overview of Solaris Zones

The Solaris 10 zones (also known as Solaris containers) feature provides a means of creating virtualized operating system environments within an instance of Solaris OS. This allows one or more processes to run in isolation from other activities on the host. For example, a process running in a zone will only be able to send signals to other processes in the same zone, regardless of user ID and other credential information.

Every Solaris 10 host contains a single global zone. The *global zone* is both the default zone for the host and the zone used for system-wide administrative control. All processes run in the global zone if no non-global zones are created by the global administrator. Some product components, such as Sun Cluster software can only be installed in the global zone. A *non-global zone* can be thought of as a box. One or more applications can run in this box without interacting with the rest of the host. Each non-global zone has what appears to be its own instance of an installed Solaris 10 operating system with configuration and other information unique to that non-global zone. The default configuration for a non-global zone is to share portions of its file system with the global zone. *Propagation* provides non-global visibility and availability to packages that are installed in the global zone.

There are two types of non-global zones supported: whole root zone and sparse root zone. A *whole root zone* contains a read/write copy of the file system that exists in the global zone. When a whole root non-global zone is created, all packages that are installed on the global zone are made available to the whole root zone. A package database is created and all packages are copied onto the non-global zone, creating a dedicated and independent copy of all files.

A *sparse root zone* contains a read/write copy of only a portion of the file system existing on the global zone, while other file systems are mounted read-only from the global zone as loopback virtual file systems. The global administrator selects which file systems to share with a sparse root zone at the time the sparse root zone is created. Regardless of zone type, when a package is added to the global zone it is, by default, propagated to all non-global zones. In other words, the package is installed in the global zone as well as all non-global zones. This propagation behavior can optionally be suppressed when the package is added, thus restricting the package to the global zone only.

For your zones deployment to succeed, it is crucial that you plan the tasks and sequence of those tasks very carefully. Communications Suite components can potentially be installed in any of three types of zones in an almost unlimited set of combinations, and in almost any order. In some cases, the order in which Communications Suite product components are installed, and the order in which non-local zones are created, can be very important. For a full description of planning for using Communications Suite in a Solaris zones environment, refer to the *Sun Java Enterprise System 5 Installation Planning Guide*.

Zones Support for This Release of Communications Suite

The following list describes the level of zones support for this release of Communications Suite:

1. Both whole root zones and sparse root zones are supported.
2. Communications Suite can be installed in the global zone when non-global zones already exist.
3. Non-global zones can be created after Communications Suite is installed in the global zone.
4. Communications Suite can be installed in the global zone even when Communications Suite has already been installed in the whole root non-global zone. Also, Communications Suite can be installed in a whole root non-global zone even if another Communications Suite installation is already installed in the global zone.
5. All shared components in a zone must be from the same release of Communications Suite. Shared components are automatically synchronized to match the most recent Communications Suite release.
6. Whole root and sparse root deployments of Communications Suite should not be mixed on a single computer.
7. Communications Suite can be installed into non-global sparse root zones with the following exceptions:
   - Sun Cluster software, Sun Cluster Geographic Edition, and Sun Cluster Agents can only be installed in the global zone.
   - Message Queue can only be installed or upgraded in the global zone, or in a whole root non-global zone.
   - Before Application Server can be installed into the non-global sparse root zone, any version of Application Server that is bundled with the operating system must be removed from the global zone.
   - The installer does not install shared components or Message Queue into sparse zones. If you attempt to do this, installation halts and you receive a message telling you that shared components and Message Queue must bed installed in the global zone.
8. The installer controls propagation of the packages it installs in the global zone:
   - Shared components always propagate.
   - Message Queue always propagates.
   - All other product components never propagate.
9. The Sun Java Web Console shared component can only be upgraded in the global zone.

Solaris 10 Whole Root Zones Example

This is an example of installing Communications Suite software in a Solaris 10 whole root non-global zone.

▼ To Develop a Sequence for Solaris 10 Zones (Whole Root)

The following high-level tasks are required:

1. **Verifying that Solaris 10 is installed on your host**

   The global zone is automatically created.

2. **Verifying that all the non-global zones specified in your implementation plan have been created by the global zone administrator as "whole root" zones**

   For information on creating non-global zones, refer to Chapter 18, "Planning and Configuring Non-Global Zones (Tasks)," in *System Administration Guide: Solaris Containers-Resource Management and Solaris Zones*.

3. **Starting the installer in the global zone, and selecting only shared components at component selection.**

   Select only Shared Components at component selection; no other components should be selected. When shared component installation is complete, the shared component are in the global zone and are also propagated to all non-global zones.

   Note – Shared components can be installed into a whole root local zone with the exception of Sun Java Web Console. If the installer detects a bundled version of Sun Java Web Console, you cannot proceed until Sun Java Web Console is removed or upgraded from the global zone.

   ---

4. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

5. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

6. **Starting the installer in the desired non-global zone**

7. **At component selection, choosing the components you want**

   Some components cannot be installed in a non-global zone because they require access to global zone capabilities. These components are unavailable at component selection.

8. **Running the installation**

9. **Viewing the Installation Summary and Log**

10 Completing postinstallation configuration as needed

Chapter 6, "Completing Communications Suite Postinstallation Configuration" provides post-installation configuration instructions.

11 Starting product components

Chapter 7, "Verifying Installed Product Components" provides procedures for starting and stopping the product components.

12 Repeating this process in additional non-global zones as needed

Solaris 10 Sparse Root Zones Example

This is an example of installing Communications Suite software in a Solaris 10 sparse root non-global zone.

▼ To Develop a Sequence For Solaris 10 Zones (Sparse Root)

1 Verifying that Solaris 10 is installed on your host

The global zone is automatically created.

2 Verifying that all the non-global zones specified in your implementation plan have been created by the global zone administrator as "sparse root" zones

For information on creating non-global zones, refer to Chapter 18, "Planning and Configuring Non-Global Zones (Tasks)," in *System Administration Guide: Solaris Containers-Resource Management and Solaris Zones*.

3 Checking the installation sequence guidelines

Check to see what guidelines apply to this example and make adjustments as needed.

4 Checking the installation prerequisites

Check to see what tasks you might need to perform for this installation before starting.

5 Starting the installer in the global zone, and selecting only shared components at component selection.

Select only Shared Components at component selection; no other components should be selected. When shared component installation is complete, the shared component are in the global zone and are also propagated to all non-global zones.

6. **If Message Queue is being used, upgrading Message Queue in the global zone**

   Message Queue comes bundled with Solaris 10 and an incompatible version must be upgraded or removed. After upgrade, Message Queue is in the global zone and is also propagated to the non-global zones.

7. **If Application Server is being used, Application Server must be removed.**

   Application Server comes bundled in Solaris 10 and must be removed from the global zone. Use the `pkginfo –I | grep –I "application server"` command to list the Application Server packages that are on the host. After removing the Application Server packages, Application Server can be installed with the other product components in the non-global zone.

8. **Starting the installer in the desired non-global zone**

9. **At component selection, choosing the components you want**

   Some components cannot be installed in a non-global zone because they require access to global zone capabilities. These components are unavailable at component selection.

10. **Running the installation**

11. **Viewing the Installation Summary and Log**

12. **Completing postinstallation configuration as needed**

    Chapter 6, "Completing Communications Suite Postinstallation Configuration" provides post-installation configuration instructions.

13. **Starting product components**

    Chapter 7, "Verifying Installed Product Components" provides procedures for starting and stopping the product components.

14. **Repeating this process in additional non-global zones as needed**

Sun Cluster Software Example

Communications Suite product components that can be configured to run in a cluster instead of on a single server include Calendar Server, Messaging Server, and Instant Messaging.

This example installs Messaging Server in a Sun Cluster framework.

Before you install or configure Sun Cluster software, ensure that the combination of hardware and software that you choose for your cluster is currently a supported Sun Cluster configuration. For guidelines on implementing Sun Cluster software within a Communications

Suite environment, refer to Chapter 2, "Installing Software on the Cluster," in *Sun Cluster Software Installation Guide for Solaris OS* and also see *Sun Cluster 3.1 8/05 With Sun Java Enterprise System 5 Special Instructions*.

Requirements and Sequencing Issues

Messaging Server requires Directory Server, but not necessarily a local copy. You will need the Sun Cluster Core component as well as the Sun Cluster Agents for Directory Server and Messaging Server. If a remote Directory Server is used, then the Sun Cluster Agent for Directory Server is not required.

Installing, configuring, and starting the product components in the correct order is crucial for a successful Sun Cluster implementation.

1. Installing the Sun Cluster product component
2. Configuring the Sun Cluster framework
3. Installing the additional product components that are required for Messaging Server to operate in the cluster
4. Configuring the Sun Cluster data services using the agents for the relevant product components

At least two installation sessions are performed on each node in the cluster.

Phase I. Installing and Configuring the Sun Cluster Framework

The following tasks must be performed on all nodes in the cluster.

▼ To Develop a Sequence for the Sun Cluster Framework

1 Verifying that the hardware is connected correctly for the cluster

- *Sun Cluster 3.0–3.1 Hardware Collection for Solaris OS (SPARC Platform Edition)* `http://docs.sun.com/coll/1024.1`
- *Sun Cluster 3.0–3.1 Hardware Collection for Solaris OS (x86 Platform Edition)* `http://docs.sun.com/coll/1142.1`

2 Checking the installation sequence guidelines

Check to see what guidelines apply to this example and make adjustments as needed.

3 Checking the installation prerequisites

Check to see what tasks you might need to perform for this installation before starting.

4 **Running the installer**

On Solaris 10, Sun Cluster software can only be installed in the global zone.

5 **At component selection, choosing only the Sun Cluster product component**

Tip – During a Configure Now installation (usually where you have chosen to install all product components), you are prompted whether to enable support for remote Sun Cluster configuration. If you select Yes, postinstallation configuration for Sun Cluster software will be easier.

---

6 **Selecting the Configure Later type**

7 **If needed, manually installing the Sun Cluster support for additional features: RSMAPI (`SUNWscrif`), SCI-PCI adapters (`SUNWsci`), RSMRDT drivers (`SUNWscrdt`)**

Refer to the *Sun Cluster Software Installation Guide for Solaris OS* for further information.

8 **Following the instructions to configure the Sun Cluster Framework for each host in the cluster**

Follow instructions in Chapter 2, "Installing Software on the Cluster," in *Sun Cluster Software Installation Guide for Solaris OS*. When the Sun Cluster documentation refers to a Sun Cluster CD-ROM, substitute the name of the equivalent Communications Suite CD-ROM.

For documentation on creating resource groups and configuring data services, refer to the *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*.

Phase II. Installing and Configuring Product Components and Agents

The following tasks must be performed on all nodes in the cluster.

▼ To Develop a Sequence for Configuring Product Components and Agents

1 **Running the installer**

2 **At component selection, choosing the following:**

a. **Messaging Server**

Directory Server and the Directory Preparation Tool are automatically selected.

(Optional) If you are using a remote copy of Directory Server, deselect Directory Server and specify a remote copy when prompted.

b. Sun Cluster Agents for Sun Java™ System

All agents are selected by default.

c. Expanding the Sun Cluster Agents for Sun Java System product component and deselecting all agents *except* Directory Server and Messaging Server

3 Resolving incompatibilities

The installer verifies software on your node and provides guidance if incompatibilities are identified.

4 Verifying installation directories

5 Selecting the Configure Now or Configure Later type

Messaging Server and Sun Cluster Agents cannot be configured during installation.

6 Configuring all the selected product components except Sun Cluster Agents

- "Messaging Server Postinstallation Configuration" on page 123

  When specifying installation directories, use a location on a cluster file system for Messaging Server.

7 Starting all the product components except Sun Cluster Agents, in this order:

a. "Starting and Stopping Directory Server" on page 139

b. "Starting and Stopping Messaging Server" on page 141

8 Configuring the data services for the product components you have installed and configured

"Sun Cluster Data Services Configuration" on page 125

The following table contains additional Sun Cluster information.

Task	Relevant Information
Postinstallation configuration information	"Phase I. Sun Cluster Framework" on page 113 "Sun Cluster Data Services Configuration" on page 125
Starting and stopping	"Stopping and Rebooting Sun Cluster Software" on page 143
Uninstalling	"Sun Cluster Software and Sun Cluster Geographic Edition Uninstallation Behavior" on page 175

Task	Relevant Information
Upgrading	*Sun Java Enterprise System 2006Q3 Upgrade Guide*

Access Manager SDK With Container Configuration Example

This example installs Access Manager SDK, using a copy of Access Manager that is already installed on a remote host.

Note – To use this sequence example, also refer to known issue 6293225 in the *Sun Java Enterprise System 5 Release Notes for UNIX*.

Requirements

Before you install Access Manager SDK, the Access Manager core services must be installed and running on a remote host. The web container information and Directory Server configuration information that you provide in this installation example must match the web container and Directory Server configuration information that you provided during installation of Access Manager core services.

Note – When the installer asks for information about the remote web container and Directory Server, default values are displayed based on the local host.

Do not accept the default values; use them only as examples of format. Instead, you must supply the correct information for the remote host.

The installer does not allow you to configure the web container when you are installing only the Access Manager SDK.

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting Access Manager core services**

   "Identity Management Example" on page 66

▼ To Develop a Sequence for Host B

The following high-level tasks are required:

1. **Checking the installation sequence guidelines.**
   Check to see what guidelines apply to this example and make adjustments as needed.
2. **Checking the installation prerequisites.**
   Check to see what tasks you might need to perform for this installation before starting.
3. **Running the installer.**
4. **At component selection, choosing Access Manager SDK.**
5. **Resolving incompatibilities.**
   The installer verifies software on your host and provides guidance if incompatibilities are identified.
6. **Selecting the Configure Later type.**
7. **Running the installation.**
8. **Viewing the Installation Summary and Log.**
9. **Verifying that your web container is installed and running.**
10. **Editing the `amsamplesilent` file.**

    a. **Make a copy the `amsamplesilent` file.**
       Solaris: *AccessManager-base*`/SUNWam/bin`

       Linux: `/opt/sun/identity/bin`

    b. **By default, many settings are commented out in the `amsamplesilent` file. Uncomment only the following settings:**

       - `SERVER_NAME`
       - `SERVER_HOST`
       - `SERVER_PORT`
       - `ADMIN_PORT`
       - `DS_HOST`
       - `DS_DIRMGRPASSWD`
       - `ROOT_SUFFIX`
       - `ADMINPASSWD`
       - `AMLDAPUSERPASSWD`

- COOKIE_DOMAIN
- AM_ENC_PWD
- NEW_OWNER
- NEW_GROUP
- PAM_SERVICE_NAME
- WEB_CONTAINER

c. Modify only the following parameters in the `amsamplesilent` file:

- DEPLOY_LEVEL should be set to 4.
- SERVER_HOST and SERVER_PORT should be set to the host and port of the full server which will be used by Access Manager SDK.
- DS_HOST, DS_DIRMGRPASSWD, and ROOT_SUFFIX should be set to the hostname, directory manager password, and root suffix of the Host A Directory Server.
- ADMINPASSWD and AMLDAPUSERPASSWD should be set to the amadmin and amldapuser passwords used on Host A.
- AM_ENC_PWD should be set to the password encryption key used on Host A. For the Access Manager SDK, use the same encryption key for AM_ENC_PWD as the encryption key specified during the remote installation of Access Manager on Host B. Use one of the following commands to obtain this value:

  Solaris: `grep pwd /etc/opt/SUNWam/config/AMConfig.properties`

  Linux: `grep pwd /etc/opt/sun/identity/config/AMConfig.properties`
- WEB_CONTAINER should be set to the corresponding value for the web container being used.
- BASEDIR should be set to the install directory used during the Configure Later installation of Access Manager SDK.
- AM_REALM should be set to Enabled if realm mode is used on Host A, and Disabled if legacy mode is used on Host A.
- Find the settings corresponding to the web container that will be used for the SDK and modify these settings with the details of the web container. For example, if WEB_CONTAINER is set to WS (Sun Java System Web Server), then you should modify the settings which are prefixed by WS_ (WS_INSTANCE , WS_HOME, WS_PROTOCOL and so on.)

11 As root, use the edited `amsamplesilent` file to deploy Access Manager.

```
./ amconfig -s ./am.sdk_install
```

12 Restarting your web container

Calendar Server and Messaging Server Example

This example installs Calendar Server and Messaging Server in a 3-host Schema 2 environment. Remote copies of Access Manager and Directory Server are used.

Note – For a Schema 1 example, refer to "Calendar-Messaging Schema 1 Example" on page 55.

Requirements and Sequence Issues

Access Manager is required if you are implementing single sign-on or Access Manager managed policies. In this case, either Access Manager or a local copy of the Access Manager SDK is required. Access Manager SDK requires Access Manager, but not necessarily a local copy. Calendar Server and Messaging Server both require Directory Server, but not necessarily a local copy.

In this example, remote copies of Directory Server and Access Manager are used. Access Manager requires a local web container.

- If you are using this product component with Sun Cluster software, you must perform a precise series of tasks before installing any product components. Refer to "Sun Cluster Software Example" on page 45
- The remote Directory Server must be installed and running before installing any product components that depend on it.
- The remote Access Manager must be running before installing Access Manager SDK. For instructions on installing Access Manager, refer to "Identity Management Example" on page 66

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting Directory Server**

4. **Running the Directory Preparation Tool.**

To Develop a Sequence for Host B

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting the web container and Access Manager (deselecting Directory Server)**

   "Identity Management Example" on page 66

To Develop a Sequence for Host C

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Running the installer**

4. **At component selection, selecting Calendar Server, Messaging Server, and Access Manager SDK**

   Directory Server and Directory Preparation Tool are automatically selected.

5. **Deselecting Directory Server and specifying a remote copy when prompted**

6. **Resolving incompatibilities**

   The installer verifies software on your host and provides guidance if incompatibilities are identified.

7. **Verifying installation directories**

8. **Selecting the Configure Now type**

   Calendar Server and Messaging Server cannot be configured during installation.

   Configuration pages are displayed for the local product components that can be configured during installation. Do not accept defaults for product components that are remote; use the remote information. Gather your configuration information from the tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

9 Running the installation

10 Viewing the Installation Summary and Log

11 Completing post-install configuration, including specifying remote product components

- "Calendar Server Postinstallation Configuration" on page 119
- "Messaging Server Postinstallation Configuration" on page 123

12 Starting the product components in this order:

a. "Starting and Stopping Messaging Server" on page 141

b. "Starting and Stopping Calendar Server" on page 137

The following table contains additional Calendar Server information.

Task	Relevant Information
Postinstallation configuration	"Calendar Server Postinstallation Configuration" on page 119
Starting and stopping	"Starting and Stopping Calendar Server" on page 137
Uninstalling	"Calendar Server Uninstallation Behavior" on page 170
Troubleshooting	"Calendar Server Troubleshooting Tips" on page 206
Upgrading	*Sun Java Communications Suite 5 Upgrade Guide*

The following table contains additional Messaging Server information.

Task	Relevant Information
Postinstallation configuration	"Messaging Server Postinstallation Configuration" on page 123
Starting and stopping	"Starting and Stopping Messaging Server" on page 141
Uninstalling	"Messaging Server Post-uninstallation" on page 187 "Messaging Server Uninstallation Behavior" on page 174
Troubleshooting	"Messaging Server Troubleshooting Tips" on page 210

Task	Relevant Information
Upgrading	*Sun Java Communications Suite 5 Upgrade Guide*

Calendar-Messaging Schema 1 Example

This example installs Calendar Server and Messaging Server in an LDAP Schema 1 environment on two hosts. A remote version of Directory Server is used.

Requirements

Both Calendar Server and Messaging Server require Directory Server, but not necessarily a local copy.

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**
   Check to see what guidelines apply to this example and make adjustments as needed.
2. **Checking the installation prerequisites**
   Check to see what tasks you might need to perform for this installation before starting.
3. **Installing Directory Server and Directory Preparation Tool**
4. **Running Directory Preparation Tool.**
5. **Start Directory Server.**

▼ To Develop a Sequence for Host B

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**
   Check to see what guidelines apply to this example and make adjustments as needed.
2. **Checking the installation prerequisites**
   Check to see what tasks you might need to perform for this installation before starting.
3. **Running the installer.**

4. **At component selection, choosing Calendar Server and Messaging Server**

   Directory Server and the Directory Preparation Tool are automatically selected.

5. **Deselecting Directory Server**

   When you are prompted to choose a local or remote Directory Server, choose remote (the Directory Server that is already installed and running on Host A).

6. **Resolving incompatibilities**

   The installer verifies software on your host and provides guidance if incompatibilities are identified.

7. **Selecting the Configure Now type**

   You will receive a message that Calendar Server and Messaging Server cannot be configured during installation.

8. **Running the installation**

9. **Viewing the Installation Summary and Log**

10. **Completing any post-install configuration:**

    - "Calendar Server Postinstallation Configuration" on page 119
    - "Messaging Server Postinstallation Configuration" on page 123

11. **Starting the product components in this order:**

    a. **"Starting and Stopping Messaging Server" on page 141**

    b. **"Starting and Stopping Calendar Server" on page 137**

Communications Express and Messaging Server Example

This example installs Communications Express for messaging services in a 2-host Schema 2 environment. A remote copy of Directory Server is used.

Requirements and Sequence Issues

Communications Express requires either Access Manager or the Access Manager SDK for Schema 2. A local copy of Access Manager SDK is always required, but you can use a remote copy of Access Manager. Directory Server is required for Access Manager and Communications Express, but Directory Server does not need to be on the local host. Communications Express requires a local web container which can be either Application Server or Web Server.

To use messaging services, Communications Express requires Messaging Server, but Messaging Server does not need to be on the local host. To use calendar services, Communications Express requires Calendar Server, but Calendar Server does not need to be on the local host. This example uses messaging services.

- If you are using Messaging Server or Web Server with Sun Cluster software, you must perform a precise series of tasks before installing any product components. Refer to "Sun Cluster Software Example" on page 45 to see Sun Cluster guidelines.
- The remote Directory Server must be installed and running before installing any product components that depend on it.

To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting Directory Server**

To Develop a Sequence for Host B

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Running the installer**

4. **At component selection, choosing Communications Express, Access Manager, Messaging Server, and Web Server**

   Directory Server and the Directory Preparation Tool are automatically selected.

5. **Deselecting Directory Server**

   When you are prompted to choose a local or remote Directory Server, choose remote (the Directory Server that is already installed and running on Host A).

6 **Resolving incompatibilities**

The installer verifies software on your host and provides guidance if incompatibilities are identified.

7 **Selecting the Configure Now type**

Communications Express cannot be configured during installation, and will require postinstallation configuration.

Configuration pages are displayed for those product components that can be configured during installation.

8 **Reviewing the configuration pages**

9 **Running the installation**

10 **Viewing the Installation Summary and Log**

11 **Completing post-install configuration:**

- "Access Manager Postinstallation Configuration" on page 113
- "Messaging Server Postinstallation Configuration" on page 123
- "Communications Express Postinstallation Configuration" on page 120

12 **Starting the product components**

- "Starting and Stopping Messaging Server" on page 141
- "Starting and Stopping Web Server" on page 143 (Access Manager automatically starts)

13 **Using the following URL to access the default Communications Express login page:**

`http://`*web-container-host:web-container-port/ uri-path-CommsExpress*

The default of `/uwc` and be changed for *uri-path-CommsExpress* during configuration.

14 **Using the following URL to access the default Access Manager Login page:**

`http://`*web-container-host*:*web-container-port* `/amserver/UI/Login`

Instant Messaging and Access Manager Example

Depending on the required functionality, Instant Messaging could use Access Manager, Messaging Server, or Calendar Server product components. This example installs Instant Messaging with Access Manager, using a required remote Directory Server, and Web Server as the web container.

Requirements and Sequence Issues

If you are using Access Manager with Instant Messaging, you must also use Access Manager SDK. For the Instant Messaging Server Core subcomponent, Access Manager is required, but not necessarily a local copy (or you can use the files system for policy and storage). For the Instant Messaging Core subcomponent, the Access Manager SDK must be local to Instant Messaging. During installation of Access Manager SDK, you need to configure Access Manager SDK to communication to the remote Access Manager server. The Access Manager Resources subcomponent requires a web container, which must be local. If you use Access Manager, Directory Server is required, but not necessarily a local copy.

If you are deploying other product components with Instant Messaging, the other product components must be configured before configuring Instant Messaging.

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Running the installer**

4. **At component selection, choosing the Access Manager and Directory Server**

5. **Resolving incompatibilities**

   The installer verifies software on your host and provides guidance if incompatibilities are identified.

6. **Verifying installation directories**

7. **Selecting the Configure Now or Configure Later type**

   a. **For the Configure Now type, configuration pages are displayed for Web Server.**

      Gather your configuration information from the tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

   b. **For the Configure Later type, configuration pages are not displayed.**

8. **Running the installation**

9 Viewing the Installation Summary and Log

10 Completing post-install configuration

- "Access Manager Postinstallation Configuration" on page 113

11 Starting the product components in this order:

a. "Starting and Stopping Directory Server" on page 139

b. "Starting and Stopping Access Manager" on page 135

▼ To Develop a Sequence for Host B

The following high-level tasks are required:

1 Checking the installation sequence guidelines

Check to see what guidelines apply to this example and make adjustments as needed.

2 Checking the installation prerequisites

Check to see what tasks you might need to perform for this installation before starting.

3 Running the installer

4 At component selection, choosing the Instant Messaging Resources subcomponent and Web Server

5 Resolving incompatibilities

The installer verifies software on your host and provides guidance if incompatibilities are identified.

6 Verifying installation directories

7 Selecting the Configure Now or Configure Later type

Instant Messaging cannot be configured during installation.

a. For the Configure Now type, configuration pages are displayed for Web Server.

Gather your configuration information from the tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

b. For the Configure Later type, configuration pages are not displayed.

8 Running the installation

9 **Viewing the Installation Summary and Log**

10 **Completing post-install configuration**

- "Web Server Postinstallation Configuration" on page 124
- "Configuring Instant Messaging After a Configure Later Installation" on page 122 For the remote product components: During Instant Messaging configuration, specify the remote location (Host A) for Directory Server and Access Manager.

11 **Starting the product components in this order:**

a. **"Starting and Stopping Web Server" on page 143**

b. **"Starting and Stopping Instant Messaging Server and Multiplexor" on page 139**

▼ To Develop a Sequence for Host C

The following high-level tasks are required:

1 **Checking the installation sequence guidelines**

Check to see what guidelines apply to this example and make adjustments as needed.

2 **Checking the installation prerequisites**

Check to see what tasks you might need to perform for this installation before starting.

3 **Running the installer**

4 **At component selection, choosing Instant Messaging Core Server subcomponent and theAccess Manager SDK subcomponent**

Directory Server is automatically selected.

5 **Deselecting Directory Server and specifying the remote copy when prompted**

6 **Resolving incompatibilities**

The installer verifies software on your host and provides guidance if incompatibilities are identified.

7 **Verifying installation directories**

8. **Selecting the Configure Now or Configure Later type**

   Instant Messaging cannot be configured during installation.

   a. **For the Configure Now type, configuration pages are displayed for Web Server.**

      Gather your configuration information for Access Manager SDK from the tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

   b. **For the Configure Later type, configuration pages are not displayed.**

9. **Running the installation**

10. **Viewing the Installation Summary and Log**

11. **Completing post-install configuration**

    - "Access Manager Postinstallation Configuration" on page 113
    - "Configuring Instant Messaging After a Configure Later Installation" on page 122 For remote product components: During Instant Messaging configuration, specify the remote location (Host A) for Directory Server and Access Manager.

12. **Starting the product components in this order:**

    a. **"Starting and Stopping Access Manager" on page 135**

    b. **"Starting and Stopping Instant Messaging Server and Multiplexor" on page 139**

Communications Suite Example

This example installs most of the Java ES and Communications Suite product components to implement communication and collaboration services across four hosts.

Requirements and Sequence Issues

Directory Server is required for all the communications product components, but not necessarily a local copy. Access Manager or the Access Manager SDK is required, but Access Manager can be remote. In this example, Web Server fulfills the Access Manager requirement for a web container. Although Calendar Server and Messaging Server do not require a local web container, Communications Express does. Communications Express can use remote copies of Calendar Server and Messaging Server.

To implement single sign-on, Instant Messaging requires Access Manager and a local or remote web container. Portal Server Secure Remote Access requires Access Manager and a local web

container. Portal Server Secure Remote Access must be installed in the same location as Portal Server. Access Manager and Portal Server cannot use different web containers.

For large deployments, you might deploy each product component on a separate server, in approximately the same order shown in this example. For small deployments, product components are installed in separate installation sessions on fewer servers.

In this example, the following installation sessions are used:

- **Session 1, Host A:** Installing Access Manager, Directory Server, and Directory Preparation Tool
- **Session 2, Host B:** Installing Portal Server and Web Server (using remote Directory Server and Access Manager on Host A)
- **Session 3, Host C:** Installing Calendar Server (using remote Directory Server and Access Manager on Host A)
- **Session 4, Host D:** Installing Communications Express, Messaging Server, Access Manager SDK, and Web Server (using remote Directory Server and Access Manager on Host A, and remote Calendar Server on Host C)
- **Session 5, Host D**: Installing Instant Messaging (using remote Directory Server and Access Manager on Host A) after the other product components are installed and functioning
- **Session 6, Host D:** Installing Portal Server Secure Remote Access (using remote Directory Server and Access Manager on Host A)

  By dividing the installation into a number of sessions, you are able to verify the product components in each session before proceeding to the next session.

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing Access Manager, Directory Server, and Directory Preparation Tool**

   "Identity Management Example" on page 66

4. **Running Directory Preparation Tool**

5. **Starting Access Manager and Directory Server**

To Develop a Sequence for Host B

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting Portal Server and Web Server, specifying the remote Access Manager and Directory Server that are installed and running on Host A**

   A web container and the Access Manager SDK must be local to Portal Server.

To Develop a Sequence for Host C

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting Calendar Server, specifying the remote Access Manager and Directory Server that are installed on Host A**

   Access Manager SDK must be local to Messaging Server and Calendar Server.

   Install only Calendar Server using the "Calendar Server and Messaging Server Example" on page 52.

To Develop a Sequence for Host D (First Session)

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing Communications Express, Messaging Server, Access Manager SDK, and Web Server using the Configure Later type**

4. **Performing Web Server post-installation configuration**

   "To Configure Web Server After a Configure Later Installation" on page 125

5. **Performing AM SDK configuration to work with the local Web Server and the remote Access Manager**

   "Access Manager SDK With Container Configuration Example" on page 49

6. **Performing Messaging Server post-installation configuration**

   "Messaging Server Postinstallation Configuration" on page 123

7. **Starting Messaging Server**

   "To Start Messaging Server" on page 141

8. **Performing Communications Express post-installation configuration**

   During this configuration, provide information for Access Manager on Host A, Calendar Server on Host C, and Messaging Server on Host D.

   "To Configure Communications Express After a Configure Later Installation" on page 120

9. **Restarting Web Server on Host D**

   "Starting and Stopping Web Server" on page 143

▼ To Develop a Sequence for Host D (Second Session)

The following high-level tasks are required:

1. **Installing Instant Messaging**

   "Instant Messaging Only Example" on page 39

2. **Performing Instant Messaging post-installation configuration**

   "Instant Messaging Postinstallation Configuration" on page 121

▼ To Develop a Sequence for Host D (Third Session)

The following high-level tasks are required:

1. **Installing Portal Server Secure Remote Access, specifying the remote Access Manager and Directory Server that are installed on Host A**

   As a Portal Server Secure Remote Access requirement, Portal Server is also installed.

2. **Establishing an initial user and setting up single sign-on**

Identity Management Example

In this example, identity management is implemented by installing Access Manager and Directory Server, with Directory Server on a remote host.

Requirements

Access Manager requires Directory Server, but not necessarily a local copy. Access Manager requires a web container, which in this example is Web Server. The remote Directory Server must be running before installing any other product components.

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Installing and starting Directory Server**

▼ To Develop a Sequence for Host B

The following high-level tasks are required:

1. **Checking the installation sequence guidelines**

   Check to see what guidelines apply to this example and make adjustments as needed.

2. **Checking the installation prerequisites**

   Check to see what tasks you might need to perform for this installation before starting.

3. **Running the installer**

4. **At component selection, choosing Access Manager and Web Server**

   Directory Server and the Directory Preparation Tool are automatically selected.

5. **Deselect Directory Server and specify a remote copy when prompted.**

6. **Resolving incompatibilities**

   The installer verifies software on your host and provides guidance if incompatibilities are identified.

7 Selecting the Configure Now or Configure Later type

a. For the Configure Now type, configuration pages are displayed for those product components that allow installation-time configuration. Do not accept defaults for product components that are remote; use the remote information.

You will need to gather your configuration information from the tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

b. For the Configure Later type, configuration pages are not displayed.

8 Running the installation

9 Viewing the Installation Summary and Log

10 Completing any post-install configuration

For Configure Now:

"Configuring Access Manager After a Configure Now Installation" on page 114

For Configure Later:

- "Web Server Postinstallation Configuration" on page 124
- "Configuring Access Manager After a Configure Later Installation" on page 116

11 Starting the product components

"Starting and Stopping Web Server" on page 143 (Access Manager starts automatically.)

12 Accessing the default Access Manager login page for Realm Mode

`http://`*webserver-host*`:`*port*`/amserver`

13 Establishing an initial user and setting up single sign-on

For a full scenario showing how to establish an initial user and implementing single sign-on, refer to the *Sun Java Enterprise System 2005Q1 Deployment Example Series: Evaluation Scenario*.

Web and Application Services Example

HADB (used for high availability session storage) works with Application Server to provide failover capabilities that include session persistence.

This example provides guidelines for implementing a two-node HADB cluster with load balancing. However, a preferred solution is to install HADB on four hosts with nothing else

installed on them. The domain administration server (DAS) with a copy of HADB for administration and a load balancer and Web Server would be installed on a separate machine.

On a partitioned operating system, a preferred solution is that two servers be installed (either host or zone) with at least one HADB process running on each.

Requirements and Sequence Issues

Application Server requires a local copy of HADB and Message Queue. Application Server and HADB must be on the same host so you can use the integrated management tools provided by Application Server. The Load Balancing Plugin subcomponent of Application Server requires a web server. This example uses the Web Server as the container.

The general tasks include:

1. Installing the product components
2. Starting the servers
3. Configuring HADB
4. Configuring load balancing

You can use the following guidelines to install all product components on a node or zone. On subsequent nodes, install the product components required by your deployment. A minimum of two installation sessions are required.

▼ To Develop a Sequence for Web and Application Services

The following high-level tasks are required:

1 Checking the installation sequence guidelines

Check to see what guidelines apply to this example and make adjustments as needed.

2 Checking the installation prerequisites

Check to see what tasks you might need to perform for this installation before starting.

3 Verifying that the hardware is connected correctly for your cluster

4 Running the installer

5 At component selection, choosing Application Server

Message Queue, HADB, and all the subcomponents of Application Server except the Application Server Node Agent and Load Balancing Plugin are automatically selected.

6 Expanding the Application Server product component and selecting Load Balancing Plugin.

Note – You must install Web Server and Load Balancing Plug-in using the same file system access permissions.

7 **Resolving incompatibilities**

The installer verifies software on your host and provides guidance if incompatibilities are identified.

8 **Selecting the Configure Now type**

Message Queue requires no configuration.

The configuration pages are displayed for product components that can be configured during installation. Gather your configuration information from the table in "HADB Configuration Information" in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

9 **Running the installation**

10 **Viewing the Installation Summary and Log**

11 **Starting the product components:**

- "Starting and Stopping Application Server" on page 136 (Message Queue automatically starts.)
- "Starting and Stopping Web Server" on page 143

12 **Completing HADB postinstallation configuration**

Refer to "Configuring HADB After a Configure Later Installation" on page 121.

13 **Completing load balancing configuration**

Refer to the Chapter 5, "Configuring HTTP Load Balancing," in *Sun Java System Application Server Enterprise Edition 8.2 High Availability Administration Guide*.

Non-Root Examples

This section contains the following non-root example:

- "Access Manager Configured to Run as a Non-root User Example" on page 70

This example uses Web Server as the web container. If the Web Server administration runtime user is non-root, then the Web Server instance runtime user needs to be the same non-root user. If the Web Server instance is non-root, and if you choose to run Web Server on port 80, then there are two options:

- Start Web Server as root. This allows Web Server to attach to a port lower than 1024. Web Serverwill later be able to run as the non-root user configured during installation.

- Solaris 10 has a feature that allows a system administrator to assign process privileges for a non-root user, allowing the non-root user to bind to a port lower than 1024. This means there is no need for Web Server to be started as root just to bind at a port number such as 80. For example, to assign process privileges to allow binding to port 80, do the following:

  As root, type the following command:

  ```
  /usr/sbin/usermod –K defaultpriv=basic,net_privaddr webservd
  ```

For other non-root information in this document, see "Configuring Product Components With Non-root Identifiers" on page 128.

Access Manager Configured to Run as a Non-root User Example

This example provides an installation sequence and configuration procedures for allowing Access Manager to run in a web container that is not owned by root.

Requirements and Sequence Issues

If your installation plan calls for deploying Access Manager in an instance of Web Server or Application Server that is not owned by the superuser (`root`), you must install Access Manager in a separate installation session from Directory Server and Web Server or Application Server.

The general steps for creating this installation sequence include the following:

- **Session 1, Host A**: Installing Directory Server
- **Session 2, Host B:** Installing Web Server
- **Session 3, Host B:** Installing Access Manager

Note – If you have already deployed Access Manager in a root-owned instance of Web Server or Application Server, uninstall any copy of Access Manager before following the procedure in this section.

▼ To Develop a Sequence for Host A

The following high-level tasks are required:

1 Checking the installation sequence guidelines

Check to see what guidelines apply to this example and make adjustments as needed.

2 Checking the installation prerequisites

Check to see what tasks you might need to perform for this installation before starting.

3 Installing Directory Server using the Configure Now type

- In the Common Server Settings page, enter the non-root user for System User and non-root group for System Group.
- Select port numbers for Directory Server that are higher than 1024 (389 for instance LDAP port and 636 for instance SSL LDAP port).

4 As the non-root user, starting Directory Server (all processes must be owned by the non-root user)

▼ To Develop a Sequence for Host B (First Session)

The following high-level tasks are required:

1 Checking the installation sequence guidelines

Check to see what guidelines apply to this example and make adjustments as needed.

2 Checking the installation prerequisites

Check to see what tasks you might need to perform for this installation before starting.

3 Installing Web Server using the Configure Now type

- In the Common Server Settings page, enter the non-root user for System User and non-root group for System Group.
- In the Directory Server Instance Creation page, set System User and System Group to non-root user and group.
- In the Web Server: Administration page, change the Administration Runtime User ID to the non-root user.
- In the Web Server: Default Web Server Instance page:
  a. Change the Runtime UNIX User ID to the non-root user.
  b. Select a value for HTTP Port that is higher than 1024.

4 As the non-root user, starting the Web Server administration instance and Web Server instance

All processes should be owned by the non-root users.

▼ To Develop a Sequence for Host B (Second Session)

The following high-level tasks are required:

1 Installing Access Manager using the Configure Later type

2 **Changing ownership of the following directories from root/other to the non-root user/non-root group:**

These shared component directories must be changed because they are configured into the web container classpath by the Access Manager configuration program. All processes should be owned by the non-root users.

- Solaris OS: `/opt/SUNWma` and `/etc/opt/SUNWma`
- Linux: `/opt/sun/mobileaccess` and `/etc/opt/sun/mobileaccess`

```
chown -R nonroot-user:nonroot-group

 /opt/SUNWma /etc/opt/SUNWma
```

3 **Deploying Access Manager**

```
./amconfig -s ./am.non_root_install
```

4 **As the non-root user, stopping the Web Server admin instance and Web Server instance**

5 **As root, changing the ownership of the Web Server installation directory**

```
chown -R <non-root-user\>:<non-root-group\> WebServer-base
```

6 **As the non root-user, starting the Web Server admin instance and Web Server instance**

◆ ◆ ◆ CHAPTER 3

Installing Communications Suite With the Graphical Interface

This chapter provides instructions for using the interactive graphical interface to install the Communications Suite software.

This chapter includes the following sections:

Before Installing

Before beginning the tasks in the chapter, you should have developed an installation sequence and ensured that any general installation requirements and prerequisites are met.

Verifying Prerequisites and Requirements

Refer to "Verifying General Installation Prerequisites" on page 29 for specific information on prerequisites for this release of Communications Suite.

You can find system requirements for Communications Suite listed in the *Sun Java Communications Suite 5 Release Notes*. For Java ES, see "Platform Requirements and Issues" in *Sun Java Enterprise System 5 Release Notes for UNIX*.

Note – You must use Access Manager Legacy (6.x) installation type if you are installing Access Manager with Messaging Server, Calendar Server, Delegated Administrator, or Instant Messaging. Access Manager Realm (7.x) installation type can only be used if you are *not* installing any of these product components.

- For Configure Now: On the Access Manager: Administration (1 of 7) page, select Legacy (version 6.x style). On the Access Manager: Web Container for running Access Manager (4 of 7) page. set the Console Deployment URI to amconsole (the default value).
- For Configure Later: As root, run the `amconfig` script to configure Access Manager after installation. To select the Legacy (6.x) installation type, set the following parameters in your configuration script input file, `amsamplesilent`:
  - `AM_REALM=disabled`
  - `CONSOLE_DEPLOY_URI=/amconsole`

(Optional) Setting Your Local Display for a Remote Host

If you are logging in to a remote host, make sure your `DISPLAY` environment variable is properly set to the local display. If the `DISPLAY` variable is not set properly, the installer runs in text-based mode.

- Example for C Shell (host name `myhost`):

```
setenv DISPLAY myhost:0.0
```

- Example for Korn Shell (host name `myhost`):

```
DISPLAY=myhost:0.0
```

You might need to grant display authorization to run the installer on your local display. For example, you can use the following command to grant display authority from `myhost` to the root user on `serverhost`:

```
myhost\> xauth extract - myhost:0.0 | rsh -l root serverhost xauth merge -
```

For full instructions on granting such authorization safely, refer to the "Manipulating Access to the Server" chapter in the *Solaris X Window System Developer's Guide*.

Getting the Software

- **For Download.** Navigate to the directory where you downloaded the Communications Suite installation bundle and expand the bundle. For example:

  `unzip` *compressed-file*`.zip`

You will see a `Copyright` file, a `README` directory and the operating system directory, such as `Solaris_sparc`. In the operating system directory, you will see the `Product` directory, the `release_info` file, and the `installer` script.

- **For CD.** Navigate to a directory that is *not* on the CD so that you can switch CDs during the installation session. For example:

  ```
  cd /tmp
  ```

  You will run the `installer` command using the fully qualified path to the installer. For example:

  mountpoint`/`*os_arch*`/installer`

  In this example, *mountpoint* is where you mounted the CD and *os_arch* matches your platform, such as `Solaris_sparc`.
- **For DVD.** Navigate to the DVD directory whose name matches your platform.

Running the Installer in Graphical Mode

A full description of the options for the `installer` command is contained in Appendix F, "Installation Commands."

If you have problems during installation, refer to the troubleshooting information in Chapter 10, "Troubleshooting."

▼ To Begin Installation

1 **If you are not logged in as `root`, become superuser.**

2 **Start the graphical installer:**

```
./installer
```

The Welcome page is displayed.

Note – If you click Cancel at any time, the installer exits after you have confirmed that you want to terminate the installation session.

---

3 **Click Next to continue.**

The Software License Agreement page is displayed.

4 **If you accept all the terms of the License, click Yes, Accept License.**

If you do not accept all the terms of the License, select Decline. This ends the installation session.

▼ To Select Components and Languages

After you have accepted the terms of the license, the installer surveys the software on your host and presents you either with a page for upgrading certain components detected on the host, or the Component Selection page.

Note – Monitoring Console cannot be run on any host where its monitored components are located. Because the installer does not prevent you from installing them together, it is important that you always run a separate installation session to install Monitoring Console on a host separate from the Communications Suite components. For instructions in installing Monitoring Console, see the *Sun Java Enterprise System 5 Installation Guide for UNIX*.

---

1 **If needed, run an upgrade session using the installer.**

The installer surveys the host for incompatible versions of Application Server, Message Queue, and HADB. If any of these components are found, the Choose to Upgrade or Install page is displayed, allowing you to upgrade these components.

- If you do *not* plan to install any of these components in your session, you can accept the default which is Install New Software, then proceed with installation.
- If you will be installing any of these components, choose Upgrade Existing Software. An upgrade session starts, displaying the upgradable components. Shared components are usually included. When you have completed the upgrade session, you can then start a new installation. For additional information, refer to "How Upgrading Works" on page 22.

Note – Application Server, Message Queue, and HADB are the only product components that can be upgraded by the installer. If any other incompatible product components are found, you will receive a message telling you that you must exit the installer and upgrade or remove these components before the installer can proceed.

---

2 **Select the software you want to install.**

- If your installer window is too small to view all the text, you might need to resize the window manually by dragging the corner.
- To see information about the individual product components, hold the cursor over the item. A description of that item is displayed in the text box at the bottom of the page.
- To see information on the compatibility status of a product component, click the ellipsis (...) in the Details column, if available.

- Product components that are already installed are disabled (grayed out). If they can be upgraded by the installer, their Status is Upgradable.
- Click the Help button to view the online help for the page.
- **On Solaris 10.** If you are running the installer in a non-global zone, any components that cannot be installed into a non-global zone will be disabled.

Note – There are some specific issues to be aware of when installing or upgrading in Solaris 10 zones. For guidelines, refer to "Solaris 10 Zones" on page 40.

On the Component Selection page, you can select components for installation as follows:

- **All components.** To select all product components and their required shared components, choose Select All.
- **Some components.** To select some product components, individually select the product components. As you make each selection, the installer automatically selects any product components that the component you selected depends on.
- **Subcomponents.** To select subcomponents, expand the subcomponent list by clicking the expansion turner to the left of the component. As you make each selection, the installer automatically selects any product subcomponents that the component you selected depends on.
- **Shared components.** To upgrade all shared components to the current release, select Shared Components.
- **Language packages.** To install language packages, click Install multilingual packages for all selected components. (The default value is unselected.) Each additional component you select causes additional multilingual packages to be installed, adding to the disk space required for installation.

3 If applicable, select a web container.

- If you are not sure which product component to use for your web container, you can select both Application Server and Web Server, then choose Configure Now when prompted for configuration type. You will be offered a choice of web container on a configuration page later in the installation session.
- To use Web Server as the web container, the Web Server Configuration Type mode must be set to Server, not Agent, when you are queried on the Web Server Configuration Type Data page. The default value is Server.

4 If applicable, select a third-party web container.

To use a third-party web container, do the following:

a. Do not select Application Server or Web Server at the Component Selection page.

When you click Next, the Web Container Selection page is displayed.

b. **Choose Use Third-Party Web Container.**

c. **Click OK.**

5 **If applicable, specify any remote dependencies.**

To satisfy dependencies by using product components installed on other hosts, do the following:

a. **After you made you product component selections, expand and scan the entire list of components.**

Examine the selected components to see what the installer has automatically selected that you might not be aware of.

b. **Deselect any product component that you are planning to access on a remote host.**

For example, a previously-installed and configured Directory Serveris commonly accessed remotely. When you click Next, the Dependency Warning screen is displayed.

c. **Choose Use a Version Installed on a Remote Host.**

d. **Click OK.**

▼ To Resolve Dependency and Compatibility Issues

The installer performs a dependency check of the selected product components and their associated shared components. If there is a problem, the installer might display one or more messages informing you of the problem and directing you to take action.

1 **Resolve product component dependency issues.**

The installer can only upgrade Application Server, Message Queue, or HADB. If incompatible versions of other product components are detected, you will need to upgrade or remove those components, then restart installation. For full instructions on upgrading Communications Suite components, see the *Sun Java Communications Suite 5 Release Notes*. For Java ES components, refer to *Sun Java Enterprise System 2006Q3 Upgrade Guide*.

2 **Click Next.**

3 **Repeat steps 1 and 2 until you are allowed to proceed.**

4 **On Solaris OS, resolve J2SE SDK incompatibility.**

If an incompatible system-wide version of the J2SE SDK is detected on Solaris OS, the J2SE SDK Upgrade Required page is displayed. You are presented with choices about what to do to upgrade this software. Read the page and decide whether to upgrade automatically or manually. The default value is Automatically.

5 **Resolve shared component incompatibilities.**

After the product component issues have been resolved, the installer performs a compatibility check of any shared components already installed. If incompatible versions of shared components are detected, the Shared Components Upgrade Required page is displayed.

Caution – Do not upgrade shared components without checking the dependencies that exist on the host for non-Communications Suite applications. First verify that these existing applications are compatible with the required versions of the shared components.

a. **Click Cancel to prevent the installer from upgrading.**

If you select Cancel, you must remove the incompatible shared components manually or the installer will not be able to continue past this point in the installation.

b. **Click Next to have the installer upgrade the incompatible shared components during this installation session.**

The Installation Directories page is displayed.

▼ To Specify Installation Directories and Initiate the System Check

A default installation directory is displayed for each selected product component.

1 **Examine the default installation directories.**

To see a complete list of all the default directories and ports, refer to Chapter 2, "Default Installation Directories and Ports," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

- Verify that the directories are correct for your deployment.
- If the default directories are not acceptable, browse for alternate paths and change as needed.

2 Click Next to initiate the system check.

The installer checks for disk space, memory, swap space, operating system patches, and operating system resources based on the components you selected. The left column of the following table lists the possible results of the system check. The right column specifies what action you should take for each result.

Message Displayed	Your Action
`System ready for installation`	Click Next to continue.
`System ready for installation`	Includes a warning that memory or swap space is not at the recommended level. Click Next to continue, but add memory or swap space when installation is complete. If you do not add memory or swap space, performance might be seriously affected.
`System not ready for installation`	Click View Report for information on the problems that the installer found. If any patches are missing, the patch numbers appear in this report. If you can fix the reported problems without stopping the installer, do so and then click Check Again to recheck the system.

Solaris 10. If the installer is running in a non-global zone, you will receive a message telling you that memory information is not available.

For some issues, such as low memory, you can proceed with installation, but for others, such as missing patches, you must resolve the issue before the installer can proceed.

3 Install any missing operating system patches.

You will need to install missing patches before you can proceed with installation. For guidelines, refer to "To Install a Patch" on page 28.

4 When the system check is complete and you are satisfied with the state of the system, click Next.

▼ To Specify a Configuration Type and Common Settings

If some of the product components you have chosen can be configured during installation, the Configuration Type page is displayed. You have the following configuration choices:

1 Specify a configuration type from the following options:

- **Configure Now (the default).** Allows you to configure product components that permit configuration at installation time. Your Configure Now tasks include specifying the common server settings, and entering the configuration information for the product components selected.

Note – Some product components cannot be configured during installation. If any of these product components were selected, you receive a message saying that you will need to configure these product components after installation.

- **Configure Later.** You enter only the minimum values that are necessary for installing the packages. The installer proceeds without doing further configuration. If you chose the Configure Later type, skip to "To Install the Software" on page 83.

2 Choose how your administrator user ID and password should be entered.

If you selected more than one product component that uses administrator user ID and password, the Password Choice Panel is displayed.

Note – When passwords are entered, they must be at least 8 characters long. The following special characters cannot be used:

; & ( ) ! | < > ' " $ ^ \ # / , @ %

- **Use a single administrator account and password. (default)** If you accept the default, you will enter the administrator user ID and password once, and the these fields will not be displayed again on the configuration pages.
- **Use different administrator account for each product.** If you select this option, you will be asked to enter administrator user ID and password on the configuration pages for each of the selected components.

3 For a Configure Now installation, specify common server settings.

Either accept the defaults, or use alternate data to answer the installer questions regarding these global fields. Values that you enter here appear as default values on subsequent product component configuration pages. Refer to online help or to "Common Settings" in *Sun Java Enterprise System 5 Installation Reference for UNIX* for information on these fields.

4 Click Next to proceed.

For a Configure Now installation, the configuration pages for each product component that can be configured during installation are displayed one by one.

Tip – Configuration values are gathered by the installer as you proceed through the installation. After installation is completed, you can access this information in the Installation Summary in the following locations:

Solaris OS: `/var/sadm/install/logs`

Linux: `/var/opt/sun/install/logs`

▼ To Specify Configuration Data

For a Configure Now installation, the installer presents one or more configuration pages for the selected product components that can be configured during installation. The following information can help in your selection:

- For information on the configuration values on each page, click the online help button at the bottom of each page. This information can also be found in the Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.
- Configuration worksheets are provided for gathering your configuration information in Chapter 4, "Configuration Worksheets," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.
- Although Sun Cluster software itself cannot be configured during installation, you are offered the option of enabling remote support to simplify postinstallation configuration. The default is Yes.

Some of the fields in a configuration pages display default values from the Common Server Settings page. These values can be edited.

Note – You must use Access Manager Legacy (6.x) installation type if you are installing Access Manager with Messaging Server, Calendar Server, Delegated Administrator, or Instant Messaging. Access Manager Realm (7.x) installation type can only be used if you are *not* installing any of these product components.

- For Configure Now—You will be prompted with the following: Install type [Legacy]. Select Legacy (version 6.x style) which is the default. When you are asked for the web container for running Access Manager, set the Console Deployment URI to amconsole.
- For Configure Later—As root, run the `amconfig` script to configure Access Manager after installation. To select the Legacy (6.x) installation type, set the following parameters in your configuration script input file, `amsamplesilent`:
  - `AM_REALM=disabled`
  - `CONSOLE_DEPLOY_URI=/amconsole`

1. **As the individual configuration pages are displayed, specify the information for the settings.**
   Defaults are displayed for configuration values, except for passwords.
2. **Click Next to proceed to the next product component configuration page.**
3. **When you click Next on the final configuration page, installation-time configuration is done.**
   The Ready to Install page is displayed.

▼ To Install the Software

Before transferring the software to your host, the installer displays the components that you selected. Although shared components are not explicitly listed, they have already been verified and will be installed if they are needed.

1. **Review the components listed and make any necessary changes.**
   a. **To return to the Component Selection page, click the Back button.**
      Continue to click Back on successive pages until the Component Selection page is again displayed. Make whatever changes are needed.
   b. **Click Next to move forward through the installer again.**
      You do not need to re-enter previously-entered values. Dependencies are rechecked. The system check is also repeated.
2. **Click Next when you are satisfied with the Ready to Install list.**
   The Product Registration page is displayed.
3. **Accept the default "Open registration window during installation" to register your products while software is being installed.**
   If not, deselect this option.
4. **Click Install to begin installing the component packages.**

Note – For Linux, do not use the `rpm` command while the installer is running. If you do, the installer might hang.

During installation, the following occurs:

- A progress bar displays the overall percentage complete.
- The names of packages are displayed as they are installed.
- If you accepted the product registration option, a browser window that enables you to register is displayed.

Depending on the size and complexities of your installation, this process can be lengthy.

Note – If you click Cancel at the Progress page, the installer exits after you have confirmed that you want to terminate the installer session.

If you click Stop while the installation is in progress, the installer rolls back any component packages that have already been installed and presents the Summary page. You are asked to confirm whether you want to terminate the installer session.

▼ To Complete the Installation Session

When installation is complete, the Installation Complete page is displayed. Any issues from the installation, such as insufficient memory, are noted on this page. In addition, you are provided with access to the installation summary and logs.

1 **Click View Summary or View Install Log to examine information about the installation.**

- **Installation Summary.** Lists each product component installed and the settings you specified. If you chose the Configure Now type, this summary includes all the configuration values.
- **Installation Log.** Displays the installer's log messages for components.

You can access this information at any time in the following locations

Solaris OS: `/var/sadm/install/logs`

Linux: `/var/opt/sun/install/logs`

For more information on the installer logs, refer to "Examining Installation Log Files" on page 190.

2 **To access the postinstallation instructions, click the box to automatically display the** *Installation Guide***.**

Although you might have done extensive configuration during your installation, most product components require some additional configuration.

3 **Click Close to exit the installer.**

Your installation session is done. Product components that were installed will need to be started after you have completed all postinstallation tasks.

Adding Components

To install additional components, you can run the installer again. The installer detects the newly-installed components and uses them to satisfy the dependencies of other components. Installed product components are disabled at the Component Selection page.

Note – When adding product components to a host where a Communications Suite installation has already been done, be sure to use the correct paths and passwords if the new product component will use a product component that is already installed and configured. If you do not remember what these are, refer to the Installation Summary for the original installation before adding any product components to the host.

Next Steps

After you have completed the installer portion of your Communications Suite installation, proceed as follows:

- "Verifying After Installation" on page 132 provides instructions for verifying that this phase of installation was successful.
- Chapter 6, "Completing Communications Suite Postinstallation Configuration" provides instructions on postinstallation configuration.

◆ ◆ ◆ CHAPTER 4

Installing With the Text-Based Interface

This chapter provides instructions for using the interactive text-based interface to install the Communications Suite software.

This chapter has the following sections:

Before Installing

Before beginning the tasks in the chapter, you should have developed an installation sequence and ensured that any general installation requirements and prerequisites are met.

Verifying Prerequisites

Refer to "Verifying General Installation Prerequisites" on page 29 for specific information on prerequisites for this release of Communications Suite.

You can find system requirements for Communications Suite products listed in the *Sun Java Communications Suite 5 Release Notes*. For Java ES products, see "Platform Requirements and Issues" in *Sun Java Enterprise System 5 Release Notes for UNIX*.

Note – You must use Access Manager Legacy (6.x) installation type if you are installing Access Manager with Messaging Server, Calendar Server, Delegated Administrator, or Instant Messaging. Access Manager Realm (7.x) installation type can only be used if you are *not* installing any of these product components.

- For Configure Now: On the Access Manager: Administration (1 of 7) page, select Legacy (version 6.x style). On the Access Manager: Web Container for running Access Manager (4 of 7) page. set the Console Deployment URI to amconsole (the default value).
- For Configure Later: As root, run the `amconfig` script to configure Access Manager after installation. To select the Legacy (6.x) installation type, set the following parameters in your configuration script input file, `amsamplesilent`:
  - `AM_REALM=disabled`
  - `CONSOLE_DEPLOY_URI=/amconsole`

Getting the Software

- **For Download.** Navigate to the directory where you downloaded the Communications Suite installation bundle and expand the bundle. For example:

  `unzip` *compressed-file*`.zip`

  You will see a `Copyright` file, a `README` directory and the operating system directory, for example, `Solaris_sparc`. In the operating system directory, you will see the `Product` directory, the `release_info` file, and the `installer` script.
- **For CD.** Navigate to a directory that is *not* on the CD so that you can switch CDs during the installation session. For example:

  ```
  cd /tmp
  ```

  You will run the `installer` command using the fully qualified path to the installer. For example:

  mountpoint`/`*os_arch*`/installer`

  In this example, *mountpoint* is where you mounted the CD and *os_arch* matches your platform, such as `Solaris_sparc`.
- **For DVD.** Navigate to the DVD directory whose name matches your platform.

How to Use the Text-Based Interface

The text-based installer does not display a graphical interface, but instead prompts you for information using a series of questions. The following table describes how to respond to the installer's text-based prompts.

TABLE 4–1 Responding to the Text-Based Installer Prompts

Action	Input
To accept default values, as indicated in square brackets `[ ]`	Press Return.
To select items from a list	Type the numbers for the items in a comma-separated sequence and press Return. Spaces are not allowed. For example, to select item 2 in a list, type 2 and press Return. To select items 1, 3, and 4, type `1,3,4` and press Return.
To deselect items from a list	Type the numbers for the items in a comma-separated sequence, entering the minus character (-) before each number, and press Return. Spaces are not allowed. For example, to deselect item 2 from the list, type `-2` and press Return. To deselect items 1, 3, and 4, type `-1,-3,-4` and press Return.
To provide a value to a text field	Type the value and press Return.
To provide a password	Type the password and press Return. The password will not appear on the terminal window.
To return to the previous page	Type the left angle (<) character and press Return.
To exit the session	Type the exclamation mark character (`!`) and press Return.

Running the Installer in Text-Based Mode

A full description of options for the `installer` command and its options is contained in Appendix F, "Installation Commands."

If you have problems during installation, refer to the troubleshooting information in Chapter 10, "Troubleshooting."

▼ To Begin Installation

1 **If you are not logged in as `root`, become superuser.**

2 **Start the text-based installer:**

```
./installer –nodisplay
```

Welcome information is displayed.

3 **Press Return to display the Software License Agreement.**

Continue pressing Return to read the entire Agreement.

4 **To accept the terms of the License Agreement, type** `yes` **and press Return.**

If you do not accept all the terms of the License, select the default `no` by pressing Return. This ends the installation session.

▼ To Select Components and Languages

The installer checks your host for previously installed versions of product components. If any are found, a list of the detected components is displayed, under the title `Component Products on This Host`.

Later in the installation session, you might be instructed to upgrade or remove those components before continuing. When these issues are resolved, installation can proceed.

The installer displays the Component Selection Main Menu. For example:

```
Choose Software Components - Main Menu
--------------------------------------
Note: "*  *" indicates that the selection is disabled

[ ] 1.  Sun Java(TM) System Calendar Server 6 2006Q4
[ ] 2.  Sun Java(TM) System Directory Preparation Tool
[ ] 3.  Sun Java(TM) System Web Server 7.0 2006Q4
[ ] 4.  Sun Cluster Geographic Edition 3.1 2006Q4
[ ] 5.  Sun Java (TM) System Web Proxy Server 4.0.4 2006Q4
[ ] 6.  Sun Java(TM) System Messaging Server 6 2006Q4
[ ] 7.  Sun Java(TM) System Directory Server Enterprise Edition 6.0 2006Q4
[ ] 8.  Sun Java (TM) System High Availability Session Store 4.4 2006Q4
[ ] 9.  Sun Cluster 3.1U4
[ ] 10. Sun Java(TM) System Access Manager 7.1 2006Q4
[ ] 11. Sun Java(TM) System Communications Express 6 2006Q4
[ ] 12. Communication Services Delegated Administrator 2006Q4
[ ] 13. Sun Java(TM) System Message Queue 3.7 UR1
[ ] 14. Sun Java(TM) System Application Server Enterprise Edition 8.2 2006Q4
[ ] 15. Service Registry 3 2006Q4
[ ] 16. Sun Java(TM) System Instant Messaging 7 2006Q4
[ ] 17. Sun Cluster Agents 3.1 2006Q4
[ ] 18. All Shared Components
   Enter a comma separated list of products to install, or press R to refresh
   the list [] {"<" goes back, "!" exits}:
```

1. **Type a comma-separated list of the numbers associated with the components you want to install, and press Return.**

   The installer presents a list called Choose Software Components — Confirm Choices which shows the components you selected.

2. **If the chosen components are correct, press Return.**

   The installer queries you about installing subcomponents for those components you chose. For example:

```
Component Selection - Selected Product "Sun Java (TM) System Directory Server Enterprise Edition 6.0 2006Q4"
-------------------------------------------------------------------------------------------------------------
*[X] 1. Java Enter5prise System Directory Server 6 Core Server
*[X] 1. Java Enter5prise System Directory Service Control Center
*[X] 1. Java Enter5prise System Directory Server Enterprise Edition 6 Command-Line Utilities
*[X] 1. Java Enter5prise System Directory Proxy Server 6 Core Server

Enter a comma-separated list of componets to install (or D to install all) [D] {"<" goes back, "!" exits}
```

   Not all product components have subcomponents. In this case, these components are displayed, but no response is required from you.

3. **Make your subcomponent selections.**

   After you have confirmed all your subcomponent selections, the installer queries you about installing multilingual packages.

4. **To install multilingual packages for all selected components, type Y and press Return.**

   Default is N, which means only English packages are installed. If you type Y, multilingual packages are installed for all languages for all the components you selected.

5. **Resolve product component dependency errors.**

   If there is a problem with component dependencies, the installer displays a Product Dependency Check error or warning, depending on the problem. Typical problems might include:

   - A local dependency has not been met

     In this situation, return to Component Selection and select the appropriate product component to satisfy the local dependency.

   - A remote dependency will be met later during postinstallation configuration

     If you do not intend to specify a remote installation, return to Component Selection and select the appropriate product component to satisfy the dependency locally.

   - Previous versions of product components are already installed on the local host

     If incompatible versions of product components are detected, you will need to exit the installer and upgrade or remove the incompatible versions.

6 **Resolve shared component dependency errors.**

If any incompatible versions of shared components are found on the host, you are asked if you want to upgrade them. Review the Shared Components Upgrade Required list and determine if it is safe for the installer to automatically upgrade these shared components.

Caution – Do not upgrade shared components without checking the dependencies that exist on the host for non-Communications Suite applications. First verify that these existing applications are compatible with the required versions of the shared components. For information about upgrading Communications Suite product components, see the *Sun Java Communications Suite 5 Upgrade Guide*, and for Java ES products see the *Sun Java Enterprise System 2006Q3 Upgrade Guide*.

- Type 1 (the default) or press Return to have the installer upgrade the shared components.
- Type 2 to cancel the installation session so that you can upgrade the shared components manually.

If you type 2, you must remove or upgrade the shared components on the Shared Components Upgrade Required list before you can continue with installation.

7 **On Solaris OS, indicate if the installer should upgrade the J2SE SDK.**

If an incompatible system-wide version of the J2SE SDK is detected, you are asked if you want the installer to upgrade or if you want to upgrade manually. The installer performs this check only on the Solaris platform because the Linux platform does not have a specific, system-wide installation of the J2SE SDK.

▼ To Specify Installation Directories and Initiate the System Check

1 **Accept the default installation locations for the selected product components, or replace the default locations and press Return.**

A default installation directory is displayed for each selected product component. For example, on Solaris:

```
Installation Directories
========================
Enter the name of the target installation directory for each product:

Directory Server [/opt/SUNWdsee]  {"<" goes back, "!" exits}
Directory Preparation Tool [/opt/SUNWcomds]  {"<" goes back, "!" exits}
Web Server [/opt/SUNWwbsvr7]  {"<" goes back, "!" exits}
Web Server Instance [/var/opt/SUNWwbsvr7]  {"<" goes back, "!" exits}
```

2 **Review any issues discovered by the system check.**

After the installation directories are chosen, the installer automatically initiates a check for disk space, memory, swap space, operating system patches, and operating system resources based on the components you selected. The left column of the following table lists the possible results of the system check. The right column specifies what action you should take for each situation

Message Displayed	Your Action
`System ready for installation`	Proceed with installation.
`System ready for installation`	Includes a warning that memory or swap space is not at the recommended level. Proceed with installation, but add memory or swap space when installation is complete. If you do not add memory or swap space, performance might be seriously affected.
`System not ready for installation`	If any patches are missing, the patch numbers are displayed. If you can fix the reported problems without stopping the installer, do so and then click Proceed with installation.

For some issues, such as low memory, you can proceed with installation, but for others, such as missing patches, you must resolve the issue before the installer can proceed.

Solaris 10. If the installer is running in a non-global zone, you will receive a message telling you that memory information is not available.

3 **Install any missing operating system patches.**

You will need to install missing patches before you can proceed with installation. For guidelines, refer to "To Install a Patch" on page 28.

4 **After the system is ready for installation, press Return to continue.**

You are queried about what type of configuration you want for the installation and asked to provide global settings.

▼ To Specify a Configuration Type and Common Server Settings

1 **Specify a configuration type from the following options:**

- **Configure Now (the default).** Allows you to configure product components that permit configuration at installation time. Your Configure Now tasks include specifying the common server settings, and entering the configuration information for the product components selected.

Note – Some product components cannot be configured during installation. If any of these product components were selected, you receive a message saying that you will need to configure these product components after installation.

- **Configure Later.** You provide only the minimum values that are necessary for installing the packages. The installer proceeds without doing further configuration. If you chose the Configure Later type, skip to "To Install the Software" on page 83.

2 For a Configure Now installation, specify common server settings.

The installer presents you with a list of common server settings and their defaults for the components your selected. For example:

```
Specify Common Server Settings

Enter Host Name [myComputer]  {"<" goes back, "!" exits}
Enter DNS Domain Name [example.com]  {"<" goes back, "!" exits}
Enter IP Address [192.168.255.255]  {"<" goes back, "!" exits}
Enter Server admin User ID  [Admin]  {"<" goes back, "!" exits}
Enter Admin User's Password (Password cannot be less than 8 characters) []  {"<" goes back, "!" exits}
Confirm Admin User's Password  []  {"<" goes back, "!" exits}
Enter System User [root] {"<" goes back, "!" exits}
Enter system Group [root] {"<" goes back, "!" exits}
```

Either accept the defaults, or use alternate data for these global parameters. For information on the parameters, refer to the "Common Settings" in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

Note – When passwords are typed, they must be at least 8 characters long. The following special characters cannot be used:

; & ( ) ! | < > ' " $ ^ \ # / , @ %

▼ To Specify Component Configuration Data

For a Configure Now installation, the installer presents one or more configuration queries for the selected product components that can be configured during installation. The following information can help in your selection:

- For information on the configuration values on each page, click the online help button at the bottom of each page. This information can also be found in the Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

- Configuration worksheets are provided for gathering your configuration information in Chapter 4, "Configuration Worksheets," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.
- Although Sun Cluster software itself cannot be configured during installation, you are offered the option of enabling remote support to simplify postinstallation configuration. The default is Yes.

Tip – After installation is complete, you can access your configuration information in the Installation Summary here:

Solaris OS: `/var/sadm/install/logs`

Linux: `/var/opt/sun/install/logs`

---

1 Specify configuration settings for product components.

Either accept the defaults or use the information you gathered in the product component worksheets to answer the installer queries regarding each product component.

A typical configuration query looks similar to the following:

```
Web Server: Specify instance Settings

Server Name [myComputer.example.com]  {"<" goes back, "!" exits}
Enter HTTP Port [80]  {"<" goes back, "!" exits}
Enter Runtime UNIX User ID [webservd]  {"<" goes back, "!" exits}
Enter Document Root Directory [/var/opt/SUNWwbsvr7/docs] {"<" goes back, "!" exits}
```

Note – You must use Access Manager Legacy (6.x) installation type if you are installing Access Manager with Messaging Server, Calendar Server, Delegated Administrator, or Instant Messaging. Access Manager Realm (7.x) installation type can only be used if you are *not* installing any of these product components.

- **Configure Now.** You will be prompted with the following: Install type [Legacy]. Select Legacy (version 6.x style) which is the default. When you are asked for the web container for running Access Manager, set the Console Deployment URI to amconsole.
- **Configure Later.** As root, run the `amconfig` script to configure Access Manager after installation. To select the Legacy (6.x) installation type, set the following parameters in your configuration script input file, `amsamplesilent`:
  - `AM_REALM=disabled`
  - `CONSOLE_DEPLOY_URI=/amconsole`

Note – To use Web Server as the web container, the Web Server Configuration Type mode must be set to Admin Server, not Agent, when you are queried on the Web Server Configuration Type Data page. Default value is Admin Server.

2 Review the list of your selected product components and subcomponents.

After configuration values are set, the installer displays a Ready to Install list of the components and subcomponents that you have selected. For example:

```
Ready to Install
------------------------
The following components will be installed.

Product: Sun Java Communications Suite 5
Uninstall Location: /var/sadm/prod/SUNWcomm-entsys5
Space Required: 199.10 M
-------------------------------------------
Sun Java (TM) System Web Server 7.0 2006Q4
Sun Java (TM) System Web Server 7.0 CLI
Sun Java (TM) System Web Server 7.0 Core
Sun Java (TM) System Directory Preparation Tool
Sun Java (TM) System Directory Server Enterprise Edition 6.0 2006Q4
Sun Java (TM) System Directory Server 6 Core Server
Sun Java (TM) System Directory Service Control Center
Sun Java (TM) System Directory Server Enterprise Edition 6 Command-Line Utilities
Sun Java (TM) System Directory Proxy Server 6 Core Server
```

If you need to make changes, type < and press Return until you reach the prior query that requires a change. Although shared components are not explicitly listed, they have already been verified and will be installed if they are needed by the selected product components.

▼ To Install the Software

When you are satisfied with the Ready to Install list, you can start the installation.

Note – For Linux, do not use the `rpm` command while the installer is running. If you do, the installer might hang.

1 To start the installation, press Return to accept the default [1].

The installation process starts and a progress indicator bar informs you of the state of the installation. For example:

```
Java Enterprise System
|-1%------------------25%----------------------50%--
```

Note – Depending on the size and complexities of your installation, this process can be lengthy.

When the installation has successfully completed, the Installation Complete message is displayed.

2 **Examine the Installation Summary and Installation logs.**

When installation is complete, any issues from the installation, such as insufficient memory, are displayed on the screen. The following files also contain useful information

- [1] **Installation Summary.** Lists each component installed and the settings you specified. If you chose Configure Now, this summary includes all the configuration values.
- [2] **Installation log.** Displays the installer's log messages for components.

After installation, these files can be found here:

Solaris OS: `/var/sadm/install/logs`

Linux: `/var/opt/sun/install/logs`

To see a full listing of the installer logs, refer to "Examining Installation Log Files" on page 190.

3 **Exit the installer.**

Your installer session is done. Product components that were installed will need to be started after you have completed all postinstallation tasks. Proceed to "Next Steps" on page 98

.

Adding Components

To install additional components, you can run the installer again. The installer detects the newly-installed components and uses them to satisfy the dependencies of other components. Installed product components are disabled at the Component Selection page.

Note – When adding product components to a host where a Communications Suite installation has already been done, be sure to use the correct paths and passwords if the new product component will use a product component that is already installed and configured. If you do not remember what these are, refer to the Installation Summary for the original installation before adding any product components to the host.

Next Steps

After you have completed the installer portion of your Communications Suite installation, proceed as follows:

- "Verifying After Installation" on page 132 provides instructions for verifying that this phase of installation was successful.
- Chapter 6, "Completing Communications Suite Postinstallation Configuration" provides final instructions on postinstallation configuration.

◆ ◆ ◆ CHAPTER 5

Installing in Silent Mode

Silent installation is a non-interactive method used for installing Communications Suite on multiple hosts that share similar configurations. This chapter provides instructions for using silent mode to install the Communications Suite software.

This chapter includes the following sections:

How Silent Installation Works

To run a silent installation, you first run an interactive installation session using the silent install syntax of the `installer` command. This creates a *state file* that the silent installation process will use. During the interactive session, your responses to the installer are captured as a set of name-value pairs in a state file. Each name-value pair represents a single prompt or field in the installation process. With the state file as input, you can then run the installer on any number hosts. This process allows you to propagate one configuration across multiple hosts in your enterprise.

The installer cannot run a state file from a different version of Communications Suite or Java ES. That is, if you create your state file using Communications Suite 5, you cannot run this state file to install Java ES 2005Q4.

The following table presents the main events in a silent installation. Links to instructions are in the right column.

TABLE 5–1 Silent Installation Events

Event	Location of Instructions
1. Verify that your hosts meet the Communications Suite installation prerequisites.	"Verifying General Installation Prerequisites" on page 29.
2. Run an interactive installation session to generate a state file.	"Generating the Initial State File" on page 100
- Using the graphical installer	Chapter 3, "Installing Communications Suite With the Graphical Interface"
- Using the text-based installer	Chapter 4, "Installing With the Text-Based Interface"
3. Copy the state file to another host and edit the state file for that host.	"Editing the State File" on page 101
4. (Optional) Edit the state file to run on a different platform from the platform where the state file was generated.	"Creating a Platform-Appropriate State File ID" on page 103
5. Run a silent installation session on each host.	"Running the Installer in Silent Mode" on page 105

Creating a State File

To create a state file, you must run an interactive session of the installer. A state file generated by the installer takes advantage of the installer's real-time dependency checking and error reporting.

Caution – Do not create a state file manually. This method can cause problems at installation time, configuration time, or server startup time.

Generating the Initial State File

You create the initial state file by running the installer interactively using the parameters of the `installer` command that tell the installer to capture your answers. As you proceed through the pages of the installer, your answers are captured and a state file is generated. The installer determines the order of the product components to be installed, so you can specify the components in any order. When you complete the installation, the state file is available in the location that you specified.

You can use the `-no` option if you do not want software to be installed during this session.

Syntax examples:

- To create a state file using the graphical interface:

```
./installer -saveState statefile_path
```

- To create a state file using the text-based interface:

  ```
  ./installer -nodisplay -saveState statefile_path
  ```

- To create a state file using the graphical interface without installing software in this session:

  ```
  ./installer -no -saveState statefile_path
  ```

Full syntax for the `installer` command can be found in Appendix F, "Installation Commands."

Refer to Appendix G, "Example State File" to see an example of a generated state file.

Editing the State File

After you have generated a state file, you must edit the state file to ensure that the local parameters are set correctly for the destination host. These parameters include host name, domain name, IP address, and other such settings.

You might also need to change the state file ID, if you plan to do an installation on a platform that is different from the one on which you generated the initial state file.

This section addresses the following:

- "State File Editing Guidelines" on page 101
- "Editing Local Parameters" on page 102

State File Editing Guidelines

When editing the state file, follow these guidelines:

- Do not modify parameters, except to edit their values.
  - Do not remove a parameter, even if it does not have a value.
  - Do not add a parameter.
  - Do not change the order in which parameters appear.
- Notice original types and formats and maintain them as you type new values. For example:
  - If the old value is a host name, type a host name and not a fully qualified domain name.
  - If the old value starts with a leading slash, make sure that the new value starts with a leading slash.
- Replace any value that you delete. For a required parameter, installation or configuration could fail if the parameter has been deleted.
- Retain the case of the original value.

Editing Local Parameters

The following table lists parameters that you might need to edit, depending on the product components you want to install or on your host setup. For example, the host on which you generated the state file might be in the same domain as the host on which you are installing.

For a description of each parameter, refer to the tables in Chapter 3, "Configuration Information," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

TABLE 5–2 State File Parameters Often Edited for Silent Installation

Component	Parameter Name
Common Server Settings	CMN_HOST_NAME
	CMN_DOMAIN_NAME
	CMN_IPADDRESS
	CMN_ADMIN_USER
	CMN_ADMIN_PASSWORD
	CMN_SYSTEM_USER
	CMN_SYSTEM_GROUP
Access Manager	IS_WS_HOST_NAME
	IS_WS_INSTANCE_DIR (if Web Server is the web container)
	CONSOLE_HOST
	IS_SERVER_HOST
	IS_DS_HOST
	IS_DS_HOSTNAME
	COOKIE_DOMAIN_LIST
Application Server	ASNA_ADMIN_HOST_NAME
	AS_WEB_SERVER_LOCATION
	AS_WEB_SERVER_PLUGIN_TYPE

TABLE 5–2 State File Parameters Often Edited for Silent Installation *(Continued)*

Component	Parameter Name
Directory Server	CREATE_INSTANCE
	DSEE_INSTANCE_DIR
	DSEE_INSTANCE_PORT
	DSEEE_INSTANCE_SSL_PORT
	DSEE_DN_MANAGER
	DSEE_INSTANCE_USER
	DSEE_INSTANCE_GROUP
	DSEE_INSTANCE_PASSWORD
	DSEE_SUFFIX
Web Server	WS_ADMIN_HOST
Web Proxy Server	CMN_WPS_INSTALLDIR
	WPS_ADMIN_USER
	WPS_ADMIN_PASSWORD
	WPS_ADMIN_PORT
	WPS_ADMIN_RUNTIME_USER
	WPS_INSTANCE_RUNTIME_USER
	WPS_ISNTANCE_PORT
	WPS_INSTANCE_AUTO_START
	WPS_PROXY_DOMAIN

Creating a Platform-Appropriate State File ID

A state file can only be run on a host of the same platform type as the host where the state file was generated unless you edit the state file ID. Each platform has a different type of state file ID. There are two ways to create a state file to run on a platform other than the one on which it was created:

- Using the Installer
- Using Platform-Specific Distribution Files

▼ To Generate a State File ID Using the Installer

This procedure generates a state file ID by running the installer on the platform on which you want to perform silent installation.

Note – The following command works only if you are generating an ID for the same platform on which you are running the command.

---

1 **If you are not logged in as `root`, become superuser.**

2 **Navigate to the directory where the installer is located:**

```
cd installer-directory
```

3 **Run the installer with the `-id` option.**

```
./installer -id
```

The command generates an encrypted identifier.

4 **Copy the identifier and paste the value into the state file, as the value for the `STATE_BEGIN` and `STATE_DONE` parameters.**

The following is an example of the state file identifier within a state file:

```
[STATE_BEGIN Sun Java(tm) Enterprise System \
f31c7e86a64605bc5b9b629931a30b275a0eb447]
.
.
.
[STATE_DONE Sun Java(tm) Enterprise System \
f31c7e86a64605bc5b9b629931a30b275a0eb447]
```

▼ To Generate a State File ID Using Platform-Specific Distribution Files

This procedure generates a state file ID by using the Communications Suite distribution files for a specific platform. The Communications Suite distribution DVD contains all platform-specific distributions. This procedure works if you download a single platform-specific distribution or even if you are generating an ID for a platform different from the one on which you are running the command.

1 **In the *platform*`/.install` directory, run this command:**

```
java -classpath . -D"wizard.idInfo" class
```

where *platform* and *class* are listed in the following table:

Platform	Platform Variable	Class Variable
Solaris 9 SPARC	Solaris_sparc	EntsysInstall_SunOS_sparc_9
Solaris 10 SPARC	Solaris_sparc	EntsysInstall_SunOS_sparc_10
Solaris 9 x86	Solaris_x86	EntsysInstall_SunOS_x86_9
Solaris 10 x86	Solaris_x86	EntsysInstall_SunOS_x86_10
Linux x86	Linux_x86	EntsysInstall_Linux_x86_generic

The command generates an encrypted identifier.

2 **Copy the identifier and paste the value into the state file, as the value for the `STATE_BEGIN` and `STATE_DONE` parameters.**

The following is an example of the state file identifier within a state file:

```
[STATE_BEGIN Sun Java(tm) Enterprise System \
f31c7e86a64605bc5b9b629931a30b275a0eb447]
.
.
.
[STATE_DONE Sun Java(tm) Enterprise System \
f31c7e86a64605bc5b9b629931a30b275a0eb447]
```

Running the Installer in Silent Mode

You should run the installer on a host that has the same operating system as the host on which you generated the state file. If you cannot do this, refer to "Creating a Platform-Appropriate State File ID" on page 103.

If you have problems during installation, refer to Chapter 10, "Troubleshooting."

▼ To Run the Installer in Silent Mode

Silent installation can be lengthy, depending on the number and type of product components that you are installing.

1 **Verify that your state file is edited correctly for the host.**

2 **If you are not logged in as `root`, become superuser.**

3 **Navigate to the directory where the installation program is located.**

`cd` *installer-directory*

4 **Run the installer using the following syntax:**

```
./installer -nodisplay -noconsole -state statefile
```

`-nodisplay`	Suppress the graphical display.
`-noconsole`	Start the installer in silent mode, suppressing the user interface.
`-state`	Use the specified state file as input to a silent installation.
statefile	Specify an absolute or relative pathname to a state file.

5 **After installation is complete, proceed to the next host and repeat Steps 1 through 4.**

▼ To Monitor the Progress of a Silent Installation

While the installer is running, you can monitor progress by examining changes to the installation log.

1 **In a terminal window, change to the log file directory:**

Solaris OS:`cd /var/sadm/install/logs`

Linux: `cd /var/opt/sun/install/logs`

2 **Locate the log files for the current installation.**

The shared components are installed first and the product components follow.

The *timestamp* variable represents the time the log was created. The variable has the format *MMddhhmm*.

MM	Specifies the month
dd	Specifies the date
hh	Specifies the hour
mm	Specifies the minute

3 **Use the `tail` command to watch messages as they are written to the logs:**

```
tail -f logfile-name
```

To exit the `tail` program, press Ctrl+C.

Next Steps

After you have completed the installer portion of your Communications Suite installation, proceed as follows:

- "Verifying After Installation" on page 132 provides instructions for verifying that this phase of installation was successful.
- Chapter 6, "Completing Communications Suite Postinstallation Configuration" provides instructions on postinstallation configuration.

◆ ◆ ◆ CHAPTER 6

Completing Communications Suite Postinstallation Configuration

This chapter contains instructions for completing initial configuration of the product components after installation. If a product component is not listed in this chapter, postinstallation configuration is not required for that component. However, that component might still require postinstallation tasks relating to monitoring or Sun Cluster data service.

This chapter contains the following sections:

How to Use This Chapter

When the installer finishes installation, most product components require additional configuration before the Communications Suite environment is operational. The extent of this work depends on the configuration type you selected (Configure Now or Configure Later), and whether or not your product components will be configured for monitoring or Sun Cluster.

If you selected the Configure Later type during installation, the installer placed the product component package files in their respective directories. No parameter setting was done, and most product components are not operational because runtime services are not available. A number of product components include configuration tools for completing a Configure Later installation. When running the configuration tools, you can make any additional changes by following the instructions located in this guide, and in the product documentation for each product component.

Before acting on the information in this chapter, you should have installed the Communications Suite components. You can examine the product registry Solaris OS `pkginfo` command or the Linux `rpm` command to verify that the component packages have been installed. A list of packages associated with the components is contained in Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

A summary report containing the configuration values that were set during installation is available here:

Solaris OS: `/var/sadm/install/logs`

Linux: `/var/opt/sun/install/logs`

After completing installation, look through the procedures included in this chapter for the product components you installed. If you determine that no additional configuration is required for your product components, you can start your product components by following the instructions in Chapter 7, "Verifying Installed Product Components."

Note – The default installation locations of Communications Suite product components might be different on the various platforms. Due to this, the procedures in this chapter use variables to represent these locations. For example, *ApplicationServer-base* represents the directory where Application Server is installed, regardless of platform.

Verifying the MANPATH

If your components have man pages, you will need to verify that your MANPATH environmental variable is set correctly. After installation, the man pages for the Communications Suite components are located in default directories. In some cases, the correct location for the component man pages is already set in your MANPATH environment variable. If the location of your man pages is not present, add this location to your MANPATH environment variable.

The following table indicates the default locations for the man pages of the Communications Suite components. If a component is not listed, the component does not have man pages.

TABLE 6–1 Man Pages Default Locations

Component	Location of Man Pages
Application Server	Solaris OS: `/opt/SUNWappserver/share/man` Linux: `/opt/sun/appserver/share/man`
Common agent container	Sun Cluster on Solaris OS: `/opt/SUNWcacao/man` Linux: `/opt/sun/man`
Sun Cluster	Solaris OS: `/usr/cluster/man/`

▼ To Update Your MANPATH Variable

The following example procedure shows how to ensure that the Application Server man pages are available using the C shell.

1 **Check your MANPATH environment variable to see if the correct path is already there.**

```
env | grep MANPATH
```

2 **If the correct path is not there, add the location of your Communications Suite component man pages to your MANPATH environment variable.**

- On Solaris OS, the following example command sets your MANPATH environment variable for the session:

  ```
  setenv MANPATH {$MANPATH}:/usr/dt/man:/usr/man:/opt/SUNWappserver/share/man
  ```

  To configure this environment variable to apply each time you log in, add the `setenv` command contents to your `.login` or `.cshrc` file.
- On Linux, update the `/etc/man.config` file with the required MANPATH. For example, add this line to the `/etc/man.config` file:

```
MANPATH /opt/sun/man
```

The new man pages will be fully accessible, regardless of path.

Note – For Linux, if users have MANPATH settings in their own shells, the procedure for Solaris OS should be used. This allows their personal settings to override the `/etc/man.config` file.

---

3 **Verify that the man pages are accessible.**

For example, the following command should display the `asadmin` man page for Application Server:

```
man asadmin
```

Monitoring Console Postinstallation Configuration

If the product components you have installed will use the Java ES Monitoring Console, you must configure each component to use the monitoring framework. For instructions on installing the Monitoring Console see the *Sun Java Enterprise System 5 Installation Guide for UNIX*. For configuration instructions, refer to Chapter 2, "Enabling and Configuring the Monitoring Framework," in *Sun Java Enterprise System 5 Monitoring Guide*.

Sun Cluster Postinstallation Configuration

Sun Cluster software provides a high availability platform for managing applications such as databases, application servers and web servers. Before you install or configure Sun Cluster software, ensure that the combination of hardware and software that you choose for your cluster is currently a supported Sun Cluster configuration.

Sun Cluster software can be used to manage the following Communications Suite product components:

- Application Server
- Application Server EE (HADB)
- Calendar Server
- Directory Server
- Instant Messaging
- Messaging Server
- Message Queue (requires no additional configuration)
- Web Server

If the product components you installed will be included in a Sun Cluster environment, you must first configure the Sun Cluster framework before configuring the product components,

then configure the Communications Suite product components you have selected. Finally, depending on the product components installed, you might need to configure Sun Cluster data services.

Phase I. Sun Cluster Framework

The installer performs a simple `pkgadd` installation of the core Sun Cluster packages and sets up the `/usr/cluster/bin` directory. No configuration is done during installation, so your first postinstallation task is to configure the cluster framework as described in the *Sun Cluster Software Installation Guide for Solaris OS*.

During this phase, the `scinstall` utility verifies the Sun Cluster packages. If packages are missing, an error message is displayed. If this happens, you must verify that the correct Sun Cluster packages were installed. Refer to Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

Phase II. Product Component Data Services

After you have installed and configured the Sun Cluster framework and the other Communications Suite components, you are ready to configure the Sun Cluster data services using the Sun Cluster agents software.

Note – To configure Sun Cluster data services, you must have chosen the associated Sun Cluster agents during installation. To see an example Sun Cluster installation sequence, refer to "Sun Cluster Software Example" on page 45.

For guidelines on configuring the Sun Cluster data services, refer to "Sun Cluster Data Services Configuration" on page 125.

Access Manager Postinstallation Configuration

Whenever you use the installer to configure Access Manager on Web Server, you will need to perform the following steps:

1. Start the Web Server administration instance.
2. Start the Web Server instance.
3. Select the Web Server instance on which Access Manager was installed.
4. Click Manage.

Note – For all Access Manager installations, the web container needs to be restarted. If a full installation is being performed on Web Server or Application Server, the installer will stop the web container instance so only the instance needed to be started. For instructions on restarting Access Manager, see "Starting and Stopping Access Manager" on page 135.

Access Manager configuration is described in the following sections:

Configuring Access Manager After a Configure Now Installation

Although you can start Access Manager and log into the Access Manager console immediately after running the installer, you cannot perform basic user management operations until you complete some final configuration steps. These steps differ depending on whether or not Access Manager is using a Directory Server instance that is already provisioned with user data.

The next sections explain what to do in the following cases:

When Directory Server Is Provisioned With User Data

Refer to *Sun Java System Access Manager 7.1 Postinstallation Guide* for a description of the final configuration steps.

When Directory Server Is Not Yet Provisioned With User Data

When Directory Server is not yet provisioned with user data, perform the steps in the following sections:

Caution – Before performing the tasks in this section, Directory Server must be configured and running. To verify that Directory Server, is running, refer to "Starting and Stopping Directory Server" on page 139.

Enabling the Directory Server Referential Integrity Plug-in

When the Directory Server referential integrity plug-in is enabled, it performs integrity updates on specified attributes immediately after a delete or rename operation. This ensures that relationships between related entries are maintained throughout the database. If the Referential Integrity Plug-in is not already enabled, perform the following procedure.

▼ To Enable the Referential Integrity Plug-in

1. **In Directory Server console, click Configuration.**
2. **In the navigation tree, double-click Plug-ins to expand the list of Plug-ins.**
3. **In the Plug-ins list, click Referential integrity postoperation.**
4. **In the properties area, check the Enable plug-in box.**
5. **Click Save.**
6. **Restart Directory Server to enable the plug-in.**

Adding Access Manager Indexes to Directory Server

Directory Server indexes improve the performance of searches of Directory Server data. The following table lists the recommended attributes that you should consider indexing for Access Manager (if they are not already indexed).

TABLE 6–2 Suggested Access Manager Indexes for Directory Server

Attribute	Index Type
`nsroledn`	Equality, Presence, and Substring
`memberof`	Equality and Presence
`iplanet-am-static-group-dn`	Equality
`iplanet-am-modifiable-by`	Equality
`iplanet-am-user-federation-info-key`	Equality
`sunxmlkeyvalue`	Equality and Substring
`o`	Equality
`ou`	Equality, Presence, and Substring
`sunPreferredDomain`	Equality, Presence, and Substring

TABLE 6–2 Suggested Access Manager Indexes for Directory Server *(Continued)*

`associatedDomain`	Equality, Presence, and Substring
`sunOrganizationAlias`	Equality, Presence, and Substring

Add indexes using either the Directory Server Console or the `ldapmodify` command-line utility. Use `ldapmodify` to load the Access Manager `index.ldif` file, which is available in the following directory:

- Solaris OS: `/etc/opt/SUNWam/config/ldif`
- Linux: `/etc/opt/sun/identity/config/ldif`

For more information about both the Console and `ldapmodify`, see *Sun Java System Directory Server Enterprise Edition 6.0 Administration Guide*.

Configuring Access Manager After a Configure Later Installation

After a Configure Later installation, the packages are installed and you are ready to configure Access Manager using the Access Manager configuration script, *AccessManager-base*`/bin/amconfig`. Instructions for using this program are contained in the *Sun Java System Access Manager 7.1 Postinstallation Guide*.

For instructions on configuring Access Manager for a third-party web container on Solaris OS (BEA WebLogic or IBM WebSphere Application Server), refer to *Sun Java System Access Manager 7.1 Postinstallation Guide*.

Note – For all Access Manager installations, the web container needs to be restarted. If a full installation is being performed on Web Server or Application Server, the installer will stop the web container instance so it need only be started. For instructions on restarting Access Manager, see "Starting and Stopping Access Manager" on page 135.

Application Server Postinstallation Configuration

After a Configure Now installation, Application Server requires no postinstallation configuration.

Note – To configure Application Server for load balancing, refer to the "Configuring Web Servers for HTTP Load Balancing" section in the Chapter 5, "Configuring HTTP Load Balancing," in *Sun Java System Application Server Enterprise Edition 8.2 High Availability Administration Guide*.

If needed, configure Application Server for use with the Sun Cluster software. Refer to "Sun Cluster Postinstallation Configuration" on page 112.

▼ To Configure Application Server After a Configure Later Installation

1 **Locate the accessory CD for Application Server.**

Accessory contents can also be downloaded from the Sun Download Center at `http://www.sun.com/download/index.jsp`.

2 **Refer to the README file in the Addon folder on the CD and follow the procedures detailed there.**

3 **Modify the** *ApplicationServer-base*`/samples/common.properties` **file.**

Modify the following properties in the `common.properties` file. If you do not know some paths, you can copy them from the *ApplicationServer-base* `/config/asenv.conf` file.

Solaris Properties
`com.sun.aas.derbyRoot=/opt/SUNWappserver/appserver/derby`
`com.sun.aas.webServicesLib=/opt/SUNWappserver/appserver/lib`
`com.sun.aas.imqHome=/var/opt/SUNWappserver/domains/domain1/imq`
`com.sun.aas.imqBinDir=/usr/bin`
`com.sun.aas.imqUserMgr=/usr/bin/imqusermgr`
`com.sun.aas.imqLib=/usr/share/lib`
`com.sun.aas.installRoot=/opt/SUNWappserver/appserver`
`com.sun.aas.javaRoot=/usr/jdk/entsys5i-j2se`
`com.sun.aas.domains.dir=/var/opt/SUNWappserver/domains`
`#admin.password=` The admin password will not be saved as default. User can enter it and save it manually.

Solaris Properties
admin.host=jws-v210-4
appserver.instance=server
appserver.instance.port=8080
admin.user=admin
admin.port=4849
derby.port=9092
domain.name=domain1
server.cert.alias=s1as
keystore=${com.sun.aas.domains.dir}/${domain.name}/config/keystore.jks
keystore.password=changeit
trustStore=${com.sun.aas.domains.dir}/${domain.name}/config/cacerts.jks

Linux Properties
#admin.password= The admin password will not be saved as default. User can enter it and save it manually.
server.cert.alias=s1as
keystore=${com.sun.aas.domains.dir}/${domain.name}/config/keystore.jks
domain.name=domain1
com.sun.aas.imqHome=/var/opt/sun/appserver/domains/domain1/imq
com.sun.aas.imqUserMgr=/opt/sun/mq/bin/imqusermgr
com.sun.aas.domains.dir=/var/opt/sun/appserver/domains
admin.user=admin
appserver.instance=server
com.sun.aas.imqBinDir=/opt/sun/mq/bin
trustStore=${cbom.sun.aas.domains.dir}/${domain.name}/config/cacerts.jks
com.sun.aas.imqLib=/opt/sun/mq/share/lib
keystore.password=changeit
com.sun.aas.derbyRoot=/opt/sun/appserver/javadb
admin.port=4849

Linux Properties
derby.port=9092
com.sun.aas.webServicesLib=/opt/sun/appserver/lib
admin.host=jws-linuxpc-2
com.sun.aas.javaRoot=/usr/jdk/entsys5i-j2se
com.sun.aas.installRoot=/opt/sun/appserver
appserver.instance.port=8080

4 **If needed, configure Application Server for use with the Sun Cluster software.**

Calendar Server Postinstallation Configuration

Calendar Server cannot be configured by the installer (Configure Now). After a Configure Later installation, use the following procedure to configure Calendar Server.

Note – Skip Step 1 if you have already run the Directory Preparation Tool on the same Directory Server during configuration of another communications product component.

▼ To Configure Calendar Server After a Configure Later Installation

1 **Configure Directory Server for communications services (Calendar Server, Messaging Server and Delegated Administrator) by running the Directory Preparation Tool,** `comm_dssetup.pl`**.**

a. **Verify that Directory Server is running.**

Refer to "Starting and Stopping Directory Server" on page 139.

b. **On the host where Directory Server is installed, run the Directory Preparation Tool.**

For example:

```
perl /opt/SUNWcomds/sbin/comm_dssetup.pl
```

c. **When prompted by the script, select Schema 2 Native Mode as the schema type unless you need to retain compatibility with previous versions of Calendar Server, Messaging Server, or custom applications.**

For more information about making the appropriate choice, see the *Sun Java System Communications Services 6 2005Q4 Schema Migration Guide*.

2 **Verify that the second column in the `/etc/hosts` file contains the fully-qualified domain name (FQDN) rather than a simple host name.**

For example:

```
192.18.99.999 mycomputer.company.com mycomputer loghost
```

3 **If you intend to use Delegated Administrator to provision users for Calendar Server, you must perform additional steps to configure Delegated Administrator.**

Instructions for configuring the utility and provisioning users are contained in the *Sun Java System Delegated Administrator 6.4 Administration Guide*.

Caution – This step only applies if your installation uses LDAP Schema 2, and if this step was not done during configuration of another communications product component.

4 **Configure Calendar Server by running the Calendar Server configuration program as follows:**

Solaris OS: *CalendarServer-base* `/opt/SUNWics5/cal/sbin/csconfigurator.sh`

Linux: `/opt/sun/calendar/sbin/csconfigurator.sh`

For more information on configuring Calendar Server, refer to the *Sun Java System Calendar Server 6.3 Administration Guide*.

5 **If needed, configure Calendar Server for use with the Sun Cluster software.**

Refer to "Sun Cluster Data Services Configuration" on page 125.

Communications Express Postinstallation Configuration

Communications Express cannot be configured during installation (Configure Now). After a Configure Later installation, the packages are installed and you are ready to configure Communications Express.

▼ To Configure Communications Express After a Configure Later Installation

Note – Skip Step 1 if you have already run the Directory Preparation Tool on the same Directory Server during configuration of another communications product component.

1 **Configure Directory Server for communications services (Calendar Server, Messaging Server and Delegated Administrator) by running the Directory Preparation Tool (`comm_dssetup.pl`).**

Follow instructions in "Calendar Server Postinstallation Configuration" on page 119.

Tip – Before proceeding to Step 2, ensure that the product components on which Communications Express is dependent are installed and running. For more information, see "Prerequisites for Configuring Communications Express" in the *Sun Java System Communications Express 6.3 Administration Guide*.

2 **Configure Communications Express using the configuration program,** *CommunicationsExpress-base* `/sbin/config-uwc`**.**

Instructions are in Chapter 2, "Installing and Configuring Communications Express," in *Sun Java System Communications Express 6.3 Administration Guide*.

3 **Compete the additional post configuration tasks needed for Communications Express.**

See Chapter 2, "Installing and Configuring Communications Express," in *Sun Java System Communications Express 6.3 Administration Guide*.

HADB Postinstallation Configuration

After a Configure Now installation, no additional configuration is necessary. After a Configure Later installation, the packages are installed and you are ready to perform the configuration tasks for HADB.

Configuring HADB After a Configure Later Installation

Postinstallation configuration instructions for HADB and additional information can be found in the *Sun Java System Application Server Enterprise Edition 8.2 High Availability Administration Guide*.

If needed configure HADB for use with the Sun Cluster software. Refer to "Sun Cluster Data Services Configuration" on page 125.

Instant Messaging Postinstallation Configuration

Instant Messaging cannot be configured during installation (Configure Now). After a Configure Later installation, the packages are installed and you are ready to perform the configuration tasks for Instant Messaging.

Configuring Instant Messaging After a Configure Later Installation

When you install the server, the multiplexor is also installed and enabled. If you want to support only a multiplexor on a host, you must disable the server installed on that host. For instructions, refer to the *Sun Java System Instant Messaging 7.2 Administration Guide*.

Instructions for using the Instant Messaging configure utility, *InstantMessaging-base*`/configure`, are contained in Chapter 1, Configuring Instant Messaging After Installation in the *Sun Java System Instant Messaging 7.2 Administration Guide*.

If needed configure Instant Messaging for use with the Sun Cluster software. Refer to "Sun Cluster Data Services Configuration" on page 125.

Message Queue Postinstallation Configuration

After installation, Message Queue requires no additional configuration.

If this product component will be included in a Sun Cluster configuration, proceed to "Sun Cluster Postinstallation Configuration" on page 112.

A common *optional* task is to configure Message Queue for automatic startup. To do this, become superuser and edit the following properties in the `imqbrokerd.conf` configuration file located in `/etc/imq` on Solaris OS and in `/etc/opt/sun/mq` on Linux.

- `AUTOSTART`, which specifies (`YES` or `NO`) if the broker is automatically started at boot time. The default value is `NO`.
- `ARGS`, which specifies command line options and arguments to pass to the broker startup command. See the *Sun Java System Message Queue 3 2005Q4 Administration Guide* for a listing and description of `imqbrokerd` command line options. (For example `-name` *instancename*)
- `RESTART`, which specifies (`YES` or `NO`) if the broker is automatically restarted if it abnormally exits. The default value is `YES`.

Additional configuration for Message Queue is discussed in the *Sun Java System Message Queue 3 2005Q4 Administration Guide*. For example, you might want to change the default administration password.

Messaging Server Postinstallation Configuration

Messaging Server cannot be configured during installation (Configure Now). After a Configure Later installation, the packages are installed and you are ready to configure Messaging Server using the following procedure.

▼ To Configure Messaging Server After a Configure Later Installation

Note – Skip Step 1 if you have already run the Directory Preparation Tool on the same Directory Server during configuration of another communications product component.

1. **Configure Directory Server for communications services (Calendar Server, Messaging Server and the Delegated Administrator) by running the Directory Preparation Tool, `comm_dssetup.pl`.**

   Use the instructions in Chapter 8, "Directory Preparation Tool (`comm_dssetup.pl`)."

2. **Verify that the second column in the `/etc/hosts` file contains the fully-qualified domain name (FQDN) rather than a simple host name. For example:**

   ```
   192.18.99.999 mycomputer.company.com mycomputer loghost
   ```

3. **Configure Messaging Server by running the initial runtime configuration program for Messaging Server, *MessagingServer-base* `/sbin/configure`.**

   For information on configuring Messaging Server, refer to "Creating the Initial Messaging Server Runtime Configuration" in *Sun Java System Messaging Server 6.3 Administration Guide*.

4. **Set the number of file descriptors to be used by Messaging Server:**

   ```
   ulimit -n 12851
   ```

   Set ulimit to a value no less than 12851.

5. **If you intend to use Delegated Administrator to provision users for Messaging Server, you must perform additional steps to configure it.**

   Instructions for configuring Delegated Administrator and provisioning users are contained in the *Sun Java System Delegated Administrator 6.4 Administration Guide*.

Caution – This step applies only if your installation uses LDAP Schema 2, and if this step was not done during configuration of another communications product component.

6. **Configure for use with the Sun Cluster software, if applicable. Refer to "Sun Cluster Data Services Configuration" on page 125.**

Web Proxy Server Postinstallation Configuration

After a Configure Now installation, no additional configuration is needed. After a Configure Later installation, the packages are installed and you are ready to configure Web Proxy Server using the following procedure.

▼ To Configure Web Proxy Server After a Configure Later Installation

1 Create a properties file with your settings.

For example, the `wps.properties` file might contain the following:

```
WPS_JDK_HOME=/usr/jdk/entsys5i-j2se/jre
WPS_SERVER_ROOT=/opt/SUNWproxy
WPS_ADMIN_NAME=admin
WPS_ADMIN_PWD=admin123
WPS_ADMIN_PORT=8889
WPS_START_ON_BOOT=N
WPS_ADMIN_SERVER_USER=root
WPS_SERVER_NAME=jws-v60x-4.red.iplanet.com
WPS_SERVER_PORT=8081
WPS_SERVER_ID=proxy-server1
WPS_ADMIN_SERVER_ID=proxy-admserv
WPS_SERVER_USER=root
```

2 After you have created the file, run the following command:

```
WebProxyServer-base/bin/proxy/bin/configureServer -l logfile -f \
path /wps.properties
```

Web Server Postinstallation Configuration

After a Configure Now installation, no additional configuration is needed unless you are using Sun Cluster or a 64–bit configuration.

- Sun Cluster. If this product component will be included in a Sun Cluster configuration, proceed to "Sun Cluster Postinstallation Configuration" on page 112 and "Sun Cluster Data Services Configuration" on page 125.
- 64–Bit Support . If you are enabling 64–bit JVM support for Web Server, refer to "64-bit Support" in *Sun Java System Web Server 7.0 Installation and Migration Guide*.

▼ To Configure Web Server After a Configure Later Installation

After a Configure Later installation, the packages are installed and you are ready to configure Web Server using the following procedure.

1 **Create a runtime configuration for Web Server by running the Web Server configurator following instructions in the "Configure Later Mode (Java ES Only)" in** *Sun Java System Web Server 7.0 Installation and Migration Guide***.**

2 **Verify the common server settings and update settings as needed.**

Refer to the tables in "Web Server Configuration Information" in *Sun Java Enterprise System 5 Installation Reference for UNIX*.

Sun Cluster Data Services Configuration

After the cluster has been established and the product components have been configured, you are ready to configure Sun Cluster data services for the various product components. The installed Sun Cluster agents are software programs that enable applications to take advantage of clusters. Agent software and additional configuration files comprise data services that enable you to run an application (such as Web Server or an Oracle database) on a cluster instead of on a single server. Combined with the Sun Cluster framework software and multihost disks, data services enable applications to become highly available and scalable.

Until you have fully configured the data services and all the supporting layers (volume manager, cluster file system, resource group information), Sun Cluster installation is not complete. More information on data services can be found in the *Sun Cluster Overview for Solaris OS* .

Note – You can deploy Access Manager in a highly available web container. However, like any web application deployed in a web container, it is subject to failure. In this case, the web container will not fail over.

For Communications Suite product components, run the installer on each node installing the product components, then install the corresponding HA Sun Java™ System subcomponent of the Sun Cluster Agents for Sun Java System product components. In the installer, select the Configure Later type. When specifying installation directories, use the location on the node's local file system for product component, and use locations on a cluster file system for the component Configuration and Product Location.

If your installation plan calls for high availability for non-Communications Suite products, first install and configure the non-Communications Suite product, then select the agent that

supports that product in the installer. Install and configure the agent following the instructions in the appropriate Sun Cluster data service guide.

- Solaris SPARC platform data services guides are available here: `http://docs.sun.com/app/docs/coll/1124.4`
- Solaris x86 platform data services guides are available here: `http://docs.sun.com/app/docs/coll/1125.4`

The following table lists the agents that are provided for the Communications Suite product components in the Sun Cluster Agents product component. Links to the documentation needed for configuring these data services are provided.

TABLE 6–3 Sun ClusterAgents (Data Services)

Agent Name	Special Instructions	Platform
HA Sun Java System Application Server	Chapter 1, "Sun Cluster HA for Sun Java System Application Server EE (Supporting HADB Versions as of 4.4)," in *Sun Cluster Data Service for Sun Java System Application Server EE (HADB) Guide for Solaris OS*	SPARC, x86
HA Sun Java System Application Server EE (HADB)	*Sun Cluster Data Service for Sun Java System Application Server EE (HADB) Guide for Solaris OS*	SPARC
HA Sun Java System Calendar Server	Use Chapter 6, "Configuring Calendar Server 6.3 Software for High Availability (Failover Service)," in *Sun Java System Calendar Server 6.3 Administration Guide* as a guide to installing and configuring for failover.	SPARC
HA Sun Java System Directory Server		SPARC
HA Instant Messaging	Use the *Sun Java System Instant Messaging 7.2 Administration Guide* for instructions on installing and configuring for high availability.	SPARC
HA Sun Java System Message Queue	Use *Sun Cluster Data Service for Sun Java System Message Queue Guide for Solaris OS* as a guide to installing and configuring for failover.	SPARC, x86
HA Sun Java System Messaging Server	Use Chapter 3, "Configuring High Availability," in *Sun Java System Messaging Server 6.3 Administration Guide* as a guide to installing and configuring for failover	SPARC
HA/Scalable Sun Java System Web Server	Use the *Sun Cluster Data Service for Sun Java System Web Server Guide for Solaris OS* as a guide to installing and configuring for failover or for scalability.	SPARC, x86

TABLE 6–3 Sun ClusterAgents (Data Services) *(Continued)*

Agent Name	Special Instructions	Platform
HA Agfa IMPAX		SPARC
HA Apache Tomcat		SPARC, x86
HA Apache		SPARC
HA Broadvision One-to-One Enterprise		SPARC
HA DHCP		SPARC, x86
HA DNS		SPARC, x86
HA MySQL		SPARC, x86
HA NetBackup		SPARC
HA Sun N1 Service Provisioning		SPARC
HA NFS		SPARC, x86
HA Oracle		SPARC
HA Oracle Application Server		SPARC
HA Oracle E-Business Suite		SPARC
HA Oracle Real Application Clusters		SPARC
HA Samba		SPARC, x86
HA SAP		SPARC
HA SAP DB		SPARC
HA SAP liveCache		SPARC
HA Siebel		SPARC
HA Solaris Containers		SPARC, x86
HA Sun N1 Grid Engine		SPARC
HA Sun N1 Service Provisioning		SPARC
HA SWIFT Alliance Gateway		SPARC
HA Sybase ASE		SPARC
HA WebLogic Server		SPARC
HA WebSphere MQ		SPARC
HA WebSphere MQ Integrator		SPARC

Configuring the Java Virtual Machine (JVM)

After you have finished the required post-installation configuration for your Communications Suite product components, some product components might require that you tune the Java Virtual Machine (JVM). The JVM consists of several entities, the most significant being the compiler, which turns Java byte code into machine instructions. In the version of the Java Developer's Kit (JDK) that is included with this Communications Suite release, there are several choices which can be made for the JVM. The best starting option is the `–server` option. (You can obtain the list of options by using the `java –?` command.) The `–server` option is a good tuning option for a JVM running in server mode.

For garbage collection, the default algorithm is a good place to start.

Another significant tuning option that might need to be configured is the Java heap memory. For example:

- The following command sets the initial Java heap size: `-Xms`*size*
- The following command sets the maximum Java heap size: `-Xmx`*size*

A good starting point for a heavily used system would be to set the maximum heap size to 1.2 GB.

Configuring Product Components With Non-root Identifiers

You must be root to run the installer. Because of this, all files placed on the machine by the installer are owned by root. However, when performing configuration after installation, you can assign a non-root runtime user or group to some product components. For example, you might be deploying Access Manager in an instance of Application Server that is not owned by root. For purposes of installation or administration, there are many reasons to configure a product component with a non-root identifier. Generally, the non-root user must already exist on the system, but this can vary by product component.

The following table provide links to information on configuring the applicable product components with non-root identifiers.

TABLE 6–4 Configuring Non-root Identifiers for Product Components

Product Component	Where to Find Instructions
Application Server	Set up an entire administrative domain owned and operated by a non-root user. For instructions, refer to *Sun Java System Application Server Enterprise Edition 8.2 Administration Guide*.

TABLE 6–4 Configuring Non-root Identifiers for Product Components *(Continued)*

Product Component	Where to Find Instructions
Calendar Server	Use the Calendar Server configurator to configure for non-root. For instructions, refer to the *Sun Java System Calendar Server 6.3 Administration Guide*.
Directory Server	To configure Directory Server with a non-root ID, create the server instance as a regular user, or specify the user when creating the instance. For instructions, refer to the *Sun Java System Directory Server Enterprise Edition 6.0 Administration Guide*.
Messaging Server	To configure Messaging Server with a non-root ID, use the Messaging Server configurator. See the *Sun Java System Messaging Server 6.3 Administration Guide* for instructions.
Web Server	By default, Web Server is configured with `webservd` as the runtime user. When using the Web Server configurator, you can specify any runtime user ID. For additional information, refer to the *Sun Java System Web Server 7.0 Administrator's Guide*.

Next Steps

After you have completed the configuration tasks in this chapter, verify postinstallation configuration by starting the product components as described in "Verifying After Post-Installation Configuration" on page 134.

◆ ◆ ◆ CHAPTER 7

Verifying Installed Product Components

This chapter provides instructions for verifying that the Communications Suite product components have been installed and configured successfully. The procedures here do not address more complex interactions among product components that might occur afterinitial configuring, such as single sign-on configuration.

This chapter includes the following sections:

How to Use This Chapter

There are two types of verification presented in this chapter: verifying directly after installation, and verifying after all post-installation configuration is done.

- Verifying after installation: This type of verification is used to discover if installation was basically successful; only some components can be started and stopped at this point.
- Verifying after post-installation configuration is complete: This type of verification is used to verify that all the components can be started and are capable of running. Instructions for starting and stopping each component individually are included.

The default installation locations of Communications Suite product components are different on the various operating system. Due to this difference, the procedures in this chapter use placeholders to represent these locations. For example, *AccessManager-base* represents the base installation directory for Access Manager.

Verifying After Installation

This section provides instructions for verifying that installation of the Communications Suite product component packages was successful. If you performed a Configure Now installation, a few of the product components are configured and ready to run. However, the purpose of the guidelines in this section is simply to verify that the packages are copied to the host correctly, with no partial packages or missing product components.

A good way to verify that packages were installed successfully is to examine the product registry. After installation, the installer updated the product registry to contain the product components that were installed. Product registry is located here:

- Solaris OS: `/var/sadm/install/productregistry`
- Linux: `/var/opt/sun/install/productregistry`

You can also check a few of the product component directories to see if software is in the appropriate directory. Default directories are listed in Chapter 2, "Default Installation Directories and Ports," in *Sun Java Enterprise System 5 Installation Reference for UNIX*. Listings of the packages for the Communications Suite components can be found in Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX*. During uninstallation, the product registry is read by the uninstaller to determine which product components are present and can be uninstalled.

Looking at the installation logs is also helpful, especially if any of the packages do not seem correct in the product registry. For instructions on using the logs and the Log Viewer, refer to "Examining Installation Log Files" on page 190.

Finally, you can try to start product components that were part of a Configure Now installation, such as Web Server or Directory Server.

▼ To Verify That Installation Succeeded

Use some or all of the following steps to verify basic installation.

1. **Verify that no partial packages were installed. On Solaris OS:**

   ```
   pkginfo -p
   ```

2. **Verify that the correct version of a product component is present.**

   To see the correct product component versions for this release, refer to Appendix E, "Product Components for This Release." For example, the J2SE version for Solaris should be 1.5.0_06.

   ```
   cd /usr/jdk
   ls -l
   ```

3. **Verify that the installed product components are reflected in the product registry.**

   a. **On Solaris, use the prodreg tool to view installed packages:**

      ```
      prodreg &
      ```

   b. **Expand the Java Enterprise System Node to view the packages installed by the installer.**

   c. **You can also use the following command to view the `productregistry` file directly.**

      ```
      more /var/sadm/install/productregistry
      ```

4. **Review the configuration data you provided during installation by opening the summary log:**

   ```
   cd /var/sadm/install/logs
   more Java_Enterprise_System_Summary_Report_install.*
   ```

5. **For a Configure Now installation, start the following services:**

   a. **Start Directory Server instance:**

      /DirectoryServer-Base`/bin/dsadm start /var/opt/SUNWdsee/dsins1`

   b. **Start Web Server instance:**

      Solaris: `/var/opt/SUNWwbsvr7/admin-server/bin/startserv`

      Linux: `/var/opt/sun/webserver7/admin-server/bin/startserv`

      Starting Web Server automatically starts Access Manager.

   c. **Access the Web Server URL:**

      `http://`*hostname*`:`*port*

   d. **Access the administration URL for Web Server:**

      `http://`*hostname*`:8800`

6. **For a Configure Now installation, stop the following services:**

   a. **Stop the Web Server administration server:**

      Solaris: `/var/opt/SUNWwbsvr7/admin-server/bin/stopserv`

      Linux: `/var/opt/sun/webserver7/admin-server/bin/stopserv`

   b. **Stop Web Server:**

      Solaris: `/var/opt/SUNWwbsvr7/https-`*hostname*`.`*domainname*`/bin/stopserv`

      Linux: `/var/opt/sun/webserver7/https-`*hostname*`.`*domainname*`/bin/stopserv`

   c. **Stop Directory Server:**

      DirectoryServer-Base`/bin/dsadm stop /var/opt/SUNWdsee/dsins1`

7. **For a Configure Now installation, start the web container to access Access Manager services**

8. **For a Configure Now installation, access the Access Manager console**

   For login, User ID is amadmin, password was entered during installation

   `http://`*hostname*`:`*port*`/amconsole`

9. **If errors occur, restart Web Server and repeat the steps.**

Verifying After Post-Installation Configuration

This section provides guidelines for verifying that the Communications Suite product components are working after you have finished post-installation configuration.

To start Communications Suite, you start the product components one after another, in a specific sequence. You start with the basic services provided by Directory Server and your web container (Web Server or an Application Server). Communications Suite creates runnable instances of these services during installation. Because Access Manager runs inside the web container, Access Manager starts when you start the web container.

The general sequence for bringing up the entire Communications Suite product component set is shown in the following table. The left column lists the order in which you should perform the startup, the middle column describes the task, and the right column lists the location of the instructions for performing the task.

TABLE 7–1 Preferred Startup Sequence for Communications Suite

Order	Task	Location of Instructions
1	Start Directory Server.	"Starting and Stopping Directory Server" on page 139
2	Start your chosen web container. If installed, Access Manager is started. If installed and configured, Communications Express is also started.	
	Start Application Server (also starts Message Queue).	"Starting and Stopping Application Server" on page 136
	Start Web Server.	"Starting and Stopping Web Server" on page 143
	Start IBM WebSphere Server.	See the third-party documentation for the server.
	Start BEA WebLogic Server.	See the third-party documentation for the server.
3	Start Access Manager	"Starting and Stopping Access Manager" on page 135
5	Start Instant Messaging.	"Starting and Stopping Instant Messaging Server and Multiplexor" on page 139
6	Start Messaging Server.	"Starting and Stopping Messaging Server" on page 141
7	Start Calendar Server.	"Starting and Stopping Calendar Server" on page 137
9	Start Monitoring Console	"Starting the Monitoring Console" in *Sun Java Enterprise System 5 Monitoring Guide*

To shut down the entire Communications Suite product component set, reverse the sequence.

Tip – In most cases, the examples in this chapter are based on default information. If you do not remember the installation or configuration values specified for your product component, try the example.

Starting and Stopping Access Manager

To start and stop Access Manager, start and stop the web container in which it is running.

▼ To Access the Access Manager Login Page

Accessing the login page depends on the type of installation you did for Access Manager:

- Legacy type (6.x):

  `http://`*web-container-host*`:`*port*`/amconsole`

  or

`http://`*web-container-host*`:`*port*`/amserver`

- Realm type (7.x):

  `http://`*web-container-host*`:`*port*`/amserver`

1 **Use the following URL format to access the default page in Legacy Mode:**

`http://`*web-container-host*`:`*port*`/amconsole`

The Access Manager login page appears.

2 **Log in.**

A successful login to Access Manager confirms successful deployment of the software. The default administrator account is `amadmin`.

Starting and Stopping Application Server

Application Server is configured as a *domain*. The installer creates the default administrative domain with the default port number 4849. More information can be found in the Chapter 1, "Getting Started," in *Sun Java System Application Server Enterprise Edition 8.2 Administration Guide*.

Note – Starting Application Server also starts Message Queue.

▼ To Start the Application Server Domain

1 **On the command line, change to** *ApplicationServer-base*`/bin` **and enter:**

```
% asadmin start-domain --user admin-id --passwordfile \
path_to_admin-password_file domainname
```

2 **Enter the values that you provided during installation. A message is displayed telling you that the server is starting:**

```
Starting Domain domain1, please wait. Log redirected to install_dir...
```

When the startup process has completed, an additional message is displayed:

```
Domain domain1 started
```

3 **Start individual Application Server instances. For example:**

```
./asadmin start-domain --domain domain1 --user
```

Note – If you receive a message indicating failure to start, configuration changes might not be applied yet. In this case, run the `asadmin reconfig` command. For example:

```
asadmin reconfig --user admin --password adminadmin --host localhost --port 4849 server
```

4 **Verify that the Application Server processes are running. For example, on Solaris OS:**

```
/usr/bin/ps -ef | grep appserv

/opt/SUNWappserver/appserver/lib/appservDAS domain1
```

▼ To Stop Application Server

1 **On the command line, change to** *ApplicationServer-base*`/bin`**.**

2 **Enter the following command to stop the Application Server instances.**

```
./asadmin stop-domain --domain domain1
```

3 **Verify that Application Server is no longer running. For example:**

```
/usr/bin/ps -ef | grep appserv
```

Starting and Stopping Calendar Server

▼ To Start Calendar Server

1 **On the command line, change to the** `sbin` **directory.**

Solaris OS: `/opt/SUNWics5/cal/sbin`

Linux: `/opt/sun/calendar/sbin`

2 **Enter the following command to start Calendar Server.**

```
./start-cal
```

3 **Verify that the Calendar Server processes are running. For example, on Solaris OS:**

```
/usr/bin/ps -ef | grep cal

/opt/SUNWics5/cal/lib/cshttpd -d 3
/opt/SUNWics5/cal/lib/enpd -p 57997 -c config/ics.conf
/opt/SUNWics5/cal/lib/csadmind
```

```
/opt/SUNWics5/cal/lib/csnotifyd
/opt/SUNWics5/cal/lib/csstored
/opt/SWUNics5/cal/lib/watcher
/opt/SUNWics5/cal/config/watcher
```

▼ To Access the Calendar Server Graphical Interface

- **If you are already provisioned in the LDAP directory that Calendar Server points to, you can log into Calendar Server. In your browser, use the** `http://` *hostname*`.`*domainname* **[**`:`*port*`]` **format to access Calendar Server. For example:**

  ```
  http://mycomputer.example.com:89
  ```

  At initial login, Calendar Server creates a default calendar for you. Your login to Calendar Server confirms successful installation.

▼ To Stop Calendar Server

1. **Change to the** `sbin` **directory.**

   Solaris OS: `/opt/SUNWics5/cal/sbin`

   Linux: `/opt/sun/calendar/sbin`

2. **Enter the following command to stop Calendar Server.**

   ```
   ./stop-cal
   ```

3. **Verify that Calendar Server is no longer running. For example:**

   ```
   /usr/bin/ps -ef | grep cal
   ```

Starting and Stopping Communications Express

Communications Express is a web-based communications client that includes an address book, a mail client, and a calendar. It is accessed by typing the following URL into the address field of a web browser:

`http://`*webcontinaer-host*`:`*webcontainer-port*`/`*URIpath*

where

- *webcontainer-host* is the host name of the web container instance in which the Communications Express application is configured.
- *webcontainer-port* is port number of the web container instance in which the Communications Express is configured.

- URI path is the URI where Communications Express is deployed.

Starting and Stopping Directory Server

If Directory Server is part of a cluster, ensure that you are working on the active node for the logical host.

Note – Before using the `dsadm` command to start or stop Directory Server, verify that the `LD_LIBRARY_PATH` environment variable is unset. If it is not unset, you might receive an error when `dsadm` cannot find a dependent library.

▼ To Start Directory Server

1. **If a Directory Server instance does not yet exist, create one. See the Directory Server Administration documentation for details.**

2. **Start Directory Server instance:**

   Solaris OS: `/opt/SUNWdsee/ds6/bin/dsadm start /var/opt/SUNWdsee/dsins1`

   Linux: `/opt/sun/ds6/bin/dsadm start /var/opt/sun/dsins1`

▼ To Stop Directory Server

- **Stop Directory Server instance:**

  Solaris OS: `/opt/SUNWdsee/ds6/bin/dsadm stop /var/opt/SUNWdsee/dsins1`

  Linux: `/opt/sun/ds6/bin/dsadm stop /var/opt/sun/dsins1`

Starting and Stopping Instant Messaging Server and Multiplexor

Starting the Instant Messaging server enables Instant Messenger clients to connect to the server. Stopping the Instant Messaging server closes all connections and disconnects all clients. The configuration of a given instance specifies whether only the multiplexor, only the server, or both these product components are enabled.

Note – For information on starting the Instant Messaging client (and the server on the Windows operating system), refer to the *Sun Java System Instant Messaging 7.2 Administration Guide*.

▼ To Start Instant Messaging and the Multiplexor

1 **Change to the** *InstantMessaging-base*`/sbin/` **directory. For example:**

Solaris OS: `cd /opt/SUNWiim/sbin`

Linux: `cd /opt/sun/im/sbin`

2 **Enter the following command to start the Instant Messaging Server and Multiplexor process:**

```
./imadmin start
```

3 **Verify that the Instant Messaging processes are running:**

```
./imadmin status

Server           [UP}
Multiplexor      [UP]
Agent:calendar   [DOWN]
Watchdog         [UP]
```

▼ To Stop Instant Messaging

1 **Change to the** *InstantMessaging-base*`/sbin/` **directory. For example:**

Solaris OS: `cd /opt/SUNWiim/sbin`

Linux: `cd /opt/sun/im/sbin`

2 **Enter the following command to stop the Instant Messaging Server and Multiplexor process:**

```
./imadmin stop
```

3 **Verify that the Instant Messaging processes are not running:**

```
./imadmin check
```

Starting and Stopping Message Queue

Message Queue uses a broker to route and deliver messages. (To scale the Message Queue service, brokers can be clustered.) The `imqbrokerd` command starts a broker.

▼ To Start Message Queue Broker

1. **Change to the** *MessageQueue-base*`/bin` **directory.**
2. **Enter the following command to start the Message Queue broker:**

   ```
   ./imqbrokerd
   ```

3. **Verify that the broker process is running. For example:**

   Solaris OS: `/usr/bin/ps -ef | grep imqbrokerd`

   Linux: `/bin/ps -ef | grep imqbrokerd`

▼ To Stop Message Queue Broker

- **When you stop a running broker, you are prompted for user admin user name and password.**

  Solaris OS: `/usr/bin/imqcmd shutdown bkr [ -b`*hostname:port*`]`

  Linux: `/opt/sun/mq/bin/imqcmd shutdown bkr [ -b` *hostname:port*`]`

Starting and Stopping Messaging Server

The Messaging Server `start-msg` utility starts all of the Messaging Server processes, or optionally, one specified service. The services started can be controlled by enabling or disabling the configuration parameters. Messaging Server depends on Directory Server.

▼ To Start Messaging Server

1. **Change to the** *MessagingServer-base*`/sbin` **directory.**
2. **Enter the following command to start the Messaging Server:**

   ```
   ./start-msg
   ```

3 **Verify that the Messaging Server processes are running. For example:**

Notice that the list of processes varies according to the Messaging Server features you have configured to use.

```
/usr/bin/ps -ef | grep SUNWmsgsr

/opt/SUNWmsgsr/lib/enpd
/opt/SUNWmsgsr/lib/stored -d
/opt/SUNWmsgsr/lib/popd -d 5
/opt/SUNWmsgsr/lib/imapd -d 5 -D 6
/opt/SUNWmsgsr/lib/mshttpd -d 5 -D 6
/opt/SUNWmsgsr/lib/dispatcher
/opt/SUNWmsgsr/lib/job_controller
/opt/SUNWmsgsr/lib/tcp_lmtp_server
/opt/SUNWmsgsr/lib/tcp_smtp_server
/opt/SUNWmsgsr/lib/tcp_smtp_server
/opt/SUNWmsgsr/lib/imsched
/opt/SUNWmsgsr/lib/watcher
```

▼ To Stop Messaging Server

1 **Change to the** *MessagingServer-base*`/sbin` **directory.**

2 **Enter the following command to stop the Messaging Server:**

```
./stop-msg
```

3 **Verify that the Messaging Server processes are not running. For example, on Solaris OS:**

```
/usr/bin/ps -ef | grep SUNWmsgsr
```

Some Messaging Server processes might take several minutes to stop because they wait for their current transactions to complete.

Starting and Stopping Monitoring Console

Monitoring Console cannot be run from the same host where any of the product components are installed. For instructions for using Monitoring Console, refer to “Starting the Monitoring Console” in *Sun Java Enterprise System 5 Monitoring Guide*.

Stopping and Rebooting Sun Cluster Software

Although Sun Cluster software is not started and stopped like other product components, the software can be stopped by rebooting into noncluster mode. For instructions, refer to the *Sun Cluster System Administration Guide for Solaris OS*.

Starting and Stopping Web Server

When you install Web Server, two server instances are installed by default: an Administration Server instance and a Web Server instance.

▼ To Start Web Server

1 **Start the Admin Server:**

For Solaris OS: `/var/opt/SUNWwbsvr7/admin-server/bin/startserv`

For Linux: `/var/opt/sun/webserver7/admin-server/bin/startserv`

2 **Start the Web Server instance:**

For Solaris OS: `/var/opt/SUNWwbsvr7/https-instanceName/bin/startserv`

For Linux: `/var/opt/sun/webserverr7/https-instanceName/bin/startserv`

3 **Access the Web Server Administration Server administration instance**

In the browser, enter the `http://`*hostname* `.`*domainname*`:`*adminport* format. For example:

For SSL port (this is the default): `https://host1.example.com:8989`

For HTTP port: `http://host1.example.com:8800`

Your login confirms successful installation.

▼ To Stop Web Server

1 **Stop the Admin Server:**

For Solaris OS: `/var/opt/SUNWwbsvr7/admin-server/bin/stopserv`

For Linux: `/var/opt/sun/webserver7/admin-server/bin/stopserv`

2 **Stop the Web Server instance:**

For Solaris OS: `/var/opt/SUNWwbsvr7/https-instanceName/bin/stopserv`

For Linux: `/var/opt/sun/webserverr7/https-instanceName/bin/stopserv`

Starting and Stopping Web Proxy Server

▼ To Start Web Proxy Server Admin Server and Instance

When you install Web Proxy Server, two server instances are installed by default: a Web Proxy Server Admin Server instance and a Web Proxy Server instance.

1. **On the command line, start the Web Proxy Admin Server by changing to** *WebProxyServer-base*`/proxy-admserv`**:**
   - Solaris OS: `/opt/SUNWproxy/proxy-admserv/start`
   - Linux: `/opt/sun/webproxyserver/proxy-admserv/start`
2. **On the command line, start the Web Proxy Server instance by changing to the** *WebProxyServer-base*`/proxy-`*hostname.domainname***:**
   - Solaris OS: `/opt/SUNWproxy/proxy-server1/start`
   - Linux: `/opt/sun/webproxyserver/proxy-server1/start`
3. **Verify that the Web Proxy Server processes are running. For example:**

   ```
   /usr/bin/ps -ef | grep proxy
   ```

▼ To Start the Socks Server

1. **From the command line, go to** *WebProxyServer_base*`/proxy-serverid`**.**
2. **Start the Socks Server:**

   ```
   ./start-sockd
   ```

3. **Verify that the Socks Server processes are running.**

   For example:

   ```
   /usr/bin/ps -ef | grep sockd
   ```

▼ To Access the Administration Server Graphical Interface

- **Use the** `http://`*hostname.domainname:adminport* **format to access the Administration Server graphical interface. For example:**

  ```
  http://host1.example.com:8888
  ```

Your login confirms successful installation.

▼ To Stop Web Proxy Server

1. **On the command line, stop the Admin Server by changing to** *WebProxyServer-base*`/proxy-admserv`**:**
   - Solaris OS: `/opt/SUNWproxy/proxy-admserv/stop`
   - Linux: `/opt/sun/webproxyserver/proxy-admserv/stop`
2. **On the command line, stop the Web Proxy Server instance by changing to the** *WebProxyServer-base*`/proxy-server1.`**:**
   - Solaris OS: `/opt/SUNWproxy/proxy-server1/stop`
   - Linux: `/opt/sun/webproxyserver/proxy-server1/stop`
3. **Verify that the Web Proxy Server processes are not running. For example:**

```
/usr/bin/ps -ef | grep proxy
```

▼ To Stop the Socks Server

1. **From the command line, go to** *WebProxyServer_base*`/proxy-serverid`**.**
2. **Start the Socks Server:**

```
./stop-sockd
```

3. **Verify that the Socks Server processes are not running. For example:**

```
/usr/bin/ps -ef | grep sockd
```

Next Steps

If you have completed this chapter, you have verified that the Communications Suite product components that you installed and configured are functional. You can now begin administering the product components. The following documentation can help you get started:

- Communications Suite product component documentation: `http://docs.sun.com/prod/sunjava.comm`
- Java ES product component documentation: `http://docs.sun.com/prod/entsys.05Q4`
- *Sun Cluster System Administration Guide for Solaris OS*
- *Sun Cluster Data Services Planning and Administration Guide for Solaris OS*

◆ ◆ ◆ CHAPTER 8

Directory Preparation Tool (`comm_dssetup.pl`)

After installing the Communications Suite products and before provisioning and using the servers, you must prepare Directory Server using the Directory Preparation Tool (`comm_dssetup.pl`). This is a separately installed component. In the installer, you must select the Directory Preparation Tool. This chapter covers the following topics:

Note – If you had an earlier version of Calendar Server or Messaging Server installed, you might need to migrate your LDAP directory entries from Schema 1 to Schema 2.

Do not run the configuration utility described in this chapter until you have read the *Sun Java System Communications Services 6 2005Q4 Schema Migration Guide*. It instructs you on the timing and options for running the configuration utilities.

Before You Run the Directory Preparation Tool

This section covers information you need to understand before running the Directory Preparation Tool, and contains the following topics:

What the Directory Preparation Tool Does

The Directory Preparation Tool proceeds through three steps, as follows:

1. Collects your choices for utility options.

   For a list of the specific information this step requests, see "Information You Need to Gather Before you Run the Directory Preparation Tool" on page 149.

2. Generates a shell script and LDIF file from your options choices that will be used to modify the LDAP directory.

   If you are not using a Sun product for your directory server, or have customized your Directory Server, stop the process here without running the shell script. For further information, see "Directory Server Considerations for the Directory Preparation Tool" on page 148 that follows.

3. Runs the shell script created from your options choices. Your directory is modified accordingly.

   At the end of each step, the utility asks you if you want to continue. No changes are made to the LDAP directory until the third step.

Directory Server Considerations for the Directory Preparation Tool

The following is a list of the considerations for your LDAP directory:

- A directory server must be installed, configured and running before you run the Directory Preparation Tool.
- You must run the Directory Preparation Tool on the same machine as your directory server.
- You must run the Directory Preparation Tool on every machine on which a directory server resides.
- If you add an additional machine that has Directory Server installed on it (such as a replica), at a future date, run the Directory Preparation Tool against it, too.
- If you have customized your LDAP directory, the following considerations may apply:
  - If you have indexed some attributes, you may have to reindex those attributes after the Directory Preparation Tool runs.
  - If you have added other `.ldif` files (schema definitions), they should not be affected, so no action should be necessary. However, back up your custom schema definition files before running the Directory Preparation Tool.

- For all customizations, including the first two just listed, stop the Directory Preparation Tool after it generates the script and before it actually updates the LDAP directory. Then inspect the script to evaluate how its proposed actions will affect your LDAP directory. Take whatever actions you think necessary to protect your customizations before running the script against your directory.

Information You Need to Gather Before you Run the Directory Preparation Tool

During the first step of the Directory Preparation Tool, it requests information about your Directory Server. Prepare for this by gathering the information shown in the following table. (To help you keep track of this information, use "Directory Server Installation Worksheet" on page 215.)

Information Item Needed	Default Value
Directory Server root path name	`/var/opt/mps/serverroot`
Which instance of Directory Server to use? (If more than one.)	N/A
Directory Manager Distinguished Name (DN)	`"cn=DirectoryManager"`
Directory Manager's Password	N/A
Directory Server being used for user/group data? (yes), or configuration data only? (no)	`yes`
User and group root suffix (if yes to previous question)	`"o=usergroup"`
Schema version? (pick one of the following) `1` Schema 1 `1.5` Schema 2 Compatibility Mode `2` Schema 2 Native Mode [1]	`1`
Root suffix (if using Schema 1 or Schema 2 Compatibility Mode)[2]	`o=internet`
Update schema?[3]	yes
Add Directory Server indexes?[4]	yes

[1] For more information on how to choose a schema, see "About the Directory Preparation Tool Schema Choices" on page 150. If you have one version of the schema installed and want to upgrade to a higher level, refer to the *Sun Java System Communications Services 6 2005Q4 Schema Migration Guide*before running this utility.

[2] If you choose Schema 1 or 1.5, you will need a DC tree. If the DC tree does not yet exist, the Directory Preparation Tool creates only the root suffix node, its does not create the rest of the DC tree. You must create the rest of your DC tree yourself.

[3] If this Directory Server is being used for user/group data, you must have a config directory containing the schema files.

[4] If you answer yes, the Directory Preparation Tool does the indexing for Messaging Server and Calendar Server, even if you are not using both of them.

About the Directory Preparation Tool Schema Choices

Communications Suite servers support the following schema choices:

- Sun LDAP Schema 2 native mode

  Corresponds to Directory Preparation Tool schema version choice 2. This is the default for a fresh installation.

- Sun LDAP Schema 1

  Corresponds to the Directory Preparation Tool schema version choice 1.

- Sun LDAP Schema 2 compatibility mode

  Corresponds to Directory Preparation Tool schema version choice 1.5.

If you are still trying to decide which schema to use, for further explanation, see "Understanding Schema Choices" in *Sun Java Communications Suite 5 Deployment Planning Guide*, and the *Sun Java System Communications Services 6 2005Q4 Schema Migration Guide*.

Access Manager Considerations

If you are using Schema 2, Access Manager must be installed and configured.

Note – Do not use the Access Manager console to administer users. Use Delegated Administrator for administering Messaging and Calendar users.

Attribute Indexes Created by the Directory Preparation Tool

Attribute indexes improve the performance of search algorithms. The tool offers to index attributes. If you choose to do so, it will add indexes for the all the Communications Suite products. Therefore, once you have run the indexing for one product, you do not need to reindex for other products. If you try to index the same attributes again, nothing happens. The tool calls `db2index` for each attribute being indexed, but only if the index does not already exist.

The following table lists all the attributes the Directory Preparation Tool indexes, grouped by suffix category. It also lists the type of indexes created for each attribute. For more information about Directory Server indexing, see `http://docs.sun.com/coll/1316.1`.

Suffix	Attributes Indexed	Type of Indexes Added
User/Group	`mail`	`pres, eq, approx, sub`
	`mailAlternateAddress`	`pres, eq, approx, sub`
	`mailEquivalentAddress`	`pres, eq, approx, sub`
	`member`	`eq`
	`cosspecifier`	`pres`
User/Group (for Access Manager – Schema 2)	`inetDomainBaseDN`	`pres, eq`
	`sunPreferredDomain`	`pres, eq`
	`associatedDomain`	`pres, eq`
	`o`	`pres, eq`
	`sunOrganizationAlias`	`pres, eq`
DC Tree (for Schema 1)	`inetDomainBaseDN`	`pres, eq`
	`inetCanonicalDomainName`	`pres, eq`
Personal Address Book (PAB)	`memberOfManagedGroup`	`pres, eq`
	`memberOfPAB`	`pres, eq`
	`memberOfPABGroup`	`pres, eq`
	`un`	`eq`
	`icsCalendar`	`pres, eq, approx, sub`
	`icsCalenarOwned`	`pres, eq, approx, sub`
New PAB	`displayname`	`pres, eq, sub`
	`MemberOfPiBook`	`eq`
	`MemberofPiGroup`	`eq`

Should you decide to add further indexes on your own, instructions for adding indexes can be found in the Directory Server documentation.

Running the Directory Preparation Tool

This section covers the following topics:

▼ To Run the Directory Preparation Tool

1 **On the server where Directory Server is installed, login as or become superuser (`root`).**

2 **Start Directory Server, if necessary.**

3 **Change to the `/opt/SUNWcomds/sbin` directory.**

Or, if you need it, a `.zip` file is available at `/opt/SUNWcomds/lib`.

4 **Run the Directory Preparation Tool in either silent mode or in interactive mode.**

For further steps, see "Running the Directory Preparation Tool" on page 152 or "Running the Directory Preparation Tool" on page 152.

To run the tool script, use the version of Perl included as a shared component and automatically installed by the installer. After installation, Perl can be found in the following directory:

ds-svr-base`/bin/slapd/admin/bin/perl`

▼ To Run the Directory Preparation Tool in Interactive Mode

To run the Directory Preparation Tool in interactive mode, run the script without any arguments and then enter your choices for the questions asked.

The following numbered list gives panel by panel instructions on how to use the interactive mode script.

1 **Welcome and Introduction Panel**

```
# cd /opt/SUNWcomds/sbin
# ./comm_dssetup.pl

Welcome to the Directory Server preparation tool for
Sun Java System Communications Services.
(Version 6.3 Revision 0.1)
```

```
This tool prepares your directory server for use by the
communications services which include Messaging,
Calendar and their components.
The logfile is /var/tmp/dssetup_YYYYMMDDHHSS
Do you want to continue [y]:
```

Press Enter to continue, or type no and then press Enter to exit.

2 Installation Root of Directory Server Panel

```
Please enter the full path to the directory where the
        Sun Java System Directory Server was installed.
Directory server root [/var/opt/mps/serverroot]
```

Specify the location of the installation root of the Directory Server, or press Enter to accept the default.

3 Directory Server Instance Panel

If multiple instances of the Directory Server reside on this machine, the program lists them and asks you to choose one.

```
Please select a directory server instance from the following list:
       [1] slapd-varrius
Which instance do you want [1]:
```

Enter the number corresponding to your choice, and then press Enter. Or, to accept the default, press Enter without entering a number.

4 Directory Manager Distinguished Name (DN) Panel

This screen has two parts, entering the Directory Manager DN and the Directory Manager's password.

a. First the script asks you for the distinguished name (DN) of the Directory Manager:

```
Please enter the directory manager DN [cn=Directory Manager]:
```

The Directory Manager DN, which defaults to `cn=Directory Manager`, is the administrator responsible for the user and group data in the Organization Tree. Be sure that the Directory Manager DN you specify in this script is the same DN that you set up for your Directory Server installation as well for as your Calendar Server and Messaging Server configuration.

Enter the Directory Manager DN, or press Enter to accept the default.

b. Then the script asks for the Directory Manager's password.

```
Password:
```

Enter the password for the Directory Manager and press Enter.

The program checks to see if the Directory Server is running and listening on port 389 (the default port).

If successful, it displays the detected version as shown in the example that follows:

```
Detected DS version 5.2
```

If unsuccessful, it tells you that it could not detect a Directory Server running, or listening on port 389. It directs you to fix this problem before allowing you to continue. The script exits. The example below shows this output:

```
Directory Server not running or not listening to port 389.
Detected DS version 0.0
Please correct the problem and re-run this script.
```

5 User and Group Directory Server Panel

```
Will this directory server be used for users/groups [Yes]:
```

Enter `No` if this directory instance is used to store only configuration data, or press Enter to accept the default.

If you enter `No`, then you must also run this script against the directory instance that stores user and group data. (Do this before you run the configuration program `csconfigurator.sh`.)

If your answer is `Yes`, you must specify a user and group base suffix for your Organization Tree.

6 User and Group Base Suffix Panel

```
Please enter the Users/Groups base suffix [o=usergroup]:
```

The user and group base suffix is the top entry in the LDAP Organization Tree. Be sure that the suffix you select here is the same suffix you specify for Directory Server, Communications Suite servers, and Access Manager.

7 Schema Type Panel

```
There are 3 possible schema types:
1-schema 1 for systems with Calendar or Messaging 5.x data
1.5-schema 2 compatibility for systems with Calendar or Messaging 5.x
    data that has been converted with the Schema Migration Utility
    commdirmig
2-schema 2 native for systems using Access Manager
Please enter the Schema Type (1, 1.5, 2) [1]:
```

Enter the schema type, or press Enter to accept the default.

Note – To use Schema 2 (options `1.5` or `2`), Access Manager must be installed and configured. Otherwise, the Directory Preparation Tool will terminate. You must install Access Manager before rerunning the Directory Preparation Tool.

---

8 Domain Component (DC) Tree Base Suffix Panel

If you chose Schema 1 or Schema 2 Compatibility Mode, you will be asked to provide your DC tree base suffix. If you chose Schema 2 Native Mode, you will not be asked this question.

```
Please enter the DC Tree base suffix [o=internet]:
```

In the Schema Type Panel described earlier, if you chose Schema 1 or Schema 2 Compatibility Mode, you will be asked to provide your DC tree base suffix. If you chose Schema 2 Native Mode, you will not be asked this question.

The DC tree mirrors the local DNS structure and is used by the system as an index to the Organization tree that contains the user and group data entries. The DC tree base suffix is the name of the top entry on the DC tree.

Enter a suffix, or press Enter to accept the default.

9 Series of Questions Panel

This next screen asks a series of questions about updates to your directory.

a. Updating Schema Files

At this point the program checks to see if your schema has the correct schema elements. If your schema is missing some elements, it prints the following message:

```
Detected bad schema elements in 99user.ldif.
It is recommended that you update the schema.

Do you want to update the schema files [yes]:
```

Answer `Yes` to add required new elements to your schema. You need to update the directory with the new schema files each time you install a new version of Calendar Server or Messaging Server.

Answer `No` if you want to delay updating the schema files.

b. Configuring New Indexes

If you chose to update the schema in the previous step, you will be asked if you want to configure new indexes. For more information about indexing attributes, see "Attribute Indexes Created by the Directory Preparation Tool" on page 150.

```
Do you want to configure new indexes [yes]:
```

To approve indexing, press Enter.

If you have already performed this indexing step for the same attributes, answer `no`.

c. Reindex Now

You can choose to do the indexing now, or you can do it at a later time. If you choose to defer the indexing, rerun the script with indexing turned on when it is convenient. Indexing can take a long time, but the Directory Server is still functional, that is, is not put into read only mode during indexing.

```
Reindex now [yes]?
```

If you want to do the indexing at a later time, answer `no`, otherwise, press Enter and accept the default.

10 Summary of Settings Panel

Before the Directory Preparation Tool updates the Directory Server configuration, it displays a summary of your settings and then asks if you want to continue.

```
Here is a summary of the settings that you chose:
  Server Root                   : /var/opt/mps/serverroot/
  Server Instance               : slapd-varrius
  Users/Groups Directory        : yes
  Update Schema                 : yes
  Schema Type                   : 1
  DC Root                       : o=internet
  User/Group Root               : dc=red,dc=sesta,dc=com
  Add New Indexes               : yes
  Reindex New Indexes Now       : yes
  Directory Manager DN          : cn=Directory Manager

Now ready to generate a shell script and ldif file to modify the
Directory.
No changes to the Directory Server will be made this time.
Do you want to continue [Y]:
```

If you chose Schema 2 Native Mode in "Running the Directory Preparation Tool" on page 152, the DC Root will be the same value that you entered for the User/Group Root.

To change any of your settings, enter `no` and rerun the script.

If you want to continue, press Enter. The Directory Preparation Tool generates an LDIF file and a shell script. The names of the files it creates are as follows:

```
/var/tmp/dssetup_timestamp.ldif
```

```
/var/tmp/dssetup_timestamp.sh
```

If you chose to continue, you will see messages printed out as the program works. The following is an example of the output you will see:

```
Generating files...

Checking to see if Suffixes need to be added
```

```
Checking to see that uid uniqueness plugins are turned off

Adding indexes
  Adding Indexes for User/group Tree (backend:userRoot)
    Checking indexes for member
      No new indexes required
    Checking indexes for mailAlternateAddress
      No new indexes required
    Checking indexes for mail
      No new indexes required
    Checking indexes for mailEquivalentAddress
      No new indexes required
    Checking indexes for cosspecifier
      No new indexes required
  Adding Indexes for DC Tree (backend:internetdb2)
    Checking indexes for inetCanonicalDomainName
      No new indexes required
    Checking indexes for inetDomainBaseDN
      No new indexes required
  Adding Indexes for PAB Tree (backend:pabdb2)
    Checking indexes for memberOfPAB
      No new indexes required
    Checking indexes for icsCalendar
      No new indexes required
    Checking indexes for un
      No new indexes required
    Checking indexes for memberOfPABGroup
      No new indexes required
    Checking indexes for icsCalendarOwned
      No new indexes required
    Checking indexes for memberOfManagedGroup
      No new indexes required
  Adding Indexes for New PAB Tree (backend:PiServerDbdb2)
    Checking indexes for MemberOfPiBook
      No new indexes required
    Checking indexes for MemberofPiGroup
      No new indexes required
    Checking indexes for displayname
      No new indexes required

Checking to see if DN needs to be created for suffixes
Generating ldif for installer metadata
  Generating ldif for Adding schema for installer metadata
  Generating ldif for updating DN for cn=CommServers,o=comms-config
The following files have been created:
   /var/tmp/dssetup_20041209114027.sh
   /var/tmp/dssetup_20041209114027.ldif
```

```
Running /var/tmp/dssetup_20041209114027.sh will make changes
  to the Directory. You can run this file now or at a later time
Ready to execute the script now.
```

11 Running the Script

```
Do you want to continue [yes]:
```

Press Enter to accept the default setting (yes). The dssetup_*timestamp*.sh script runs against your LDAP directory. If you do not want to run the script now, enter No to exit. If you exit, you can run the /var/tmp/dssetup_*timestamp*.sh script at a later time.

The following is an example of the text output generated while the script is running:

```
Running /var/tmp/dssetup_20041209114027.sh
   -D "cn=Directory Manager"
   -j /var/tmp/dssetup_20041209114027.pw
Stopping Directory Server
Updating Schema files...
Copying 20subscriber.ldif
Copying 50ns-delegated-admin.ldif
Copying 50ns-mail.ldif
Copying 50ns-mlm.ldif
Copying 50ns-msg.ldif
Copying 50ns-value.ldif
Copying 55ims-ical.ldif
Copying 56ims-schema.ldif
Copying 70sun-schema2.ldif
Copying 71sun-am.ldif
Copying 60iplanet-calendar.ldif
Copying 50ns-iabs.ldif
Copying 98ns-dummy-uwc.ldif
Copying 70delgated-admin.ldif
Copying /var/tmp/99user_20041209114027.ldif to
        /var/opt/mps/serverroot/slapd-varrius/config/schema/99user.ldif
Starting Directory Server
Applying ldif file /var/tmp/dssetup_20041209114027.ldif
modifying entry cn=schema

modifying entry cn=schema

modifying entry cn=CommServers,o=comms-config

Done Applying ldif file /var/tmp/dssetup_20041209114027.ldif
rejects to /var/tmp/dssetup_20041209114027.ldif.rej status = 0
Successful Completion.
Consult /var/tmp/dssetup_20041209114027.log for details
```

To Run the Directory Preparation Tool in Silent Mode

Directory Preparation Tool Silent Mode Instructions

To run the Directory Preparation Tool in silent mode, issue the Perl command followed by a string of options using the syntax shown in "Directory Preparation Tool Silent Mode Syntax" on page 159. All of the option arguments are required. Table 8–1describes the options.

The utility creates the following LDIF file and shell script to update the LDAP directory indexes and schema:

`/var/tmp/dssetup_`*timestamp*`.ldif`

`/var/tmp/dssetup_`*timestamp*`.sh`

Depending on the option values you pass in, the utility will either proceed to update the Directory Server by executing the new script, or not. If you have chosen not to proceed with the update, you can check the script and make any desired modifications before running the actual update at a later time.

Directory Preparation Tool Silent Mode Syntax

The following are all the options for running in the silent mode:

```
perl comm_dssetup.pl
    -i yes|no
    -R yes|no
    -c DirectoryServerRoot
    -d DirectoryInstance
    -r DCTreeSuffix
    -u UserGroupSuffix
    -s yes|no
    -D DirectoryManagerDN
    -w DirectoryManagerPassword
    -b yes|no -t 1|1.5|2
    -m yes|no
   [-S PathtoSchemaFiles]
```

TABLE 8–1 Explanation of Options for RunningDirectory Preparation Tool in Silent Mode

Option and Argument	Description
`-i yes|no`	Answers the question: "Do you want to configure new indexes?" `yes` Add new Directory Server indexes. `no` Do not add indexes.
`-R yes|no`	Answers the question: "Do you want to reindex now?" The `-m` option must be `yes` also for this to take effect.
`-c` *DirectoryServerRoot*	Directory Server root path. For example: `/var/opt/mps/ldap`
`-d` *DirectoryInstance*	Directory Server instance subdirectory. For example: `slapd-varrius`
`-r` *DCTreeSuffix*	DC tree root suffix. (for Schema 1 and Schema 2 compatibility modes only) For example: `dc=varrius,dc=sesta,dc=com`
`-u` *UserGroupSuffix*	User and group root suffix. For example: `dc:west,dc=sesta,dc=com`
`-s yes|no`	Answers the question: "Do you want to update the schema?" `yes` Update the schema. You must have a `config` directory with the schema files. `no` Do not update schema.
`-D` *DirectoryManagerDN*	Directory Manager Distinguished Name (DN). The value must be enclosed by double quotation marks (`" "`) to allow the Directory Preparation Tool to interpret a value with a space correctly. For example: `"cn=Directory Manager"`
`-w` *DirectoryManagerPassword*	Directory Manager DN password.
`-b yes|no`	Answers the question: "Will this directory server be used for users and groups?" `yes` Use this directory to store both configuration and user group data. `no` Use this directory to store only configuration data.
`-t 1|1.5|2`	Schema version: ■ `1` Sun LDAP Schema 1 ■ `1.5` Sun LDAP Schema 2 Compatibility Mode ■ `2` Sun LDAP Schema 2 Native Mode
`-m yes|no`	Answers the question: "Do you want to modify the directory server?" `yes` Modify the Directory Server without prompting the user. `no` Do not modify the Directory Server without prompting the user.
`-S` *PathtoSchemaFiles*	Path to the directory where the schema files are located. For example: `./schema`

Manually Updating Schema Files

If for any reason, you have decided not to run the Directory Preparation Tool generated script, the following directions allow you to manually update your schema files for Sun Java System Directory Server.

Note – If you update your LDAP directory schema manually and then later upgrade Calendar Server, you must manually update the LDAP server schema again. Calendar Server cannot automatically update the schema after the it has previously been updated manually.

▼ To Update Your LDAP Directory Manually

1. **Install Calendar Server 6.3.**
2. **Stop Calendar Server, if it is running.**
3. **Stop Directory Server, if it is running.**
4. **Copy the `60iplanet-calendar.ldif` file to the following directory on the machine where your directory server is running:**

   dir-svr-base`/slapd-`*hostname*`/config/schema`

   where *dir-svr-base* is the Directory Server installation directory and *hostname* identifies the machine.
5. **If you want to index attributes, as the configuration program does, do it at this point.**

   For a list of the attributes the configuration program indexes, see "Attribute Indexes Created by the Directory Preparation Tool" on page 150.
6. **Restart the Directory Server.**

   If you receive object identifier (OID) errors, see "Resolving Conflicting Calendar Server OID's in the LDAP Schema" on page 161.

Resolving Conflicting Calendar Server OID's in the LDAP Schema

If your LDAP schema contains conflicting OID's, the Directory Server does not know which OID to use and returns an error message. For example, the following message indicates a conflicting OID for the `icsCalendarUser` object class:

```
[24/Apr/2004:23:45:28 -0700] dse -
The entry cn=schema in file 99user.ldif is invalid,
error code 20 (Type or value exists) - object class icscalendaruser:
   The name does not match the OID.
   Another object class is already using the name or OID.
[24/Apr/2004:23:45:28 -0700] dse -
Please edit the file to correct the reported problems
and then restart the server.
```

This problem can occur when you install Calendar Server 6.3 and you also had an older Calendar Server release that dynamically updated your Directory Server `99user.ldif` file.

To resolve the conflicting OID's, perform the following two steps:

1. Edit the `99user.ldif` file and remove the older OID's. For Calendar Server 6.3, the following table lists the specific OID's that might cause problems.

Object Class	Old OID	New OID
`icsCalendarUser`	`2.16.840.1.113730.3.2.141`	`1.3.6.1.4.1.42.2.27.9.2.44`
`icsCalendarResource`	`2.16.840.1.113730.3.2.143`	`1.3.6.1.4.1.42.2.27.9.2.45`
`icsCalendarDomain`	`2.16.840.1.113730.3.2.144`	`1.3.6.1.4.1.42.2.27.9.2.4`

2. After you edit the `99user.ldif` file, restart the Directory Server.

◆ ◆ ◆ CHAPTER 9

Uninstalling Communications Suite Product Components

This chapter provides instructions for uninstalling Communications Suite product components that have been installed using the installer.

This chapter includes the following sections:

How the Uninstaller Works

Communications Suite provides an uninstallation program for removing product components that were installed on your system using the installer. Like the installer, you can run the uninstaller in graphical, text-based, or silent mode.

During installation, the installer places the uninstaller at the following location:

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

Note – You can use the optional `-no` parameter to run the uninstaller without uninstalling any software. This option is useful for familiarizing yourself with the uninstaller and for creating a state file for a subsequent silent uninstallation.

Limitations of the Uninstaller

Like the installer, you can run the uninstaller in graphical, text-based, or silent mode.

- The uninstaller only removes product components that were installed by the installer. To remove product components that were not installed by the installer, follow instructions in the product component documentation.
- The uninstaller must be run separately on each host that contains product components. Remote uninstallation is not supported. For each host, you can select one or more product components for removal.
- The uninstaller does not remove shared components.
- The uninstaller might remove configuration and user data files. The files vary for each component.

  After the uninstallation process is completed, you might have to remove some additional files and directories. For product-by-product information, refer to "Reviewing Uninstallation Behavior for Communications Suite Product Components" on page 168.
- The uninstaller checks product component dependencies only for the system on which the uninstaller is running, issuing warnings when a dependency is discovered.
- The uninstaller presents unconfigure pages for product components if needed for multi-session uninstallation.
- The uninstaller does not unconfigure installations on third-party web containers.
- The uninstaller does not unconfigure Access Manager SDK installations on any web container. You must reconfigure the web container manually (for example, restore the original classpath).

Caution – Do not use the uninstaller to remove Sun Cluster software unless Sun Cluster software was installed but never used to configure a cluster node. For more information, see "Uninstalling Sun Cluster Software" on page 185

Handling Interdependencies

The uninstaller might behave differently depending on which product components you installed and how they are interrelated.

- The uninstaller recognizes dependencies among products that are installed on the same host. If you attempt to uninstall a product component that has dependent products installed on the host, the uninstaller issues a warning.
- In most cases, you can uninstall a product component if no other product component depends on it.

Caution – When uninstalling a product component, you must identify which products are configured for that product component (some additional configuration might be required). Otherwise, you could have product components on your system that are configured to support products that are no longer present.

The uninstaller does not recognize the following interdependencies:

- Dependencies from remote hosts
- Dependencies resulting from configuration

Product Component Dependencies from Remote Hosts

Some product component dependencies can be satisfied with product components deployed on remote hosts. The uninstaller does not recognize these dependency relationships.

For example, if you uninstall Directory Server, the uninstaller does not warn you that Access Manager depends on Directory Server, even if both products are deployed on the same host. This is because another Directory Server instance on yet another host *could* support Access Manager.

Product Component Dependencies Resulting from Configuration

The uninstaller does not recognize a product component dependency that is the result of postinstallation configuration.

For example, suppose you install both Portal Server with the JES installer and Calendar Server with the Communications Suite installer on the same host, and then configure Portal Server to use Calendar Server for the Portal Server calendar channel. After this configuration, Portal Server depends on Calendar Server. However, if you then uninstall Calendar Server, the uninstaller does not warn you that Portal Server depends on Calendar Server because the uninstaller does not know about the postinstallation configuration.

Verifying Prerequisites

The following table lists the tasks that you should perform before uninstallation. Some of the tasks might not apply to your particular situation.

The left column lists the order in which you should perform the tasks and the right column contains other useful information and the location of instructions.

TABLE 9–1 Pre-uninstallation Checklist

Task Description	Instructions or Helpful Information
1. Review the needs and behaviors of each product component you are going to uninstall.	"Reviewing Uninstallation Behavior for Communications Suite Product Components" on page 168
2. Identify product component dependencies that result from configuration and take appropriate measures, such as backing up data, unconfiguring the dependent product component from the supporting product component, or uninstalling the product components in the proper order.	"Handling Interdependencies" on page 164
3. Make a copy of the product registry file. The backup copy is helpful in recovering from a failed uninstallation.	Solaris OS: `/var/sadm/install/productregistry` Linux: `/var/opt/sun/install/productregistry`
4. Back up or archive configuration or user data for product components you are uninstalling if you plan to reuse this data in subsequent installations.	"Reviewing Uninstallation Behavior for Communications Suite Product Components" on page 168
5. Make sure the Directory Server instance that hosts the configuration directory is running. Note: In most cases, the web container and Directory Server should be running, while the other servers should be shut down before uninstalling.	This Directory Server instance must be running so the uninstaller can unconfigure the product components you are uninstalling.
6. If necessary, gather administrator access information for Directory Server and Access Manager.	"Granting Administrator Access for the Uninstaller" on page 177

7. If uninstalling Access Manager, remove the schema before uninstallation.	Use the following LDIF file to remove the schema:
	Solaris:
	`/etc/opt/SUNWam/config/ds_remote_schema_uninstall.ldif`
	Linux:
	`/etc/opt/sun/identity/config/ldif/ds_remote_schema_uninstal`

8. If you are uninstalling Sun Cluster software, Sun Cluster Geographic software must be uninstalled first.	

Planning for Uninstallation

Before using the uninstaller, you should survey your installation and plan the steps you might have to take to prevent loss of data or loss of interdependency connections. It is important to understand how the various product components behave when they are uninstalled.

This section contains the following subsections:

Surveying Installed Communications Suite Software

Perform one of the following procedures to review the product component software that is already installed on each host.

To Use the Uninstaller for Viewing Installed Software

1. **As `root`, navigate to the directory where the uninstaller is located:**
   - Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
   - Linux: `/var/sadm/prod/sun-comm-entsys5`
2. **To survey the local system, run the uninstaller without uninstalling software.**

   For graphical mode:

   ```
   ./uninstall -no
   ```

   For text-based mode:

   ```
   ./uninstall -no -nodisplay
   ```

   To see the full syntax for the `uninstall` command, refer to "`uninstall` Command" on page 239.
3. **Proceed through the uninstaller pages until you reach the list of installed products.**
4. **After viewing the list of installed product components, exit the uninstaller.**

   No software has been uninstalled.

To Use the Solaris prodreg Utility to View Installed Software

- **You can use the `prodreg` utility to view information about all packages installed on your system, including Communications Suite product components.**

  This information is useful when checking for product component dependencies. The `prodreg` utility also indicates packages that are incomplete and might need special handling. On the Solaris 10 and Solaris 9 operating systems, run the utility as follows:

  ```
  prodreg
  ```

  For more information, see the `prodreg` man page.

Reviewing Uninstallation Behavior for Communications Suite Product Components

Review the relevant tables in this section to see what the uninstaller does with Communications Suite product components. Plan the steps you might have to take to prevent loss of data or loss of interdependency connections.

Note – In some cases, component files are left behind after uninstallation, which could cause a subsequent installation to fail. If this occurs, refer to "Installation Fails Due to Leftover Files During Uninstallation" on page 196 for guidelines on resolution.

This section contains the following subsections:

Access Manager Uninstallation Behavior

TABLE 9–2 Access Manager Uninstallation Details

Topic	Details
Configuration Data	No entries in Directory Server will be removed (including Access Manager specific data).
Other Installations This Component Requires	Directory Server Web container

TABLE 9–2 Access Manager Uninstallation Details *(Continued)*

Topic	Details
Products Requiring this Installation	■ Calendar Server, when configured for single sign-on (SSO) ■ Instant Messaging, when configured for Portal Server, SSO ■ Messaging Server, when configured for SSO ■ Communications Express, when configured for SSO and when Schema 2 is used
Pre-Uninstallation Tasks	Remove the schema using `/etc/opt/SUNWam/config/ldif/ds_remote_schema_uninstall.ldif`.
Post-Uninstallation Tasks	Uninstallation unconfigures Access Manager from the web container for full installations on Web Server or Application Server only. It does not unconfigure Access Manager from third-party web containers. It also does not unconfigure SDK installations on any web container (such as, Web Server, Application Server, BEA WebLogic, IBM WebSphere). Additionally, remove the following files located in the directory `/var/sadm/install` if they exist: `.lockfile.pkg.lock`

Application Server Uninstallation Behavior

TABLE 9–3 Application Server Uninstallation Details

Topic	Details
Configuration Data and User Data	■ The default domain created during installation is removed during uninstallation. ■ User-created domains, including all administrative server and Application Server instances, are not removed during uninstallation. ■ All Administration Server and Application Server instances are stopped prior to the completion of uninstallation.
Other Installations This Component Requires	Requires Message Queue on the same system.
Products Requiring this Installation	Components that are configured to use Application Server as web container: Access Manager, Communications Express, Delegated Administrator, Instant Messaging.
Pre-Uninstallation Tasks	To preserve configuration data, make a copy of the administration domain directories.

TABLE 9–3 Application Server Uninstallation Details *(Continued)*

Topic	Details

Post-Uninstallation	To completely remove Application Server from your system, remove any remaining Application Server log files and directories. Default locations for Application Server directories are:
	Solaris OS:
	`/opt/SUNWappserver`
	`/opt/SUNWappserver/appserver` or *ApplicationServer-base*
	Linux:
	`/var/opt/sun/appserver`
	`/opt/sun/appserver`
	Refer to "Message Queue Uninstallation Behavior" on page 174 for information on Message Queue post-uninstallation tasks.

Calendar Server Uninstallation Behavior

TABLE 9–4 Calendar Server Uninstallation Details

Topic	Details
Configuration Data and User Data	Configuration data and user data are not removed during uninstallation, and will be overwritten upon subsequent installation. Customizations to Calendar Server are removed during uninstallation.
Other Installations This Component Requires	■ Directory Server ■ Access Manager, when configured for single sign-on (SSO) or if you want to use Schema 2 ■ Messaging Server (or some other mail server, for Calendar Server email notification service)
Products Requiring this Installation	■ Communications Express
Pre-Uninstallation Tasks	If you plan to reuse configuration data and user data, follow the migration process as described in the *Sun Java System Calendar Server 6.3 Administration Guide*.
Post-Uninstallation Tasks	Remove any remaining log files and Calendar Server directories that are not needed.

Communications Express Uninstallation Behavior

TABLE 9–5 Communications Express Uninstallation Details

Topic	Details
Configuration Data and User Data	All configuration data, user data and UI customizations remain after uninstallation. Communications Express files are maintained in two locations: Package Installation by default: Solaris OS: `/opt/SUNWuwc` Linux: `/opt/sun/uwc` Application Deployment created by default during configuration: Solaris OS: `/var/opt/SUNWuwc` Linux: `/var/opt/sun/uwc` When you uninstall Communications Express, the uninstaller removes the data from only the package installation location. The data at application deployment location is still present. You can access the application from application deployment location. However, all configuration data and UI customizations will be overwritten during re-configuration. User data remains after re-configuration.
Other Installations This Component Requires	■ Application Server (if configured to run under Application Server) ■ Web Server (if configured to run under Web Server) ■ Access Manager (when configured for SSO) ■ Directory Server ■ Calendar Server ■ Messaging Server
Products Requiring this Installation	None
Pre-Uninstallation Tasks	Undeploy Communications Express referring to the "Undeploying Communications Express" section in the *Sun Java System Communications Express 6.3 Administration Guide*.
Post-Uninstallation Tasks	Remove any remaining log files and Communications Express directories that are not needed.

Delegated Administrator Uninstallation Behavior

TABLE 9–6 Delegated Administrator Uninstallation Details

Topic	Details
Configuration Data	Configuration data and user data are not removed during uninstallation. This data will be overwritten upon a subsequent installation. Customizations to Delegated Administrator are removed during uninstallation.
Other Installations This Component Requires	■ Directory Server ■ Access Manager ■ One of these web containers: Web Server or Application Server
Products Requiring this Installation	None
Pre-Uninstallation Tasks	If you plan to reuse configuration data and user data, read "Preserve an Existing Configuration" in *Sun Java System Delegated Administrator 6.4 Administration Guide*. Undeploy the Delegated Administrator web applications using the undeploy command for the web container.
Post-Uninstallation Tasks	Remove any remaining log files and Delegated Administrator directories that are not needed.

Directory Proxy Server Uninstallation Behavior

TABLE 9–7 Directory Proxy Server Uninstallation Details

Topic	Details
Configuration data	Configuration data for the instance of Directory Proxy Server you are uninstalling is removed during uninstallation. Shared configuration data between several instances of Directory Proxy Server remains after uninstallation. Directory Proxy Server has no user data.
Other Installations This Component Requires	Directory Proxy Server has a logical dependency upon the local or remote Directory Server .
Products Requiring this Installation	None
Pre-Uninstallation Tasks	None
Post-Uninstallation Tasks	None

Directory Server Uninstallation Behavior

TABLE 9–8 Directory Server Uninstallation Details

Topic	Details
Configuration Data and User Data	If you are uninstalling the Directory Server instance hosting user data, the Directory Server LDAP database is removed during uninstallation. **Caution:** To avoid loss of data, make sure to back up Directory Server information before uninstalling. Directory Server has several tools and utilities to backup Directory Server and migrate configuration data. Refer to Directory Server documentation for more information.
Other Installations This Component Requires	None
Products Requiring this Installation	■ Calendar Server ■ Access Manager ■ Instant Messaging ■ Messaging Server ■ Communications Express
Pre-Uninstallation Tasks	■ Back up the Directory Server LDAP database as needed. ■ Make sure you can provide the Directory Server instance path.
Post-Uninstallation Tasks	If you subsequently install Directory Server to the same location, the installation directory must not exist. You might need to manually remove the installation directory and any custom configuration files before reinstalling to the same location.

Instant Messaging Uninstallation Behavior

TABLE 9–9 Instant Messaging Uninstallation Details

Topic	Details
Configuration Data and User Data	All configuration data remains after uninstallation, and can be reused upon a subsequent installation.
Other Installations This Component Requires	■ Directory Server ■ Access Manager SDK ■ Web container
Products Requiring this Installation	Portal Server, when configured to use Instant Messaging channel
Pre-Uninstallation Tasks	Undeploy Instant Messaging modules from the web container.
Post-Uninstallation Tasks	None

Messaging Server Uninstallation Behavior

TABLE 9–10 Messaging Server Uninstallation Details

Topic	Details
Configuration Data and User Data	All configuration data and customizations remain after uninstallation, and can be reused upon subsequent installation. By default, this includes configuration files, logs, MTA queues, message store, and other read/write working files.
Other Installations This Component Requires	■ Directory Server ■ Web Server (for mailing functionality such as filters) ■ Access Manager (if using Schema 2) ■ Message Queue
Products Requiring this Installation	■ Calendar Server ■ Portal Server, when configured with messaging channels ■ Communications Express, when messaging is used
Pre-Uninstallation Tasks	None
Post-Uninstallation Tasks	Depending on your circumstances, you might have to perform post-uninstallation tasks as explained in "Messaging Server Post-uninstallation" on page 187

Message Queue Uninstallation Behavior

TABLE 9–11 Message Queue Uninstallation Details

Topic	Details
Configuration Data	Instance-specific configuration data, user repository and access control file remains after uninstallation, and can be reused upon subsequent reinstallation.
Other Installations This Component Requires	Directory Server (optional)
Products Requiring This Installation	Application Server (must reside on same host as Message Queue) Messaging Server

TABLE 9–11 Message Queue Uninstallation Details *(Continued)*

Topic	Details
Pre-Uninstallation Tasks	■ Stop any running brokers. You will be prompted for user name (admin) and password: `imqcmd shutdown bkr` [`-b` *hostName:port*] ■ If you are not planning to reinstall Message Queue and therefore want to delete dynamic data, the flat-file user repository, and the access control file associated with each broker instance, remove this data using the following command. `imqbrokerd -name` *instanceName* `-remove` *instance* ■ If you upgrade Message Queue using the Message Queue upgrade script, make a note of your process. The upgrade script does not write install information to the Communications Suite registry. More information may be found in the *Sun Java Enterprise System 2006Q3 Upgrade Guide*.
Post-Uninstallation Tasks	If you are not planning to reinstall Message Queue, use the commands in the product component documentation to clean up your system.

Monitoring Console Uninstallation Behavior

For information on Monitoring Console uninstallation behavior, refer to the *Sun Java Enterprise System 5 Installation Guide for UNIX*.

Sun Cluster Software and Sun Cluster Geographic Edition Uninstallation Behavior

TABLE 9–12 Sun Cluster and Sun Cluster Geographic Edition Uninstallation Details

Topic	Details
Configuration Data	Do not use the uninstaller to remove Sun Cluster software, except to remove software that was installed but never used to configure a cluster node. For more information, refer to "Uninstalling Sun Cluster Software" on page 185.
Other Installations This Component Requires	Sun Cluster core and agents for Sun Cluster must be removed together. Sun Cluster Geographic Edition software must be removed on every host that contains Sun Cluster Geographic Edition components. For more information, refer to Chapter 5, "Uninstalling the Sun Cluster Geographic Edition Software," in *Sun Cluster Geographic Edition Installation Guide*.
Products Requiring This Installation	None

TABLE 9–12 Sun Cluster and Sun Cluster Geographic Edition Uninstallation Details *(Continued)*

Topic	Details
Pre-Uninstallation Tasks	Sun Cluster software should only be uninstalled using the utilities provided with your Sun Cluster installation. Sun Cluster Geographic Edition must be removed before Sun Cluster software is removed.
Post-Uninstallation Tasks	You might need to update the `productregistry` file after uninstalling Sun Cluster software. For more information, refer to "Uninstalling Sun Cluster Software" on page 185.

Web Proxy Server Uninstallation Behavior

TABLE 9–13 Web Proxy Server Uninstallation Details

Topic	Details
Configuration Data	Only the certificate database files in the alias directory under the installation location are preserved. All other files are removed.
Dependencies	Directory Server (optional) if external LDAP access control has been selected.
Pre-Uninstallation Tasks	Stop all instances of Web Proxy Server.
Post-Uninstallation Tasks	The certificate database is preserved under the *WebProxyServer-base*`/alias` directory. You need to move the certificate database and delete the old installation directory before reinstalling.

Web Server Uninstallation Behavior

TABLE 9–14 Web Server Uninstallation Details

Topic	Details
Configuration Data and User Data	■ User data is not removed during uninstallation but configuration data is removed. ■ The Web Server administrative server instance and configured Web Server instance directories are removed. The initially-configured document root directory is preserved. ■ Web Server administrative server and Web Server instances are stopped prior to the completion of the uninstallation.
Other Installations This Component Requires	None

TABLE 9–14 Web Server Uninstallation Details *(Continued)*

Topic	Details
Products Requiring this Installation	Components that can be configured to use Web Server as web container: Access Manager, Communications Express, Delegated Administrator, and Instant Messaging.. Also Application Server Load Balancing Plugin (if Application Server uses Web Server as its web container).
Pre-Uninstallation Tasks	Make sure you can provide the administrator password for the web container.
Post-Uninstallation Tasks	To preserve configuration data, back up the Administrative Server and Web Server instance directories under the installation location. If you subsequently install Web Server to the same location, the installation directory must not exist. You might need to manually remove the installation directory and any custom configuration files before reinstalling to the same location.

Granting Administrator Access for the Uninstaller

Depending on the product components you choose to uninstall, you might need to grant the uninstaller administrator access to Access Manager and Directory Server.

- Access Manager administrator access is required to undeploy the Access Manager web applications from the Application Server and to remove the Access Manager schema.
- Directory Server administrator access is required to manage the configuration directory during uninstallation.

The following table describes the information that the uninstaller needs for granting administrator access. The left column of each table lists the graphical mode labels and state file parameters for the information you must provide. The right column describes the information.

TABLE 9–15 Required Administration Information

Label and State File Parameter	Description
Access Manager	
Administrator User ID `IS_IAS81_ADMIN`	User ID of the Application Server administrator.
Administrator Password `IS_IAS81_ADMINPASSWD`	Password of the Application Server administrator.

TABLE 9–15 Required Administration Information *(Continued)*

Label and State File Parameter	Description
Directory Manager DN `IS_DIRMGRDN`	Distinguished Name (DN) of the user who has unrestricted access to Directory Server. Default value is `cn=Directory Manager`.
Directory Manager Password `IS_DIRMGRPASSWD`	Password of the Directory Manager.
Directory Server	
Administrator User ID `CONFIG_DIR_ADM_USER`	User with administrator privileges for the configuration directory. This user can modify Directory Server configuration, including creating and removing suffixes. Access control restrictions apply.
Administrator Password `CONFIG_DIR_ADM_PASSWD`	Password for the Administrator.

Running the Uninstaller

After you have completed the relevant tasks in "Verifying Prerequisites" on page 87, you are ready to run the uninstaller. This section contains information on the three ways in which the uninstaller can be used.

- "Running the Uninstaller in Graphical Mode" on page 178
- "Running the Uninstaller in Text-Based Mode" on page 181
- "Running the Uninstaller in Silent Mode" on page 183

Information on syntax of the `uninstall` command can be found in Appendix F, "Installation Commands."

Running the Uninstaller in Graphical Mode

This section provides instructions for using the interactive graphical interface to uninstall the product components.

▼ To Start the Graphical Uninstaller

1 (Optional) Provide access to your local display.

If you are logging in to a remote machine, make sure your DISPLAY environment variable is properly set to the local display. If the DISPLAY variable is not set properly, the installer runs in text-based mode.

- Example for C Shell (machine name `myhost`):

  ```
  setenv DISPLAY myhost:0.0
  ```

- Example for Korn Shell (machine name `myhost`):

  ```
  DISPLAY=myhost:0.0
  ```

  You might need to grant display authorization to run the installer on your local display. For example, you can use the following command to grant display authority from `myhost` to the root user on `serverhost`:

  ```
  myhost\> xauth extract - myhost:0.0|rsh -l root serverhost xauth merge -
  ```

Note – For full instructions on granting such authorization safely, refer to the "Manipulating Access to the Server" chapter in the *Solaris X Window System Developer's Guide*.

---

2 If you are not logged in as `root`, become superuser.

3 Navigate to the directory where the uninstaller is located:

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

4 Start the graphical uninstaller:

```
./uninstall
```

The Welcome page is displayed.

5 Click Next to proceed.

The Select Components page is displayed.

▼ To Select Product Components to Uninstall

1 Examine the product components and select those you want to uninstall.

- Product components that are installed on your system are enabled and can be selected. Product components that are not installed on your system are disabled and cannot be selected.
- Some product components contain subcomponents. Expand the product components to view the subcomponents.
- If you deselect a product component that contains subcomponents, expand the product component to verify the subcomponent list.

2 After you are satisfied with your selections, click Next.

3 **If the uninstaller detects any recognizable product component dependencies, or potential loss of configuration data among the products selected, a warning is displayed. Your choices are:**

   a. **Click Continue to continue with uninstallation.**

   b. **Click Close to return to the Component Selection page.**

4 **If unconfigure pages are displayed, enter the information requested for the product component.**

▼ To Grant Administrator Access

Depending on the product components you selected for removal, the uninstaller prompts you for administrator IDs and passwords. For details on the information you must provide the uninstaller, refer to "Granting Administrator Access for the Uninstaller" on page 177.

Note – In addition, the uninstaller might also prompt you for a port number or a host name.

---

1 **Provide the required administrator information.**

2 **Click Next to proceed to the Ready To Uninstall page.**

▼ To Uninstall Software

Before removing software from your system, the uninstaller lists the product components you have selected for removal and the total disk space that will be reclaimed.

1 **Review the uninstallation selections you have made.**

   a. **If changes are needed, click Back through successive pages until the Component Selection page is displayed.**

   b. **Make changes as needed on the Component Selection page.**

   c. **Click Next to proceed again through the uninstaller pages.**

      The uninstaller remembers previously-specified values. You can modify any value you previously specified.

2 **Click Next when you are satisfied with your selections.**

The uninstaller begins removing software from your system and displays the following:

- A progress bar that displays the overall completion percentage
- The name of the package currently being removed

- After all product component software has been removed, the uninstaller displays the Uninstallation Complete page.

3 **Click View Summary or View Log for information about the uninstallation.**

- **Uninstallation summary.** Shows the product components that were uninstalled and a list of configuration information for the product components.
- **Uninstallation log.** Shows all messages that were generated by the uninstaller during uninstallation.
- You can also review the uninstallation summary and log files:

  Solaris OS: `/var/sadm/install/logs`

  Linux: `/var/opt/sun/install/logs`

4 **Click Close to exit the uninstaller.**

5 **If you installed Access Manager or Messaging Server, go to "Completing Post-uninstallation Tasks" on page 186.**

Running the Uninstaller in Text-Based Mode

The text-based interface allows you to run the uninstaller directly from a terminal window by responding to prompts displayed in the window. For usage guidelines, refer to "How to Use the Text-Based Interface" on page 88.

If you have problems during uninstallation, refer to Chapter 10, "Troubleshooting."

▼ To Start the Uninstaller in Text-Based Mode

1 **If you are not logged in as `root`, become superuser.**

2 **Navigate to the uninstaller directory:**

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

3 **Run the uninstaller:**

```
./uninstall -nodisplay
```

The Welcome message is displayed followed by a list of all possible Communications Suite product components on your system.

To Select Product Components for Uninstallation

1 **The uninstaller selects for removal any product components it finds on your system by listing the numbers corresponding to the installed product components. Press Return to uninstall all product components.**

Alternately, choose specific product components by typing a comma-separated list of the numbers corresponding to the product components you want to uninstall, and press Return.

Note – Product components that are not installed on your system are disabled and cannot be chosen.

---

2 **If the uninstaller detects product component dependencies among the products selected for removal, a warning about a potential loss of configuration data is displayed. Your choices are:**

a. **Type** `Yes` **and press Return to continue with uninstallation.**

b. **Type** `No` **and press Return to return to Component Selection.**

c. **Type the character** `!` **and press Return to exit the uninstallation.**

3 **If unconfigure pages are displayed, enter the information requested for the product component.**

To Grant Administrator Access

- **If you selected a product component for which the uninstaller needs an administrative ID or password, the uninstaller prompts you for administrator IDs and passwords.**

For details on the information you must provide the uninstaller, refer to "Granting Administrator Access for the Uninstaller" on page 177.

Note – Depending on the product components you selected for removal, the uninstaller might also prompt you for a port number or a host name.

To Uninstall the Software

Before removing software from your system, the uninstaller displays a summary page, showing the product components selected for removal.

1 **Review your selections.**

a. **If changes are needed, type the** `<` **character and press Return to go back through successive pages until the Component Selection list appears.**

b. Make changes as needed on the Component Selection list.

c. Proceed again through the uninstaller screens.

2 When you are satisfied with your selections, type the number `1` and press Return.

The uninstaller begins removing software from your system. During uninstallation, the uninstaller displays a progress bar that displays the overall completion percentage.

After all product component software has been removed, you can view the uninstallation summary and log.

3 Type `1` or `2` and press Return to see information about the uninstallation.

- **Uninstallation summary.** Type `1` to see the product components that were uninstalled and a list of configuration information for the product components.
- **Uninstallation log.** Type `2` to list all messages that were generated by the uninstaller during uninstallation.

  You can also view the uninstallation summary and log files:

  Solaris OS: `/var/sadm/install/logs`

  Linux: `/var/opt/sun/install/logs`

4 Type the `!` character to exit the uninstaller.

Go to "Completing Post-uninstallation Tasks" on page 186 if you uninstalled Access Manager or Messaging Server.

Running the Uninstaller in Silent Mode

Silent uninstallation is useful for uninstalling product components on multiple hosts that share similar configurations. The procedure for uninstalling in silent mode is similar to the procedure for installing in silent mode as described in Chapter 5, "Installing in Silent Mode."

▼ To Create a State File

To perform a silent uninstallation, you must first generate a state file by running a false uninstallation in either graphical or text-based mode. Refer to "Generating the Initial State File" on page 100.

1 If you are not logged in as `root`, become superuser.

2 Navigate to the uninstaller directory:

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

3 **If you are using the graphical interface of the uninstaller, provide access to your local display. See "Running the Uninstaller in Graphical Mode" on page 178.**

4 **Run the silent uninstaller. For example:**

Graphical mode:

```
./uninstall -no -saveState statefile_path
```

Text-based mode:

```
./uninstall -no -nodisplay -saveState statefile_path
```

To see the full syntax for the uninstall command, refer to "`uninstall` Command" on page 239.

5 **Proceed through the uninstaller to completion.**

As you respond to the prompts, the uninstaller records your answers in the specified state file. When you complete the uninstallation, the state file is available in the location that you specified. No software has been uninstalled.

6 **Make a copy of the state file for each host on which you are going to perform a silent uninstallation.**

7 **Edit each file providing information specific to the host where you will run that silent uninstallation.**

For guidelines on editing state files, refer to "Editing the State File" on page 101. Editing the state file might also include generating a state file ID, as explained in "Creating a Platform-Appropriate State File ID" on page 103.

▼ To Run the Uninstaller in Silent Mode

1 **Verify that you have properly prepared and edited the state file for the host where you want to uninstall product components.**

2 **Open a terminal window.**

3 **If you are not logged in as `root`, become superuser.**

4 **Navigate to the uninstaller directory:**

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

5 **Start the uninstaller. For example:**

```
./uninstall -nodisplay -noconsole -state statefile_path
```

To see the full syntax for the uninstall command, refer to "`uninstall` Command" on page 239.

▼ To Monitor the Progress of a Silent Uninstallation

1 **In a terminal window, navigate to the log file directory:**

Solaris OS: `/var/sadm/install/logs`

Linux: `/var/opt/sun/install/logs`

2 **Locate the log files for the current uninstallation. The log file of interest for monitoring purposes is:**

`Java_Enterprise_System_2006Q4_uninstall.B`*timestamp*

The *timestamp* variable represents the time the log was created. The variable has the following format *MMddhhmm*, where:

MM	Specifies the month
dd	Specifies the date
hh	Specifies the hour
mm	Specifies the minute

3 **Use the `tail` command to watch messages as they are written to the logs. For example:**

`tail -f` *logfile_name*

To exit the `tail` program, press Ctrl+C.

Uninstalling Sun Cluster Software

Do not use the uninstaller to remove Sun Cluster software unless Sun Cluster software was installed but never used to configure a cluster node. Sun Cluster software should be uninstalled using the utilities provided with the Sun Cluster software. Sun Cluster Core and Sun Cluster Agents for Communications Suite must be removed together. Sun Cluster Geographic Edition software must be removed before removing Sun Cluster software. For more information on unconfiguring and uninstalling Sun Cluster software, refer to the *Sun Cluster Software Installation Guide for Solaris OS*.

After uninstalling Sun Cluster software manually, run the uninstaller to remove Sun Cluster and Sun Cluster Agents from the product registry.

Completing Post-uninstallation Tasks

This section provides instructions for tasks that you might need to perform after uninstalling product components from your system. The actual tasks required depend on which product components you chose to uninstall.

Access Manager Post-uninstallation Issues

If you uninstall Access Manager but not its web container (Application Server or Web Server), you need to apply configuration changes to the instance where Access Manager was deployed.

In some cases the uninstaller might not be able to remove some or all of the Access Manager files. In this case, do a final cleanup by removing these two directories and their contents:

- For Solaris OS: `/opt/SUNWam`
- For Linux: `/opt/sun/identity`

or, if Access Manager was not installed in the default location:

AccessManager_base`/idenity`

If you uninstall Access Manager but not the Application Server in which it is deployed, you must complete the following procedure.

▼ To Finish Access Manager Uninstallation

1. **If necessary, start the Application Server admin instance. For example, on a Solaris host:**

   ```
   cd /opt/SUNWappserver/appserver/bin
   ./asadmin start-domain --user admin_user --passwordfile
   path_to_admin-password_file domainname
   ```

2. **In a browser, go to the Application Server administration console. The default URL is** `https://hostname:4849`.

3. **In the left pane, click the key to the left of Application Server Instances.**

4. **Select the server or the name of the Application Server instance on which Access Manager was deployed.**

5. **Click Apply Changes.**

Messaging Server Post-uninstallation

In some cases, the uninstaller might not completely remove the Messaging Server installation files. If a final cleanup is required, do some or all of the following tasks:

1. Log in as root or become superuser.
2. Remove the Messaging Server base directory and its contents. By default, the base directory is in the following location:
   - Solaris OS: `/opt/SUNWmsgsr`
   - Linux: `/opt/sun/messaging`
3. Optionally, remove the configuration directory for Messaging Server.

Caution – Removing the configuration directory will remove all the configuration and data files, including mail messages in the store. Be sure this is the result you want before removing this directory.

   By default, the configuration directory is in the following location:
   - Solaris OS: `/var/opt/SUNWmsgsr`
   - Linux: `/var/opt/sun/messaging`
4. Undo any `sendmail` configuration for Messaging Server.
5. On Solaris OS, remove the *MessagingServer-base*`/lib` directory from the `crle` settings. This directory was added to specify that *MessagingServer-base*`/lib`is a trusted directory for `setuid` programs. Refer to the `crle` man page for details.

Web Server Post-uninstallation Tasks (Web Server Not Uninstalled)

If you uninstall Access Manager but not the Web Server in which it is deployed, you must complete the following complete the following procedure.

▼ To Restart Web Server After Access Manager Uninstallation

1 If necessary, start the Web Server admin instance. Refer to "To Start Web Server " on page 143.

2 Access the Web Server administration console. For example:

`/var/opt/SUNWwbsvr7` *instance-config-root* `/admin-server/bin/startserv`

3 Click Apply Changes to restart the web container.

◆ ◆ ◆ CHAPTER 10

Troubleshooting

This chapter provides suggestions on how to resolve Communications Suite installation and uninstallation problems.

This chapter includes the following sections:

How to Troubleshoot Problems

This section provides general guidelines for analyzing and identifying the source of problems during installation and uninstallation of Communications Suite.

This section contains the following subsections:

Examining Installation Log Files

If a problem occurs during installation or uninstallation, the first place to look for information on what happened is the installation logs. Messages on installation, uninstallation, and install-time configuration are gathered into the source log files. Informational, warning, and error messages are issued after such operations as user choices, package manipulations, and installation or uninstallation steps. Information that is displayed for each message includes date and time, log level, module ID, and the message text.

Log File Formats

There are four types of log files that capture information on an installation or uninstallation:

- A summary provides a high-level description of what was installed and configured.
- A detail version A file contains completion information.
- A detail version B file contains more details on the log messages.
- A debug file contains information that is relevant when installation fails. Use the debug file when one of the other logs indicates an error.

After an uninstallation, the uninstaller removes itself, the installer, and the Log Viewer. However, source log files are not removed and are stored in the following locations:

- Solaris: `/var/sadm/install/logs`
- Linux: `/var/opt/sun/install/logs`

The following table lists the formats of the source log files.

TABLE 10–1 Log File Formats

Logged Entity	Log File Name Format
Installer	`Sun_Java_Communications_Suite_install.A`*timestamp*
	`Sun_Java_Communications_Suite_install.B`*timestamp*
	`Sun_Java_Communications_Suite_log.`*timestamp*
	`Sun_Java_Communications_Suite_Summary_Report_install.`*timestamp*
Uninstaller	`Sun_Java_Communications_Suite_uninstall.A`*timestamp*
	`Sun_Java_Communications_Suite_uninstall.B`*timestamp*
	`Sun_Java_Communications_Suite_UnInstall_log.`*timestamp*
	`Sun_Java_Communications_Suite_Summary_Report_uninstall.`*timestamp*

The log messages are stored in Unified Logging Format (ULF). If you find this format difficult to read, you can edit the source files with a text editor such as vi, or you can use the Communications Suite Log Viewer to view the log messages.

How the Log Viewer Works

The Communications Suite Log Viewer provides a graphical display for viewing the installer log messages in the `Sun_Java_Communications_Suite_Install_log.`*timestamp* file or the `Sun_Java_Communications_Suite_UnInstall_log.`*timestamp* file. There are three ways to filter messages so that the messages displayed are of sufficient importance or interest: by log level, by module ID, and by content.

- **Log level.** There are eight log levels to choose from: SEVERE, ERROR, WARNING, INFO, CONFIG, FINE, FINER, and FINEST. If you select a log level, then only log records having that log level or are greater in severity are displayed. Selecting FINEST is equivalent to selecting all records for display.
- **Module ID.** The module is the part of the installer that is writing the log message. If you select a module ID (`JAVAESConfig`, `JAVAESInstall`, or `JAVAESUninstall`), only messages associated with the module IDs you selected are displayed.
- **Content.** The content filter prompts you for a string, such as "configure," and then displays only those messages that contain that string.

Some typical filtering examples:

- Display only the SEVERE log messages.
- Display only the log messages with a log level greater than or equal to ERROR.
- Display only the log messages from installation steps.
- Display only the log messages from installation that have a log level greater than or equal to ERROR.
- Save the result of a filtered scenario into a file.

The following table summarizes the basic functionality of the Log Viewer.

TABLE 10–2 Log Viewer Functions

Task	Capability
Open	Selects a log file for filter and display.

TABLE 10–2 Log Viewer Functions *(Continued)*

Task	Capability
Save	Saves the filtered and translated messages into a file designated by the File>Save As option.
Save As	Chooses a separate file into which to write filtered and translated messages. Note: This file cannot exist in the directory used by the installer to store source logs.
Print	Prints the filtered and translated file.
Exit	Closes any open output file, closes the input file, and closes the Log Viewer page.
Filter for Log Level	Chooses a log level for filtering.
Filter for Module ID	Chooses none or one of the module IDs in the file you opened. The list is populated when you have chosen a log file for filtering.
Filter for Content	Selects messages that contain a user-defined string.
Choose Language	Chooses a translation language. Default is English. This list is populated from the translation resource bundles stored by the installer.

With this functionality, the Log Viewer can provide filtered information to help with your troubleshooting scenario. The messages that meet your filter criteria are displayed in a single log table. A row in the log table can then be selected for detailed display which allows a message to be displayed in a multiple line format.

▼ To Run the Log Viewer

Because the Log Viewer operates in read-only mode, multiple users can use the Log Viewer at the same time. After installation, the Log Viewer is located here:

- Solaris SPARC: `/var/sadm/prod/SUNWcomm-entsys5i/Solaris_sparc`
- Solaris x86: `/var/sadm/prod/SUNWcomm-entsys5i/Solaris_x86`
- Linux: `/var/sadm/prod/sun-comm-entsys5i/Linux_x86`

● **Start the Log Viewer.**

To run the Log Viewer in graphical mode:

```
./viewlog
```

▼ To Use Log Files for Troubleshooting

1. **Review the summary file, for example,**
   `Sun_Java_Communications_Suite_Summary_Report_install.`*timestamp*.
   If a problem occurred, determine which component caused the problem. If multiple problems occurred, address the first problem. You will probably need to look at one or both of the detail logs.

2. **Review the detail logs (A and B), for example,**
   `Sun_Java_Communications_Suite_install.A`*timestamp*.

   a. **Look for the first error or warning that occurred and resolve it. Sometimes resolving one error resolves a number of seemingly unrelated errors that follow.**

   b. **Find the name of the component or package that caused the problem. If attempts to resolve the problem fail, examine the debug log.**

3. **Examine the debug log, for example,**
   `Sun_Java_Communications_Suite_Install_log.`*timestamp*.

Verifying Product Dependencies

A number of product components have installation-time interdependencies. Problems that affect one product component can affect other product components. First, you should familiarize yourself with the information in *Sun Java Enterprise System 5 Installation Planning Guide*.

- Review the summary file and log files to see whether related products have failed. These might provide a clue as to what to fix first.
- Check that you have specified correct connection information. For example:
  - Does the information that you provided when configuring Directory Server match the directory information you provided for product components that use Directory Server?
  - Does the Access Manager information that you provided for Portal Server or Portal Server SRA match the information you provided for Access Manager? See the *Sun Java Enterprise System 5 Installation Guide for UNIX* for information on Portal Server installation.

In addition to product component interdependencies, some product components depend on the existence of Solaris packages that might not be installed on the host, and their absence could cause installation failures. Read the “Software Requirements” section of the Release Notes for details.

If a problem occurs starting a product component, examine that product component's log files. Locations of many product component log files are listed in "Product Component Troubleshooting Tips" on page 204.

Checking Resources and Settings

The following host-level issues can cause installation problems.

- **Updates.** Have you applied the recommended updates (patches)?
- **Disk Space.** How is the disk partitioned, and to what partitions do installation directories point? The installation directories `/var/sadm` and `/etc/opt`, or the non-default directories that you specify, need sufficient disk space.
- **Network Ports.** During configuration, you supply port numbers for Communications Suite product components. Check the following:
  - Examine the standard port numbers in the file `/etc/services` .
  - Look at the summary log file to compare your settings with the standards. Did you mistype a port number or set one server to the port that is typically used for another?
  - Use the command `netstat -a` to view current port use on the system. Did you assign a port number that was already in use?

  IP Addresses. During configuration, you specify IP addresses. Check that you entered the correct IP addresses. These are some questions to resolve:
  - Does this system have multiple network interfaces, each with its own IP address?
  - In a high availability configuration, did you specify the IP address of the logical host or the IP address of a cluster node?

Checking Postinstallation Configuration

If you are having problems starting product components, verify that the procedures outlined in Chapter 6, "Completing Communications Suite Postinstallation Configuration" were done correctly.

Checking the Distribution Media

If you are installing from a DVD or CD, examine the media for dirt or damage. Dirty discs can result in installation problems.

Checking Directory Server Connectivity

If you are installing a product component that relies on Directory Server, problems can be caused by one of these problems:

- You specified an incorrect user ID and password for Directory Server.
- You specified an incorrect LDAP port.
- Directory Server is unreachable.

  The interactive modes of the installer check for Directory Server connectivity during installation, but silent mode does not. If you perform a silent installation when Directory Server is not available, installation of Access Manager could fail.

Removing Web Server Files and Directory

To prevent the overwriting of customized files, such as edited configuration files, Web Server cannot be installed into a directory that contains files.

If you are reinstalling Web Server, check the installation directories to ensure that they are empty. If they are not empty, archive the files elsewhere and retry the installation.

Verifying Passwords

The installer requires that you enter a number of passwords for product components. If you are installing different product components on different hosts, it is important to ensure that you supply matching passwords on each host.

To resolve password problems, you might need to uninstall and then reinstall. If the uninstall fails, refer to "Installation Fails Due to Leftover Files During Uninstallation" on page 196.

Examining the Installed or Uninstalled Product Components

If you have installed product components but are having problems and cannot reinstall or uninstall, check the packages installed using the Solaris `pkginfo` command or the Linux `rpm` command. Compare the results with the Communications Suite packages listed in Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX*. Additional information is in "Installation Fails Due to Leftover Files During Uninstallation" on page 196.

Tip – On Solaris 9 and Solaris 10, you can also use the `prodreg` tool which provides a graphical interface to the product registry that indexes both components and their packages, superseding the `pkg` utilities. To invoke `prodreg`, type the command name at the command line. For more information, refer to the `prodreg`(1) man page.

Verifying Administrator Access

During uninstallation, you might need to grant administrator access to the uninstaller, as described in "Granting Administrator Access for the Uninstaller" on page 177.

Resolving Installation Problems

This section addresses the following problems you might encounter during installation.

Installation Fails Due to Leftover Files During Uninstallation

Uninstallation can leave behind product components or packages. In such a case, you must manually remove the product components or packages before you reinstall Communications Suite. You might discover this problem in the following ways:

- The uninstaller fails, providing the name of the package it failed to uninstall.
- You want to install a product component but the installer reports that the product component is already installed, even though you removed it.

▼ To Clean up a Partial Installation

1 Use the following command to determine whether any packages were partially installed.

Solaris OS: `pkginfo -p`

Linux:

```
rpm -qa |grep –I ^sun | xargs rpm -V
```

The command output lists any partially installed packages. Using the package names returned, refer to Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX* to discover what product component the packages belong to.

2 **Remove components or packages.**

- On Solaris 9 or 10, use the `prodreg` tool.

  The `prodreg` tool manages the package-based components on your host. You can view product components and their packages, with full information, including interdependencies. You can use the `prodreg` tool to safely uninstall product components and remove packages. Once you have removed a product component with the `prodreg` tool, you can reinstall.

- On Linux, use the `rpm -e` command.

  To edit the product registry file, open the file `/var/opt/sun/install/productregistry`. This XML file describes each product component. Each product component description starts with a `<compid\>` tag and ends with a `</compid\>` tag. Delete the entire entry for the product component.

3 **Verify that the following directories do not contain Communications Suite product components or packages:**

```
/opt

/etc/opt

/var/opt
```

4 **Run the installer again.**

Installation Fails Due to Removed Shared Components in Product Registry After Uninstallation

As of the Communications Suite 5 release, shared components are listed in the product registry file after installation.

The uninstaller removes product components from the system but does not remove shared components. After an uninstallation, the product registry still contains entries for the shared components. If you manually remove any shared components after an uninstallation, these components are not removed from the product registry. Thus, the next Communications Suite 5 installation fails because the installer assumes that the manually deleted shared components are present (because they still have entries in the product registry file).

Tip – Avoid manually removing Communications Suite shared components from your system.

Suggested Fix. Either remove the corresponding entries from the product registry file or remove the product registry file itself. Removing entries from the product registry file can cause the file to become corrupted, so you might prefer to remove the whole product registry. Before doing this, verify that products other than Communications Suite components are not using the product registry file.

On Linux there is no equivalent of the graphical product registry that exists on Solaris OS. If you manually removed files on Linux, you must manually edit the product registry file to remove those entries.

Unexpected External Error Occurs

A power failure or system failure might have occurred, or you might have entered CTRL/C to stop the installer process.

Suggested Fix. If the failure occurred during the installation or configuration process, you are probably left with a partial installation. Run the uninstaller. If the uninstaller fails, follow the instructions under "Uninstallation Fails, Leaving Behind Files" on page 200

Graphical Installer Seems Unresponsive

The installer sometimes creates an image on the screen before the image is ready for input. You cannot repeatedly click Next in the installation wizard without waiting.

Suggested Fix. The button that represents the default choice includes a blue rectangle. This rectangle sometimes appears after the button itself appears. Wait until you see the blue rectangle before clicking a button.

Silent Installation Fails: "State File is Incompatible or Corrupted"

If you are using a state file that was created on the same platform on which you are using it, the problem might be due to an unknown file corruption error. There are two approaches to troubleshooting this issue.

Generate a New State File

- If you created the state file on the same platform on which you are running the silent installation, generate a new state file and reinstall.

- If you are using a state file that was created on a different platform or version, the problem is that state files must be run on the same type of platform on which they are created. For example, if you created the state file on Solaris 9, you cannot use it on Solaris 10, or, if you created the state file on the x86 platform, you cannot use it on the SPARC platform.

Create a New Platform-Appropriate ID

If the platform on which you created the state file is not the same as the platform on which you are running the silent installation, create a new, platform-appropriate ID for the file. For instructions on how to do this, refer to "Creating a Platform-Appropriate State File ID" on page 103.

Silent Installation Fails

If you edited the state file, you might have introduced errors. Check the following and regenerate the state file as described in "Creating a State File" on page 100.

- Are all local host parameters set, and are they set to consistent values?
- Are parameter values in the correct case?
- Did you delete a required parameter without entering a replacement?
- Are all port numbers valid and unassigned?

Suggested Fix. Resolve the problem and regenerate the state file.

Man Pages Do Not Display

The most likely reason for this is that your MANPATH environment variable is not set correctly for the components you installed.

Suggested Fix. Update `/etc/MANPATH` to point to the new man page directory. Refer to "Verifying the MANPATH" on page 111.

Resolving Uninstallation Problems

This section addresses the following problems you might encounter during uninstallation.

Cannot Find Uninstaller

The installation program places the uninstaller on your system at the following location:

- Solaris OS: `/var/sadm/prod/SUNWcomm-entsys5`
- Linux: `/var/sadm/prod/sun-comm-entsys5`

If the uninstaller is not in this directory, one of the following might have occurred:

- Communications Suite was never installed on this host.
- The uninstaller previously removed all product components and itself from this host.

  During uninstallation, if the uninstaller detects that there are no Communications Suite product components on a host, it uninstalls itself.
- During a failed installation, one of the following occurred:
  - The uninstaller was never installed on the host.
  - The uninstaller was removed, but some product components remain on the host.

Suggested Fix. Manually clean up your system as described in "Uninstallation Fails, Leaving Behind Files" on page 200.

Uninstallation Fails, Leaving Behind Files

If manual cleanup is necessary because the uninstaller left behind files or processes, perform the following procedure to remove packages from your system.

▼ To Manually Clean Up Packages

1. **Determine which packages you want to remove.**

   Compare the packages on your system with the Communications Suite packages listed in Chapter 5, "List of Installable Packages," in *Sun Java Enterprise System 5 Installation Reference for UNIX*. You can use the Solaris `pkginfo` or `prodreg` utility or the Linux `rpm` command to determine which packages are installed. (See "Installation Fails Due to Leftover Files During Uninstallation" on page 196

2. **Stop all running processes for Communications Suite product components.**

   Brief instructions for stopping processes are contained in Chapter 6, "Completing Communications Suite Postinstallation Configuration" product component documentation.

3. **Back up all custom configuration and user data you plan to use in subsequent installations.**

   "Reviewing Uninstallation Behavior for Communications Suite Product Components" on page 168 provides some information on configuration and user data that should be backed up. For more information, refer to the product component documentation for each product component.

4. **Use the `pkgrm`, `rpm -e`, or `swremove` command to remove Communications Suite component packages.**

5. **Remove any remaining product component directories and their content that you do not plan to use in subsequent installations. If you do plan to use these directories later, move them elsewhere.**

6. **Update the product registry file, which is located here:**

   Solaris OS: `/var/sadm/install/productregistry`

   Linux: `/var/opt/sun/install/productregistry`

   The uninstaller uses this registry to determine which product components are installed on a host. Both the installer and uninstaller update the product registry upon completion of an installation or uninstallation.

   Note – If you manually remove packages rather than using the uninstaller, then you must edit the product registry so it correctly reflects the software installed on your system.

7. **Clean up the log files for your system, which are located here:**

   Solaris OS: `/var/sadm/install/logs`

   Linux: `/var/opt/sun/install/logs`

   The log files might not correctly reflect the state of your system after you manually remove packages.

Product Registry Is Corrupted

During uninstallation, the uninstaller uses the product registry file to determine what needs to be uninstalled:

Solaris OS: `/var/sadm/install/productregistry`

Linux: `/var/opt/sun/install/productregistry`

- If the uninstaller fails, you might need to retry after you restore the product registry from your backup copy.
- If you manually remove packages, the product registry is not automatically updated. When you subsequently run the uninstaller, you might encounter problems because the product registry does not correctly reflect your system. In this case, you can try to reinstall and then run the uninstaller again.

Resolving Common Agent Container Problems

This section addresses the following problems that might arise in relation to the common agent container shared component:

Port Number Conflicts

The common agent container (V2.0) included with Communications Suite reserves the following port numbers by default:

- JMX port (TCP) = 11162
- SNMP Adaptor port (UDP) = 11161
- SNMP Adaptor port for traps (UDP) = 11162
- Commandstream Adaptor port (TCP) = 11163
- RMI connector port (TCP) = 11164

If you are troubleshooting an installation of Sun Cluster, the port assignments are different because Sun Cluster uses a different version of common agent container. In this case, default ports are as follows:

- JMX port (TCP) = 10162
- SNMP Adaptor port (UDP) = 10161
- SNMP Adaptor port for traps (UDP) = 10162
- Commandstream Adaptor port (TCP) = 10163
- RMI connector port (TCP) = 10164

If your installation already reserves any of these port numbers, change the port numbers used by the common agent container as described in the following procedure.

Checking Port Numbering

For further information on the common agent container `cacaoadm` command, see the `cacaoadm` man page. If you cannot see this man page at the command line, verify that your MANPATH is set correctly. Refer to "Verifying the MANPATH" on page 111.

▼ To Verify Solaris Port

1. **As root, stop the common agent container management daemon:**

   ```
   /opt/SUNWcacao/bin/cacaoadm stop
   ```

2. **Change the port number using the following syntax:**

   ```
   /opt/SUNWcacao/bin/cacaoadm set-param param=value
   ```

For example, to change the port occupied by the SNMP Adaptor from the default 11161 to 11165:

Note – For Sun Cluster, use previously-specified ports.

```
/opt/SUNWcacao/bin/cacaoadm set-param snmp-adaptor-port=11165
```

3 **Restart the common agent container management daemon:**

```
/opt/SUNWcacao/bin/cacaoadm start
```

▼ To Verify Linux Port

1 **As root, stop the common agent container management daemon:**

```
/opt/sun/cacao/bin/cacaoadm stop
```

2 **Change the port number using the following syntax:**

```
/opt/sun/cacao/bin/cacaoadm set-param param=value
```

For example, to change the port occupied by the SNMP Adaptor from 11161 to 11165:

```
/opt/sun/cacao/bin/cacaoadm set-param snmp-adaptor-port=11165
```

3 **Restart the common agent container management daemon:**

```
/opt/sun/cacao/bin/cacaoadm start
```

Compromised Security Around the Root Password

It might be necessary to regenerate security keys on a host running Communications Suite. For example, if there is a risk that a root password has been exposed or compromised, you should regenerate security keys. The keys used by the common agent container services are stored in the following locations:

Solaris OS: `/etc/opt/SUNWcacao/security`

Linux: `/etc/opt/sun/cacao/security`

Under normal operation, these keys can be left in their default configuration. If you need to regenerate the keys due to a possible key compromise, you can regenerate the security keys using the following procedure.

Security Key Problems

▼ To Generate Keys for Solaris OS

1. **As root, stop the common agent container management daemon.**

   ```
   /opt/SUNWcacao/bin/cacaoadm stop
   ```

2. **Regenerate the security keys.**

   ```
   /opt/SUNWcacao/bin/cacaoadm create-keys --force
   ```

3. **Restart the common agent container management daemon.**

   ```
   /opt/SUNWcacao/bin/cacaoadm start
   ```

Note – In the case of Sun Cluster software, you must propagate this change across all nodes in the cluster. For more information, see "How to Finish a Rolling Upgrade to Sun Cluster 3.1 8/05 Software" in *Sun Cluster Software Installation Guide for Solaris OS*.

▼ To Generate Keys for Linux

1. **As root, stop the common agent container management daemon.**

   ```
   /opt/sun/cacao/bin/cacaoadm stop
   ```

2. **Regenerate the security keys.**

   ```
   /opt/sun/cacao/bin/cacaoadm create-keys --force
   ```

3. **Restart the common agent container management daemon.**

   ```
   /opt/sun/cacao/bin/cacaoadm start
   ```

   For more information on the `cacaoadm`(1M) command, see the `cacaoadm` man page.

Product Component Troubleshooting Tips

The tables in this section provide various quick tips on troubleshooting product component problems, including references to useful documentation. This section contains the following subsections:

Access Manager Troubleshooting Tips

TABLE 10–3 Access Manager Troubleshooting Tips

Topic	Details
Configuration File	`AMConfig.properties` ■ Solaris OS: `/etc/opt/SUNWam/config` ■ Linux: `/etc/opt/sun/identity/config`
Log and Debug Files	Log file directory: ■ Solaris OS: `/var/opt/SUNWam/logs` ■ Linux: `/var/opt/sun/identity/logs` Debug file directory: ■ Solaris OS: `/var/opt/SUNWam/debug` ■ Linux: `/var/opt/sun/identity/debug`
Debug Mode	Refer to the Auditing Features chapter in the *Sun Java System Access Manager 7.1 Developer's Guide*.

Application Server Troubleshooting Tips

TABLE 10–4 Application Server Troubleshooting Tips

Topic	Details
Log Files	Log file directory: ■ Solaris OS: `/var/sadm/install/logs/` ■ Linux: `/var/opt/sun/install/logs/` Application Server instance log directory (default location for the initially created instance): ■ Solaris OS: `/var/opt/SUNWappserver/domains/domain1/logs` ■ Linux: `/var/opt/sun/appserver/domains/domain1/logs` Message log file name: `server.log`, for each server instance
Configuration Files	■ Solaris OS: `/opt/SUNWappserver/appserver/config/asenv.conf` ■ Linux: `/var/opt/sun/appserver/config/asenv.conf`
Troubleshooting	Refer to the *Sun Java System Application Server Enterprise Edition 8.2 Troubleshooting Guide*.

Calendar Server Troubleshooting Tips

TABLE 10–5 Calendar Server Troubleshooting Tips

Topic	Details
Log Files	Administration Service (`csadmind`): `admin.log` Distributed Database Service (`csdwpd`): `dwp.log` HTTP Service (`cshttpd`): `http.log` Notification Service (`csnotifyd`): `notify.log` Calendar Backup Service (`csstored`): `store.log` Default log directory: ■ Solaris: `/var/opt/SUNWics5/logs` ■ Linux: `/var/opt/sun/calendar/logs` For more information, refer to *Sun Java System Calendar Server 6.3 Administration Guide*.

TABLE 10–5 Calendar Server Troubleshooting Tips *(Continued)*

Topic	Details
Configuration File	Solaris: `/opt/SUNWics5/cal/config/ics.conf` Linux: `/opt/sun/calendar/config/ics.conf`
Debug Mode	To use debug mode, a Calendar Server administrator sets the `logfile.loglevel` configuration parameter in the `ics.conf` file. For example: `logfile.loglevel = "debug"` For more information, refer to *Sun Java System Calendar Server 6.3 Administration Guide*.
Troubleshooting	Refer to *Sun Java System Calendar Server 6.3 Administration Guide*.

Communications Express Troubleshooting Tips

TABLE 10–6 Communications Express Troubleshooting Tips

Topic	Details
Log Files	Default log files: *uwc-deployed-path*`/logs/uwc.log`
Instance Directory	Solaris OS: `/var/opt/SUNWuwc` Linux: `/var/opt/sun/uwc`
Troubleshooting	Refer to the Chapter 5, "Troubleshooting," in *Sun Java System Communications Express 6.3 Administration Guide*.

Delegated Administrator Troubleshooting Tips

TABLE 10–7 Delegated Administrator Troubleshooting Tips

Topic	Details
Log Files	Runtime log file: Solaris: `/opt/SUNWcomm/log`
Troubleshooting	Refer to Appendix C, "Debugging Delegated Administrator," in *Sun Java System Delegated Administrator 6.4 Administration Guide*.

Directory Server Troubleshooting Tips

TABLE 10–8 Directory Server Troubleshooting Tips

Topic	Details
Log Files	Installation log file: ■ Solaris: `/var/sadm/install/logs` ■ Linux: `/var/opt/sun/install/logs`
Troubleshooting	Refer to Part I, "Directory Server Administration," in *Sun Java System Directory Server Enterprise Edition 6.0 Administration Guide* Refer to Part II, "Directory Proxy Server Administration," in *Sun Java System Directory Server Enterprise Edition 6.0 Administration Guide*.

Instant Messaging Troubleshooting Tips

TABLE 10–9 Instant Messaging Troubleshooting Tips

Topic	Details
Log Files	Server log: `xmppd.log` Agent calendar log: `agent-calendar.log` WatchDog log: `iim_wd.log` Multiplexor log: `mux.log.log` Default log directory: ■ Solaris: `/var/opt/SUNWiim/default/log` ■ Linux: `/var/opt/sun/im/default/log` For more information, refer to *Sun Java System Instant Messaging 7.2 Administration Guide*
Configuration File	Solaris: `/opt/SUNWiim/config/iim.conf` Linux: `/opt/sun/im/config/iim.conf`

TABLE 10–9 Instant Messaging Troubleshooting Tips *(Continued)*

Topic	Details

Debug Mode	To use debug mode, an Instant Messaging administrator sets the `iim.log.iim_server.severity` configuration parameter in the `iim.conf` file.
	Example for the server component:
	`iim.log.iim_server.severity = "DEBUG"`
	Example for the multiplexor component:
	`iim.log.iim_mux.severity = "DEBUG"`
	Example for the watchdog component:
	`iim.log.iim_wd.severity = "DEBUG"`

Troubleshooting	For further specifics and additional information on troubleshooting, refer to *Sun Java System Instant Messaging 7.2 Administration Guide*.
Post-Uninstallation Tasks	Instant Messaging configuration directories and Instant Messages resources deployed in the web container are not removed during uninstallation and should be removed after uninstallation. To completely remove Instant Messaging from a host, unnecessary directories such as the following should be removed: `/opt/SUNWiim/`, `/var/opt/SUNWiim/`, and `/etc/opt/SUNWiim/`. In addition, resources should be undeployed from the web container using the `undeploy all` command.

Message Queue Troubleshooting Tips

TABLE 10–10 Message Queue Troubleshooting Tips

Topic	Details
Log Files	Installation log file: ■ For Solaris OS: `/var/sadm/install/logs` ■ For Linux: `/var/opt/sun/install/logs` Broker log file: ■ Solaris: `/var/mq/instances/`*instance-name*`/log` ■ Linux: `/var/opt/sun/imq/instances/`*instance-name*`/log`
Troubleshooting	Refer to the Troubleshooting Problems chapter of the *Sun Java System Message Queue 3 2005Q4 Administration Guide*. For performance problems, refer to "Analyzing and Tuning a Message Service" in the *Sun Java System Message Queue 3 2005Q4 Administration Guide*.

Messaging Server Troubleshooting Tips

TABLE 10–11 Messaging Server Troubleshooting Tips

Topic	Details
Executable Location	Process log files: ■ For Solaris OS: `/opt/SUNWmsgsr/sbin` ■ For Linux: `/opt/sun/messaging/sbin` Configure log files: ■ *MessagingServer-base*`/install`
Log Files	■ For Solaris OS: *MessagingServer-base*`/data/log` ■ For Linux: `/opt/sun/messaging/log`
Troubleshooting	Refer to the *Sun Java System Messaging Server 6.3 Administration Guide*.

Monitoring Console Troubleshooting Tips

TABLE 10–12 Monitoring Console Troubleshooting Tips

Topic	Details
Configuration Files	For Monitoring Console: ■ For Solaris OS: `/opt/SUNWjesmc/WEB-INF/web.xml` ■ For Linux: `/opt/sun/jesmc/WEB-INF/web.xml` For Monitoring Framework: ■ For Solaris OS: `/etc/opt/SUNWmfwk/config/mfwk.properties` ■ For Linux: `/etc/opt/sun/mfwk/config/mjwk.properties`
Log Files	For Monitoring Console: ■ `/var/log/webconsole/console/console_config_log` (all platforms) ■ `/var/log/webconsole/console/console_debug_log` (all platforms For Monitoring Framework: ■ For Solaris OS: `/var/opt/SUNWmfwk/logs` ■ For Linux: `/var/opt/sun/mfwk/logs`
Troubleshooting	If you cannot access Monitoring Console, refer to "Troubleshooting the Monitoring Console" in *Sun Java Enterprise System 5 Monitoring Guide*. If you cannot see your monitored components in the Monitoring Console, refer to "Troubleshooting the Monitoring Framework" in *Sun Java Enterprise System 5 Monitoring Guide*

Web Server Troubleshooting Tips

TABLE 10–13 Web Server Troubleshooting Tips

Topic	Details
Log Files	There are two types of Web Server log files: the `errors` log file and the `access` log file. The `errors` log file lists all the errors a server has encountered. The `access` log records information about requests to the server and the responses from the server. For more information, refer to the *Sun Java System Web Server 7.0 Administrator's Guide*. These logs are located in the following directories: ■ Solaris OS: `/var/opt/SUNWwbsvr7/https-`*instancename*`/logs` ■ Linux: `/var/opt/sun/webserver7/https-`*instancename*`/logs` If Web Server configuration fails during Configure Now installation, refer to the following logs for additional information: ■ Solaris OS: `/var/opt/SUNWwbsvr7/setup/WebServer_Install.log` ■ Linux: `/var/opt/sun/webserver7/setup/WebServer_Install.log`
Configuration File Directory	■ Solaris OS: `/var/opt/SUNWwbsvr7/https-`*instance-name*`/config` ■ Linux: `/var/opt/sun/webserver7/https-`*instance-name*`/config`

Additional Troubleshooting Information

The following information in this guide is also useful for troubleshooting:

- Chapter 6, "Completing Communications Suite Postinstallation Configuration" contains instructions for performing post-installation configuration.
- Chapter 9, "Uninstalling Communications Suite Product Components" contains information on problems that might occur while uninstalling the software.

◆ ◆ ◆ APPENDIX A

Messaging Server Pre-Installation Considerations and Procedures

This appendix describes considerations you need to think about, and procedures you need to perform, before installing Messaging Server.

This appendix contains the following sections:

Messaging Server Installation Considerations

This section describes installation considerations that help you prepare to install Messaging Server.

- **Resource Contention.** To avoid resource contention between servers, considering installing Directory Server on a different host than where you install Messaging Server.
- **Installation Privileges.** You must install Messaging Server logged in as `root`.
- **Messaging Server Base Directory.** The Messaging Server is installed into a directory referred to as *msgsvr-base* (for example, `/opt/SUNWmsgsr`). This directory provides a known file location structure (file directory path).
- **Upgrading Servers.** If you do not install other component products (Web Server, Directory Server, Access Manager, and Administration Server) on the Messaging Server host, you do not have to upgrade those components and Messaging Server should continue to operate.
- **Using a Messaging Server 6 2005Q4 Front End with a Messaging Server 6.3 Back End.** If you choose to use a Messaging Server 6.3 back end with a Messaging Server 6 2005Q4 front end, you need to configure the front end to run without an Admin Server as follows:

  1. Install and configure the Messaging Server 6.3 back end using the Communications Suite 5 installer.

2. Run the Java Enterprise System 2005Q4 installer to install the Messaging Server 6 2005Q4 front end and choose the Configure Later option when prompted.
3. Open *MsgServer-base*`/lib/config-templates/DevsetupDefaults.properties` in a text editor.
4. Change the following line:

   ```
   ADMINSERVER_SERVERROOT_CONF = /etc/mps/admin/v.5.2/shared/config/serverroot.conf
   ```

   to:

   ```
   ADMINSERVER_SERVERROOT_CONF = NO_ADMIN_SERVER
   ```

- **Port Number Conflicts.** If certain products are installed on the same machine, you will encounter port number conflicts. The following table shows potential port number conflicts.

TABLE A–1 Potential Port Number Conflicts

Conflicting Port Number	Component	Component
143	IMAP Server	MMP IMAP Proxy
110	POP3 Server	MMP POP3 Proxy
993	IMAP over SSL	MMP IMAP Proxy with SSL
80	Access Manager (Web Server port)	Messenger Express

If possible, install products with conflicting port numbers on separate hosts. If you are unable to do so, then you will need to change the port number of one of the conflicting products. To change port numbers, use the `configutil` utility. See the *Sun Java System Messaging Server 6.3 Administration Reference* for instructions.

The following example uses the `service.http.port` `configutil` parameter to change the Messenger Express HTTP port number to `8080`.

```
configutil -o service.http.port -v 8080
```

Messaging Server Installation Worksheets

When installing Messaging Server, use the following installation worksheet to record and assist you with the installation process. You can reuse this installation worksheet for multiple installations of Messaging Server, uninstallation, or for Messaging Server upgrades.

Tip – Record all the port numbers you specify during the installation, along with the specific component using that port number.

Directory Server Installation Worksheet

Record your Directory Server installation and configuration parameters. You will need these parameters when you install and configure your initial Messaging Server runtime configuration. For additional help, see the *Sun Java System Messaging Server 6.3 Administration Guide*.

TABLE A–2 Directory Server Installation Parameters

Parameter	Description	Example	Used in	Your Answer
Directory Server instance(s) (server-root) or an Explicit Instance Directory	An instance or directory on the Directory Server host dedicated to holding the server program, configuration, maintenance, and information files.	Solaris Instance: `/opt/SUNWdsee/ds6` Server Root: `/var/opt/SUNWdsse/dsins1` Linux/HP-UX Instance: /opt/sun/ds6 Server Root: `/var/opt/sun/dsins1`	`comm_dssetup.pl` Perl script	
Host	The fully qualified domain name. The fully qualified domain name consists of two parts: the host name and the domain name.	`svr1.west.sesta.com`	Messaging Server Configuration	
LDAP Directory Port Number	The default for an LDAP directory server is `389`.	`389`	Messaging Server Configuration	
User and Group Tree Suffix	The distinguished name of the LDAP entry at the top of the directory tree, below which user and group data is stored.	`o=usergroup`	`comm_dssetup.pl` Perl script	

TABLE A–2 Directory Server Installation Parameters *(Continued)*

Parameter	Description	Example	Used in	Your Answer

Directory Manager DN and Password	The privileged directory administrator, comparable to `root` in UNIX. Typically, this administrator is responsible for user and group data.
	
	Password for the Directory Manager.
		`cn=Directory Manager`
		
		`pAsSwOrD`
			`comm_dssetup.pl` Perl script and Messaging Server Configuration	

Choosing Which Messaging Server Components to Configure

When you install Messaging Server software, the installer installs all the Messaging Server packages. You then configure the appropriate Messaging Server component (MTA, Message Store, Webmail Server, MMP) on a Messaging host through the Messaging Server configuration program. The following table shows which components you need to configure for each type of Messaging host.

TABLE A–3 Choosing Which Messaging Server Components to Configure

Type of Messaging Host Being Configured	Needs These Components Selected in the Configurator Program
MTA	Message Transfer Agent
Message Store (back end)	Message Transfer Agent, Message Store
Webmail Server (front end only, no store or SMTP function)	Webmail Server Note: If you are only configuring Communications Express, you must also select the Message Store and the MTA, or at least be able to point to an existing MTA.
Message Multiplexor (front end only, no store or SMTP function)	Messaging Multiplexor
Webmail Server (for Communications Express)	Webmail Server
Webmail Server and Message Store	Webmail Server, Message Transfer Agent, Message Store

Note – Configuring the LMTP delivery mechanism requires configuration on both the MTAs and on the back-end stores. See Chapter 16, "LMTP Delivery," in *Sun Java System Messaging Server 6.3 Administration Guide* for instructions on configuring LMTP.

Disabling the sendmail Daemon

Prior to installing Messaging Server, you should disable the `sendmail` daemon if it is running. The Dispatcher, under which the Messaging Server SMTP server runs, needs to bind to port 25. If the `sendmail` daemon is running (on port 25), the Dispatcher will not be able to bind to port 25.

▼ To Disable the sendmail Daemon

1. **Change to the `/etc/init.d` directory.**

   ```
   cd /etc/init.d
   ```

2. **Stop the `sendmail` daemon if it is running.**

   ```
   ./sendmail stop
   ```

3. **Modify `/etc/default/sendmail` by adding `MODE=""`.**

   If the `sendmail` file does not exist, create the file and then add `MODE=""`.

   If a user accidentally runs `sendmail start`, or if a patch restarts `sendmail`, then adding this modification prevents `sendmail` from starting up in daemon mode.

Note – In some cases (especially on Solaris 10), even after you run the `/etc/init.d/sendmail stop` command, `sendmail` is autorestarted. In this case, use the following command to stop the `sendmail` process:

```
svcadmin disable network/smtp:sendmail
```

◆ ◆ ◆ APPENDIX B

Calendar Server Pre-Installation Considerations

This appendix describes considerations you need to think about before installing Calendar Server.

This appendix contains the following sections:

Planning for Calendar Server Administrators

Administrators for Calendar Server include:

Calendar Server Administrator (calmaster)

The Calendar Server administrator is a specific user name with its associated password that can manage Calendar Server. For example, a Calendar Server administrator can start and stop Calendar Server services, add and delete users, create and delete calendars, and so on. This user has administrator privileges for Calendar Server but not necessarily for the directory server.

The default user ID for the Calendar Server administrator is `calmaster`, but you can specify a different user during Calendar Server configuration, if you prefer. After installation you can also specify a different user in the `service.admin.calmaster.userid` parameter in the `ics.conf` file.

The user ID you specify for the Calendar Server administrator must be a valid user account in your directory server. If the Calendar Server administrator user account does not exist in the directory server during configuration, the configuration program can create it for you.

See the *Sun Java System Calendar Server 6.3 Administration Guide* for the complete list of Calendar Server administrator configuration parameters in the `ics.conf` file.

Calendar Server User and Group

On Solaris systems, these special accounts are the user ID and group ID under which Calendar Server runs. Use the default values, `icsuser` and `icsgroup`, which are automatically created by the configuration program, if they do not exist. If you prefer, however, you can specify values other than `icsuser` and `icsgroup` when you run the Calendar Server configuration program. These values are stored in the `local.serveruid` and `local.servergid` parameters, respectively, in the `ics.conf` file.

Superuser (root)

On machines running Solaris software, you must log in as or become `superuser` (`root`) to install Calendar Server. You can also run as `superuser` to manage Calendar Server using the command-line utilities. For some tasks, however, you should run as `icsuser` and `icsgroup` (or the values you have selected) rather than `superuser` to avoid access problems for Calendar Server files.

Planning for Calendar Server Hosted Domains

Calendar Server supports hosted (or virtual) domains. In a hosted domain installation, each domain shares the same instance of Calendar Server, which enables multiple domains to exist on a single server. Each domain defines a name space within which all users, groups, and resources are unique. Each domain also has a set of attributes and preferences that you specifically set.

When installing and configuring hosted domains, use Schema 2 only.

Installing and configuring hosted domains on a server involves these high-level steps:

1. Installing and configuring Directory Server
2. Installing and configuring Web Server or Application Server
3. Installing and configuring Access Manager

   Delegated Administrator is installed with Access Manager.
4. Creating the domains for your site using Delegated Administrator

5. Installing Calendar Server
6. Running the `comm_dssetup.pl` script

   For instructions on running this script, see "Calendar Server Postinstallation Configuration" on page 119.
7. Configuring Communications Services Delegated Administrator

   For instructions on configuring and using the Communications Services Delegated Administrator utility, see the *Sun Java System Delegated Administrator 6.4 Administration Guide*.
8. Creating default domain and site administrator (`calmaster`)

   The default domain is created when Delegated Administrator is configured, but the domain entry must be modified to add Calendar (or Mail) services. Also, you must set up the site calendar administrator (`calmaster`). For instructions on how to perform these two tasks, see Part II, "Post Installation Configuration for Calendar Server 6.3 Software," in *Sun Java System Calendar Server 6.3 Administration Guide*.
9. Configuring Calendar Server

   For instructions on running the `csconfiguratior.sh` program, see Chapter 2, "Initial Runtime Configuration Program for Calendar Server 6.3 software (csconfigurator.sh)," in *Sun Java System Calendar Server 6.3 Administration Guide*.
10. Setting domain configuration parameters for Calendar Server

    For a list of the configuration parameters and their values, see "Calendar Server Domain Configuration Parameters" in *Sun Java System Calendar Server 6.3 Administration Guide*.
11. Populating your domains with users and resources using Delegated Administrator
12. Starting Calendar Server services

    For instructions, see "Starting and Stopping Calendar Server 6.3 Processes" in *Sun Java System Calendar Server 6.3 Administration Guide*.

Note – Always perform your provisioning for Schema 2 with the Communications Services Delegated Administrator interface.

Schema 1 provisioning tools do not support hosted domains.

Post-Installation Calendar Server Configuration

After you install the Calendar Server software, you must configure it. This step was previously performed as part of the installation process, but has now been separated out of the installer.

After you install Calendar Server, you must configure Calendar Server as follows:

1. Run the Directory Server Setup script (`comm_dssetup.pl`) to configure Sun Java System Directory Server.

2. Run the Calendar Server configuration program (`csconfigurator.sh`) to configure your site's specific requirements and to create a new `ics.conf` configuration file. For a description of the parameters in the `ics.conf` file, see "Configuration Parameters (ics.conf) File" in *Sun Java System Calendar Server 6.3 Administration Guide*.

   The `comm_dssetup.pl` script is located in the `/opt/SUNWcomds/sbin` directory, and the `csconfigurator.sh` utility is located in the `/opt/SUNWics5/cal/sbin` directory.

   There are some configuration settings and changes that the Java Enterprise System installer and Calendar Server configuration utility (`csconfigurator.sh`) do not make. You must manually make changes to the following items:

   - **DWP and CLD Configurations.** Edit the `ics.conf` file so that the CLD cache option is enabled. This cache stores the DWP host server information for calendar users and thus reduces calls to the LDAP directory server.
   - **Default Time Zone.** If your default time zone is not Americas/New York, change it by editing the `ics.conf` file. You also need to change it in the `/opt/SUNWics5/cal/bin/html/default_user_prefs.xml` file so that it is in sync with the `ics.conf` file.
   - **Client-side Rendering.** Calendar Server performs client-side rendering by downloading the XSLT processing to the end user's browser, which in turn reduces the processing that must be done by Calendar Server. Calendar Server downloads the XSLT processing only if the browser is capable of rendering the XSLT processing. In the current release, this applies only to Internet Explorer 6.0. Edit the `ics.conf` file to make this performance improvement to client-side rendering.
   - **Setting for tmpfs.** Edit the `tmpfs` setting for performance enhancement.

   For more information on these changes, see the *Sun Java System Calendar Server 6.3 Administration Guide*.

◆ ◆ ◆ APPENDIX C

Communications Express Pre-Installation Considerations

This appendix describes considerations you need to think about before installing Communications Express.

This appendix contains the following sections:

Communications Express Installation Considerations

Before installing Communications Express, consider the following planning aspects:

- You cannot use the installer to install the Universal Web Client (UWC) or Access Manager on a sparse non-root global Solaris zone. Instead, you need to manually add the packages from the distribution CD using `pkgadd`.
- Delegated Administrator requires that you install Access Manager and the web container (either Web Server or Application Server) on the same host.
- You can deploy Communications Express and Access Manager in both SSL and non-SSL modes, either on the same or a different web container.
- Due to a JavaScript security dependency, you must install Communications Express and Messenger Express on the same host, or Communications Express and Messaging Express Multiplexor on same host (in a multi-tiered environment).
- You can plan for a distributed deployment in which Directory Server, Messaging Server, Calendar Server, and Access Manager are installed on separate hosts.
- If you are using Calendar Server hosted domains, you enable Communications Express support for hosted domains during the configuration phase.
- You can configure Communications Express for SSL or non-SSL. If you configure SSL, you can choose between having Communications Express clients use SSL only for authentication, or to use SSL for the entire session.

Requirements for Using S/MIME with Communications Express Mail

Communications Express Mail now includes the security advantages of the Secure/Multipurpose Internet Mail Extension (S/MIME). Communications Express Mail users who are set up to use S/MIME can exchange signed or encrypted messages with other Communications Express Mail users, and with users of the Microsoft Outlook mail system or other mail clients that support S/MIME.

General Requirements for S/MIME

The signature and encryption features of S/MIME are available to a Communications Express Mail user only after:

- A private and public key pair are issued with a certificate in standard X.509 format. The certificate assures other mail users that the keys really belong to the person who uses them. Keys and their certificate are issued from within your organization or purchased from a third-party vendor. Regardless of how the keys and certificate are issued, the issuing organization is referred to as a certificate authority (CA).
- The private-public key pair, with its certificate, are properly stored electronically in a local key store or distributed to end users on common access cards (CACs), referred to as smart cards.
- All public keys and certificates are stored to an LDAP directory, accessible by Directory Server. This is referred to as publishing the public keys to make them available to other mail users who are creating S/MIME messages.
- Card reading devices are properly installed on the client machines when private-public key pairs and their certificates are stored on smart cards.
- All the necessary platform software is installed on the client machines where Communications Express Mail is accessed.
- All the necessary Sun Microsystems software is installed and configured for S/MIME.
- The Communications Express Mail user is set up to use the Sun Microsystems mail system. This includes giving the user permission to use the S/MIME features.

Concepts You Should Know Before Deploying S/MIME

Before you deploy your mail system for S/MIME, be sure you are familiar with these concepts:

- Basic administrative procedures of your platform
- Structure and use of an LDAP directory
- Addition or modification of entries in an LDAP directory

- Configuration process for Sun Java System Directory Server
- Concepts and purpose of the following:
  - Secure Socket Layer (SSL) for a secured communications line
  - Digitally signed email messages
  - Encrypted email messages
  - Local key store of a browser
  - Smart cards and the software and hardware to use them
  - Private-public key pairs and their certificates
  - Certificate authorities (CA)
  - Verifying keys and their certificates
  - Certificate revocation list (CRL)

Where to Go for More Communications Express Information

To install and configure Communications Express, see the instructions in the *Sun Java System Communications Express 6.3 Administration Guide*.

To administer S/MIME, see Chapter Chapter 24, "Administering S/MIME for Communications Express Mail," in *Sun Java System Messaging Server 6.3 Administration Guide*.

◆ ◆ ◆ APPENDIX D

Instant Messaging Pre-Installation Considerations

Instant Messaging Worksheets

During installation and upgrade, you will be prompted for basic configuration information. You should gather this information before you begin. You will be prompted for some or all of the information depending on the components you decide to install.

Print out Table D–1 and write the values for your deployment in the space provided. You can reuse this installation worksheet for multiple installations, uninstallation, or for upgrades. This table contains passwords and other sensitive information, so you should store this information in a safe place.

TABLE D–1 Instant Messaging Installation Parameters

Parameter	Description	Your Answers
Installation Directory	*instant-messaging-install-dir* or *installation directory*. Directory in which Instant Messaging is installed. Defaults: Solaris system: `/opt/SUNWiim` Linux system: `/opt/sun/im`	
Instant Messaging Server Host and Domain Name	Host name on which Instant Messaging is installed and the domain name associated with the host. For example: Host Name: `instantmessaging.siroe.com` Domain Name: `siroe.com`	

TABLE D–1 Instant Messaging Installation Parameters *(Continued)*

Parameter	Description	Your Answers
Instant Messaging Server Port Number	The port number on which the Instant Messaging server listens for incoming requests other than those sent by Instant Messenger clients. Default: 49999	
Multiplexor Port Number (Multiplexor Configuration Only)	The port number on which the Instant Messaging server listens for incoming requests from Instant Messenger clients. Default: 49909	
Disable Server	Select this option if the instance you installed will act as a multiplexor and not a server. If you select this option, you must provide a value for Remote Instant Messaging Server Host Name (Multiplexor Configuration Only)	
Remote Instant Messaging Server Host Name (Multiplexor Configuration Only)	The host name of the Instant Messaging server for which this multiplexor routes messages. Do not enter a value for this parameter if the installed instance you are configuring is an Instant Messaging server and not a multiplexor. Dependencies: The Disable Server parameter must be selected, that is, server functionality is disabled.	
Assign Instant Messaging Services to existing users (Optional)	If selected, this option enables Instant Messaging for existing Access Manager users. Dependencies: Portal Server and Access Manager.	

TABLE D–1 Instant Messaging Installation Parameters *(Continued)*

Parameter	Description	Your Answers
Secure Mode (Optional)	When selected, enables integration with Secure Remote Access. Secure Remote Access provides secure access to remote users in an intranet. Users can access Secure Remote Access by logging in to the web-based Portal Server Desktop through the portal gateway. Dependencies: Requires Portal Server and Access Manager. You can run Instant Messaging in secure mode only if Secure Remote Access is configured. See the *Sun Java System Instant Messaging 7.2 Administration Guide* and the *Sun Java System Portal Server 7.1 Administration Guide* for instructions. If you enable this feature, you must provide values for the following parameters: ■ Netlet Instant Messaging Port Number (Optional) ■ Messenger Secure Download Port (Optional)	
Netlet Instant Messaging Port Number (Optional)	If you enabled Secure Mode (Optional), this is the port number on which Netlet listens for incoming requests. Default: 49917 Dependencies: Secure Mode (Optional) enabled, Portal Server, and Access Manager.	
Messenger Secure Download Port (Optional)	If you enabled Secure Mode (Optional), this is the port number from which Instant Messenger resources will be downloaded through Netlet. Default: 49916 Dependencies: Secure Mode (Optional) enabled, Portal Server, and Access Manager.	
Enable Instant Messaging Archive (Optional)	If selected, enables Portal Server search-based archiving for Instant Messaging. Dependencies: Portal Server and Access Manager.	

TABLE D–1 Instant Messaging Installation Parameters *(Continued)*

Parameter	Description	Your Answers
LDAP Host Name	The host name of the LDAP server that contains user and group information for Instant Messaging. For example, `directory.siroe.com`. Dependencies: LDAP server such as Directory Server.	
LDAP Port Number	The port number on which the directory server listens for incoming requests. For example, `389`. Dependencies: LDAP server such as Directory Server.	
Base DN	The base distinguished name in the directory tree that contains user and group information for Instant Messaging. For example, `o=siroe.com`. Dependencies: LDAP server such as Directory Server.	
Bind DN	During installation, you must use the Directory Manager Bind DN and password. The information is used to update the directory schema with the Instant Messaging and presence service templates and attributes only. This requires Directory Manager access. The Directory Manager Bind DN and password are not saved or used beyond installation and initial configuration. For server configuration, Instant Messaging uses this Bind DN to search users and groups in the directory. Leave this blank if the directory can be searched anonymously. Dependencies: LDAP server such as Directory Server.	
Bind Password	The Bind DN password.	
SMTP Server Host Name (Optional)	The host name of the SMTP server used to send email notification of messages to offline users. For example, `mail.siroe.com`. If the SMTP server does not use port 25, specify the port along with the host name. For example, if the SMTP server uses port `1025`: `mail.siroe.com:1025` Dependencies: SMTP server such as Messaging Server.	

TABLE D–1 Instant Messaging Installation Parameters *(Continued)*

Parameter	Description	Your Answers
Database, Logs, and Runtime File Pathname	The location where the runtime files, database, and logs are stored. Defaults: Solaris system: `/var/opt/SUNWiim/default` Linux system: `/var/opt/sun/im` Windows system: `C:\Program Files\Sun\Instant Messaging`	
Resources and Help Files Pathname	*instant-messaging-resource-directory* or *resource directory* The directory in which the resource and online help files are installed. Defaults: Solaris system: `/opt/SUNWiim/html` Linux system: `/opt/sun/im/html`	

TABLE D–1 Instant Messaging Installation Parameters *(Continued)*

Parameter	Description	Your Answers

Code Base	The URL from which Instant Messenger downloads resources.
	
	You install the resources into the web server's doc root. For example, assume that the web server `www.example.com` listens on port `89`, the doc root for this web server is `/opt/web/`, and you choose to install the messenger resources in `/opt/web/im`, then the messenger resources codebase is as follows:
	
	`http://www.example.com:89/im/`
	
	If you do not provide the correct `codebase` during installation, you need to update the messenger launch pages *codebase/lang/*`im[ssl].html` and *codebase/lang/*`im[ssl].jnlp` with the correct URL.
	
	On UNIX, it is possible to install the resources in a directory and use a symbolic link to make the resources visible to the web server.
	
	For instance, if in the above example you installed the resources in `/opt/SUNWiim/html`, the messenger resources can be made visible to the web server by creating the following symbolic link.
	
	`ln -s /opt/SUNWiim/html /opt/web/im`
	
	See the *Sun Java System Instant Messaging 7.2 Administration Guide*, and your web server documentation for more information.	

◆ ◆ ◆ APPENDIX E

Product Components for This Release

This appendix lists the selectable and shared components that are part of the Communications Suite software. This includes both Communications Suite and supported Java ES product components.

Product Components

In the Component Selection page of the installer, the product components are grouped by the services they help to provide. The following list also shows the subcomponents that are installed with each product component.

Communications Suite

- Sun Java™ System Messaging Server 6.3
- Sun Java System Calendar Server 6.3
- Sun Java System Instant Messaging 7.2
  - Instant Messaging Server Core (includes server and multiplexor software
  - Instant Messenger Resources
- Sun Java System Communications Express 6.3
- Sun Java System Directory Preparation Tool 6.4
- Sun Java System Delegated Administrator 6.4
  - Delegated Administrator Console and Utility
  - Delegated Administrator Server

Web & Application Services

- Sun Java System Application Server Enterprise Edition 8.2

- Domain Administration Server
- Application Server Node Agent
- Command Line Administration Tool
- Load Balancing Plugin

  Can be used with either Web Server 6.x or Apache Web Server 1.3.33 or above, selectable at configuration. Default is Web Server.
- Sample Applications

- Sun Java System Web Server 7.0
  - Web Server 7.0 CLI
  - Web Server 7.0 Core
- Sun Java System Web Proxy Server 4.0.4
- Sun Java System Message Queue 3.7 UR1

Directory & Identity Services

- Sun Java System Access Manager 7.1
  - Identity Management and Policy Services Core
  - Access Manager Administration Console
  - Common Domain Services for Federation Management
  - Access Manager SDK
  - Distributed Authentication
  - Client SDK
  - Session Failover Client
- Sun Java System Directory Server Enterprise Edition 6.0
  - Java Enterprise System Directory Server 6 Core Server
  - Java Enterprise System Directory Service Control Center
  - Sun Java System Directory Server Enterprise Edition 6 Command-Line Utilities
  - Java Enterprise System Directory Proxy Server 6 Core Server

Availability Services

Note – Sun Cluster product components are not available on the Linux operating system.

- Sun Cluster 3.1 U4
  - Sun Cluster Core
- Sun Cluster Agents 3.1

Note – The list of available Sun Cluster agents is not same on the SPARC and x86 operating systems.

- HA Sun Java System Application Server
- HA Sun Java System Message Queue
- HA Sun Java System Directory Server
- HA Sun Java System Messaging Server
- HA Sun Java System Application Server EE (HADB)
- HA/Scalable Sun Java System Web Server
- HA Instant Messaging
- HA Sun Java System Calendar Server
- HA Apache Tomcat
- HA Apache
- HA DHCP
- HA DNS
- HA MySQL
- HA Sun N1 Service Provisioning
- HA NFS
- HA Oracle
- HA Samba
- HA Sun N1 Grid Engine
- HA Solaris Containers

- Sun Cluster Geographic Edition 3.1 R2
  - SCGE Core
  - Sun StorEdge Availability Suite
  - Hitachi Truecopy Data Replication Support
  - EMC SRDF Data Replication (SPARC only)
- Sun Java System High Availability Session Store 4.4

Shared Services

- Shared Components

Shared Components

Shared components provide the local services and technology support for the product components. When you install Communications Suite product components, the installer automatically installs the shared components required if they are not already installed.

This release of Communications Suite includes these shared components:

- ANT (Jakarta ANT Java/XML-based build tool) 1.6.6

- ACL (Apache Common Logging) 1.0.4
- BDB (Berkeley Database) 4.2.52
- Common Agent Container 1.1 (Sun Cluster only)
- Common Agent Container 2.0
- FastInfoSet 1.0.1
- ICU 2 (International Components for Unicode) 2.1.9
- ICU 3 (International Components for Unicode) 3.2
- IMSDK (Instant Messaging SDK) 7.2
- J2SE™ (Java 2 Platform, Standard Edition) platform 5.0 Update 6
- JAF (JavaBeans™ Activation Framework) 1.1
- JATO (Java Studio Web Application Framework) 2.1.5
- JavaDB (Java Database) 10.1
- JavaHelp™ Runtime 2.0
- JavaMail™ Runtime 1.4.0
- JAXB (Java API for XML Binding) Runtime 2.0
- JAXP (Java API for XML Parsing) 1.3.1
- JAXR (Java API for XML Registries) Runtime 1.0.8
- JAXRPC (Java API for XML-based Remote Procedure Call) Runtime 1.1.3_01
- JAXWS (Java API for Web Services) Runtime 1.0.8
- JCAPI (Java Calendar API) 1.2
- JDMK (Java Dynamic Management™ Kit) Runtime 5.1_01
- JSS (Java Security Services) 4.2.3
- JSS3 (Network Security Services for Java) 4.6.1
- JSSX (Network Security Services for Java) 4.6.1 (64 bit)
- JSTL (JSP Standard Library Template) 1.0
- KTSE (KT Search Engine) 1.3.2
- LDAP C SDK 5.15
- LDAP Java SDK 4.19
- MA Core (Mobile Access Core) 1.0.6
- NSPR (Netscape Portable Runtime) 4.6
- NSPRD (Netscape Portable Runtime Development) 4.6
- NSPRX (Netscape Portable Runtime) 4.6 (64 bit)
- NSS (Network Security Service) 3.11
- NSSX (Network Security Service) 3.11 (64 bit)
- NSSU (Network Security Service Tools) 3.11
- NSSUX (Network Security Service Development) 3.11 (64 bit)
- SAAJ (SOAP with Attachments API for Java) 1.3
- SASL (Simple Authentication and Security Layer) 2.19
- SASLX (Simple Authentication and Security Layer) 2.19 (64 bit)
- Sun Explorer Data Collector (Solaris OS only) 4.3.1
- Sun Java Monitoring Framework 2.0
- Sun Java Web Console 3.0
- WSCL (Web services Common Library) 2.0
- XWSS (XML Web Services Security)

◆ ◆ ◆ APPENDIX F

Installation Commands

This appendix describes the command syntax and options for running the installer and uninstaller.

`installer` Command

After expanding the distribution, the installer is located in the top-level directory under the operating system directory.

The `installer` command has the following format:

```
installer [option]...
```

The following table describes the options for the `installer` command.

TABLE F–1 Communications Suite Installer Command-line Options

Option	Description
`-help`	Defines command-line options for the installer.
`-id`	Prints a state file ID to the screen.
`-no`	Runs the installer without installing software.
`-noconsole`	Starts the installer in silent mode, suppressing the graphical interface. Use this option with the `-state` option to run the installer in silent mode.

TABLE F–1 Communications Suite Installer Command-line Options *(Continued)*

Option	Description
`-nodisplay`	Starts the installer in text-based mode (does not launch the graphical interface).
`-saveState` [*statefile*]	Instructs the installer to generate a state file at the location specified by *statefile*. State files are used when performing a silent installation. If the specified file does not exist, the command creates it. If you omit the *statefile* value, the installer writes to the default file, `statefile.out`. You can specify the same state file in subsequent installation sessions. After the first session, *n* is appended to the file name, where *n* is an integer that is incremented for each session, beginning with zero (`0`).
`-state` *statefile*	Uses the specified state file to provide input for silent installation. Use this option with the `-noconsole` option for starting silent installation.
`-version`	Prints the build information, including Product, Date, Build, Patch Level. Primarily an internal tool, but can be helpful in filing bugs.

Examples

To run the installer in graphical mode from the installation directory:

```
./installer
```

To run the installer in text-based mode:

```
./installer -nodisplay
```

To run the graphical installer without installing software:

```
./installer -no
```

To create a state file without installing software:

- In graphical mode

  ```
  ./installer -no -saveState myInstallStatefile
  ```

- In text-based mode

  ```
  ./installer -no -nodisplay -saveState myInstallStatefile
  ```

To create a state file while installing software in text-based mode:

```
./installer -nodisplay -saveState myInstallStatefile
```

To run the installer in silent mode:

```
./installer -noconsole -state myInstallStatefile
```

viewlog Command

After installation, the installer places the viewlog command here:

- Solaris OS: /var/sadm/prod/SUNWcomm-entsys5i
- Linux: /var/sadm/prod/sun-comm-entsys5i

The viewlog command has the following format:

```
viewlog [option]...
```

The following table describes the options for the viewlog command.

TABLE F–2 Communications Suite Log Viewer Command-line Options

Option	Description
-help	Defines command line options for the Log Viewer

Examples

To run the graphical Log Viewer:

```
./viewlog
```

uninstall Command

After installation, the installer places the uninstall utility here:

- Solaris OS: /var/sadm/prod/SUNWcomm-entsys5
- Linux: /var/sadm/prod/sun-comm-entsys5

The uninstall command has the following format:

```
uninstall [option]...
```

The following table describes the options for the uninstall command.

TABLE F–3 Communications Suite Uninstall Command-line Options

Option	Description
`-help`	Defines command line options for the uninstaller.
`-id`	Prints a state file ID to the screen.
`-no`	Runs the uninstaller without removing software.
`-noconsole`	Starts the uninstaller in silent mode, suppressing the graphical interface. Use this option with the `-state` option to run the uninstaller in silent mode.
`-nodisplay`	Starts the uninstaller in text-based mode (does not launch the graphical interface).
`-saveState` [*statefile*]	Instructs the uninstaller to generate a state file at the location specified by *statefile*. State files are used when performing a silent uninstallation. If the specified file does not exist, the command creates it. If you omit the *statefile* value, the uninstaller writes to the default file, `statefile.out`. You can specify the same state file in subsequent uninstallation sessions. After the first session, *n* is appended to the file name, where *n* is an integer that is incremented for each session, beginning with zero (`0`).
`-state` *statefile*	Uses the specified state file to provide input for silent uninstallation. Use this option with the `-noconsole` option for starting silent uninstallation.
`-version`	Prints the build information, including Product, Date, Build, Patch Level. Primarily an internal tool, but can be helpful in filing bugs.

Examples

To run the uninstaller in graphical mode from within the uninstaller directory:

```
./uninstall
```

To run the uninstaller in text-based mode:

```
./uninstall -nodisplay
```

To run the graphical uninstaller without removing software:

```
./uninstall -no
```

To create a state file without removing software:

- In graphical mode

```
./uninstall -no -saveState myUninstallStatefile
```

- In text-based mode

```
./uninstall -no -nodisplay -saveState myUninstallStatefile
```

To create an uninstaller state file while uninstalling software in text-based mode:

```
./uninstall -nodisplay -saveState myUninstallStatefile
```

To run the uninstaller in silent mode:

```
./uninstall  -noconsole -state myUninstallStatefile
```

◆ ◆ ◆ APPENDIX G

Example State File

This appendix contains an example of a silent installation state file. The *PSP_SELECTED_COMPONENTS* parameter indicates the components that were selected during the interactive installation.

```
#
# Wizard Statefile created: Thu Jul 13 15:42:20 MEST 2006
#   Wizard path: /tmp/.jes_CaChE/Solaris_sparc/.install/EntsysInstall_SunOS_sparc_10.class
# Install Wizard Statefile section for Sun Java(tm) Enterprise System
#
#[STATE_BEGIN Sun Java(tm) Enterprise System 32e1d95ee14b5bb4507efff3f7a9a52b3258f6d0]
LICENSE_TYPE =
PSP_SELECTED_COMPONENTS = ISConfigurator, ExternalJARs, HiddenCommonComponent, IdentityServerSDKAlone,
appserv, WSCommon, HADBConfigurator, HADB, ASEE, ASCommon, SunONEMessageQueue, ASAdmin, ASCore, DAS,
EntsysUninstallerSUNWentsys5, ISAdministrationConsole, DSEEShared, DSCLI, DSEEConsoleAgent, Dssetup,
DSServer, InstantMessaging, InstantMessagingConfig, SunONEWebServer, InstantMessengerResources,
webproxyserver, SunCluster, Explorer, Cacao11, SCCore, SCDirServer, DirectoryServer,
SunCluster_HA_NFS_3.1, WSCLI, WSCore, SCAppServer, ClientSDK, DistributedAuthentication, SCGECore,
SRDFDataReplication, MonitoringConsole, DPSCLI, DPSServer, InstantMessagingServer,
SunCluster_HA_APACHE_TC_3.1, HitachiTruecopy, SunCluster_HA_Samba_3.1, CalendarServ, ASNA, SCCalServer,
SCMsgServer, CommDA, MessagingServ, UWC, PortalSRA, DSEEUtils, DSEEConsole, SunCluster_HA_Apache_3.1,
StorEdgeAvlbtSuite, SunCluster_HA_DHCP_3.1, SRACommon, IdentityServ,
SunCluster_HA_SUN_GRID_ENG_3.1, SessionFailOverClient,
ISCommonDomainDeployment, MAPplugin, SunONEIdentityServerManagementandPolicyServices,
SunCluster_HA_N1G_SPS_3.1, SRANetletProxy, SCGE, ServiceRegistryDev, ServiceRegistryDeploy, ASSamples,
SCMQ, SunCluster_HA_Oracle_3.1, LB, SUNWcomic, SunCluster_HA_SOLARIS_ZONES_3.1, SunCluster_HA_MYSQL_3.1,
SUNWcomis, SCInstantMessaging, SCHADB, SunCluster_HA_DNS_3.1, SCWebServer, WebNFS, SRACore,
PortalServer, SCAgents
PSP_EXIT_ON_DEPENDENCY_WARNING = no
PSP_LOG_CURRENTLY_INSTALLED = yes
REMOVE_BUNDLED_PRODUCTS =
LOCALE = false
CCCP_UPGRADE_EXTERNAL_INCOMPATIBLE_JDK =
CMN_SRA_INSTALLDIR = /opt
```

```
CMN_WS_INSTANCEDIR = /var/opt/SUNWwbsvr7
CMN_WPS_INSTALLDIR = /opt/SUNWproxy
CMN_REG_SERVER_ROOT = /opt
CMN_IS_INSTALLDIR = /opt
CMN_AS_DOMAINSDIR = /var/opt/SUNWappserver
CMN_DSSETUP_INSTALLDIR = /opt/SUNWcomds
CMN_COMMDA_INSTALLDIR = /opt/SUNWcomm
CMN_WS_INSTALLDIR = /opt/SUNWwbsvr7
CMN_UWC_INSTALLDIR = /opt/SUNWuwc
CMN_IIM_INSTALLDIR = /opt
CMN_CS_INSTALLDIR = /opt
CMN_UNINSTALL_INSTALLDIR =
CMN_AS_INSTALLDIR = /opt/SUNWappserver
DSEE_BASE = /opt/SUNWdsee
CMN_MS_INSTALLDIR = /opt/SUNWmsgsr
CONFIG_TYPE = Custom
CMN_ADMIN_USER = admin
CMN_ADMIN_PASSWORD = adminadm
USE_DEFAULT_PASSWORD = true
CMN_HOST_NAME = myComputer
CMN_DOMAIN_NAME = example.com
CMN_IPADDRESS = 10.17.253.22
CMN_SYSTEM_USER = root
CMN_SYSTEM_GROUP = root
WS_ADMIN_IS_SERVER_MODE = true
WS_START_ON_BOOT = false
WS_64BIT_INSTALL = false
WS_ADMIN_HOST = myComputer.example.com
WS_ADMIN_SSL_PORT = 8989
WS_ADMIN_HTTP_PORT = 8800
WS_ADMIN_SERVER_USER = root
WS_ADMIN_LOGIN_USER = admin
WS_ADMIN_LOGIN_PASSWORD = adminadm
WS_INSTALL_CLI_ONLY = false
WS_AGENT_HOST =
WS_AGENT_SSL_PORT =
WS_REGISTER_ADMIN_AGENT =
WS_SERVER_NAME = myComputer.example.com
WS_HTTP_PORT = 80
WS_SERVER_USER = root
WS_DOCROOT = /var/opt/SUNWwbsvr7/docs
HADB_DEFAULT_AMDINPORT = 1862
HADB_DEFAULT_RESDIR = /var/opt
HADB_DEFAULT_GROUP = root
HADB_ALLOW_GROUPMANAGE = N
AS_ADMIN_USER_NAME = admin
AS_PASSWORD = adminadm
AS_ADMIN_PORT = 4849
```

```
AS_JMX_PORT = 8686
AS_HTTP_PORT = 8080
AS_HTTPS_PORT = 8181
AS_MASTER_PASSWORD = adminadm
ASNA_ADMIN_HOST_NAME = myComputer.example.com
ASNA_ADMIN_USER_NAME = admin
ASNA_PASSWORD = adminadm
ASNA_MASTER_PASSWORD = adminadm
ASNA_ADMIN_PORT = 4849
ASNA_NODE_AGENT_NAME = myComputer
AS_WEB_SERVER_LOCATION = /opt/SUNWwbsvr7
AS_WEB_SERVER_INSTANCE_LOCATION = /var/opt/SUNWwbsvr7/https-myComputer.example.com
S_WEB_SERVER_PLUGIN_TYPE = Sun Java System Web Server
CREATE_INSTANCE = true
DSEE_INSTANCE_DIR = /var/opt/SUNWdsee/dsins1
DSEE_INSTANCE_PORT = 389
DSEE_INSTANCE_SSL_PORT = 636
DSEE_DN_MANAGER = cn=Directory Manager
DSEE_INSTANCE_USER = root
DSEE_INSTANCE_GROUP = root
DSEE_INSTANCE_PASSWORD = adminadm
DSEE_SUFFIX = dc=example,dc=com
IS_LDAPUSERPASSWD = adminadmin
IS_ADMINPASSWD = adminadm
IS_LDAP_USER = amldapuser
IS_ADMIN_USER_ID = amAdmin
AM_ENC_PWD = UrEy4nt//1kmWGs9vXROosP8dpu68mYV
AM_REALM = disabled
AM_APPL_USER_ID = anonymous
AM_APPL_PWD =
DeploymentServer = AppServer
IS_WS_HOST_NAME =
IS_WS_INSTANCE_DIR =
IS_WS_INSTANCE_PORT =
IS_WS_ADMIN_PORT =
IS_WS_ADMIN_ID =
IS_WS_ADMIN_PASSWORD =
FORCE_UNINSTALLATION =
IS_SERVER_PROTOCOL = http
IS_WS_PROTOCOL =
IS_APPSERVERBASEDIR = /opt/SUNWappserver/appserver
IS_AS_CONFIG_DIR =
IS_IAS81INSTANCE = server
IS_IAS81INSTANCEDIR = /var/opt/SUNWappserver/domains/domain1
IS_IAS81INSTANCE_PORT = 8080
IS_IAS81_ADMIN = admin
IS_IAS81_ADMINPASSWD = adminadm
IS_IAS81_MASTERPASSWD = adminadm
```

```
IS_IAS81_ADMINPORT = 4849
ASADMIN_PROTOCOL = https
IS_IAS81_PROTOCOL = http
IS_IAS81_HOST = myComputer.example.com
IS_SUNAPPSERVER_DOCS_DIR = /var/opt/SUNWappserver/domains/domain1/docroot
IS_BEA_INSTALL_DIR =
IS_BEA_ADMIN_PASSWD =
IS_BEA_ADMIN_PORT =
IS_BEA_DOMAIN =
IS_BEA_INSTANCE =
IS_BEA_DOC_ROOT_DIR =
IS_BEA_WEB_LOGIC_JAVA_HOME_DIR =
IS_BEA_MANAGED_SERVER =
IS_IBM_INSTALL_DIR =
IS_IBM_VIRTUAL_HOST =
IS_IBM_APPSERV_NAME =
IS_IBM_APPSERV_PORT =
IS_IBM_DOC_DIR_HOST =
IS_IBM_WEB_SERV_PORT =
IS_IBM_WEBSPHERE_JAVA_HOME =
IS_WAS40_NODE =
CONSOLE_HOST = myComputer.example.com
CONSOLE_DEPLOY_URI = amconsole
PASSWORD_SERVICE_DEPLOY_URI = ampassword
IS_SERVER_HOST = myComputer.example.com
IS_SERVER_PORT = 8080
CONSOLE_PORT = 8080
SERVER_DEPLOY_URI = amserver
COOKIE_DOMAIN_LIST = .example.com
USE_DSAME_SERVICES_WEB_CONTAINER =
CDS_DEPLOY_URI = amcommon
ADMIN_COMPONENT_SELECTED = true
CONSOLE_PROTOCOL = http
USE_CURRRENT_DS = true
IS_DS_HOST = myComputer.example.com
IS_DS_HOSTNAME = myComputer
IS_DS_PORT = 389
IS_ROOT_SUFFIX = dc=example,dc=com
IS_DIRMGRDN = cn=Directory Manager
IS_DIRMGRPASSWD = adminadm
IS_EXISTING_DIT_SCHEMA = n
IS_LOAD_DIT = y
IS_ORG_OBJECT_CLASS = sunISManagedOrganization
IS_ORG_NAMING_ATTR = o
IS_USER_OBJECT_CLASS = inetorgperson
IS_USER_NAMING_ATTR = uid
IS_DIRECTORY_MODE = 1
DIST_AUTH_DEPLOY_URI = amdistauth
```

```
CLIENT_DEPLOY_URI = amclient
WPS_ADMIN_USER = admin
WPS_ADMIN_PASSWORD = adminadm
WPS_ADMIN_PORT = 8888
WPS_ADMIN_RUNTIME_USER = root
WPS_INSTANCE_RUNTIME_USER = nobody
WPS_INSTANCE_PORT = 8081
WPS_INSTANCE_AUTO_START = N
WPS_PROXY_DOMAIN = myComputer.example.com
[STATE_DONE Sun Java(tm) Enterprise System 32e1d95ee14b5bb4507efff3f7a9a52b3258f6d0]
```

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