



Preparing to Install SESM

This chapter describes prerequisites to installing Subscriber Edge Services Manager (SESM) applications. It includes the following topics:

- [Installation Platform Requirements, page 1-1](#)
- [RAM and Disk Space Requirements, page 1-2](#)
- [Java Software Considerations, page 1-2](#)
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Installation Platform Requirements

SESM applications can run on any platform that supports the Java Runtime Environment (JRE). [Table 1-1](#) lists the platforms tested in our labs.



Note

The SESM applications include the web portal applications, the Captive Portal application, RDP, and CDAT.

Table 1-1 Hardware Platforms

Platform	Specifications
Solaris	<ul style="list-style-type: none">• Sun Ultra10 or Sun E250 (or later version)• Solaris Version 2.6 (or later version) operating system
Windows NT	<ul style="list-style-type: none">• Pentium III (or equivalent) processor• Windows NT Version 4.0, Service Pack 5 (or later version)
Windows 2000	<ul style="list-style-type: none">• Pentium III (or equivalent) processor
Linux	<ul style="list-style-type: none">• Red Hat Linux Version 7.1• SuSE Linux Version 7.3

RAM and Disk Space Requirements

Table 1-2 shows RAM and disk space requirements for a single instance of each component in SESM. These requirements are approximately the same on all of the platforms.

Table 1-2 RAM and Disk Space Requirements

Component Name	Disk Space (MB)	RAM
Jetty server	1.7	The Jetty server provides the J2EE application environment in which the SESM portal applications and CDAT execute. The application memory needs specified for NWSP and CDAT, below, include Jetty server usage.
SESM portal applications (NWSP, WAP, and PDA)	10.8	RAM requirements increase relative to the number of subscribers logged in. The following numbers are approximations: <ul style="list-style-type: none"> In RADIUS mode, 64MB of JVM can service a maximum of 12,800 users. In LDAP mode, the DESS cache adds to the memory requirements. A JVM memory size of 64MB can service a maximum of 1800 users. See the “Directory MBean” section on page 8-2 for configurable attributes that affect the DESS cache size. See the “Memory Requirements and CPU Utilization” section on page 9-8 for memory utilization equations.
Captive Portal	3.9	The Captive Portal installation includes the Captive Portal and Message Portal applications.
RDP configured as a RADIUS-to-DESS protocol translator	4.5	The RDP uses the DESS cache. Memory requirements are roughly proportional to the login rate. See the “RDP Memory Requirements” section on page 9-10 for more information.
SPE components	2.0	N/A
CDAT	5.7	RAM requirements increase proportionally to the number of objects stored in the directory. For most directory sizes, the 64 MB requirements of the operating system (OS) and other system software should be sufficient for heavily populated directories.

Java Software Considerations

A Java Runtime Environment (JRE) is bundled in the installation image. The installation process installs this bundled version if it cannot find a suitable version on the installation platform.

This section describes the SESM requirements regarding the Java Runtime Environment (JRE) and the Java Development Kit (JDK). The section includes the following topics:

- [Solaris Patch Requirements, page 1-3](#)
- [Recommended JRE Version, page 1-3](#)
- [Installing the Bundled JRE, page 1-3](#)

- [Specifying an Existing JRE or JDK, page 1-3](#)
- [Specifying the JRE or JDK in the Startup Scripts, page 1-4](#)
- [Obtaining a JDK for SESM Web Development, page 1-4](#)

Solaris Patch Requirements

On older Solaris platforms, you might need to apply Solaris operating system upgrades (patches). To determine if the machine requires patches, go to the Sun Microsystems Java site and start the process of downloading the JRE. After you log in, a list of download options appears, including the necessary patches for your operating system version. You should also download the README file, which contains instructions on how to apply the patches.

Recommended JRE Version

SESM includes a bundled JRE Version 1.2.2_07. We recommend downloading JRE Version 1.3.1 from the following website:

<http://java.sun.com/j2se/1.3/>



Note

SESM has not been fully verified on JRE Version 1.4.

Installing the Bundled JRE

The installation program determines for itself whether or not to install the bundled JRE by doing the following:

1. It searches for a JDK Version 1.2.2 or later that is already installed.
2. Failing that, it searches for a JRE Version 1.2.2 or later that is already installed.
3. Failing that, it installs and uses the bundled JRE Version 1.2.2.

To search for an existing JDK or JRE, the installation program looks in the following locations:

- On Windows NT, it looks in the NT Registry for a referenced location.
- On Solaris, it looks in well-known locations. See the [“Searching for an Existing JDK or JRE” section on page 10-7](#) for a list of these locations.
- On Linux, it looks in well-known locations. See the [“Searching for an Existing JDK or JRE” section on page 10-7](#) for a list of these locations.

Specifying an Existing JRE or JDK

On Windows NT, Solaris, and Linux, you can explicitly specify the location of a pre-installed JDK or JRE by starting the installation process on a command line and specifying the javahome parameter, as follows:

```
installImageName -is:javahome location
```

Where:

installImageName is the name of the downloaded SESM image.

location is the path name for the JRE or JDK directory. For example, /usr/java1.2.

Specifying the JRE or JDK in the Startup Scripts

The installation process sets the location of the JDK or JRE in the startup files for the SESM portal applications, CDAT, and RDP.

If you change the location of the JDK or JRE after installation, make the corresponding change in the following two startup files:

- Generic startup script—This common script is executed by the startup scripts for the SESM portal applications and CDAT. It can also be used by the startup scripts for customized SESM portal applications.
- RDP startup script

Table 1-3 shows the path names of the startup scripts that you must change.

Table 1-3 Startup Script Names

Platform	Generic Startup Script	RDP Startup Script
Solaris and Linux	jetty/bin/start.sh	rdp/bin/runrdp.sh
Windows	jetty\bin\start.cmd	rdp\bin\runrdp.cmd

Obtaining a JDK for SESM Web Development

A Java Development Kit (JDK) (Version 1.3.1 recommended) must be installed on any system that will be used by web developers to create or modify the Java Server Pages (JSPs) for a customized SESM application. You can obtain JDK Version 1.3.1 from the Sun Java web page:

<http://java.sun.com/products/j2se>

On systems that will be used to customize an SESM application, we recommend that you install the JDK before you install SESM. In that way, the SESM installation program uses the JDK in the application startup scripts, rather than a JRE. The JDK is necessary for recompiling the changed JSPs. See the “[Recompiling a Customized JSP](#)” section on page 10-8 for more information.

If you install the JDK after installing SESM, then you must:

- Edit the SESM application start script to use the JDK.
- Ensure that the JDK_HOME environment variable points to the directory into which you installed the JDK.

Requirements for Related Network Components

This section describes requirements of non-SESM components that might be required in SESM deployments. Topics are:

- [SSG and RADIUS Considerations, page 1-5](#)
- [Advantages to Running an LDAP Directory During SESM Installation, page 1-5](#)

SSG and RADIUS Considerations

The SESM installation program does not attempt to communicate with SSGs or RADIUS servers. Therefore, SSGs and RADIUS servers do not need to be configured and running for you to install SESM components.

However, you should be prepared to provide correct communication information about those network components during the installation. Otherwise, you must manually edit the configuration files at a later time for the SESM application to work correctly.

The installation program updates configuration files with information that you provide about the SSGs and RADIUS servers.

Advantages to Running an LDAP Directory During SESM Installation

If you are installing SESM in LDAP mode, the installation program establishes communication with your LDAP directory, if possible.

The LDAP directory does not need to be configured and running on the network for you to complete the Cisco SESM installation. However, it is advantageous if the directory is configured and running. If the installation program can communicate with the LDAP directory using the communication parameters that you provide, it can perform the following required tasks:

- Extend the directory schema with the SPE extensions. These extensions are the LDAP classes and attributes that will hold the SESM subscriber profiles, service profiles, and policy information.
- Install top-level RBAC objects that are required before administrators can log into CDAT to create additional RBAC objects and before you can install the SESM sample data.

If the installation program does not perform these tasks, you must do them at a later time before running an SESM web application or CDAT, as described in the [“Extending the Directory Schema and Loading Initial RBAC Objects” section on page 8-3](#).

Dependencies among SESM Components

You can install all SESM components together on the same machine (a typical installation), or you can install some components separately in a distributed manner (a custom installation). [Table 1-4](#) describes components that must be installed together on the same machine. The installation program detects these dependencies and enforces the correct installation.

Table 1-4 Component Dependencies in a Distributed Installation

SESM Mode	Component Dependencies
RADIUS mode	<ul style="list-style-type: none"> An SESM portal application requires a J2EE server (for example, jetty) on the same machine.
LDAP mode	<ul style="list-style-type: none"> An SESM portal application requires a J2EE server (for example, jetty) and the SPE component on the same machine. CDAT requires a J2EE server (for example, jetty) and the SPE component on the same machine. RDP requires the SPE component on the same machine.

Uninstalling a Previous SESM Installation

Use the uninstall utility provided with the SESM product to remove a previous installation. The uninstall utility is located in the following directory:

```
installDir
  _uninst
    uninstall.bin or uninstall.exe
```

The uninstall utility does the following:

- Lets you choose the components to uninstall.
- Verifies the installation directory that is being uninstalled.
- Uninstalls the SESM components. It does not remove the installation directory, only the contents under the installation directory.

After running the uninstall utility, you can safely reinstall one or more SESM components into the same directory.



Note

Do not uninstall SESM by manually deleting the contents of the installation directory. If you do so, and then attempt a reinstall into the same directory, the installation might not be complete. If the installation is incomplete, see the [“Incomplete Installation or Files Installed in Incorrect Directory”](#) section on [page 10-10](#) for information.