Establishing a Testing Environment for SESM

This appendix describes the tools for establishing a testing environment for Subscriber Edge Services Manager (SESM) deployments. A testing environment can help with evaluating SESM features, developing customized portals, and testing deployment options. Topics in this chapter are:

SESM Demo Mode

The SESM Demo mode allows a portal to run in a simulated network, without access to other solution components, such as SSG, a RADIUS server, or an LDAP directory. Use Demo mode for the following purposes:

- To demonstrate the capabilities of SESM when other required network components are not available. In Demo mode, you can demonstrate the features of both RADIUS and LDAP deployments.
- To test customizations to JSPs in SESM portal application. See the *Cisco Subscriber Edge Services Manager Web Developer Guide* for information about using Demo mode during application development.

Standalone Demo mode is *only* intended for the above purposes. Demo mode is not in any way representative of SESM performance in an end-to-end solution with actual network components.

You can run any SESM portal (including your own customized portals) in Demo mode. The following characteristics apply to any SESM portal running in Demo mode:

- The portal reads profiles from a flat file in MERIT format. The file path name is configured in the SESMDemoMode MBean.
- The portal does not alter the contents of the demo profile file.

Installation and Run Options

Use one of the following methods to install and run SESM portals in Demo mode:

- Choose Demo mode at installation time—This installation option configures all of the SESM sample portals to run in Demo mode.
- Choose SPE or RADIUS mode at installation time—This installation option configures all of the SESM sample portals to run in the installed mode. You can switch to Demo mode by:
  - Using the *mode* command line option when you execute the application startup script. See the "Starting a Demo" section on page A-5 for more information.
  - Changing the portal configuration file. The run mode for the SESM portal is configured in the SESM MBean. See the *Cisco Subscriber Edge Services Manager Installation and Configuration Guide* for more information.

Using the Demo Mode Installation Option

The Demo mode installation is quick. It requires the entry of only a few parameters.

If you install in Demo mode, plan to perform another install before attempting to run an application in RADIUS or SPE mode. Do not expect to switch a Demo installation to SPE or RADIUS modes at run time for the following reasons:

- The MBean configuration files are not set up properly to support the switch to those other modes. Several manual changes are required in the files.
- The Demo installation might not install all of the components required by the other modes. For example, a Demo installation does not install the SPE component, which is required to run in SPE mode.

Using the SPE or RADIUS Mode Installation Options

You can install and configure SESM to run in SPE or RADIUS mode, and then easily switch to run the application in Demo mode at run time. The switch to Demo mode at run time is easy because:

- When you install SESM in SPE or RADIUS mode, the Demo profile file that supports Demo mode is included in your installation directory.
- The MBean configuration files are set up to point to the Demo profile file when the application is run in Demo mode.
- The NWSP startup scripts accept a run time mode argument to change the mode.

To switch to Demo mode at run time, use the *mode* option on the command line when you start the SESM portal. See the "Starting a Demo" section on page A-5 for the command syntax.

Quick Start for Installing and Running Portals in Demo Mode

This section describes how to install and run SESM portals in Demo mode. It includes the following topics:

- Starting a Demo, page A-5

Installing SESM in Demo Mode

To install SESM in Demo mode, follow this procedure:

Step 1 Log on as a privileged user:

- On Solaris—Run the installation program as root.
- On Windows NT—Run the installation program as a member of the Administrators group.

Make sure you have write privileges to the directory in which you intend to load the demo.

Step 2 Obtain the installation image from the product CD-ROM or from the Cisco web site. The installation image is a tar or zip file, depending on the platform on which you want to install the demo.

Step 3 Uncompress the tar or zip file to a temporary directory. The result includes an executable .bin or .exe file. Table A-1 shows the names of the compressed and executable files.

Table A-1 Installation Image Filenames

Platform	Compressed Filename	Executable Filename
Solaris	sesm-3.1.5-pkg-sol.tar	sesm_sol.bin
Linux	sesm-3.1.5-pkg-linux.tar	sesm_linux.bin
Windows NT	sesm-3.1.5-pkg-win32.zip	sesm_win.exe

Step 4 Execute the installation image as follows:

- On Solaris, change directories to the location of the installation image, and enter the image name. For example:

```
solaris>sesm_sol.bin
```

- On Windows NT, you can double-click the file's icon. Otherwise, open a command prompt window, change directories to the location of the image, and enter the image name. For example:

```
C:\>sesm_win.exe
```

Step 5 Follow instructions in Table A-2 to install an evaluation license type in Demo mode.

Table A-2 Instructions for Demo Mode Installation

Input Summary	Explanation
License type	Click the **Evaluation-RADIUS mode** or **Evaluation-SPE mode** button. A Demo installation is the same regardless of which license type you choose here. You do not need a license number.
License agreement	Read the displayed license agreement to ensure that you agree with the terms of the license. You must accept the agreement to proceed with installation.

Table A-2 Instructions for Demo Mode Installation (continued)

Input Summary	Explanation
Installation directory	**Tip** You must have write privileges to the installation directory. You can do any of the following: • Accept the displayed default directory: – On Solaris and Linux: `/opt/cisco/sesm_3.1.3` – On Windows NT: `C:\Program Files\cisco\sesm_3.1.3` • Click **Browse** to choose a location. • Type a directory name in the box.
Type of installation	Click the **Demo** button.
Web Application Port Number	Specify the port on which the J2EE web server for the SESM portal application will listen for HTTP requests. The displayed default value is port 8080. Each web server running on the same machine must listen on its own unique port. If another web server or another instance of the SESM portal application is configured to listen on 8080, change this value. The installation program updates the application startup scripts for NWSP, WAP, and PDA to use this value. If you want to run these applications simultaneously, you must edit the startup scripts to ensure that each application uses a different port.

Choosing a Browser for a Demo

You can use the following browsers to demonstrate the NWSP application:

- Netscape Release 4.x and later.

  SESM uses Unicode Transformation Format Version 8 (UTF-8) character representations. UTF-8 supports both 1-byte and double-byte character sets. To demonstrate support for double-byte character sets on a Netscape browser, use Netscape Version 6 or later.

- Internet Explorer Release 5.x and later

These browser limitations apply to the NWSP sample application and are mentioned to ensure predictable results during demonstrations. When you develop SESM applications for deployment, you should consider the end users of your deployed application, and design the application to accommodate the media that they commonly use.

Downloading International Character Sets

To support localization, SESM uses Unicode Transformation Format Version 8 (UTF-8) character representations. UTF-8 supports both 1-byte and double-byte character sets. If your browser does not display the characters for the language that you have chosen on the NWSP Settings page, you need to download the character set from the browser vendor's Internet site. For example, to download the Japanese character set, go to one of the following web sites:

- For the Microsoft Internet Explorer browser, go to:

http://www.microsoft.com/japan/

- For the Netscape browser, go to:

  http://wp.netscape.com/eng/intl/

For instructions on localizing an SESM portal, including how to construct translated resource bundles and images for buttons, see the *Cisco Subscriber Edge Services Manager Web Developer Guide*.

Starting a Demo

To start the NWSP application in Demo mode, follow this procedure:

Step 1 Execute the appropriate startup script as shown in Table A-3.

Table A-3 Starting the Demo

Platform	SESM Installed Mode	Demo Startup Command
Solaris and Linux	Demo mode	`jetty/bin/startNWSP.sh`
	RADIUS or SPE mode	`jetty/bin/startNWSP.sh -mode Demo`
Windows NT	Demo mode	`jetty\bin\startNWSP.cmd`
	RADIUS or SPE mode	`jetty\bin\startNWSP.cmd Demo`

Note If you are using a Windows platform, ignore the nonfatal JIT error that appears in the command window upon startup.

Step 2 Open a web browser.

Step 3 Go to the NWSP URL, which is:

http://*host*:*port*

For example:

```
http://localhost:8080
```

Where:

host is the IP address or host name of the computer on which you installed the NWSP application. You can enter the value `localhost`, or the IP address 127.0.0.1, to indicate the local computer.

port is the NWSP port number that you specified during the installation.

Step 4 On the SESM portal log on page, use any username whose profile is defined in the Demo profile file. See the "Logon Names and Passwords for a Demo" section on page A-6.

Logon Names and Passwords for a Demo

Table A-4 shows the user IDs and passwords in the profiles in the installed Demo profile file.

Table A-4 Logon Names and Passwords in demo.txt

To demonstrate RADIUS Mode features...	To demonstrate SPE mode features...	To demonstrate branding based on user groups...
User ID: radiususer Password: cisco	User ID: golduser Password: cisco	User ID: bronzeuser Password: cisco
Other valid users for RADIUS mode demos are user1, user2, and so on, up to user45.	User ID: subgolduser Password: cisco **Note** subgolduser is a subaccount to golduser.	User ID: silveruser Password: cisco User ID: golduser Password: cisco

Demo Profile Files

The Demo profile file contains sample profiles to support the SESM portals running in Demo mode. The SESM Demo mode requires a flat file with profiles in MERIT format.

You might want to examine the Demo profile file to:

- See the services and features associated with each demo user ID.
- See examples of the vendor specific attributes (VSAs) that SESM and SSG require in a RADIUS database.
- Add new profiles or change existing ones to enhance your demonstration.
- You can use the profiles in the Demo profile files as test data for SESM deployments in RADIUS mode.

Installed Path Names of Demo Profile Files

SESM comes with a different demo profile file for each sample portal application. Each demo profile file contains profiles that illustrate specific features of the sample application. The installed Demo profile files are listed in Table A-5.

Table A-5 Demo Profile File Installed Path Names

SESM Portal	Demo Profile File
NWSP	nwsp/config/demo.txt
WAP	wap/config/wapdemo.txt
PDA	pda/config/pdademo.txt

Changing the Location of Demo Profile Files

If you change the name or location of the Demo profile file, you must reflect this change in the demoDataFile attribute in the SESMDemoMode MBean in the portal's XML file.

File Contents and Format

The Demo profile files contain example subscriber profiles, service profiles, and service group profiles that support the SESM sample applications when they are running in Demo mode. The file is in Merit RADIUS flat file format and includes profiles that use the following types of attributes:

- RADIUS standard attributes
- SSG vendor-specific attributes
- SESM demonstration attributes (These are attributes reserved for SESM use; most of these attributes are meaningful in Demo mode only, and are used to simulate features available only in SPE mode.)
- For descriptions of the SSG vendor-specific attributes and SESM demonstration attributes, see the *Cisco Subscriber Edge Services Manager Deployment Guide*.

SESM Bundled RADIUS Server

The SESM bundled RADIUS server is installed by default in both RADIUS and SPE mode installations. This server provides a quick way to establish an actual SESM deployment to test, rather than relying on the Demo mode.

The SESM bundled RADIUS server is ready to run immediately after installation. It uses the following configuration:

- port—1813, on the localhost
- secret—cisco

None of the SESM installation parameters affects the default configuration of the SESM bundled RADIUS server. However, you can edit the aaa.xml file shown below to change the installed configuration. The *Cisco Subscriber Edge Services Manager Deployment Guide* contains more information about the JMX MBeans in the aaa.xml file.

The installed location of configuration files and startup scripts that support the SESM bundled RADIUS server is the tools directory under your SESM installation directory:

```
tools
    bin
        startAAA
    config
        aaa.xml

        erp.xml
        aaa.properties
```

The aaa.xml and erp.xml files are MBean configuration files for the SESM bundled RADIUS server. The aaa.properties file is a sample profile file.

Profile File Requirements

The SESM bundled RADIUS server requires a profile file in MERIT format.

The default configuration points to the aaa.properties file, a sample MERIT file installed with RDP. You can change this to point to a different file by changing the aaaFilename attribute in the AAA MBean. For example, you could point to the aaa.properties file in the NWSP directory.

The bundled SESM RADIUS server loads the contents of the profile file during startup. You must restart the RADIUS server if:

- You change the aaaFilename attribute to point to a different file.
- You make any changes to the profiles in the referenced file.

Communication with Components in the Deployment

Follow instructions in the *Cisco Subscriber Edge Services Manager Deployment Guide* to configure other components in the deployment to communicate with this RADIUS server.

- In a RADIUS mode deployment, the following components must communicate with the RADIUS server:
  - SESM web portal (NWSP)
  - SSG
- In an SPE mode deployment, you might configure the RDP to proxy to a RADIUS server. The SESM Proxy Server, described in the next section, is the SESM bundled RADIUS server configured to accept proxied requests from the RDP.

SESM SSG Simulator

The SESM SSG Simulator is installed by default in both RADIUS and SPE mode installations. This simulator provides a way to test a SESM deployment with actual authentication and service connection services when a Cisco device that can host a real SSG is not available. You can configure the SSG simulator in SESM RAD IUS or SPE deployments.

None of the SESM installation parameters affects the default configuration of the SESM bundled RADIUS server. However, you can edit the ssgsim.xml file shown below to change the installed configuration.

The installed location of files that support the SSG Simulator is the tools directory under your SESM installation directory:

```
tools
    config
        erp.xml
        ssgsim.xml
```