Chapter 6

Defining an Initial Configuration

After you install the SDX software, you configure initial settings to get a basic configuration up and running. This chapter describes how to set up an initial configuration. The chapter contains the following sections:

Configuring Initial Component Settings and Starting Components

After you install the SDX software for the first time or upgrade an installation, you configure and start various SDX components.

To perform the initial basic configuration for an SDX environment:

1. Start the directory, and optionally load sample data.

   If you use the OpenLDAP directory server, see *Using OpenLDAP Directory Server* on page 80. If you are using another directory server, see ***SDX Integration Guide: Network Devices, Directories, and RADIUS Servers***.

2. If your configuration includes a RADIUS server, start it.

   See ***SDX Integration Guide: Network Devices, Directories, and RADIUS Servers*** for information about starting RADIUS servers.

3. Configure SAE local properties.

   See *Chapter 7, Setting Up an SAE*.

4. Obtain and install your SDX software license.

   See *Chapter 8, Installing and Configuring Licenses*.

5. If you are using a license server, start it.

   See *Starting the License Server* on page 105.

6. Configure and start the SDX SNMP Agent.

   See *Chapter 10, Configuring and Starting the SDX SNMP Agent*.

7. Start the SAE.

   See *Starting and Operating the SAE* on page 82.

8. If you use firewall software on your internal network, review firewall access for SDX components.

   See *Reviewing Port Settings for SDX Components* on page 83.

9. Configure other SDX components, see *Next Steps* on page 85.

Saving Logging Information for an SDX Component

Many SDX server processes (including the SAE server, NIC host server, SNMP agent server, and the license server) have been modified to use a daemon wrapper. The daemon wrapper script writes the output of its child process to the files *<server-install-dir>/stdout* and *<server-install-dir>/stderr*. For example, in the SAE these files are located by default in the */opt/UMC/sae/stdout* and */opt/UMC/sae/stderr* directories. The files include timestamps.

You can rotate these files without stopping the server process. The rotation method uses the standard UNIX method for reopening log files: When you want to rotate the logs, rename the current file and then send a SIGHUP signal to the process. The process ID is stored in the file *<server-install-dir>/var/run/daemon.pid*. For example in SAE, this file is located at */opt/UMC/sae/var/run/daemon.pid*. You can automate log rotation with system tools, such as **logadm** (Solaris 9) or **rotatelog**, see

http://www.sunfreeware.com

Using OpenLDAP Directory Server

Use the following procedures if you installed the OpenLDAP directory server and add-on (UMColdap and UMColdapa) packages. For information about OpenLDAP, see the OpenLDAP Web site at:

http://www.openldap.org

NOTE: The OpenLDAP directory and add-on packages do not require configuration beyond the initial installation.

Starting the OpenLDAP Directory Server

To start the OpenLDAP directory server:

1. On the host on which the OpenLDAP Directory Server is installed, log in as `root` or as an authorized nonroot admin user.

2. Start the OpenLDAP Directory Server from its installation directory

   /opt/UMC/openldap/etc/ldap start

Stopping the OpenLDAP Directory Server

To stop the OpenLDAP directory server:

1. On the host on which the OpenLDAP Directory Server is installed, log in as `root` or as an authorized nonroot admin user.

2. Stop the OpenLDAP Directory Server from its installation directory

   /opt/UMC/openldap/etc/ldap stop

Monitoring the OpenLDAP Directory Server

To display the status of the OpenLDAP directory server:

1. On the host on which the OpenLDAP Directory Server is installed, log in as `root` or as an authorized nonroot admin user.

2. Stop the OpenLDAP Directory Server from its installation directory

   /opt/UMC/openldap/etc/ldap status

   If the directory is running, the following message appears:

   SLDAPD is running

Loading the OpenLDAP Base and Sample Data

After you start OpenLDAP, you have three options for loading base and sample data into the directory:

- You can create the structure manually by using SDX Admin. See *Chapter 16, Using SDX Admin*, for details.
- You can load the base data alone without sample data.
- You can load the base data and one or more sets of sample data.

To load the base data alone:

1. Load the base data.

   /opt/UMC/openldap/etc/load

2. Enter **n** or press Enter when the program prompts you about whether you want to load the SNMP agent, the NIC configuration sample, and the sample data.

To load the base data and sample data:

1. Load the base data.

   /opt/UMC/openldap/etc/load

2. When the program prompts you about whether you want to load the SNMP agent or the NIC configuration sample, enter **y** to load, or enter **n** or press Enter to reject loading.

3. Enter **y** when the program prompts you about whether you want to load the sample data.

4. Enter the appropriate number for one of the sample data sets to be loaded.

Starting and Operating the SAE

Starting the SAE is the final step in the SDX software installation and basic configuration process. Before you configure and start the SAE, make sure that you have completed the following:

- Installed and configured the supporting software.
- Installed, configured, and started the directory
- (Optional) Installed, configured, and started RADIUS servers.
- Started the directory, RADIUS, and license servers.
- Configured local properties for the SAE. See *Chapter 7, Setting Up an SAE*.

By default, the SAE sends log events to the system log. You can also enable file loggers to write logs to text files. See *SDX Monitoring and Troubleshooting Guide, Chapter 2, Configuring Logging for SDX Components*, for more information.

Starting the SAE for the First Time

Starting the SAE for the first time requires root permission and a special script to add the virtual IP address.

To start the SAE from its host for the first time:

1. On the host on which the SAE is installed, log in as `root` or as an authorized nonroot admin user.

2. Start the SAE from its installation directory

   /opt/UMC/sae/etc/saeroot start

Whenever the host subsequently reboots, the installed SDX server components are restarted automatically.

Starting the SAE After Initial Startup

Use this procedure to start the SAE anytime after its initial startup.

To start the SAE from its host after the first time:

1. On the host on which the SAE is installed, log in as `root` or as an authorized nonroot admin user.
2. Start the SAE from its installation directory

   /opt/UMC/sae/etc/sae start

Monitoring the SAE

To verify that the SAE is running:

1. On the host on which the SAE is installed, log in as `root` or as an authorized nonroot admin user.
2. Display the status of the SAE from its installation directory

   /opt/UMC/sae/etc/sae status

   The system responds with a status message.

Stopping the SAE

To stop the SAE:

1. On the host on which the SAE is installed, log in as `root` or as an authorized nonroot admin user.
2. Stop the SAE from its installation directory

   /opt/UMC/sae/etc/sae stop

Reviewing Port Settings for SDX Components

If you use firewall software within your internal network, ensure that firewall settings allow traffic to and from components in your SDX environment. Table 13 lists the default port settings for SDX components.

For information about default port settings for applications in the SDX application library, see *Chapter 1, Installing the SDX Applications* in the *SDX Application Library Guide*.

Table 13: Default Port Settings for SDX Components

Component	Type of Communication	Default Port Setting
Applications, such as portals, that use the SAE Common Object Request Broker Architecture (CORBA) remote application programming interface (API)	CORBA remote API connections to the SAE.	TCP 8801
Cable modem termination system (CMTS) devices	Connection requests.	TCP 3918
Sample residential portal with Tomcat[a]	Starting Tomcat server.	TCP 8005
	Apache JServ Protocol (AJP) requests for Tomcat.	TCP 8009
	Responses to incoming HTTP requests from Tomcat. This port is an alternative to port 80.	TCP 8080)
JBoss[b]	Remote method invocation (RMI) requests.	TCP 1099
	Communications for the Java Naming and Directory Interface (JNDI).	TCP 1100
License server	Messages from SAEs to the license server. All SAEs in a configuration must be able to reach the license server.	TCP 9000
LDAP	Communications between LDAP and other components in an SDX environment, such as the SAE, NIC, and SNMP.	TCP 389
Network information collector (NIC)	Communications between the NIC host and components, such as portals, that use the NIC. All components that use NIC resolution must be able to reach the NIC host.	TCP 8810
RADIUS	Communications between RADIUS and the SAE.	UDP 1812
	Communications between RADIUS and the SAE for RADIUS accounting.	UDP 1813
Redirect engine	Redirection requests.	TCP 8800
SAE	Common Open Policy Service (COPS) connection from JUNOSe routers.	TCP 3288
	Blocks Extensible Exchange Protocol (BEEP) connection from JUNOS routers.	TCP 3333
	BEEP with Transport Layer Security (TLS)	TCP 3434
	Session store data replication.	TCP 8820
SAE Web Admin	Secure HTTP.	TCP 8443

Table 13: Default Port Settings for SDX Components (continued)

Component	Type of Communication	Default Port Setting
SNMP agent	SNMP communications between SNMP subagents and the master SNMP agent.	UDP 8030
	SNMP get and set messages.	UDP 161
	SNMP traps.	UDP 162

[a] For more information about ports that Tomcat uses, see http://jakarta.apache.org/tomcat

[b] For more information about ports that JBoss uses, see http://www.jboss.org/products/jbossas

In addition, we recommend that TCP port 123 be open for the Network Time Protocol (NTP). We recommend that you configure NTP to synchronize time on the network. See the documentation for the NTP server for your system.

Enabling Display of Help Topics for SDX Configuration Tools

In SDX Configuration Editor, SDX Admin, and SDX Policy Editor you can display information about how to use the application from the Help > Online Help or the Help > Help Contents menu.

To view the online Help:

- Ensure that a PDF viewer is installed on the Solaris system.

  You can install the UMCxpdf package in the SDX software distribution, or use another PDF viewer that is installed on your system. If you use a PDF viewer other than xpdf, ensure that the PDF viewer is registered on the Solaris system.

To view the online Help for SDX Configuration Editor:

1. Ensure that a Web browser is installed on the Solaris system.
2. Ensure that the xpdf viewer is registered with your Web browser.

   For information about how to register a PDF viewers with your Web browser, see the documentation for your Web browser.

Next Steps

If you are upgrading the SDX software from a previous release, return to *Chapter 5, Installing the SDX-300 Software*, and complete the upgrade procedure.

After you create the basic SDX configuration for the first time, or after you finish the upgrade procedure, you can configure other SDX components and establish configurations for service providers and enterprises. Table 14 lists the principle SDX components that you can configure and names the chapters that provide information about configuring the component.

Table 14: Configuration Information for Other SDX Components

Component	Document
Secure Web certificates for SAE Web Admin	*SDX Monitoring and Troubleshooting Guide, Chapter 6, Monitoring and Managing SAE Data*
LDAPS connections between SDX components and the directory	*SDX Integration Guide: Network Devices, Directories, and RADIUS Servers, Chapter 8, Configuring LDAPS for SDX Components*
License server	*Chapter 9, Customizing and Managing the License Server*
SNMP agent	*SDX Monitoring and Troubleshooting Guide, Chapter 4, Using the SNMP Agent*
SAE	*SDX Network Guide: SAE, Juniper Networks Routers, and NIC, Chapter 1, Overview of the SAE*
Logging	*SDX Monitoring and Troubleshooting Guide, Chapter 2, Configuring Logging for SDX Components*
Network information collector (NIC)	*SDX Network Guide: SAE, Juniper Networks Routers, and NIC, Chapter 5, Locating Subscriber Information*
Web applications	*Chapter 11, Installing Web Applications*
Services	*SDX Services and Policies Guide, Chapter 1, Managing Services*
Subscribers and subscriptions	*SDX Subscribers and Subscriptions Guide, Chapter 8, Configuring Subscribers and Subscriptions*
Policies	*SDX Services and Policies Guide, Chapter 5, Configuring and Managing Policies*
Residential portal	*SDX Subscribers and Subscriptions Guide, Chapter 10, Installing and Configuring the Sample Residential Portal*
Enterprise Service Portals	*SDX Subscribers and Subscriptions Guide, Chapter 17, Installing and Configuring Enterprise Service Portals*