

Chapter 7

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:

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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 98. If you are using another directory server, see *SDX Integration Guide*.

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

See *SDX Integration Guide* for information about starting RADIUS servers.

3. Configure SAE local properties.

See *Chapter 8, Configuring SAE Local Properties*.

4. Obtain and install your SDX software license.

See *Chapter 9, Installing and Configuring Licenses*.

5. If you are using a license server, start it.
See *Operating the License Server* on page 124.
6. Configure and start the SDX SNMP Agent.
See *Chapter 10, Configuring and Starting the SDX SNMP Agent*.
7. Start the SAE.
See *Starting the SAE* on page 100.
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 101.
9. Configure other SDX components, see *Next Steps* on page 102.

Rotating Installation Log Files

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 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.

Operating the OpenLDAP Directory Server

The following list shows the commands to start, stop, and display status information for OpenLDAP.

- To start the OpenLDAP directory server:

```
/opt/UMC/openldap/etc/ldap start
```

- To stop the OpenLDAP directory server:

```
/opt/UMC/openldap/etc/ldap stop
```

- To display the status of the OpenLDAP directory server:

```
/opt/UMC/openldap/etc/ldap status
```

If the directory is running, the following message appears:

```
SLDAP 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 13, 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 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 8, Configuring SAE Local Properties*.

Starting the SAE 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:

```
/opt/UMC/sae/etc/saeroot start
```

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

```
/opt/UMC/sae/etc/sae start
```

- To verify that the SAE is running:

```
/opt/UMC/sae/etc/sae status
```

- To stop the SAE:

```
/opt/UMC/sae/etc/sae stop
```

Whenever the host subsequently reboots, the installed SDX server components are restarted automatically. For more information about the SAE, see *SDX Components Guide, Vol. 1*.

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 Components Guide, Vol. 1, Chapter 10, Configuring Logging for SDX Components*, for more information.

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 16 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 16: 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

Table 16: Default Port Settings for SDX Components (continued)

Component	Type of Communication	Default Port Setting
SAE	Common Open Policy Service (COPS) connection from JUNOSe routers.	TCP 3288
	Blocks Extensible Exchange Protocol (BEEP) connection from JUNOS routers.	TCP 3333
	Session store data replication.	TCP 8820
SAE Web Admin	Secure HTTP.	TCP 8443
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.

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 17 lists the principle SDX components that you can configure and names the chapters that provide information about configuring the component.

Table 17: Configuration Information for Other SDX Components

Component	Document
Secure Web certificates for SAE Web Admin	<i>SDX Components Guide, Vol. 1, Chapter 3, Starting and Managing the SAE</i>
LDAPS connections between SDX components and the directory	<i>SDX Integration Guide, Chapter 8, Configuring LDAPS for SDX Components</i>
License server	<i>SDX Components Guide, Vol. 1, Chapter 7, Using the License Server</i>
SNMP agent	<i>SDX Components Guide, Vol. 1, Chapter 8, Using the SNMP Agent</i>
SAE	<i>SDX Components Guide, Vol. 1, Chapter 1, Overview of the SAE</i>
Logging	<i>SDX Components Guide, Vol. 1, Chapter 10, Configuring Logging for SDX Components</i>

Table 17: Configuration Information for Other SDX Components (continued)

Component	Document
Network information collector (NIC)	<i>SDX Components Guide, Vol. 2, Chapter 12, Locating Subscriber Information</i>
Web applications	<i>Chapter 11, Installing Web Applications</i>
Services	<i>SDX Objects Guide, Chapter 1, Managing Services</i>
Subscribers and subscriptions	<i>SDX Objects Guide, Chapter 3, Managing Subscribers and Subscriptions</i>
Policies	<i>SDX Objects Guide, Chapter 8, Configuring and Managing Policies</i>
Residential portal	<i>SDX Components Guide, Vol. 2, Chapter 2, Installing and Configuring the Sample Residential Portal</i>
Enterprise Service Portals	<i>SDX Components Guide, Vol. 2, Chapter 7, Installing and Configuring Enterprise Service Portals</i>

