

Chapter 1

Installing the SDX Applications

This chapter provides the installation instructions for the SDX applications.

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Software CDs

Juniper Networks provides the SDX applications and associated documentation on the *SDX Application Library CD*. This CD contains the component software, supporting applications, and *Release Notes* needed to install and operate the SDX application library. We refer to this CD throughout this book as the application library CD.

The applications on the CD are distributed either as Solaris packages or Web applications. Table 4 lists the applications provided on the CD.

Table 4: Applications on the application library CD

Application	Type of Application	Directory on Application Library CD
Admission Control Plug-In	Solaris package	solaris
Dynamic Service Activator	Web application	webapp
Inventory Importer	Solaris package	solaris
Subscriber Manager	Web application	webapp
VTAs	Solaris package	solaris
Workflow	Solaris package	solaris

The SDX core software is distributed on the *SDX-300 Service Deployment System Software CD*, referred to as the SDX software CD. The SDX software CD includes components that you will need for proper operation of the SDX applications, such as Java Runtime Environment (JRE) or the Tomcat Web application server. See the *SDX Software Basics Guide* for complete information on installing the SDX core software.

Installing the Applications

Before you install any SDX application, you should first read *SDX Software Basics Guide, Chapter 5, Installing the SDX-300 Software*. The information in that chapter provides a useful background for installing the SDX applications. It includes information on installing necessary Solaris patches to the installation host, root versus nonroot users, establishing users and groups for software administration, and other topics you should consider before installing an SDX application.

The SDX applications are distributed as Solaris packages or Web application archive (WAR) files.

Table 5 lists the components for each application, their Solaris package names, and the directories where each component is installed by default. In Table 5, the directories listed are all subordinate to */opt/UMC*.

Table 5: Solaris packages and installation folders for application library

Application	Components Supplied With SDX	Package	Installation Directory
Admission Control Plug-In	Admission Control Plug-In	UMCacp	acp
	Java Runtime Environment	UMCjre	jre
	Python Runtime Environment (includes Python additional libraries)	SMCpython and UMCpyadd	python
VTAs	VTAs	UMCvtacnf.pkg	conf/vta
Workflow	Workflow engine	UMCwkf	wkf
	Workflow API documentation	UMCwkfdoc	wkf/sdk
	Object state manager	UMCosm	osm
	Object state manager for the Web	UMCosmint	tomcat
	Java Runtime Environment	UMCjre	jre
	Python Runtime Environment (includes Python additional libraries)	SMCpython and UMCpyadd	python

Installation Prerequisites

Consider the following before you begin installation of the SDX applications.

Solaris Patches

Be sure that the installation host is up to date with Sun's recommended patches for the Solaris operating system. See *SDX Software Basics Guide, Chapter 5, Installing the SDX-300 Software* for information on installing patches.

ACP

The Admission Control Plug-In (ACP) application uses the SAE plug-in interface. You can install the ACP on the same host as the SAE; doing so will simplify the SDX configuration. However, you may improve the performance of the SDX network by installing ACP on a separate host from the SAE.

Workflow

You must not install the Workflow application on the same host where the SAE is installed.

You must install Tomcat as your Web application server before you install the UMCosmint package. If you do not do so, some necessary directories will not exist, and the installation will fail. See *Notes on the Installation* on page 6 for more information on Tomcat installations.

Installing Application Packages

To install an application library package:

1. On the UNIX host where you will install the application library software, log in as root.
2. Place the application library CD in the CD drive.
3. Launch the **pkgadd** tool.

```
pkgadd -d /cdrom/cdrom0/solaris/
```

The tool displays the available Solaris packages.

4. Enter the desired package(s).

You can enter the name or number for a single package, multiple packages separated by spaces, or the keyword **all** to select all the packages.

The tool displays the license agreement.

5. Press < Enter > to move through the agreement, and then enter **y** to accept the license agreement when prompted by the tool.
6. Follow the prompt directions to accept the installation directory for the package, to permit the use of superuser scripts required for the package, and so on.

Notes on the Installation

The following information may be useful when you install a package.

You can use the UNIX **swmtool** command to install the application packages, but this method requires that you install each application separately. If you use **admintool** directly, you can install multiple applications at the same time.

The default installation directory for the Web application server (Tomcat) when you install it from the UMCtomcat package is */opt/UMC/tomcat*. The absolute path to the shared library is then */opt/UMC/tomcat/shared/lib*. The relative path to the shared library is *shared/lib*.

The Inventory Importer package includes its own instance of Tomcat, which is installed into the same location as Inventory Importer, */opt/UMC/invimp* by default. Other applications can use this Tomcat instance if they do not interfere with the performance of the Inventory Importer and vice-versa.

Install only a single instance of Tomcat on a given host. If you install Inventory Importer and some other Web application that uses Tomcat, do not install the UMCtomcat package. The other application can use the Tomcat instance installed via the UMCinvimp package.

The library directory for Tomcat is shared by all applications using Tomcat on that host. It is located subordinate to Tomcat's installation directory.

The relative path of the *webapps* directory of the Tomcat is simply *webapps*.

Uninstalling Packages

Use the **pkgrm** command to uninstall application library components. For example, to remove the ACP package, issue the following command, and respond as prompted by the process:

```
pkgrm UMCacp
```

Installing Web Applications

We supply one WAR file for each Web application on the application library CD. Web applications must be deployed in a Web application server. For more information on Web applications, see *SDX Software Basics Guide*, Chapter 11, *Installing Web Applications*.

The exact way you install Web applications depends on the Web application server you are using and the particular Web application.

The following procedure provides general steps for installing a Web application:

1. Install the Web application server on the host.
2. If the Web application requires configuration of a properties file, complete the following procedure:
 - a. Copy the WAR file from the application library CD to a temporary folder on the host.
 - b. Unpack the WAR file.

For information on unpacking and packing WAR files, see <http://java.sun.com/j2se/1.4/docs/guide/jar/>.
 - c. Edit the properties file for the Web application.
 - d. Repack the WAR file.
3. Deploy the WAR file by using the procedure appropriate for your Web application server.

For information about deploying WAR files, see the documentation for your Web application software.

Installing Web Applications Inside JBoss

We provide the JBoss Web application server on the SDX software CD. JBoss is an open-source Java application server that provides full support for J2EE APIs. To deploy a Web application inside JBoss:

1. Install the *UMCjboss* package from the SDX software CD.

See *SDX Software Basics Guide*, Chapter 5, *Installing the SDX-300 Software* for information on using the Solaris `pkgadd` utility to install the package.
2. During the installation, choose a JBoss configuration when prompted; typically choose the default configuration.
3. Customize the properties file for the Web application.

For instructions about configuring the property files for the SDX gateway Web applications, see Chapter 2, *Dynamic Service Activator* and Chapter 3, *Subscriber Manager*.

4. Deploy the WAR file by copying it into the JBoss *default/deploy* directory.

```
cp <filename>.war /opt/UMC/jboss/server/default/deploy
```

JBoss automatically starts the Web application when a new WAR file is copied into the deploy directory.

Removing Web Applications

The way you remove a Web application depends on the Web application server that you are using. Refer to the documentation on removing Web applications for your server.

Removing a Web Application from JBoss

To undeploy a Web application from JBoss, remove the WAR file from the JBoss *default/deploy* directory.