



# SARA Server 3.6.x Software Installation Instructions for System Release 2.7/3.7/4.2 Service Pack 2 Patch 9 and Later



# Please Read

## Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

# Notices

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# About This Guide

## Introduction

This document provides procedures for installing SARA Server software on the Application Server. This document also contains instructions for restoring the previous version of SARA Server software in the unlikely event that the upgrade is not successful.

**Important:** Use this document in conjunction with the release notes for the software version that you are installing. The release notes provide information about the software, such as new features, compatibility with system releases, and the installation media and tools.

## Scope

This document provides instructions for installing SARA Server software on the Application Server. It does not provide instructions for installing the SARA server hardware in your headend.

## Audience

This document is written for operators of digital cable television systems that use the SARA. System operators, field service engineers, and Cisco® Services engineers may also find the information in this document helpful.

## Document Version

This is the second formal release of this document.



# 1

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## Preparing to Install the Software

Before installing SARA Server software, there are several tasks you must complete to ensure a successful installation. This chapter provides instructions on how to complete these tasks. It also provides recommendations and prerequisites that are essential to a successful installation.

**Important:** Make certain that you are within a maintenance window when you stop the system components in this chapter and when you complete the procedures in Chapter 2, Installing the Software.

### In This Chapter

- Information You Should Know ..... 2
- Pre-Installation System Checks..... 3
- Stop System Components ..... 10
- Back Up the appdb Database ..... 21

## Information You Should Know

This section provides information you need to know before installing the software. Review the information in this section to ensure a successful installation.

### What Are the Site Requirements?

The procedures in this guide apply to systems running System Release (SR) 2.7/3.7/4.2 Service Pack 2 (SP2) Patch 9 or later along with Solaris 10.

### What Skills and Expertise Are Required?

System operators or engineers who upgrade the SARA server software need advanced knowledge of the UNIX vi editor. To install the software, you may need to use the UNIX vi editor to modify the parameters of some files. The UNIX vi editor is not intuitive. The instructions provided in this document are not a substitute for an advanced working knowledge of the vi editor.

### When Is the Best Time to Upgrade the Software?

The optimum time to upgrade your system is when you are least likely to intrude on subscribers' purchasing opportunities and least likely to impact your revenue-generating opportunities.

Traditionally, upgrades have been done during the night between 11:00 p.m. and 6:00 a.m. However, systems can be upgraded anytime during the day or night. You know your system and the habits of your subscribers better than anyone else. If you determine that there is a lot of xOD, VOD, or PPV revenue-generating activity on your system during the nighttime hours, you may opt to upgrade your system sometime during the day. For example, you may determine that there is little interactivity or few revenue-generating opportunities occurring in the early morning hours. This may be the best time to upgrade your system. Your subscriber base can continue to watch digital broadcasts (as long as the DHCT is not rebooted) and analog TV programs, without interruption, while the system is being upgraded.

## Pre-Installation System Checks

This section provides procedures for the following system checks to be completed before you begin installing SARA Server software. The following list summarizes these checks. The remainder of this chapter provides procedures for these checks.

- 1 Identify and locate the version of SAIaprsrv currently installed so that you have it readily available. Having this item at hand is helpful in the unlikely event that you experience a problem installing the software and need to restore the version of software that is currently installed.
- 2 Run the Doctor Report and correct any problems it may indicate.
- 3 Verify that your DBDS is stable.
- 4 Suspend the billing system and, if necessary, third-party (non-SA) applications.
- 5 Find out when the IPG collector will run so that you can ensure IPG data is correctly updated after the software is completely installed.

### Identify and Locate the Version of SAIaprsrv Currently Installed

Follow this procedure to identify the current version of SAIaprsrv package and locate it so it is readily available in the unlikely event you experience a problem installing the software. Should you experience a problem and need to restore the version of software currently installed on your system, you will need to reinstall the SAIaprsrv package.

**Note:** See *Roll Back the Software* (on page 46) for instructions on reinstalling this software package.

- 1 Locate the current Maintenance CD (3.1.14).
- 2 In an xterm window on the SARA Server type **pkginfo -l SAIaprsrv** and press **Enter**. The current SARA Server version displays.
- 3 Write the current SARA Server version here: \_\_\_\_\_
- 4 Backup the DNCS and Application Server file systems and database. The Application Server file system backup will be needed in the unlikely event that you experience a problem installing the software and need to restore the previous version of software and database. For assistance, go to *Back Up the File Systems* (on page 5) and *Back Up the Database* (on page 5).
- 5 Go to *Run the Doctor Report* (on page 4).

## Run the Doctor Report

Before you upgrade the SARA Server software, run the Doctor Report. Refer to *DBDS Utilities Version 6.1 Installation Instructions and DNCS Utilities User Guide* (part number 4020695) for detailed instructions.

### Introduction

The Doctor Report provides key system configuration data.

### How Long Does It Take?

On a typical system, the Doctor Report takes about 10 minutes to run.

### Running the Doctor Report

Follow the procedures in *DBDS Utilities Version 6.1 Installation Instructions and DNCS Utilities User Guide* (part number 4020695) to run the Doctor Report.

### Analyzing the Doctor Report

Refer to *DBDS Utilities Version 6.1 Installation Instructions and DNCS Utilities User Guide* (part number 4020695) for help in interpreting the data generated by the Doctor Report. If you need help resolving any issues reported by the Doctor Report, call Cisco Services.

### What's Next?

After you have run and analyzed the Doctor Report, and have corrected any problems it may indicate, back up the DNCS and SARA Server file systems if you have not already done so. For assistance, go to *Back Up the File Systems* (on page 5).

**Important:** Do not proceed with the other procedures necessary to install the software until you have run and analyzed the Doctor Report, and you have corrected any problems it may indicate.

## Back Up the File Systems

Perform a complete backup of the DNCS and Application Server file system now. Procedures for backing up the file system are contained in *DBDS Backup and Restore Procedures For SR 2.2 Through 4.3 User Guide* (part number 4013779). The backup procedures have been modified so that you no longer have to shut down the DNCS or the Application Server to complete the backup. If necessary, call Cisco Services to obtain a copy of these backup and restore procedures.

### Notes:

- Procedures for backing up the file system are found in the **Back up Procedures** chapter of the *DBDS Backup and Restore Procedures For SR 2.2 Through 4.3 User Guide* (part number 4013779).
- It may take up to 2 hours to back up a DNCS file system; you can usually back up an Application Server file system in about 30 minutes.
- When backing up the DNCS, use Maintenance CD 4.3 if you have installed SAIpatch 4.2.1.10. If you have not installed this Solaris patch, use Maintenance CD 3.1.14.
- Use the 3.1.1.4 Maintenance CD when backing up the Application Server.

### What's Next?

After backing up the DNCS and Application Server file systems, back up the DNCS Informix database. Go to *Back Up the Database* (on page 5).

## Back Up the Database

Perform a complete backup of the Informix database just before the beginning of the maintenance window. This ensures that you have the latest copy of the database before the start of the upgrade. For example, if this process typically takes 45 minutes to complete, then begin this process 45 minutes before the maintenance window begins.

Procedures for backing up the database are contained in *DBDS Backup and Restore Procedures For SR 2.2 Through 4.3 User Guide* (part number 4013779). If necessary, call Cisco Services to obtain a copy of these backup and restore procedures.

### What's Next?

After you back up the Informix database, go to *Verify DBDS Stability* (on page 6).

## Verify DBDS Stability

Before you upgrade the software, use this procedure on one or more test DHCTs to verify that your DBDS is stable. Your DBDS must be stable before you can upgrade the SARA Server software.

### Preconditions for Verifying DBDS Stability

Before you can verify DBDS stability, make sure that your test DHCTs meet the following conditions:

- Test DHCTs must be authorized for all third-party applications.
- Test DHCTs must not be authorized to view a pay-per-view (PPV) event without specifically buying the event.
- Test DHCTs must have a working return path and be capable of booting into two-way mode.

### Verifying DBDS Stability

After you have ensured that your test DHCTs meet the qualifications listed above, follow these steps to verify that your DBDS is stable.

**Important:** If this procedure fails, do not continue with this procedure. Instead, contact Cisco Services.

- 1 Perform a slow-and-fast boot on a test DHCT as follows:
  - a Boot a DHCT.  
**Note:** Do not press the power button.
  - b Access the Power On Self Test and Boot Status Diagnostic Screen on the DHCT and verify that all parameters, except UNcfg, display **Ready**.  
**Note:** UNcfg displays **Broadcast**.
  - c Wait 5 minutes.
  - d Press the power button on the DHCT. The DHCT powers on.
  - e Access the Power On Self Test and Boot Status Diagnostic Screen on the DHCT.
  - f Do all of the parameters, including UNcfg, display **Ready**?
    - If **yes**, ping the DHCT.
    - If **no**, contact Cisco Services.
- 2 Did the test DHCT receive the ping?
  - If **yes**, stage at least one new DHCT to the system operator's specifications.
  - If **no**, contact Cisco Services.

- 3 Did the newly staged DHCT successfully load the current client release software?
  - If **yes**, verify that the DHCT received at least 33 EMMs and its Entitlement Agent.
  - If **no**, contact Cisco Services.
- 4 Did the DHCT receive at least 33 EMMs and its Entitlement Agent?
  - If **yes**, verify there are 7 days of IPG data.
  - If **no**, contact Cisco Services.
- 5 Does the IPG display 7 days of valid and accurate data?
  - If **yes**, verify that the IPG supports multiple languages.
  - If **no**, contact Cisco Services.
- 6 Does the IPG support multiple languages?
  - If **yes**, verify that the PPV barkers appear correctly on the PPV channels.
  - If **no**, contact Cisco Services.
- 7 Do the PPV barkers appear on the PPV channels correctly?
  - If **yes**, verify that DHCTs can purchase a VOD event.
  - If **no**, contact Cisco Services.
- 8 Can the DHCT purchase a VOD event?
  - If **yes**, verify that VOD channels display correctly.
  - If **no**, contact Cisco Services.
- 9 Does the DHCT display SDV channels correctly?
  - If **yes**, verify that third-party applications load properly.
  - If **no**, Contact Cisco Services.
- 10 Do third-party applications load properly?
  - If **yes**, verify that EAS messages display properly.
  - If **no**, contact Cisco Services.
- 11 Does an EAS message generated from the DNCS display on the DHCT and is the audio portion of the message heard?
  - If **yes**, verify that you can generate an EAS message for the Emergency Alert Controller (EAC) itself. For assistance, go to *Configuring and Troubleshooting the Digital Emergency Alert System* (part number 4004455).
  - If **no**, contact Cisco Services.
- 12 Go to *Suspend the Billing System and Other Third-Party Applications* (on page 8).

## Suspend the Billing System and Other Third-Party Applications

Before you upgrade the SARA Server software, follow these instructions to stop the billing system and other third-party (non-SA) applications.

### Suspending Billing and Other Third-Party Applications

Before installing the software, suspend the billing system and any other third-party applications that communicate with the DNCS. Contact the billing vendor in order to suspend the billing interface. In addition, contact the providers of any third-party applications that your system supports. Follow their guidance in determining whether these third-party interfaces should be stopped as well.

### What's Next?

After you have suspended the billing system and any other third-party applications, determine when the IPG collector will run. Go to *Find Out When the IPG Collector Will Run* (on page 8).

## Find Out When the IPG Collector Will Run

Before installing the SARA Server software, use the procedure in this section to obtain the following information so you can determine which action to take to ensure IPG data is correctly updated after the installation is complete:

- Find out whether an IPG collection is currently active.
- Find out when an IPG collection is scheduled.

Obtaining this information can help you decide which of the following actions to take to ensure IPG data is correctly updated after the software is completely installed:

- Run the IPG collector manually after the installation is complete to ensure that IPG data is correctly updated.
- Allow the IPG collector to run automatically after the installation is complete to ensure that IPG data is correctly updated.

For example, if the IPG collector is scheduled to run at midnight and you are beginning to stop system components at 11:30 p.m., you will want to run the IPG collector manually after the installation is complete to prevent a missed or incomplete collection. On the other hand, if you are beginning to stop system components at 11:30 p.m. and the IPG collector is scheduled to run at 3:00 a.m., you will probably allow the collector to run automatically because you will have completed the installation before the start of the scheduled collection time.

### Finding Out When the IPG Collector Will Run

Complete the following steps to determine when the IPG collector will run.

- 1 From the DNCS Administrative Console, click the **Server Applications** tab.
- 2 Click **IPG**. The IPG Server List window opens.
- 3 Double-click the icon (📄) for the **IPG server**. The IPG collectors display beneath the IPG server icon.
- 4 Select the icon (📄) for the **IPG collector**, and click **File** and choose **Open**. The Set Up IPG Collector window opens.
- 5 Find the setting for the **Daily Collection Time** to determine when the collector is scheduled to run, or if a collection is currently running.

**Note:** Use this information to determine whether or not you should run the IPG collector manually or allow it to run automatically after the installation is complete. If a collection is in progress, allow it to finish running before proceeding to the next pre-installation task.

- 6 Do you have more than one IPG server (for example, an English and French server)?
  - If **yes**, repeat steps 3 to 5 for each additional IPG server. When you have finished, close all GUI and WUI windows and then go to *Stop System Components* (on page 10).
  - If **no**, close any open GUI or WUI windows, and then go to *Stop System Components* (on page 10).

## Stop System Components

Before installing the software, use the procedures in this section to stop system components in the proper order. Failing to stop system components in the order described in this section may cause you to encounter difficulties during the installation.

**Important:** System components must be stopped prior to installing SARA Server software.

### Stopping System Components

To stop system components, follow this process:

**Note:** Detailed instructions for each task shown here are provided later in this section.

- 1 If your system uses the Regional Control System (RCS) feature, stop the Remote Network Control Server (RNCS) processes at each site in your RCS. If your system does not support the RCS feature, skip this step.
- 2 Stop the Spectrum Network Management Service (NMS).
- 3 Stop SARA Server processes and cron jobs.
- 4 Stop DNCS processes and cron jobs.
- 5 Ensure no active database sessions are on the DNCS.

### Stopping RNCS Processes (If Necessary)

If your system uses the RCS feature, use one of the following methods to stop RNCS processes at each remote site in your RCS. If your system does not use the RCS feature, go to *Stopping Spectrum NMS* (on page 13).

- Use the **siteControl** command to stop RNCS processes at *each* site in your system, one site at a time. Go to *Stopping RNCS Processes at One Site* (on page 12).
- Use the **siteCmd** command to stop RNCS processes at *all* sites in your system. Go to *Stopping RNCS Processes at All Sites* (on page 11).

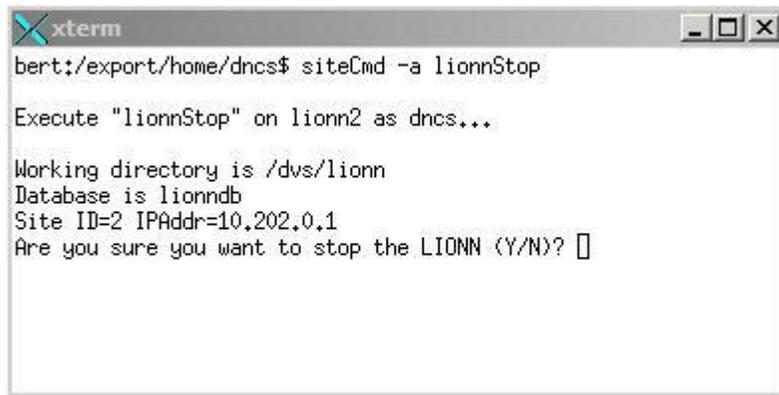


**CAUTION:**

When RNCS processes are stopped, two-way communication also stops at this site. This site will not be able to offer any PPV, VOD, other on-demand services, or other third-party applications during this time. In addition, this site will provide only limited IPG functionality, and you will be unable to stage DHCTs or update modulator/demodulator code.

**Stopping RNCS Processes at All Sites**

- 1 Open an xterm window on the DNCS as the dncs user.
- 2 To stop RNCS processes at all sites in your system, type **siteCmd -a lionnStop** and press **Enter**. The prompt "Are you sure you want to stop the LIONN?" appears.



```
xterm
bert:/export/home/dncs$ siteCmd -a lionnStop

Execute "lionnStop" on lionn2 as dncs...

Working directory is /dvs/lionn
Database is lionndb
Site ID=2 IPAddr=10.202.0.1
Are you sure you want to stop the LIONN (Y/N)? 
```

- 3 Type **Y** (yes) and press **Enter** to confirm that you want to stop the processes on all sites in your system. The system informs you that it is stopping LIONN Applications, and displays the command prompt for the DNCS user.
- 4 Follow the on-screen instructions to exit the utility. Then go to *Stopping Spectrum NMS* (on page 13).

### Stopping RNCS Processes at One Site

- 1 Open an xterm window on the DNCS as the dncs user.
- 2 To stop RNCS processes at each site in your system, one at a time, type **siteControl (host name of the RNCS)** and press **Enter**. For example if "houston" is the name of the RNCS host, you would type **siteControl houston**. A menu opens, similar to the following example, that allows you to stop the RNCS processes at this site.

```

siteControl: lionn1 (from conanv880)
-----
SNMP ExAgent V1.1 (c) 1997. Licensed Version.
-----
| Hostname: lionn1, UpTime: 191:11:22:00
| -> SysApp Agent: Main Menu
-----
[ 1 ] Startup / Shutdown All Element Groups
[ 2 ] Startup / Shutdown Single Element Group
-----
[ 3 ] Define / Update Element Group
[ 4 ] Define / Update Grouped Elements
[ 5 ] Update Agent Executive Parameter.
-----
[ L ] List Connection Paramaters.
[ X ] Exit Menu Utility.
-----
Enter a menu option number, or 'X' to exit.
Enter Menu Option> 

```

- 3 Type **1** to select **Startup/Shutdown All Element Groups** and press **Enter**. The system prompts you to select the target state of the element groups, similar to the following example.

```

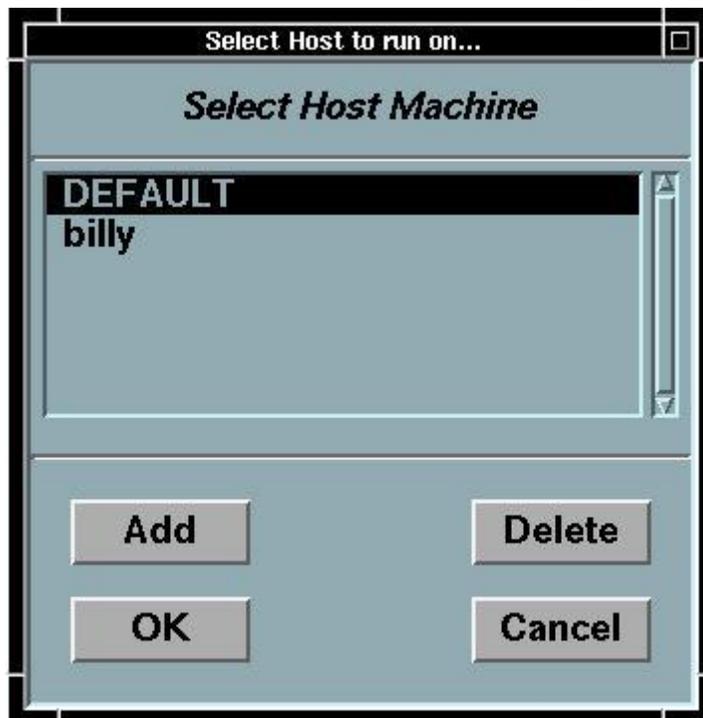
siteControl: lionn1 (from conanv880)
-----
SNMP ExAgent V1.1 (c) 1997. Licensed Version.
-----
| Hostname: lionn1, UpTime: 192:19:58:00
| -> SysApp Agent: Main Menu
| --> Set Master Target State for System
-----
Enter master target state for system, in the range 1-4.
Possible values are:
-----
[ 1 ] stopped(1)
[ 2 ] running(2)
[ 3 ] paused(3)
[ 4 ] disabled(3)
-----
Default value: running(2)
(Enter Number / X=Return To Menu)> 

```

- 4 Type **1** to select **stopped**, and press **Enter**. A confirmation prompt appears.
- 5 Type **y** to select **yes**, and press **Enter**. The main menu displays.
- 6 Type **2** and press **Enter**. The system displays the status of each process.
- 7 When all processes show a status of **stopped**, follow the on-screen instructions to exit the utility.
- 8 Have you stopped RNCS processes at all sites in your RCS?
  - If **yes**, stop Spectrum NMS. Go to *Stopping Spectrum NMS* (on page 13).
  - If **no**, repeat steps 2 to 7 to stop the processes on another RNCS at another site in your system.

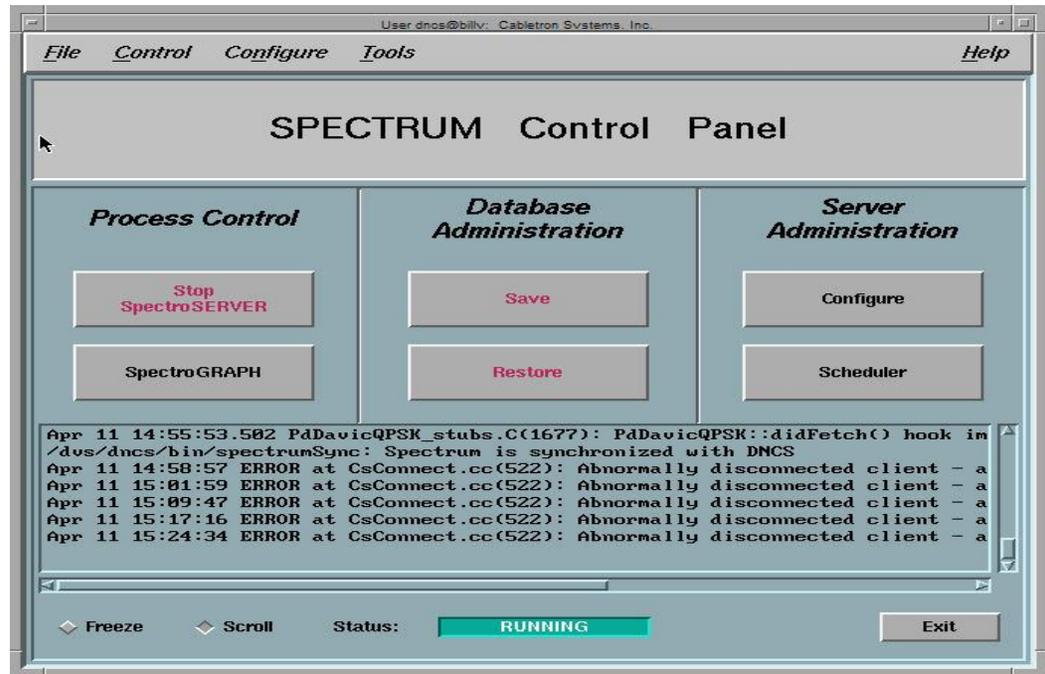
## Stopping Spectrum NMS

- 1 On the DNCS Administrative Console Status window, click **Control** in the NMS area. The Select Host Machine window opens, similar to the following example, with the Spectrum Control Panel in the background.



## Chapter 1 Preparing to Install the Software

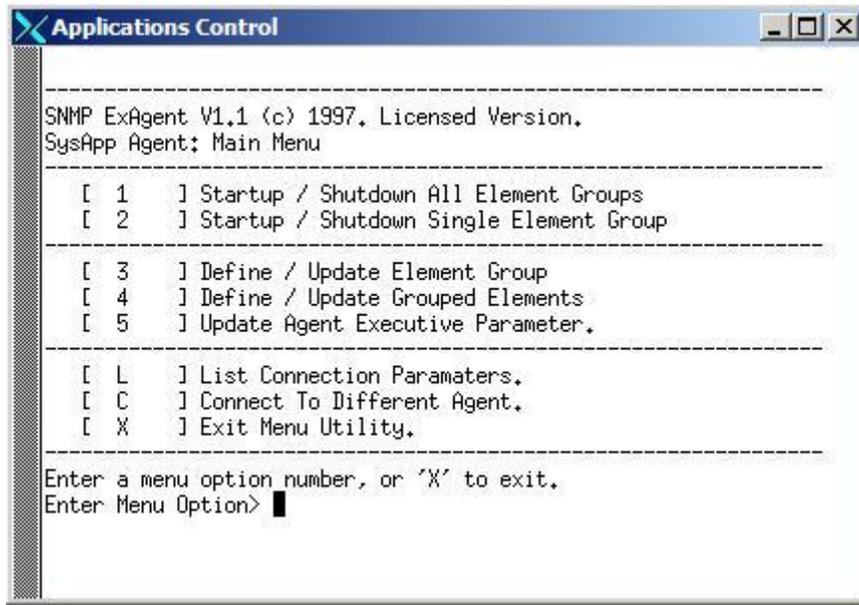
- Click **OK** to accept the default. The Select Host Machine window closes and the Spectrum Control Panel window moves to the forefront and displays a Status of Running.



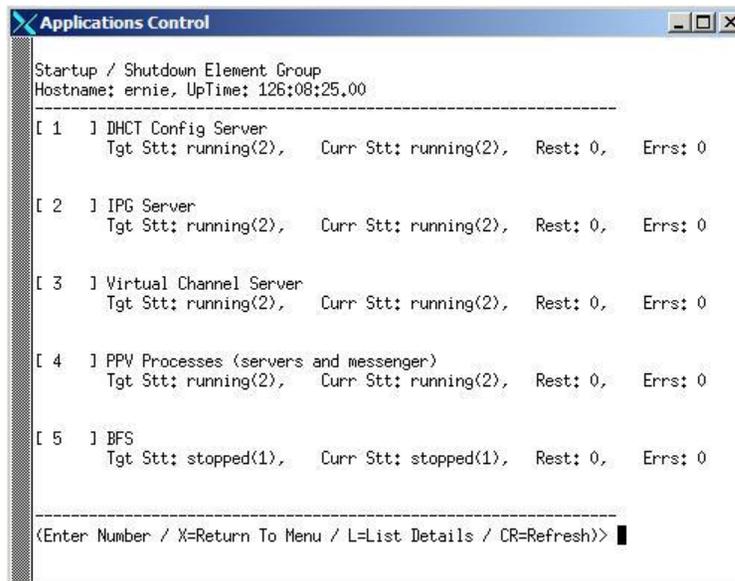
- Click **Stop SpectroSERVER**. A confirmation window opens.
- Click **OK**. The confirmation window closes and the system begins shutting down the Spectrum NMS. When finished, the Status on the Spectrum Control Panel window changes to Inactive.
- Click **Exit**. A confirmation window opens.
- Click **OK**. The confirmation and Spectrum Control Panel windows close.
- Go to *Stopping SARA Server Processes* (on page 15).

## Stopping SARA Server Processes

- 1 From the SARA server console, open an xterm window.
- 2 At the prompt, type **appControl** and press **Enter**. The Applications Control window opens, similar to the example shown here.



- 3 Type **2** to select **Startup/Shutdown Single Element Group** and press **Enter**. A list appears of all the SARA Server processes and shows their current working states (running or stopped).



- 4 Click the middle mouse button and select **App Serv Stop**. The SARA Server begins shutting down all of its processes. This takes approximately 2 minutes to complete.
- 5 On the Applications Control window, press **Enter** to update the working states of the SARA Server processes.

**Notes:**

- Continue to press **Enter** every few seconds until all processes show **Curr Stt: stopped(1)**.
  - You will not see a status message while the processes are shutting down.
- 6 When all processes show **Curr Stt: stopped(1)**, follow the on-screen instructions to close the Applications Control window.
  - 7 Close any windows that may be open on the SARA Server, except the xterm window.
  - 8 Close all remote connections to the SARA Server, and then go to *Stopping the cron Jobs on the SARA Server* (on page 16).

## Stopping the cron Jobs on the SARA Server

- 1 If you have not already done so, log on to the DNCS as **root**.
- 2 From an xterm window on the DNCS type **rsh appservatm** and press **Enter** to initiate a remote logon to the Application Server.
- 3 Type **pgrep -fl cron** and then press **Enter**. The DNCS displays the cron process ID (PID).

**Examples:** The following examples are examples of sample output. Your output is likely to be different.

- If the cron process is running without any child processes, you should see something similar to this example:

```
pgrep -fl cron
209 /usr/sbin/cron
```

- If the cron process has spawned a child process, you should see something similar to this example:

```
pgrep -fl cron
209 /usr/sbin/cron
14651 sh -c /export/home/dnccs/test/tst 2>&1
14652 sh -c /export/home/dnccs/tst2 2>&1
```

**Note:** The cron process may have spawned multiple child processes.

- 4 Use the cron PID from step 3 and type **ptree <PID>** and press **Enter**. The DNCS displays the process tree of all cron processes.

- 5 Did the results from step 4 only include `/usr/sbin/cron`?
  - If **yes**, type `svcadm -v disable -s cron` and press **Enter**.
  - If **no**, (results from step 4 show multiple cron processes) type:  
`kill -9 <PIDs>` and press **Enter**.  
**Important:** List the PIDs in reverse order.  
**Example:** `kill -9 14652 14651 209`

**Note:** If the results from step 4 did not show `/usr/sbin/cron`, skip the rest of this section and go to *Ensuring No Active Database Sessions on the DNCS* (on page 19).
- 6 To confirm that the cron jobs have stopped, type `pgrep -fl cron` and press **Enter**.  
**Note:** The "l" in "fl" is a lowercase "L".  
**Result:** The command prompt should be the only item displayed; no processes should be displayed.
- 7 If the results from step 6 show that the cron process is still running, repeat steps 4 through 6.  
**Note:** Call Cisco Services for assistance, if necessary.
- 8 Type `exit` and press **Enter** to close the remote session and return to the DNCS.

## Stopping the DNCS Processes

- 1 Close all remote connections to the DNCS.
- 2 On the DNCS, click the middle mouse button and select **DNCS Stop**. A confirmation window opens.
- 3 Click **Yes** to confirm. The DNCS begins shutting down all of its processes. This takes approximately 2 minutes to complete.
- 4 Open an xterm window on the DNCS.
- 5 At the prompt, type `dncsControl` and press **Enter**. The DNCS Control window opens.
- 6 Type `2` to select **Startup/Shutdown Single Element Group** and press **Enter**. A list appears of all the DNCS processes and shows their current working states (run or stop).
- 7 On the DNCS Control window, press **Enter** to update the working states of the DNCS processes. Continue to press **Enter** every few seconds until all processes in the Current State column show **stop(1)**.  
**Note:** You will not see a status message while the processes are shutting down.
- 8 When all processes in the Current State column show **stop(1)**, follow the on-screen instructions to close the DNCS Control window.
- 9 Close any GUI or WUI windows that may be open on the DNCS, except the xterm window you are working in.

- 10 Go to *Stopping the cron Jobs on the DNCS* (on page 18).

## Stopping the cron Jobs on the DNCS

**Note:** A cron job is a program that runs automatically without specific user intervention.

- 1 Are you logged into the DNCS as root user?
  - If **yes**, go to step 5.
  - If **no**, go to step 2.
- 2 Open an xterm window on the DNCS.
- 3 At the prompt, type **su -** and press **Enter**. A password prompt appears.
- 4 Type the root user password and press **Enter**. A prompt for the root user appears.
- 5 From the root user prompt, type **pgrep -fl cron** and press **Enter**. The DNCS displays the cron process ID (PID).

**Example:** The following are only examples of sample output. Your output is likely to be different.

- If the cron process is running without any child processes, you should see something similar to this example:

```
pgrep - fl cron
209 /usr/sbin/cron
```

- If the cron process has spawned a child process, you should see something similar to this example:

```
pgrep - fl cron
209 /usr/sbin/cron
14651 sh -c /export/home/dnccs/test/tst 2>&1
14652 sh -c /export/home/dnccs/tst2 2>&1
```

**Note:** The cron process may have spawned multiple child processes.

- 6 Use the cron PID from step 5 and type **ptree <PID>** and press **Enter**.
- 7 Does the resulting list only include **/usr/sbin/cron**?
  - If **yes**, type **svcadm -v disable -s cron** and then press **Enter**.
  - If **no**, (the results from step 6 show multiple cron processes), type **kill -9 <PIDS>** and press **Enter**.

**Important:** List the PIDs in reverse order.

**Example:** **kill -9 14652 14651 209**

**Note:** If the results from step 6 did not show **/usr/sbin/cron**, skip the rest of this section and go to *Ensuring No Active Database Sessions on the DNCS* (on page 19).

- 8 To confirm that the cron jobs have stopped, type **pgrep -fl cron** and press **Enter**. The command prompt should be the only item displayed; no processes should be displayed.  
**Note:** the “l” in “fl” is a lowercase “L.”
- 9 Is the pgrep process the only process that is listed?
  - If **yes**, go to *Ensuring No Active Database Sessions on the DNCS* (on page 19).
  - If **no**, call Cisco Services.
- 10 Close all DNCS GUIs and Web UIs.  
**Important:** Because DNCS GUIs and Web UIs have a connection into the database, all GUIs and Web UIs must be closed.

## Ensuring No Active Database Sessions on the DNCS

**Note:** You should still be logged into the DNCS as root user.

- 1 Are you logged into the DNCS as root user?
  - If **yes**, go to step 5.
  - If **no**, go to step 2.
- 2 Open an xterm window on the DNCS.
- 3 At the prompt, type **su -** and press **Enter**. A password prompt appears.
- 4 Type the root user password and press **Enter**. A prompt for the root user appears.
- 5 From a root user prompt, type **. /dvs/dnCS/bin/dnCSSetup** and press **Enter**. The system establishes the dnCS user environment followed by a prompt.  
**Important:** Be sure to type a period (.) followed by a space at the beginning of this command.
- 6 Type **showActiveSessions** and press **Enter**. A message appears.
  - If the message indicates that the **INFORMIXSERVER is idle**, there are no active database sessions on the DNCS. Go to step 9.
  - If the message indicates that there are **active sessions**, type **killActiveSessions** and press **Enter**. The system removes all active sessions from the database. Continue with the next step in this procedure.
- 7 Type **showActiveSessions** again and press **Enter** to confirm that there are no active sessions.
- 8 Did a message appear indicating that there are active sessions?
  - If **yes**, contact Cisco Services.
  - If **no**, there are no active database sessions on the DNCS.

## Chapter 1 Preparing to Install the Software

- 9 From an xterm window on the Application Server, type **appKill** and then press **Enter**. The initd process on the Application Server stops.
- 10 From an xterm window on the DNCS, type **dncsKill** and then press **Enter**. The initd process on the DNCS stops.
- 11 Now that you have confirmed that there are no active database sessions on the DNCS, go to *Back Up the appdb Database* (on page 21).

## Back Up the appdb Database

In this section you will unload the appdb. This is done in the unlikely event you have to roll back to the previous versions of the SARA software.

**Important:** This procedure will be performed on the DNCS server. Commands in this procedure must be run as **root** user.

- 1 Type **cd /dvs/backups** and press **Enter**. This is now the working directory.
- 2 Type **mkdir APPDB** and press **Enter** to create a new directory for the appdb.
- 3 Type **cd APPDB** and press **Enter**. This is now the working directory.
- 4 Type **dncsDbData -u -d appdb** and press **Enter**. You are asked to verify your selection.
- 5 Type **2** for Local Harddrive and press **Enter**. You are asked to verify your selection.
- 6 Type **Y** and press **Enter** to confirm your selection. You are prompted to enter the directory where the database will be unloaded.

**Note:** You should be in the `/dvs/backups/APPDB` directory.

- 7 Press **Enter** to unload the database to the current directory. You are prompted to confirm the directory path.

**Note:** If you are not in the `/dvs/backups/APPDB` directory, type `/dvs/backups/APPDB` and press **Enter**.

- 8 Type **Y** and press **Enter**. The database unload begins.

**Note:** If the appdb database unloaded successfully, you should see the following message displayed when the command finishes: **Process is completed**.

- 9 Did the appdb unload without error?
  - If **yes**, go to Chapter 2, *Installing the Software* (on page 23).
  - If **no**, contact Cisco Services for assistance.



# 2

## Installing the Software

### Introduction

This chapter provides procedures for installing the SARA Server software.

**Important:** Before completing any of the procedures in this chapter, make certain that you have first completed all of the procedures in Chapter 1, *Preparing to Install the Software* (on page 1).

### In This Chapter

■ Install the SARA Server Software.....	24
■ Verify SARA Server Versions .....	27
■ Set SARA Server Environment Variables.....	29
■ Restart System Components .....	31
■ Complete System Validation Tests.....	39

## Install the SARA Server Software

### Before You Begin

Before you install the new software, verify that you have the CDs for the previous versions of SARA Server code in case you need to roll back.

### Installing the Software

**Note:** It should take about 15 minutes to install the software onto the SARA Server.

- 1 Open an xterm window on the SARA server. A prompt appears.
- 2 From a prompt on the SARA Server xterm window, type **su -** and press **Enter**. A password prompt appears.
- 3 Type the root user password and press **Enter**. A prompt for the root user appears.
- 4 Place the CD containing the new SARA Server software version into the CD drive of the SARA Server.
- 5 Type **df -n** and press **Enter**. The presence of **/cdrom** in the output confirms that the cdrom is mounted.
- 6 Did the CD successfully mount?
  - If **no**, go to step 7.
  - If **yes**, go to step 14.
- 7 Type **/etc/init.d/volmgt stop** and press **Enter**.
- 8 Type **pgrep -fl vold** and press **Enter** to verify if a volume management process is running.
- 9 Does **/usr/sbin/vold** appear?
  - If **yes**, this indicates that a volume management process is running. Repeat step 7
  - If **no**, this indicates that a volume management process is not running. Go to step 10
- 10 Type **rmformat -l** and press **Enter**. This will display the Logical Node, which is the CD device you will mount.

**Example:** You should see output similar to the following example:

```
$ rmformat -l
Looking for devices...
  1. Volmgt Node: /vol/dev/aliases/cdrom0
     Logical Node: /dev/rdisk/c0t1d0s2
     Physical Node: /pci@1f,0/ide@d/sd@1,0
     Connected Device: MATSHITA DVD-ROM SR-8589 8Z14
     Device Type: DVD Reader
$
```

- 11 Type **mount -F hsfs /dev/dsk/c0t1d0s0 /cdrom** and press **Enter**. The CD mounts to /cdrom.
- 12 Type **df -n** and press **Enter**. The presence of /cdrom in the output confirms that the cdrom is mounted.
- 13 Did the CD successfully mount?
  - If **yes**, continue with the next step.
  - If **no**, contact Cisco services.
- 14 Did the CD auto-mount?
  - If **yes**, type **cd /cdrom/cdrom0** and press **Enter**. The cdrom/cdrom0 directory becomes the working directory.
  - If **no**, type **cd /cdrom** and press **Enter**. The cdrom directory becomes the working directory.
- 15 Type **install\_pkg** and then press **Enter**. The system prompts you to confirm that you want to proceed with the installation.
- 16 Type **y** (for yes) and press **Enter**. The system prompts you to confirm that you want to continue with the installation.
- 17 Press **Enter** to continue the installation. The system prompts you to confirm that you have backed up the database and file systems.

**Note:** To terminate the installation, press **Ctrl-c**.
- 18 Type **yes** and press **Enter**. The Install Configuration screen opens and lists the installation configuration settings.
- 19 Do the settings listed match those of your installation environment?
  - If **yes**, type **c** (to continue) and press **Enter** to start the installation.
  - If **no**, follow these instructions to change one or more settings:

**Important:** The Install Configuration settings are case-sensitive. For this reason, make certain that the option you enter exactly matches the option displayed. Otherwise, the system rejects your entry. For example, if the system lists "USA" as an option for INSTALLED\_IN\_COUNTRY, do not type "usa."

    - a Type the number that corresponds to the setting you want to change, and press **Enter**. The system prompts you to select an option, and provides available options in parentheses. The default setting appears in brackets.

**Example:** To change the setting for INSTALLED\_IN\_COUNTRY, type 6 and press Enter.
    - b Type the option appropriate to your installation, and press **Enter**. The Installation Configuration settings change to show the option you just entered.

**Example:** To change the INSTALLED\_IN\_COUNTRY setting from the default [USA] to Canada, type Canada and press Enter.

## Chapter 2 Installing the Software

- c Repeat steps a and b to change another setting. After all settings are correct, type c (to continue) and then press **Enter** to start the installation.
- 20 When the installation is complete, the system displays a message stating that the installation was successful, lists the directory where installation messages were stored, and displays a root user prompt.

### Notes:

- The installation should take about 5 minutes.
  - The log file for the SARA Server software is `/var/sadm/system/logs/SAIapsrv_3.6.x.x_install.log`.
- 21 Did the system indicate that the installation was successful?
- If **yes**, type `cd /` and press **Enter** to move to the root directory. Then continue with the next step in this procedure.
  - If **no**, contact Cisco Services for assistance.
- 22 Did you manually mount the CD?
- If **no**, type `eject cdrom` and press **Enter**. Then go to step 25
  - If **yes**, type `umount /cdrom` and press **Enter**. Go to step 23
- 23 Manually eject the CD by pressing the eject button on the server
- 24 Type `/etc/init.d/volmgt start` and press **Enter**. The volume management process starts.
- Note:** Type `pgrep -fl vold` and press **Enter** to verify that the volume management process has started
- 25 Remove the CD from the CD drive and store it in a secure location.
- 26 Go to *Verify SARA Server Versions* (on page 27).

## Verify SARA Server Versions

### Introduction

After you install the required software for your SARA Server, next ensure that the correct software version was installed on the SARA Server as described in this section.

To verify that the correct version was installed during the upgrade, use `pkginfo`, a Solaris software management tool. The `pkginfo` tool displays details about a software package, including the version number and status of the package.

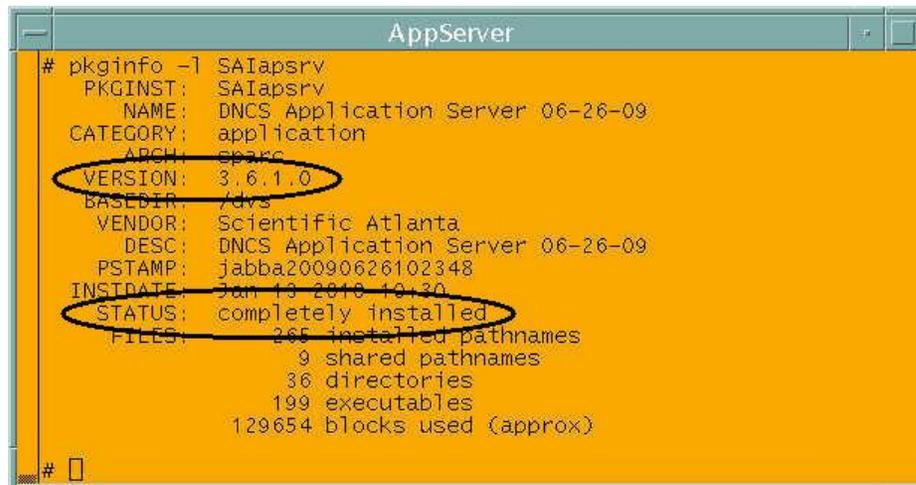
**Important:** If `pkginfo` indicates the status of the software is not completely installed, contact Cisco Services for assistance.

### Verifying SARA Server Software Versions

After you verify the DNCS software versions, complete these steps to verify the software versions installed on the SARA Server during the upgrade.

- 1 On the SARA Server xterm window, type `pkginfo -l SAIapsrv` and press **Enter**. The system displays details about the SARA Server software package (SAIapsrv), similar to the following example. The software version number and status are circled in this example.

**Note:** The "l" in "-l" is a lowercase "L."



```

AppServer
# pkginfo -l SAIapsrv
  PKGINST: SAIapsrv
  NAME: DNCS Application Server 06-26-09
  CATEGORY: application
  ARCH: sparc
  VERSION: 3.6.1.0
  BASEDIR: /dvs
  VENDOR: Scientific Atlanta
  DESC: DNCS Application Server 06-26-09
  PSTAMP: jabba20090626102348
  INSTDATE: Jan 13 2010 10:30
  STATUS: completely installed
  FILES: 265 installed pathnames
         9 shared pathnames
         36 directories
         199 executables
         129654 blocks used (approx)
#
  
```

## Chapter 2 Installing the Software

- 2 Does the **VERSION** field show the **<current software version number installed>** and the **STATUS** field show **completely installed**?
  - If **yes**, you have verified that the correct software version was successfully installed on the SARA Server.
  - If **no**, contact Cisco Services for assistance.

**Note:** Any number can appear for the build number (the fourth digit of the version number).
- 3 Is your IPG collector scheduled to run before midnight?
  - If **yes**, go to *Set SARA Server Environment Variables* (on page 29).
  - If **no**, go to *Restart System Components* (on page 31).

## Set SARA Server Environment Variables

This section describes how to add entries to the `.profile` file of the `dncs` user. These entries reduce the rate of cancel packets generated due to an IPG update in the SARA Server.

### Important:

- Use this procedure only if your IPG collector is scheduled to run *before* midnight. If your IPG collector is scheduled to run *after* midnight, go to *Restart System Components* (on page 31).
- If you are uncomfortable editing the `.profile` file yourself, contact Cisco Services for assistance.

- 1 Open an xterm window on the SARA Server.
- 2 Type **appStop** and then press **Enter** to stop the SARA Server processes.
- 3 Type **appKill** to then press **Enter** to stop all SARA Server processes.
- 4 Type **cd /export/home/dncs** and press **Enter**.
- 5 Type **cp .profile .profile.bak** and then press **Enter**. The system makes a backup copy of the `.profile` file.
- 6 Use the UNIX text editor of your choice to open the `/export/home/dncs/.profile` file.
- 7 Add the following lines to the `.profile` file.  
**IPG\_MIDNIGHT\_UPDATE=1**  
**export IPG\_MIDNIGHT\_UPDATE**
- 8 Save the `.profile` file and close the text editor.
- 9 In the xterm window, type **./profile** and press **Enter** to source the environmental variable. The system will use the updated `.profile` file.  
**Note:** Be sure to type a space between the first two periods.
- 10 Type **env | grep "IPG"** and press **Enter**. The system displays the environmental variables associated with the IPG process
- 11 Are the IPG settings correct?
  - If **yes**, you have successfully updated the `.profile` file to reduce the rate of cancel packets generated due to an IPG update in the SARA Server. Leave the xterm window open, and go to step 12.
  - If **no**, contact Cisco Services for assistance.

## Chapter 2 Installing the Software

**12** Type **appStart** and then press **Enter** to start the SARA server processes.

**Important:** Execute the appStart command from the same xterm window where the .profile environmental variable was sourced. (This environmental variable was sourced in step 9.)

**13** Go to *Restart System Components* (on page 31).

# Restart System Components

## Introduction

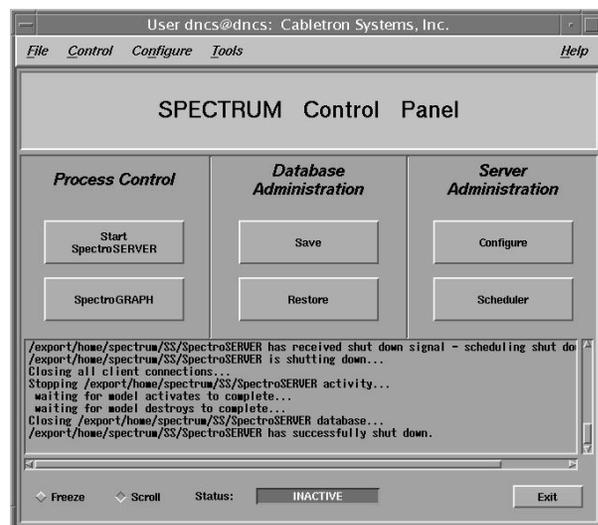
After you verify the SARA Server versions, you must complete the procedures in this section to restart the following system components in the order listed:

- 1 Restart Spectrum NMS.
- 2 Restart DNCS processes.
- 3 Restart SARA Server processes.
- 4 Complete required procedures for Aptiv and MDN servers, if necessary.
- 5 Restart cron jobs, if necessary.
- 6 Restart the billing system and other third-party applications.
- 7 If using the RCS feature, restart RNCS processes at each remote site.

## Restarting Spectrum

**Note:** Skip this procedure if you are using DBDS Alarm Manager 1.0 instead of Spectrum.

- 1 On the DNCS, click the middle mouse button and select **Administrative Console**.
- 2 On the DNCS Administrative Console Status window, click **Control** in the NMS area. The Select Host Machine window opens with the Spectrum Control Panel in the background.
- 3 Click **OK**. The Select Host Machine window closes and the Spectrum Control Panel moves to the forefront.



## Chapter 2 Installing the Software

- 4 Click **Start SpectroSERVER**. The system begins restarting the Spectrum NMS. When finished, the Status field at the bottom of the Spectrum Control Panel changes to Running.
- 5 Click **Exit**. A confirmation window opens.
- 6 Click **OK**. The confirmation and Spectrum Control Panel windows close.
- 7 Go to *Restarting the DNCS* (on page 32).

### Restarting the DNCS

- 1 On the DNCS, click the middle mouse button and select **Administrative Console**. The DNCS Administrative Console window opens, along with the DNCS Administrative Console Status window.
- 2 On the DNCS Administrative Console Status window, click the **Control (or Monitor)** button in the DNCS area. The DNCS Control (or Monitor) window opens with a list of all the DNCS processes and their working states. A red state indicates that a process is not running. At this point, all processes should show a red state.
- 3 Click the middle mouse button and select **DNCS Start**. On the DNCS Control window, all of the processes begin changing to a green state, which indicates that they are running.  
**Note:** It may take several minutes before all processes show a green state.
- 4 Open an xterm window on the DNCS.
- 5 At the prompt, type **dncsControl** and press **Enter**. The DNCS Control window appears.
- 6 Type **2** to select **Startup/Shutdown Single Element Group** and press **Enter**. A list appears of all the DNCS processes and shows their current working states (running or stopped).
- 7 Press **Enter** to update the working states of the DNCS processes. Continue to press **Enter** every few seconds until all processes show "run(2)" in the Current State column.  
**Note:** You will not see a status message while the processes are starting up. When all processes show "run(2)" in the Current State column, follow the on-screen instructions to close the DNCS Control window.
- 8 Close any windows that may be open on the DNCS, except the xterm and the DNCS Monitor windows.
- 9 Go to *Restarting the SARA Server* (on page 33).

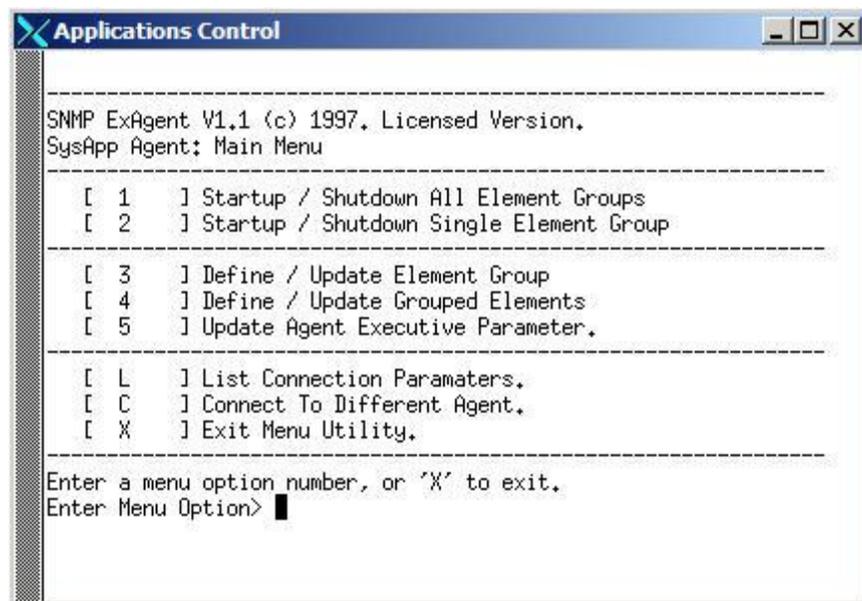
## Restarting the SARA Server

The SARA Server processes may have restarted on their own. Follow these instructions to check if the SARA Server processes have started, and then to start them, if necessary.

If your site supports SARA, complete these steps to restart the SARA Server after you restart the cron jobs on the DNCS.

**Note:** The SARA Server may have restarted automatically. This procedure will help you determine whether or not it has before you try to restart it.

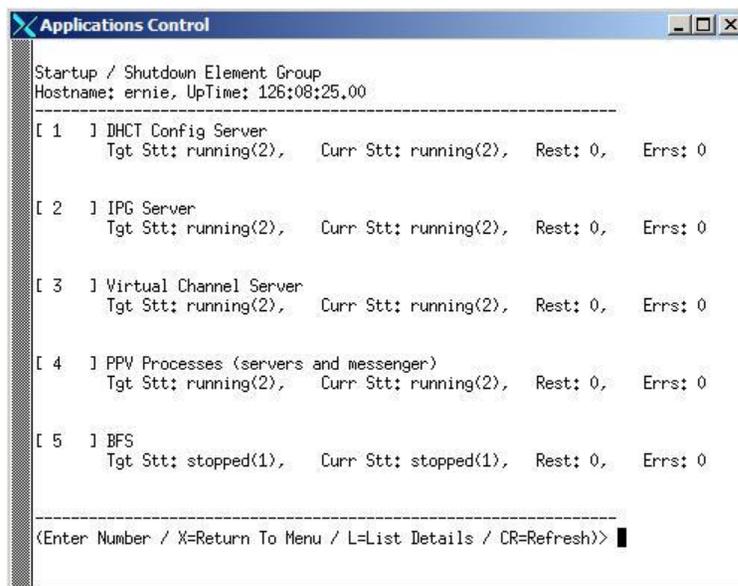
- 1 From an xterm window on the SARA server, type **appStart** and press **Enter**. The Application Server processes start.
- 2 Type **appControl** and press **Enter**. The Applications Control window opens, similar to the following example.



```
Applications Control
-----
SNMP ExAgent V1.1 (c) 1997. Licensed Version.
SysApp Agent: Main Menu
-----
[ 1 ] Startup / Shutdown All Element Groups
[ 2 ] Startup / Shutdown Single Element Group
-----
[ 3 ] Define / Update Element Group
[ 4 ] Define / Update Grouped Elements
[ 5 ] Update Agent Executive Parameter.
-----
[ L ] List Connection Parameters.
[ C ] Connect To Different Agent.
[ X ] Exit Menu Utility.
-----
Enter a menu option number, or 'X' to exit.
Enter Menu Option> █
```

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- 3 Type **2** to select **Startup/Shutdown Single Element Group** and press **Enter**. A list of all the SARA Server processes appears and shows their current working states (running or stopped).



```
Applications Control
-----
Startup / Shutdown Element Group
Hostname: ernie, UpTime: 126;08:25,00
-----
[ 1 ] DHCT Config Server
      Tgt Stt: running(2), Curr Stt: running(2), Rest: 0, Errs: 0

[ 2 ] IPG Server
      Tgt Stt: running(2), Curr Stt: running(2), Rest: 0, Errs: 0

[ 3 ] Virtual Channel Server
      Tgt Stt: running(2), Curr Stt: running(2), Rest: 0, Errs: 0

[ 4 ] PPV Processes (servers and messenger)
      Tgt Stt: running(2), Curr Stt: running(2), Rest: 0, Errs: 0

[ 5 ] BFS
      Tgt Stt: stopped(1), Curr Stt: stopped(1), Rest: 0, Errs: 0
-----
(Enter Number / X=Return To Menu / L=List Details / CR=Refresh)>> █
```

- 4 On the Applications Control window, press **Enter** to update the working states of the SARA Server processes. Continue to press **Enter** every few seconds until all processes show **Curr Stt: running(2)**.  
**Note:** You will not see a status message while the processes are restarting.
- 5 When the Application Control window indicates that the current state of each process is running, follow the on-screen instructions to close the Applications Control window.  
**Note:** On some systems, the BFS process may remain at stopped. This is normal.
- 6 Go to *Restarting cron Jobs* (on page 34).

## Restarting cron Jobs

After starting the system components, restart the cron jobs on the DNCS and the Application Server. Complete the procedures listed in this section to restart the cron jobs on the DNCS and on the SARA Server.

**Note:** The cron jobs may have restarted on their own when you restarted the DNCS and SARA Server processes, earlier in this chapter.

### Restarting the cron Jobs on the DNCS

- 1 If necessary, open an xterm window on the DNCS.
- 2 To confirm that the cron jobs are not running type **pgrep -fl cron** and press **Enter**.

- 3 Have the cron jobs restarted on their own?
  - If **yes**, skip the rest of this procedure and go to *Restarting the cron Jobs on the Application Server* (on page 35).
  - If **no**, go to step 4.
- 4 Follow these instructions to log in to the xterm window as root user.
  - a Type **su -** and then press **Enter**. The password prompt appears.
  - b Type the root password and then press **Enter**.
- 5 Type **svcadm -v enable -rs cron** and press **Enter**. The system restarts all cron jobs.
- 6 To confirm that the cron jobs have restarted, type **pgrep -fl cron** and then press **Enter**. The system should list **/usr/sbin/cron**.
- 7 Type **exit** and then press **Enter** to log out as the root user.
- 8 If necessary, manually run the IPG collector.
- 9 Go to *Restarting Billing and Other Third-Party Applications* (on page 36).

#### Restarting the cron Jobs on the Application Server

**Important:** This procedure pertains to the SARA server, only. If the site you are upgrading supports the Aptiv Digital application server, check with Aptiv Digital for the appropriate procedure.

- 1 If necessary, open an xterm window on the Application Server.
- 2 To confirm that the cron jobs are not running, type **pgrep -fl cron** and then press **Enter**.
- 3 Have the cron jobs restarted on their own?
  - If **yes**, skip the rest of this procedure and to go *Restarting Billing and Other Third-Party Applications* (on page 36).
  - If **no**, continue with step 4.
- 4 Follow these instructions to log in to the xterm window as root user.
  - a Type **su -** and press **Enter**. The **password** prompt appears.
  - b Type the root password and press **Enter**.
- 5 Type **svcadm -v enable -rs cron** and then press **Enter**. The system restarts all cron jobs.
- 6 To confirm that the cron jobs have restarted, type **pgrep -fl cron** and then press **Enter**. The system should list **/usr/sbin/cron**.
- 7 Type **exit** and press **Enter** to log out as the root user.
- 8 Go to *Restarting Billing and Other Third-Party Applications* (on page 36).

## Restarting Billing and Other Third-Party Applications

Contact your billing vendor to restart the billing interface. If you stopped any third-party interfaces, restart those interfaces as well.

### What's Next?

The next action you take depends upon whether or not your system uses the Regional Control System (RCS) option.

- If your system uses the RCS option, go to *Restarting RNCS Processes* (on page 36).
- If your system does not use the RCS option, go to *Complete System Validation Tests* (on page 39).

## Restarting RNCS Processes

If you determined earlier that your system uses the RCS feature, use one of the following methods to restart Remote Network Control Server (RNCS) processes at each remote site in your RCS:

- Use the **siteCmd** command to restart RNCS processes at all sites in your system. Go to *Restarting RNCS Processes at All Sites* (on page 36).
- Use the **siteControl** command to restart RNCS processes at each site in your system, one site at a time. Go to *Restarting RNCS Processes at One Site* (on page 37).

### Restarting RNCS Processes at All Sites

- 1 Open an xterm window on the DNCS, and log on as the **dncs user**.
- 2 To restart RNCS processes at all sites in your system, type **siteCmd -a lionnStart** and press **Enter**. The system prompts you to verify that you want to “start the LIONN” (all RNCS processes at all sites).
- 3 Type **Y** (yes) and press **Enter** to confirm that you want to restart the processes on all sites in your system. The system informs you that it is starting LIONN Applications (processes on all sites in your system), and displays the command prompt for the DNCS user. If necessary, manually run the IPG collector, and then go to *Complete System Validation Tests* (on page 39).
- 4 To exit, type **x** and then press **Enter**.
- 5 If necessary, manually run the IPG collector.
- 6 Go to *Complete System Validation Tests* (on page 39).

**Restarting RNCS Processes at One Site**

- 1 Open an xterm window on the DNCS, and log on as the **dncs** user.
- 2 To restart RNCS processes at each site in your system, one at a time, type **siteControl (host name of the RNCS)** and press **Enter**. For example if "houston" is the name of the RNCS host, you would type **siteControl houston**. A menu opens, similar to the following example, that allows you to start the RNCS processes at this site.

```

siteControl: lionn1 (from conanv880)
-----
SNMP ExAgent V1.1 (c) 1997. Licensed Version.
-----
| Hostname: lionn1, UpTime: 191:11:22.00
| -> SysApp Agent: Main Menu
-----
[ 1 ] Startup / Shutdown All Element Groups
[ 2 ] Startup / Shutdown Single Element Group
-----
[ 3 ] Define / Update Element Group
[ 4 ] Define / Update Grouped Elements
[ 5 ] Update Agent Executive Parameter.
-----
[ L ] List Connection Paramaters.
[ X ] Exit Menu Utility.
-----
Enter a menu option number, or 'X' to exit.
Enter Menu Option> 

```

- 3 Type **1** to select **Startup/Shutdown All Element Groups** and press **Enter**. The system prompts you to select the target state for the system, similar to the following example.

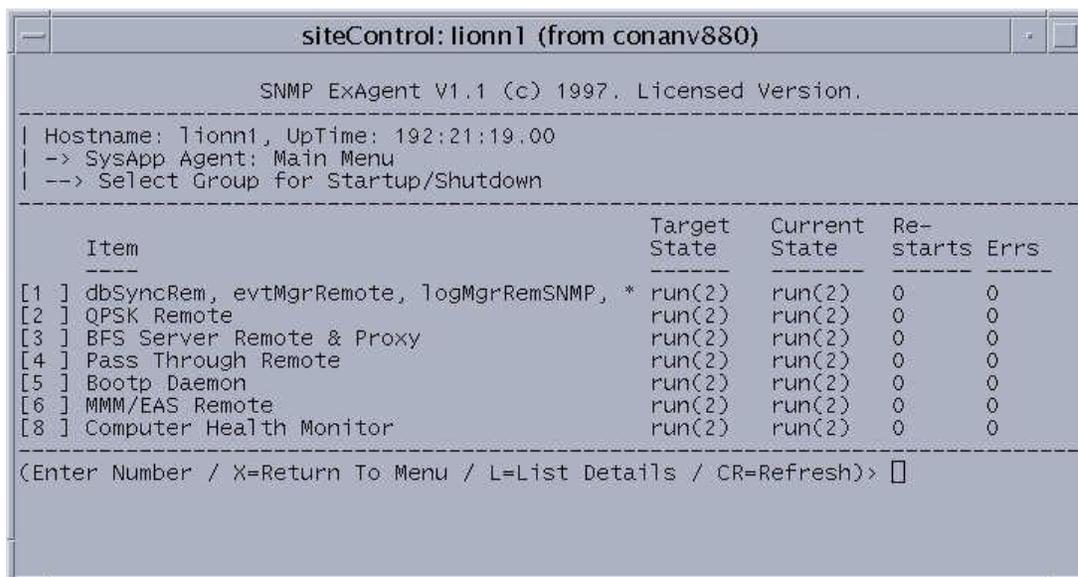
```

siteControl: lionn1 (from conanv880)
-----
SNMP ExAgent V1.1 (c) 1997. Licensed Version.
-----
| Hostname: lionn1, UpTime: 192:19:58.00
| -> SysApp Agent: Main Menu
| --> Set Master Target State for System
-----
Enter master target state for system, in the range 1-4.
Possible values are:
-----
[ 1 ] stopped(1)
[ 2 ] running(2)
[ 3 ] paused(3)
[ 4 ] disabled(3)
-----
Default value: running(2)
(Enter Number / X=Return To Menu)> 

```

## Chapter 2 Installing the Software

- 4 Type **2** to select **running**, and press **Enter**. A confirmation prompt appears.
- 5 Type **y** to select **yes**, and press **Enter**. The main menu displays.
- 6 Type **2** and press **Enter**. The system displays the status of each process.
- 7 When all processes show a status of “running,” similar to the following example, follow the on-screen instructions to exit the utility.



```
siteControl: lionn1 (from conanv880)
SNMP ExAgent V1.1 (c) 1997. Licensed Version.
-----
| Hostname: lionn1, UpTime: 192:21:19:00
| -> SysApp Agent: Main Menu
| --> Select Group for Startup/Shutdown
|-----
      Item                               Target  Current  Re-
      Item                               State   State    starts Errs
      -----
[1 ] dbSyncRem, evtMgrRemote, logMgrRemSNMP, *  run(2)  run(2)    0     0
[2 ] QPSK Remote                           run(2)  run(2)    0     0
[3 ] BFS Server Remote & Proxy              run(2)  run(2)    0     0
[4 ] Pass Through Remote                    run(2)  run(2)    0     0
[5 ] Bootp Daemon                           run(2)  run(2)    0     0
[6 ] MMM/EAS Remote                         run(2)  run(2)    0     0
[8 ] Computer Health Monitor                run(2)  run(2)    0     0
-----
(Enter Number / X=Return To Menu / L=List Details / CR=Refresh)> [ ]
```

- 8 Have you restarted RNCS processes at all sites in your RCS?
  - If **yes**, go to step 9.
  - If **no**, repeat steps 2 to 8 to restart the processes on another RNCS at another site in your system and then continue with step 9.
- 9 Did you determine earlier that you should manually run IPG collectors after upgrading the SARA Server software?
  - If **yes**, manually run each IPG collector in your system and then go to *Complete System Validation Tests* (on page 39).
  - If **no**, go to *Complete System Validation Tests* (on page 39).

# Complete System Validation Tests

## Introduction

After you restart the cron jobs and the billing and other third-party applications, you must perform system validation tests.

## Prerequisites

The test DHCT(s) you use for this procedure must meet the following conditions:

- Must be authorized for all third-party applications
- Must not be authorized to view a PPV event without specifically buying the PPV event
- Must have a working return path and be capable of booting into two-way mode

## Verifying a Successful Installation

Complete the following steps to verify that the SARA Server software installed successfully.

**Important:** If this procedure fails, do not continue with the remaining procedures in this publication. Instead, contact Cisco Services.

- 1 Perform a slow-and-fast boot on a test DHCT as follows:
  - a Boot a DHCT.  
**Note:** Do not press the power button.
  - b Access the Power On Self Test and Boot Status Diagnostic Screen on the DHCT and verify that all parameters, except UNcfg, display **Ready**.  
**Note:** UNcfg displays **Broadcast**.
  - c Wait 5 minutes.
  - d Press the power button on the DHCT to power on the DHCT.
  - e Access the Power On Self Test and Boot Status Diagnostic Screen on the DHCT.
  - f Do all of the parameters, including UNcfg, display **Ready**?
    - If **yes**, go to step 2.
    - If **no**, contact Cisco Services.
- 2 Ping the DHCT.

## Chapter 2 Installing the Software

- 3 Did the DHCT receive the ping?
  - If **yes**, go to step 4.
  - If **no**, contact Cisco Services.
- 4 Stage at least one new DHCT to the system operator's specifications.
- 5 Did the newly staged DHCT successfully load the current client release software?
  - If **yes**, go to step 6.
  - If **no**, contact Cisco Services.
- 6 Did the DHCT receive at least 33 EMMs and successfully receive its Entitlement Agent?
  - If **yes**, go to step 7.
  - If **no**, contact Cisco Services.
- 7 Does the IPG display 7 days of valid and accurate data?
  - If **yes**, go to step 8.
  - If **no**, contact Cisco Services.
- 8 Does the IPG support multiple languages?
  - If **yes**, go to step 9.
  - If **no**, contact Cisco Services.
- 9 Do the PPV barkers appear on the PPV channels correctly?
  - If **yes**, go to step 10.
  - If **no**, contact Cisco Services.
- 10 Do VoD and XoD events appear correctly?
  - If **yes**, go to step 11.
  - If **no**, contact Cisco Services.
- 11 Do SDV channels appear correctly?
  - If **yes**, go to step 12.
  - If **no**, contact Cisco Services.
- 12 Do third-party applications load properly?
  - If **yes**, go to step 13.
  - If **no**, contact Cisco Services.

- 13 Were you able to generate an EAS message?
  - If **yes**, you have successfully installed the SARA Server software on the SARA Server.
  - If **no**, contact Cisco Services.
- 14 Verify that your EAS equipment is working correctly by testing the system's ability to transmit EAS messages. Complete all of the procedures in the **Testing the EAS** section of *Configuring and Troubleshooting the Digital Emergency Alert System* (part number 4004455). Then, verify that you can generate an EAS message for the Emergency Alert Controller (EAC), itself.
- 15 Did every test in this section pass?
  - If **yes**, you have completed this procedure.
  - If **no**, contact Cisco Services.



# 3

---

## Customer Information

### **If You Have Questions**

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.



# A

## Rollback Procedure

### Introduction

If you notice that your system is unstable after having installed the new SARA Server software, contact Cisco Services. Cisco Services engineers may determine that you need to remove the SARA Server software and reinstall the previous version.

Follow the procedures in this appendix to restore your system to its condition before you installed the new SARA Server software. This procedure is known as a rollback.

**Important:** Do not start this rollback procedure without first contacting Cisco Services.

### Database Changes Are Not Rolled Back

This rollback procedure rolls back only the executable files. Any database changes are not rolled back. These database changes are permanent and will have no negative impact upon systems that are rolled back. The appdb database unloaded at the end of Chapter 1 must be reloaded.

### In This Appendix

- Roll Back the Software ..... 46

## Roll Back the Software

### Introduction

In the unlikely event that you experience a problem installing this SARA Server software, the rollback process involves reinstalling the previous version of the SAIaprv package for the SARA Server.

**Note:** You identified these versions and set aside this CD in *Identify and Locate the Version of SAIaprv Currently Installed* (on page 3).

Complete the procedures in this section to roll the SARA Server software back to the previous release before you installed the new SARA Server software.

**Important:** Do not start these rollback procedures without first contacting Cisco Services.

### Remove the New SARA Server Package

Complete these steps to remove the SARA Server software currently installed on the SARA server.

- 1 Locate the previous version installation CD that you identified in *Identify and Locate the Version of SAIaprv Currently Installed* (on page 3).  
**Note:** If you were unable to locate this CD and instead made a backup of the SARA Server version previously installed on your system, locate the backup tape that you made as instructed in *Identify and Locate the Version of SAIaprv Currently Installed* (on page 3).
- 2 Complete the procedures in the following sections of this publication:
  - a *Stopping System Components* (on page 10)
  - b *Stopping the cron Jobs on the SARA Server* (on page 16)
  - c *Stopping the cron Jobs on the DNCS* (on page 18)
  - d Kill the init.d process on the SARA Server and then on the DNCS.
  - e *Ensuring No Active Database Sessions on the DNCS* (on page 19)
- 3 Are you restoring from the previous installation CD?
  - If **yes**, go to step 4.
  - If **no**, refer to the backup and restore documents appropriate to your system for assistance restoring from a backup tape.
- 4 Open an xterm window on the SARA Server.
- 5 Type **su -** and press **Enter** to log in to the xterm window as **root** user. A password prompt appears.
- 6 Type the **root** user password. A prompt appears.

- 7 Type **pkgrm SAIapsrv** and press **Enter**. The system prompts you to confirm that you want to remove the package.
- 8 Type **y** and press **Enter**. The system prompts you to continue with the removal of the package.
- 9 Type **y** and press **Enter**. The package is removed. The message, "Removal of <SAIapsrv> was successful" appears.
- 10 Type **pkginfo -l SAIapsrv** and press **Enter** to verify the package is no longer installed. The message, "ERROR: information for 'SAIapsrv' was not found" appears.
- 11 Did you find the SAIapsrv package?
  - If **no**, go to *Load the Previous Release appdb Database from the DNCS Server* (on page 47).
  - If **yes**, contact Cisco Services for assistance.

## Load the Previous Release appdb Database from the DNCS Server

The installation of new SARA software modified the appdb database. In this section we will reload the previous version appdb.

- 1 Type **cd /dvs/backups/APPDB** and press **Enter**. This becomes the working directory.
- 2 Type **echo "drop database appdb" | dbaccess** and press **Enter**.
- 3 Type **dncsDbData -l -d appdb** and press **Enter**. You are prompted to enter a destination from which the database will be loaded.
 

**Note:** The -l in the command is a lowercase "L."
- 4 Type **2** for Local Harddrive and press **Enter**. You are asked to verify your selection.
- 5 Type **Y** and press **Enter** to confirm your selection. You are prompted to enter the directory containing the database to be loaded.
 

**Note:** You should be in the /dvs/backups/APPDB directory.
- 6 Press **Enter** to load the database from the current directory. You are prompted to confirm the directory path.
 

**Note:** If you are not in the /dvs/backups/APPDB directory, type **/dvs/backups/APPDB** and press **Enter**.
- 7 Type **Y** and press **Enter**. The database load begins and when it is complete, you should see the following message: **Process is completed**.
- 8 Did the appdb database load successfully?
  - If **yes**, go to *Load the Previous SARA Server Software on the SARA Server* (on page 48).
  - If **no**, contact Cisco Services for assistance.

## Load the Previous SARA Server Software on the SARA Server

Follow these instructions to load the previous SARA Server release.

- 1 Insert the CD labeled similar to **SARA Server** into the CD drive of the SARA Server. The system automatically mounts the CD to /cdrom within 30 seconds.

**Important:** This is your previous version of SAIapshr software.

- 2 Type **df -n** and then press **Enter** to display a list of the file systems that have mounted.

**Note:** The presence of **/cdrom** in the output confirms that the system correctly mounted the CD.

- 3 Type **cd /cdrom/cdrom0** and then press **Enter**. The /cdrom/cdrom0 directory becomes the working directory.
- 4 Type **install\_pkg** and then press **Enter**. The system prompts you to confirm that you want to proceed with the installation.
- 5 Type **y** (for yes) and press **Enter**. The system prompts you to confirm that you want to continue with the installation.
- 6 Press **Enter** to continue the installation. The system prompts you to confirm that you have backed up the database and file systems.

**Note:** To terminate the installation, press **Ctrl+c**.

- 7 Type **yes** and press **Enter**. The Install Configuration screen opens and lists the installation configuration settings.

- 8 Do the settings listed match those of your installation environment?
  - If **yes**, type **c** (to continue) and press **Enter** to start the installation.
  - If **no**, follow these instructions to change one or more settings:

**Important:** The Install Configuration settings are case-sensitive. For this reason, make certain that the option you enter exactly matches the option displayed. Otherwise, the system rejects your entry. For example, if the system lists “USA” as an option for INSTALLED\_IN\_COUNTRY, do not type “usa.”

    - a Type the number that corresponds to the setting you want to change, and press **Enter**. The system prompts you to select an option, and provides available options in parentheses. The default setting appears in brackets.

**Example:** To change the setting for INSTALLED\_IN\_COUNTRY, type 6 and press Enter.
    - b Type the option appropriate to your installation, and press **Enter**. The Installation Configuration settings change to show the option you just entered.

**Example:** To change the INSTALLED\_IN\_COUNTRY setting from the default [USA] to Canada, type Canada and press Enter.
    - c Repeat steps a and b to change another setting. After all settings are correct, type **c** (to continue) and then press **Enter** to start the installation.
- 9 When the installation is complete, the following message displays: **Installation of <SAIapsrv> was successful.**

**Notes:**

  - The installation should take about 5 minutes.
  - The log file for the SARA Server software is in this directory on the SARA Server: /var/sadm/system/logs.
  - The log file for the SARA Server software is named 3.x.x.x.
- 10 Type **pkginfo -l SAIapsrv** and press **Enter** to verify that Server Software package is accurate.

## Appendix A Rollback Procedure

- 11 Did the system indicate that the installation was successful?
  - If **yes**, type **cd /** and press **Enter** to move to the root directory. Then continue with the next step in this procedure.
  - If **no**, contact Cisco Services for assistance.
- 12 Type **eject cdrom** and press **Enter**. The CD ejects.
- 13 Remove the CD from the CD drive and store it in a secure location.
- 14 At the root user prompt on the SARA Server, type **shutdown -y -g0 -i0** and then press **Enter**. The SARA Server shuts down and an ok prompt appears.
- 15 At the root user prompt on the DNCS, type **shutdown -y -g0 -i6** and then press **Enter**. The DNCS reboots and a login prompt appears.
- 16 At the login prompt on the DNCS, log on as **dncs**.
- 17 On the SARA Server, type **boot** at the ok prompt and press **Enter**.
- 18 At the login prompt on the SARA Server, log on as **dncs**.
- 19 Complete the procedures in *Restart System Components* (on page 31).
- 20 Follow the steps in *Verify DBDS Stability* (on page 6) to ensure that the system is stable after the rollback.

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