SARA Application Server 3.1.6

Release Notes and Installation Instructions

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

These release notes and installation instructions provide information and procedures for upgrading a Cisco Digital Broadband Delivery System (DBDS) to Cisco Resident Application (SARA) Application Server 3.1.6.

Who Should Read This Publication?

Cisco engineers or system operators who are responsible for installing the SARA Server software onto a Digital Network Control System (DNCS) should read this publication.

Which Sites Are Affected?

These release notes and installation instructions affect sites that support the Cisco Resident Application (SARA).

How Long Does It Take to Install?

Completely installing the SARA Server 3.1.6 software may take approximately 2 hours. This time estimate includes taking down the system and bringing it back up.

Document Version

This is the second release of this publication.

Chapter 1
Why Choose SARA Server 3.1.6?

Overview

Introduction

SARA Server 3.1.6 includes new features and enhancements implemented at the request of our customers. These features and enhancements have been added since SARA Server 3.1.2. Review this chapter to learn more about these important changes. In addition, this chapter provides a matrix of client release software that was verified with individual system releases prior to this SARA Server software release.

In This Chapter

This chapter contains the following topics.

System Release Compatibility and Prerequisites

Overview

This section provides a list of the software that is compatible with SARA Server 3.1.6 and the prerequisites for the DBDS before you install SARA Server 3.1.6.

Installation CD

To install SARA Server 3.1.6 you must have the SARA Server 3.1.6 CD.

System Release Compatibility

The following system releases were tested and released with SARA Server 3.1.6:

- System Release (SR) 2.5 or later
- SR CV3.4 and later
- SR 3.5 and later
- SR 4.0 and later

For more information about SARA Server 3.1.6, please contact Cisco Services.

Prerequisites

The DBDS must be operating with any of the following system software before you can install SARA Server 3.1.6:

- SR 2.5 and later
- SR CV3.4 and later
- SR 3.5 and later
- SR 4.0 and later

If You Need to Roll Back

In the unlikely event that you experience a problem installing this SARA Server, the rollback process involves reinstalling the SAIapsrv and SAItools packages for the SARA Server. Follow the procedures in this section to identify your current SAIapsrv and SAItools packages. Then locate the SAIapsrv and SAItools CD(s) keep them on hand so that the CD(s) are readily available if you should need to roll back.

Note: Refer to Appendix A, **SARA Server 3.1.6 Rollback Procedure**, for instructions on reinstalling these software packages.

Complete these steps to identify your current SAIapsrv and SAItools packages.

1. In an xterm window on the SARA Server type **pkginfo –l SAIapsrv** and press **Enter**.

   Result: The current SARA Server version displays.

2. Write down the current SARA Server version here: _____

3. In the same xterm window on the SARA Server type **pkginfo –l SAItools** and press **Enter**.

   Result: The current SAItools version displays.

4. Write down the current SAItools version here: _____

5. Locate the CD(s) keep them on hand so that the CD(s) are readily available if you should need to roll back.

   Note: If you cannot find this CD, back up the SARA Server before beginning this procedure. For assistance backing up the SARA Server, refer to *DBDS Backup and Restore Procedures for SR 2.2 and SR 3.2, SR 2.4 and SR 3.4, SR 2.5 and SR 3.5, and SR 3.3.*

What's New for SARA Server 3.1.6?

Introduction

SARA Server 3.1.6 provides several improvements for your system. This section describes new features and enhancements that are included with SARA Server 3.1.6. This section also provides information on change requests (CRs) that were found in previous releases and corrected in SARA Server 3.1.6 to improve operational performance of the SARA Server. These features, enhancements, and CRs have been added since SARA Server 3.1.2.

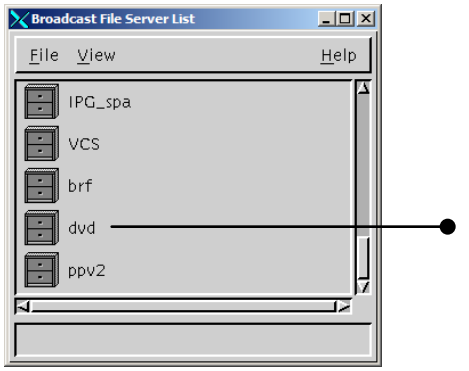
SARA Server 3.1.6 at a Glance

This section provides an at-a-glance look at the new features and enhancements for SARA Server 3.1.6, which have been added since SARA Server 3.1.2.

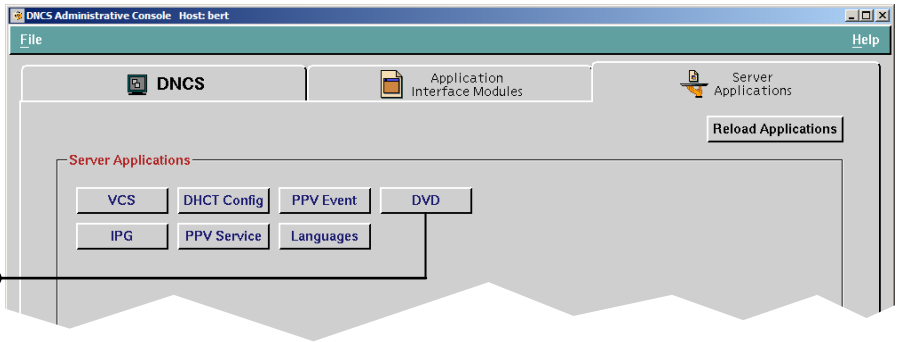
SARA Server Now Supports DVD Burning

SARA Server 3.1.6 supports digital video disk (DVD) burning for cable boxes that have a built-in DVD recorder/player. Burning allows subscribers to copy programs from the digital video recorder (DVR) hard drive to a DVD disc. To support this feature, the following changes have been made to the DNCS Administrative Console.

Want to Know More? For more information on these changes, see Chapter 8 in *SARA Server 3.1.6 User's Guide.*



A dvd server has been added to the BFS List window. The dvd server sends data over in-band and out-of-band data paths to cable boxes that have a built-in DVD recorder/player. DVD cable boxes need this data to support their DVD burning capability.

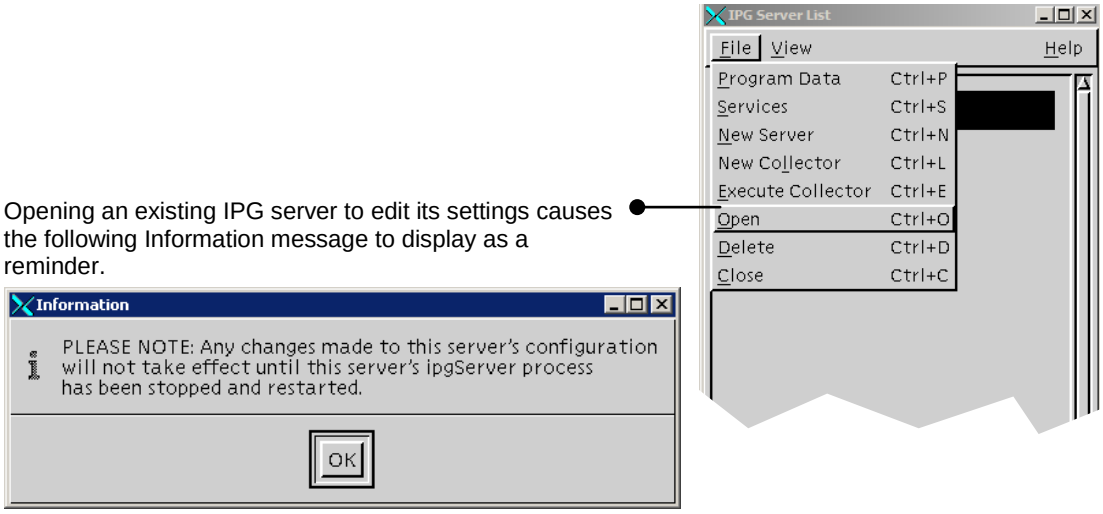


A DVD button has been added to the Server Applications tab. Clicking this button opens the DVD-V Image window. From this window, operators can update the dvd server with the latest data files.

Prompt Helps Operators Ensure Changes Are Implemented

Whenever operators edit the settings of an existing IPG server, a prompt reminds operators that the ipgServer process must be stopped and restarted for changes to take effect.

Opening an existing IPG server to edit its settings causes the following Information message to display as a reminder.



Manage IPG Data With Ease

The following enhancements to SARA Server software provide more flexibility and ease of use when managing IPG data:

- Operators can now assign ratings to a program at the same time that they create it. Previously, operators were required to create a program, open the program they had just created, and edit the program by selecting a rating for it.
- When in the Program Data List window, operators can now select a specific date and view the programs broadcast during the selected date. Previously, operators were required to wait for all programs to load and display in the Program Data List window before they could select and view programs of a specific date.
- IPG ratings labels now match the rating system of the country where the SARA Server is installed. Previously, country-specific ratings were assigned according to the IPG language selected. For example, if the IPG was set to the French language, IPG ratings labels matched those of the Canadian rating system.

  Note: This enhancement supports rating systems used by Canada and the USA.
- Theme names are now available in all supported languages, regardless of the language of the IPG data itself.

  Note: Taking advantage of this feature may require upgrading the SARA client code on some cable boxes. For assistance, contact Cisco Services.

- IPG time slots are no longer empty during changes to and from daylight savings.
- For sites that use the optional Regional Control System (RCS) feature offered with SR 2.5/3.5/4.0 and later, the SARA Server software provides correct time and program information for clients that reside in different time zones from the SARA server.

IPG Collector Automatically Attempts to Collect IPG Data Following a Collection Failure

In the event that the IPG collection fails during an automated collection, the IPG collector retries for a total of 3 tries with a random wait period that is between 1 and 5 minutes.

DHCT Global Config File Automatically Resent When the File Is Manually Deleted

If the DHCT Global Config file is manually deleted from the DHCT OS List window, the file is automatically regenerated and placed on the on the Operating System Manager (OSM) carousel whenever the SARA Server or the DHCT Config server process is restarted

Support for Solaris 10

Solaris 10, the new operating system from Sun Microsystems, provides a number of innovative and improved facilities over earlier versions. Solaris 10 includes new facilities such as Dynamic Tracing (DTrace), Solaris Containers, Predictive Self-Healing, and improved networking (new TCP/IP stack).

3.1.6 Issues Corrected in SARA Server 3.1.6

This section describes the CRs that were found in previous releases and corrected in SARA Server 3.1.6 to improve operational performance of the SARA Server. CRs described here are presented in numerical order.

CR 42659 View and Save PPV Events Quickly, Even After Many Events Have Been Stored

DNCS systems with a large number of PPV events in their databases experienced delays in viewing the PPV Event List window and in saving PPV events. **CR 42659** eliminates delays associated with these tasks even when a database contains many events.

CR 47118 SARA Now Accepts an NR Rating

Earlier releases of SARA Server software did not accept the Not Rated (NR) rating from IPG data providers. **CR 47118** corrects this issue.

When SARA Server 3.1.6 is installed on the SARA server and the following SARA client versions are installed on the appropriate cable boxes, content providers have the ability to rate their programming as NR-Adult if it has not been rated by the Motion Picture Association of America but contains adult content:

- SARA 1.42.5/OS 3.3.3 and later
- SARA 1.52/OS HDE 1.0 and later
- DVR 1.0.9 and later

CR 48287 and CR 48288 Memory Leaks Repaired

CR 48287 repairs memory leaks in ipgServer, and **CR 48288** repairs memory leaks in ppvXMLServer.

CR 50473 IPG Collector Now Guards Against Redundant Themes From the IPG Data Provider

Earlier releases of SARA server software allowed the IPG collector to receive redundant themes from the IPG data provider. This occasionally resulted in the showing getting into the theme's sort list for each entry. IPG collector now guards against redundant themes from the IPG data provider. **CR 50473** ensures that the IPG collector no longer accepts a secondary theme that is a duplicate of the primary theme, or a duplicate of another secondary theme.

CR 50486 Secondary Themes Remain Cleared

In earlier releases of SARA Server software, themes that users had cleared from the Secondary Theme list in the Set Up Program Data window did not stay cleared: when users opened this window after clearing a secondary theme, the theme was still selected. **CR 50486** corrects this issue so that secondary themes remain cleared after saving program data.

Known Issue

Introduction

This section describes a known issue found during the testing of the SARA Server 3.1.6 application. A resolution to this issue is currently in development at Cisco.

CR 61360 The Addressable Blocking PIN Feature Does Not Operate Correctly

The SARA Server feature that allows users to block programs based on the program's rating does not always operate correctly. This is seen most frequently when users attempt to block programs based on the TV-MA, R, or NC17 ratings.

Compatible Application Platform Releases

Software Compatibility Matrix

The following table provides a compatibility matrix of application platform software verified with the individual system releases. A check mark in a column indicates compatibility with the specified release.

SARA	PowerTV OS	SR 2.5	SR 3.5	SR CV3.4 (for systems using NDS conditional access)	SR 4.0
1.42	3.3.3	√	√		√
1.43	3.3.4	√	√		√
1.44	3.7	√	√		√
1.50	3.4	√	√		√
1.52	HDE 1.0	√	√		√
1.54	3.10	√	√		√
1.55	HGE 1.9			√	
1.55	ISE 1.9			√	
1.57	HDE 1.4	√	√		√
DVR 1.2	HSE 1.0	√	√		√

Note: This table provides compatibility of only released application platform releases. If you have a question about current testing status of application releases, contact Cisco Services.

Chapter 2
SARA Server 3.1.6 Installation Instructions

Overview

Introduction

This chapter provides procedures for installing the SARA Server 3.1.6 software.

Required Skills and Expertise

System operators or engineers who upgrade the application server to SARA Server 3.1.6 need advanced knowledge of the UNIX vi editor. To install SARA Server 3.1.6, 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 no substitute for an advanced working knowledge of vi.

When is the Best Time to Upgrade to SARA Server 3.1.6?

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.

In This Chapter

This chapter contains the following topics.

Run the Doctor Report

Introduction

Before you upgrade the SARA Server to SARA Server 3.1.6, use the procedures in the *DNCS Utilities Installation and Operation Guide* to run the Doctor Report. The Doctor Report provides key system configuration data that might be useful before you begin the upgrade process.

How Long Does It Take?

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

Analyze the Doctor Report

Refer to the *DNCS Utilities Installation and Operation Guide* 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.

Important: Do not proceed with the other procedures in this chapter until you have run and analyzed the Doctor Report, and you have corrected any problems it may indicate.

Verify Key Parameters in the onconfig File

Introduction

After you run the Doctor Report, verify that the TAPEDEV and LTAPEDEV parameters are set correctly in the onconfig file. If these parameters are set incorrectly, you may encounter difficulties during the installation.

How Long Does It Take?

On a typical system, it takes about 1 minute to determine the current settings of the TAPEDEV and LTAPEDEV parameters and about 5 minutes to change the settings.

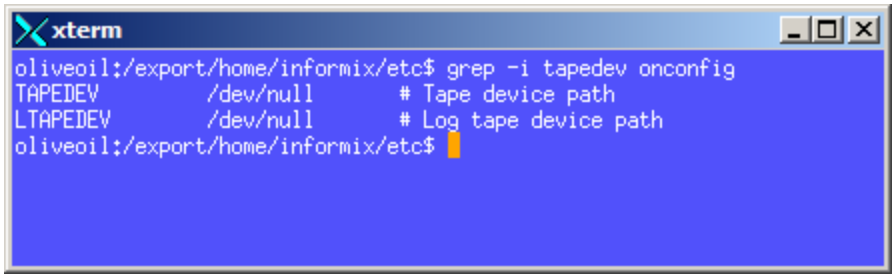
Verify TAPEDEV and LTAPEDEV Parameters

Complete these steps to verify that the TAPEDEV and LTAPEDEV parameters are set correctly.

1. On the DNCS, open an xterm window.
2. Type **cd /export/home/informix/etc** and press **Enter**.

   Result: The system makes /export/home/Informix/etc the working directory.
3. Type **grep –i tapedev onconfig** and press **Enter**.

   Result: The system searches the onconfig file and displays lines that contain "tapedev," similar to the example shown here.



4. Did the system display **/dev/null** as the tape device path and log tape device path?
   - If **yes**, the TAPEDEV and LTAPEDEV parameters are set correctly. Go to step 9.
   - If **no**, go to step 5.

5. Type **cp onconfig onconfig.DATE** and press **Enter**.

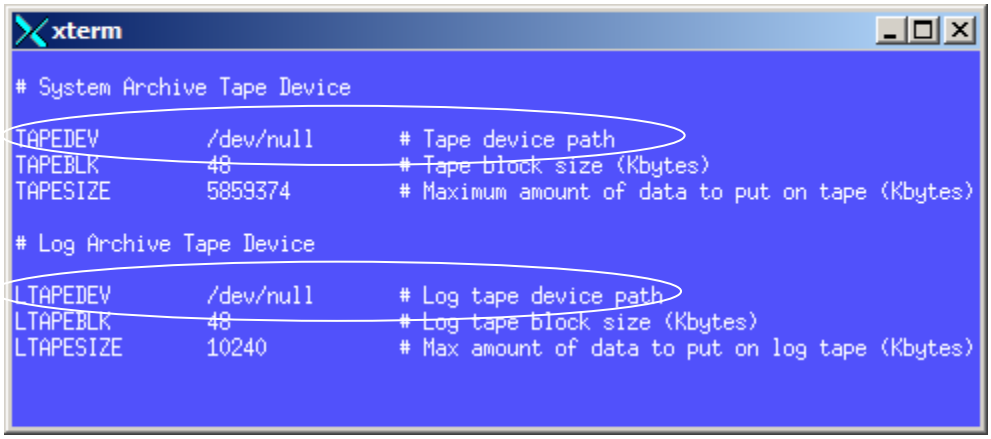
   Note: In this command, DATE represents today's date in DDMMYY format. For example, if today is March 15, 2005, you would type *cp onconfig onconfig.031505*.

   Result: The system makes a copy of the onconfig file and names the copy onconfig.DATE.

6. Type **vi onconfig** and press **Enter**.

   Result: The onconfig file opens for editing using the UNIX vi text editor.

7. Edit the TAPE DEV and LTAPEDEV parameters so that they use **/dev/null** for both the tape device path and log tape device path, as shown in the following example.



8. Save the file and close the vi text editor.

   Result: You have ensured that the settings for the TAPEDEV and LTAPEDEV parameters are correct.

   Note: Changes to the onconfig file are effective as soon as you save the file. It is not necessary to restart system components for these changes to take effect.

9. Type **exit** to close the xterm window.

Verify DBDS Stability

Introduction

Your DBDS must be stable *before* you can upgrade to SARA Server 3.1.6. After you correct any problems shown on the Doctor Report and check installed software component versions, complete the procedure in this section to verify that your DBDS is stable. Complete this procedure on one or more test DHCTs.

Note: This procedure applies to systems running the Cisco resident application (SARA) only.

Prerequisites

The test DHCTs 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 pay-per-view (PPV) event without specifically buying the event
- Must have a working return path and be capable of booting into two-way mode

Verifying DBDS Stability

Complete these steps to verify that your DBDS is stable.

Important: If this procedure fails, do *not* continue with the upgrade. 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.

Result: 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**, go to step 2.

– If **no**, contact Cisco Services.

❑ 2. Ping the DHCT.

- ❑ 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**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting staging issues.
- ❑ 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**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting missing IPG data.
- ❑ 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**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting PPV barkers.
- ❑ 10. Can test DHCTs buy a VOD program?
  - If **yes**, go to step 11.
  - If **no**, contact Cisco Services.

- ❑ 11. Do third-party applications load properly?
  - If **yes**, go to step 12.
  - If **no**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting the loading of application files.
- ❑ 12. Did every test in this section pass?
  - If **yes**, go to **Suspend the Billing System and Other Third-Party Applications**, next in this chapter.
  - If **no**, contact Cisco Services.

Suspend the Billing System and Other Third-Party Applications

Introduction

After you have verified that your DBDS is stable and before you install SARA Server 3.1.6, follow the instructions in this section to stop the billing system and other third-party applications.

Suspending Billing and Other Third-Party Applications

Before installing SARA Server 3.1.6, you need to 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 provider(s) 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, stop system components. Go to **Stop System Components**, next in this chapter.

Stop System Components

Introduction

After you have verified that your DBDS is stable and have suspended billing and third-party applications, stop the system components. This section describes how 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.

Before You Begin

Before you stop system components, first check for the following:

- Check to see if an IPG collection is active.
- Check to see when an IPG collection is scheduled.

Obtaining this information will help you decide whether you should allow the IPG collector to finish running before stopping system components. It can also help you decide whether you should run the IPG collector manually or allow it to run automatically after the upgrade is complete.

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 and the IPG collector is scheduled to run at 3:00 a.m., you will probably allow the collector to run automatically since you will have completed the installation before the start of the scheduled collection time.

Stopping System Components

The following instructions summarize the tasks required to stop system components. Detailed instructions for the tasks summarized below are provided in this section.

1. Determine when the IPG collector is scheduled to run and use this information to determine whether or not you should run the IPG collector manually after the installation is complete or allow the IPG collector to run automatically after the installation is complete.
2. If your system uses the Regional Control System (RCS) option, stop the Remote Network Control Server (RNCS) processes at each site in your RCS.

   Note: The RCS feature is available with SR 2.5 and later or SR 3.5 and later.
3. Stop Spectrum Network Management Service (NMS).
4. Stop SARA Server cron jobs and processes.
5. Stop DNCS cron jobs and processes.
6. Ensure no active database sessions are on the DNCS.

Determining When the IPG Collector Will Run

Determine when the IPG collector is scheduled to run and use this information to determine whether or not you should run the IPG collector manually after the installation is complete or allow the IPG collector to run automatically after the installation is complete.

Follow these steps to determine when the IPG collector will run.

- ❑ 1. From the DNCS Administrative Console, click the **Server Applications** tab.
- ❑ 2. Click **IPG**.

  Result: The IPG Server List window opens.
- ❑ 3. Double-click the icon () for the **IPG server**.

  Result: The IPG collectors display beneath the IPG server icon.
- ❑ 4. Select the icon () for the **IPG collector**, and click **File** and choose **Open**.

  Result: 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. Use this information to determine whether or not you should run the IPG collector manually after the installation is complete or allow the IPG collector to run automatically after the installation is complete.

  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 and the IPG collector is scheduled to run at 3:00 a.m., you will probably allow the collector to run automatically since you will have completed the installation before the start of the scheduled collection time.
- ❑ 6. After you determine how to ensure IPG data is correctly updated, you are ready to stop system components. Go to **Stopping RNCS Processes**, next in this section.

Stopping RNCS Processes

If your system uses the RCS feature, follow either of these methods to stop RNCS processes at each remote site in your RCS:

- Use the **siteControl** command to stop RNCS processes at each site in your system, one site at a time.
- Use the **siteCmd** command to stop RNCS processes at all sites in your system.

Note: If you are unsure whether or not the RCS feature is enabled, use the licenseAud utility to verify the status of this option. For assistance, go to **Determining Whether RCS Is Enabled**, at the end of this section.

> ⚠ **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.**

❑ 1. Open an xterm window on the DNCS as the dncs user.

❑ 2. Use one of the following methods to stop RNCS processes:

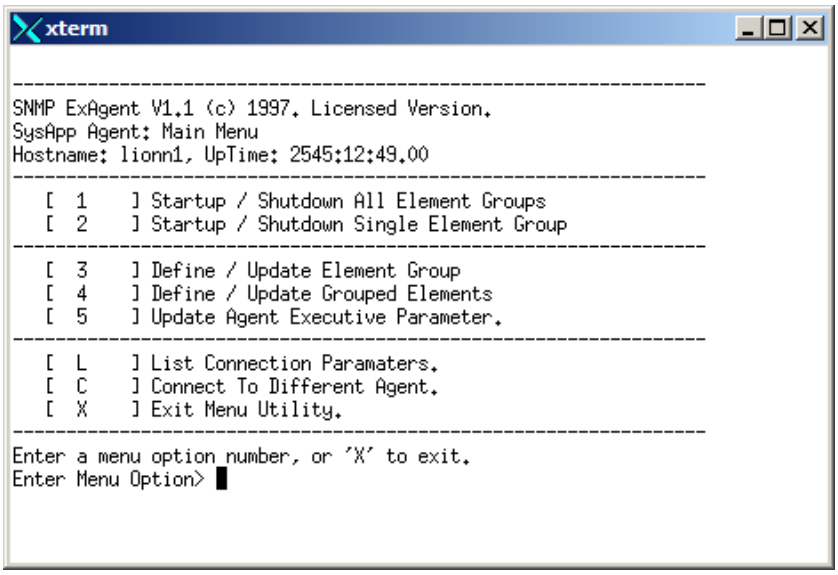
- To stop RNCS processes at all sites in your system, type **siteCmd –a lionnStop** and press **Enter**. When the system prompts you to verify that you want to "stop the LIONN" (all RNCS processes at all sites), go to step 3.
- To stop RNCS processes at each site in your system, one at a time, go to step 4.

❑ 3. Type **Y** (yes) and press **Enter** to confirm that you want to stop the processes on all sites in your system.

Result: The system informs you that it is stopping LIONN Applications (processes on all sites in your system), and displays the command prompt for the DNCS user. Go to **Stopping Spectrum NMS**, next in this section.

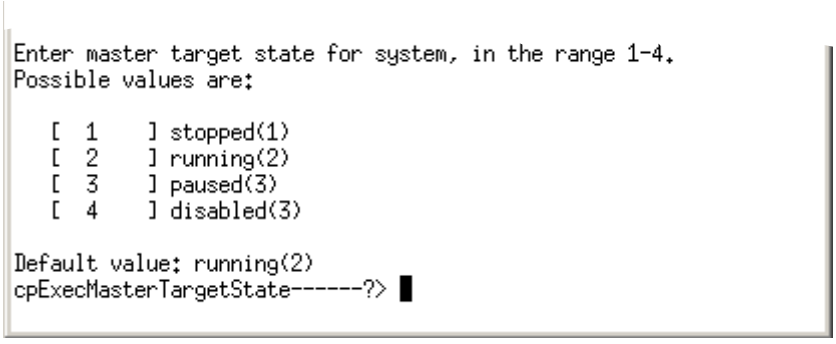
❑ 4. Type **siteControl (host name of the RNCS)** and press **Enter**. For example if houston is the name of the RNCS host, you would type **siteControl houston**.

Result: A menu opens, similar to the following example, that allows you to stop the RNCS processes at this site.



❑ 5. Type **1** to select **Startup/Shutdown All Element Groups** and press **Enter**.

Result: The system prompts you to select the target state of the element groups, similar to the following example.

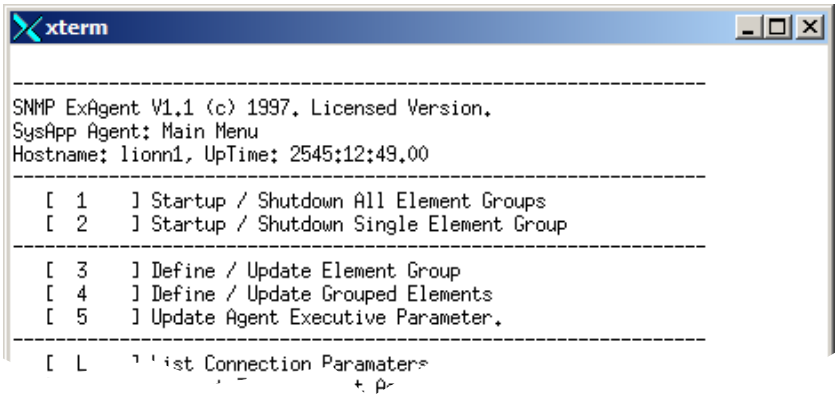


❑ 6. Type **1** to select Stopped, and press **Enter**.

Result: A confirmation prompt appears.

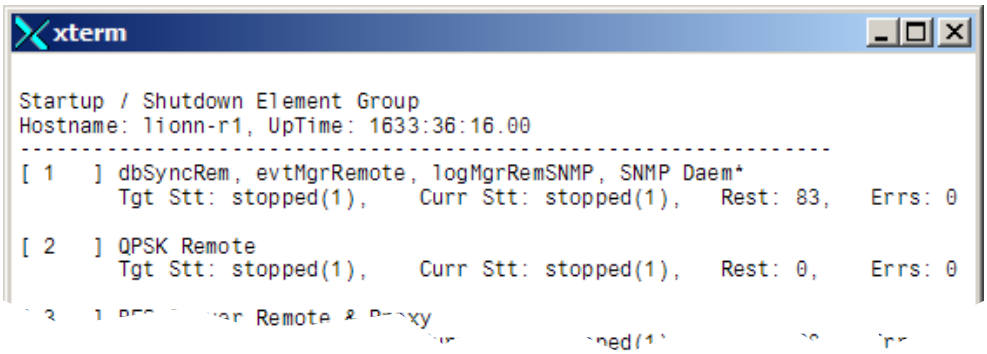
❑ 7. Type **y** to select **yes**, and press **Enter**.

Result: The main menu displays, similar to the following example.



❑ 8. Type **2** and press **Enter**.

Result: The system displays the status of each process, similar to the following example.



❑ 9. When all processes show a status of "stopped," follow the on-screen instructions to exit the utility.

❑ 10. Have you stopped RNCS processes at all sites in your RCS?

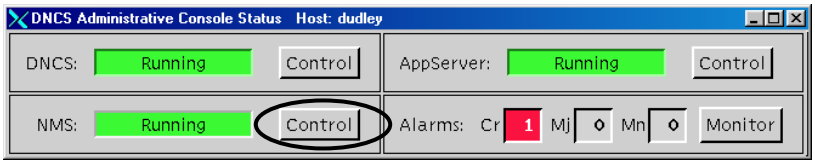
- If **yes**, go to step 11.
- If **no**, repeat steps 2 to 9 to stop the processes on another RNCS at another site in your system.

❑ 11. To exit, type **x** and then press **Enter**. Go to **Stopping Spectrum NMS**, next in this section.

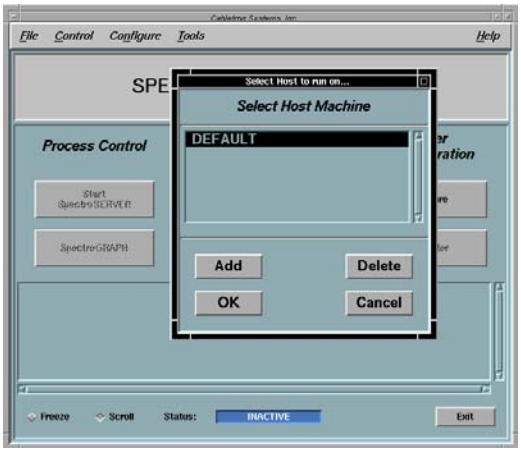
Stopping Spectrum NMS

Complete these steps to stop the Spectrum NMS.

❑ 1. On the DNCS Administrative Console Status window, click **Control** in the NMS area.

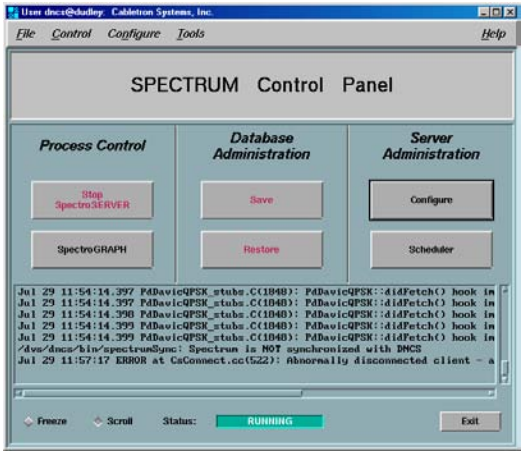


Result: The Select Host Machine window opens with the Spectrum Control Panel in the background.



❑ 2. Click **OK** to accept the default.

Result: The Select Host Machine window closes and the Spectrum Control Panel window moves to the forefront and displays a Status of Running.



❑ 3. Click **Stop SpectroSERVER**.

Result: A confirmation window opens.

❑ 4. Click **OK**.

Result: 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.

❑ 5. Click **Exit**.

Result: A confirmation window opens.

❑ 6. Click **OK**.

Result: The confirmation and Spectrum Control Panel windows close.

❑ 7. Go to **Stopping SARA Server Processes**, next in this section.

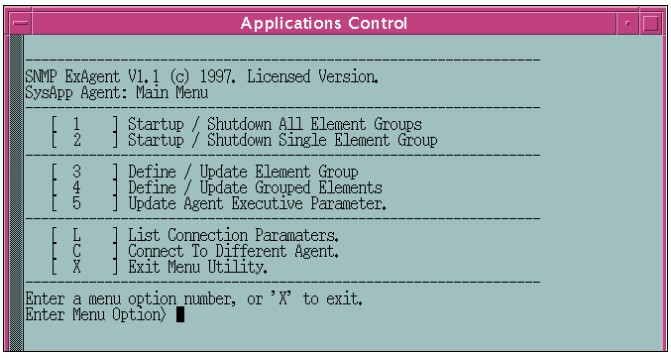
Stopping SARA Server Processes

If your site supports SARA, complete these steps to stop the SARA Server.

❑ 1. From the SARA server console, open an xterm window.

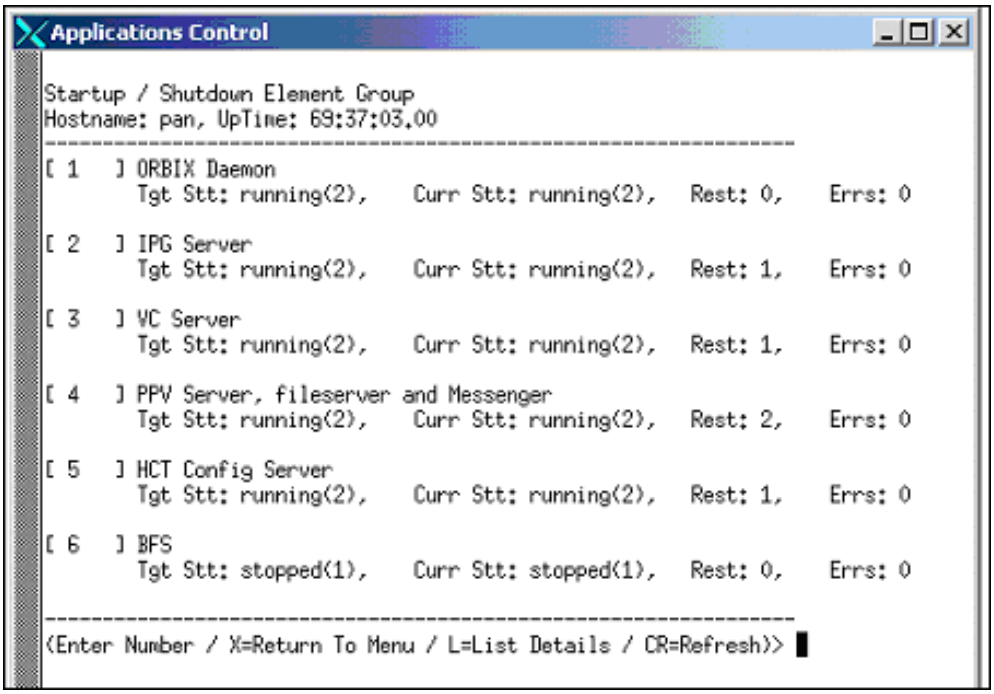
❑ 2. At the prompt, type **appControl** and press **Enter**.

Result: The Applications Control window opens, similar to the example shown here.



❑ 3. Type **2** to select Startup/Shutdown Single Element Group and press **Enter**.

Result: 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**.

Result: 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. Continue to press Enter every few seconds until all processes show Curr Stt: stopped(1).

Note: 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**, next in this section.

Stopping the cron Jobs on the SARA Server

Complete these steps to stop cron jobs on the SARA Server.

Important: This procedure pertains to sites that support SARA only.

- ❑ 1. Open a new xterm window on the SARA server.
- ❑ 2. At the prompt on the SARA Server xterm window, type **su -** and press **Enter**.

  Result: A password prompt appears.
- ❑ 3. Type the root user password and press **Enter**.

  Result: A prompt appears.
- ❑ 4. Type **ps -ef | grep cron** and press **Enter**.

  Result: The system lists the processes that are running and include the word cron.
- ❑ 5. Does the resulting list in step 4 include **/usr/sbin/cron**?
  - If **yes**, go to step 6.
  - If **no**, the cron jobs are already stopped on the SARA server. Skip the remaining steps in this procedure and go to **Stopping SARA Server Processes**, next in this chapter.
- ❑ 6. Type **/etc/rc2.d/S75cron stop** and press **Enter**.

  Result: The system stops all cron jobs on the SARA server.
- ❑ 7. Type **ps -ef | grep cron** again and press **Enter** to confirm that all of the cron jobs have stopped.

  Result: The system should list only the grep process.
- ❑ 8. Has the cron job process stopped and only the grep process is listed?
  - If **yes**, go to **Stopping the DNCS Processes**, next in this chapter.
  - If **no**, call Cisco Services.

Stopping the DNCS Processes

Complete these steps to stop the DNCS processes.

- ❑ 1. Close all remote connections to the DNCS.
- ❑ 2. On the DNCS, click the middle mouse button and select **DNCS Stop**.

  Result: The DNCS begins shutting down all of its processes. This takes approximately 2 minutes to complete.
- ❑ 3. Open an xterm window on the DNCS.
- ❑ 4. At the prompt, type **dncsControl** and press **Enter**.

  Result: The DNCS Control window opens.
- ❑ 5. Type **2** to select **Startup/Shutdown Single Element Group** and press **Enter**.

  Result: A list appears of all the DNCS processes and shows their current working states (*running* or *stopped*).
- ❑ 6. 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 show **Curr Stt: stopped(1)**.

  Note: You will not see a status message while the processes are shutting down.
- ❑ 7. When all processes show **Curr Stt: stopped(1)**, 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 window.
- ❑ 9. Go to **Stopping the cron Jobs on the DNCS,** next in this chapter.

Stopping the cron Jobs on the DNCS

Complete these steps to stop any cron jobs that are running 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 4.
  - If **no**, go to step 2.
- ❑ 2. At the prompt on the DNCS xterm window, type **su -** and press **Enter**.

  Result: A password prompt appears.
- ❑ 3. Type the root user password and press **Enter**.

  Result: A prompt appears.
- ❑ 4. Type **ps -ef | grep cron** and press **Enter**.

  Result: The system lists the processes that are running and include the word cron.
- ❑ 5. Does the resulting list in step 4 include **/usr/sbin/cron**?
  - If **yes**, go to step 6.
  - If **no**, the cron jobs are already stopped on the DNCS. Skip the remaining steps in this procedure and go to **Ensuring No Active Database Sessions on the DNCS**, next in this section.
- ❑ 6. Type **/etc/rc2.d/S75cron stop** and press **Enter**.

  Result: The system stops all cron jobs on the DNCS.
- ❑ 7. Type **ps -ef | grep cron** again and press **Enter** to confirm that all of the cron jobs have stopped.

  Result: The system should list only the grep process.
- ❑ 8. Has the cron job process stopped and only the grep process is listed?
  - If **yes**, go to **Ensuring No Active Database Sessions on the DNCS**, next in this section.
  - If **no**, call Cisco Services.

Ensuring No Active Database Sessions on the DNCS

Complete these steps to ensure that there are no active database sessions on the DNCS, after you stop DNCS processes.

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 4.
  - If **no**, go to step 2.
- ❑ 2. At the prompt on the DNCS xterm window, type **su -** and press **Enter**.

  Result: A password prompt appears.
- ❑ 3. Type the root user password and press **Enter**.

  Result: A prompt appears.
- ❑ 4. Type **. /dvs/dncs/bin/dncsSetup** and press **Enter**.

  Important: Be sure to type a period (**.**) followed by a space at the beginning of this command.

  Result: The system establishes the root user environment followed by a prompt.
- ❑ 5. Type **showActiveSessions** and press **Enter**.
- ❑ 6. Your next step depends on which message appeared as a result of typing the command in step 5.
  - If the message indicates that the **INFORMIXSERVER is idle**, go to **Install the SARA Server Software**, next in this chapter.
  - If the message indicates that there are **active sessions**, go to step 7.
- ❑ 7. Type **killActiveSessions** and press **Enter**.

  Result: The system removes all active sessions from the database.
- ❑ 8. Type **/dvs/dncs/bin/stopSOAPServers** and press **Enter**.

  Result: The system stops any SOAP servers that are still running.
- ❑ 9. Type **showActiveSessions** again and press **Enter** to confirm that there are no active sessions.
- ❑ 10. Did a message appear indicating that there are active sessions?
  - If **yes**, contact Cisco Services.
  - If **no**, go to **Install the SARA Server Software**, later in this chapter.

Determining Whether RCS Is Enabled

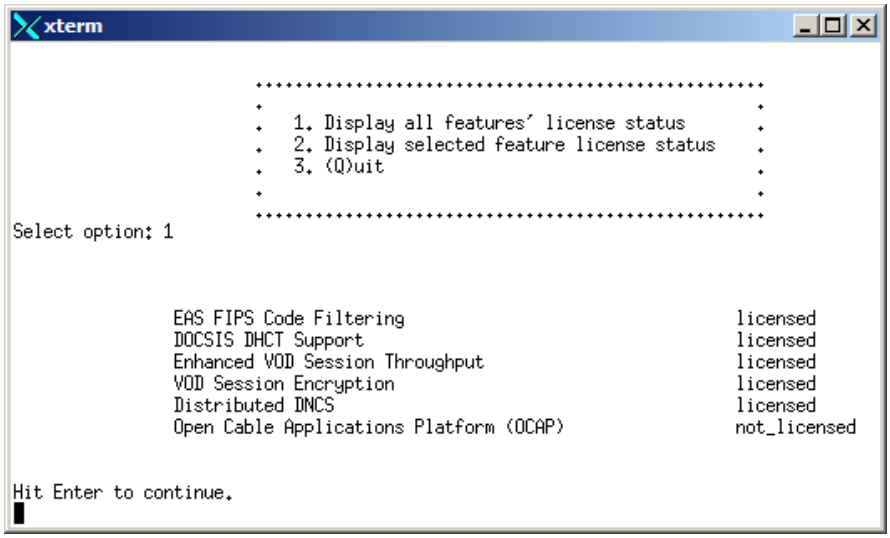
Complete these steps to determine whether or not the RCS feature is enabled on your system.

1. Open an xterm window on the DNCS as the dncs user.
2. Type **cd /dvs/dncs/bin** and press **Enter**.

   Result: The system makes /dvs/dncs/bin the working directory.
3. Type **licenseAud** and press **Enter**.

   Result: The main menu of the License Audit utility opens.
4. Type **1** and press **Enter**.

   Result: The utility displays the license status for all licensable features, similar to the following example.



5. Is the **Distributed DNCS** feature listed as **licensed**?
   - If **yes**, the RCS feature is enabled on your system. Go to **Stopping RNCS Processes**, earlier in this section.
   - If **no**, the RCS feature is disabled on your system. Go to **Stopping Spectrum NMS**, earlier in this section.
6. Press **Enter** to continue.
7. Type **3** and press **Enter** to close the License Audit utility.
8. Type **exit** and press **Enter** to close the xterm window.

Install the SARA Server Software

Introduction

This section describes how to install SARA Server software onto the SARA Server.

Before You Begin

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

Installing the SARA Server Software

Complete these steps to install the SARA Server software.

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

- ❑ 1. Open an xterm window on the SARA server.
- ❑ 2. From an xterm window on the SARA server, are you logged into the SARA Server as root user?
  - If **yes**, go to step 4.
  - If **no**, go to step 3.
- ❑ 3. At the prompt on the SARA Server xterm window, type **su -** and press **Enter**.

  Result: A password prompt appears.
- ❑ 4. Type the root user password and press **Enter**.

  Result: A prompt appears.
- ❑ 5. Place the CD containing **SARA Server software version 3.1.6** into the CD drive of the SARA Server.

  Result: The system automatically mounts the CD to /cdrom within 30 seconds.
- ❑ 6. Type **df -n** and then press **Enter**.

  Result: A list of the mounted and unmounted file systems appears.

  Note: The presence of **/cdrom** in the output confirms that the system correctly mounted the CD.
- ❑ 7. Type **cd /cdrom/cdrom0** and then press **Enter**.

  Result: The /cdrom/cdrom0 directory becomes the working directory.

❑ 8. Type **./install_pkg** and then press **Enter**.

Important: Make certain that there are no spaces between the dot (.) and slash (/).

Result: The system prompts you to confirm that you want to proceed with the installation.

❑ 9. Type **y** and press **Enter** to start the installation.

Result: The Install Configuration screen opens and lists the installation configuration settings, similar to the following example:

```
************************ Installation Configuration ************************
**                                                                        **
**     0)  APPSERV_HOST          =                          'appserv'     **
**     1)  DNCS_HOST             =                        'dncs_host'     **
**     2)  DNCSATM_IP            =                      192.168.100.1     **
**     3)  APPSERVATM_IP         =                     192.168.100.10     **
**     4)  INFORMIXSERVER        =                  'dncsatmDbServer'     **
**     5)  NDS_SUPPORTED         =                               'NO'     **
**     6)  INSTALLED_IN_COUNTRY  =                             'USA'     **
**                                                                        **
****************************************************************************
Number to change ("0", "1", ...), "c" to continue, or "q" to quit:
```

❑ 10. Do the settings listed match those of your installation environment?

- If **yes**, go step 12.
- If **no**, go to step 11.

❑ 11. 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, continue with step 12.

❑ 12. Type **c** to continue and press **Enter** to start the installation.

Result: 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 in this directory on the SARA Server: /var/sadm/system/logs.
- The log file for the SARA Server software is called **SAIapsrv_3.1.6.x_install.log**.

❑ 13. Did the system indicate that the installation was successful?

- If **yes**, go to step 14.
- If **no**, contact Cisco Services for assistance.

- ❑ 14. Follow these instructions to eject the CD:
  - Type **cd /** and then press **Enter**.
  - Type **eject cdrom** and press **Enter**.

  Result: The CD ejects.
- ❑ 15. Remove the CD from the CD drive and store it in a secure location.
- ❑ 16. Go to **Verify SARA Server Versions**, next in this chapter.

Verify SARA Server Versions

Introduction

After you install the required software for SARA Server 3.1.6, 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 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**:

Note: The –l is a lowercase L.

Result: 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.

❑ 2. Does the **VERSION** field show **3.1.6.X** and the **STATUS** field show **completely installed**?

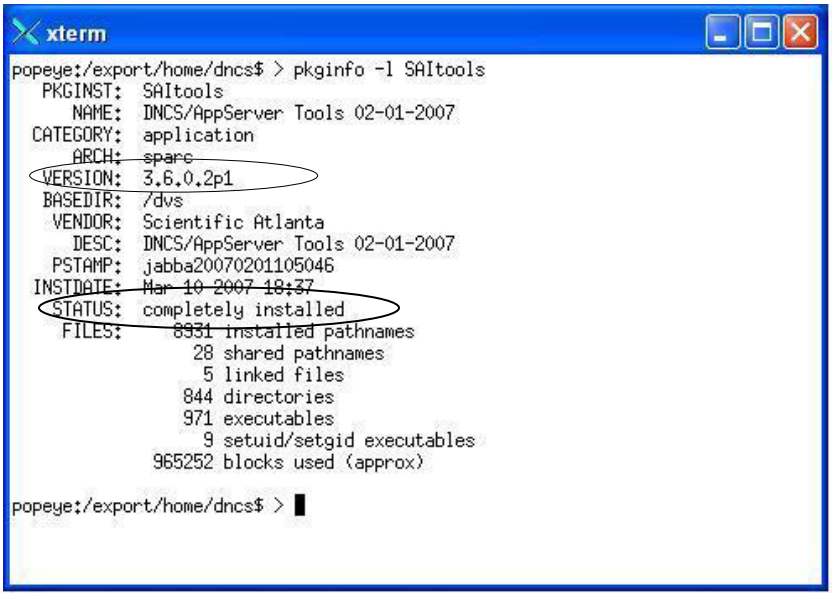
- If **yes**, go to step 3.
- If **no**, contact Cisco Services for assistance.

Note: Any number can appear for the build number (the fourth digit of the version number).

❑ 3. Type **pkginfo -l SAItools** and press **Enter**:

Note: The –l is a lowercase L.

Result: The system displays details about the SARA Server Toolkit software package (SAItools), similar to the following example. The software version number and status are circled in this example.



❑ 4. Does the **VERSION** field show **3.6.0.X** and the **STATUS** field show **completely installed**?

- If **yes**, you have verified that the correct software version was installed on the SARA Server. Go to **Reboot the DNCS and SARA Server**, next in this chapter.
- If **no**, contact Cisco Services for assistance.

Note: Any number can appear for the build number (the fourth digit of the version number).

Reboot the DNCS and the SARA Server

Introduction

After you verify installed software component versions, you must reboot the DNCS and SARA Server.

Rebooting the DNCS and SARA Server

Complete these steps to reboot the DNCS and SARA Server.

- ❑ 1. At the root prompt on the SARA Server, type **/usr/sbin/shutdown -y -g0 -i0** and press **Enter**.

  Result: The SARA Server shuts down and an ok prompt appears.

- ❑ 2. At the root prompt on the DNCS, type **/usr/sbin/shutdown -y -g0 -i6** and press **Enter**.

  Result: The DNCS reboots, and the CDE Login window appears.

- ❑ 3. Log on to the DNCS as dncs user.

- ❑ 4. At the ok prompt on the SARA Server, type **boot** and press **Enter**.

  Result: The SARA Server reboots and the CDE Login window appears.

- ❑ 5. Log on to the SARA Server as dncs user.

- ❑ 6. Go to **Restart System Components**, next in this chapter.

Restart System Components

Introduction

After you reboot the DNCS and the SARA Server, 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. Restart cron jobs, if necessary.
5. Restart the billing system and other Third Party Applications.
6. If using the RCS feature, restart RNCS processes at each remote site.

Restarting Spectrum

Complete these steps to restart the Spectrum NMS.

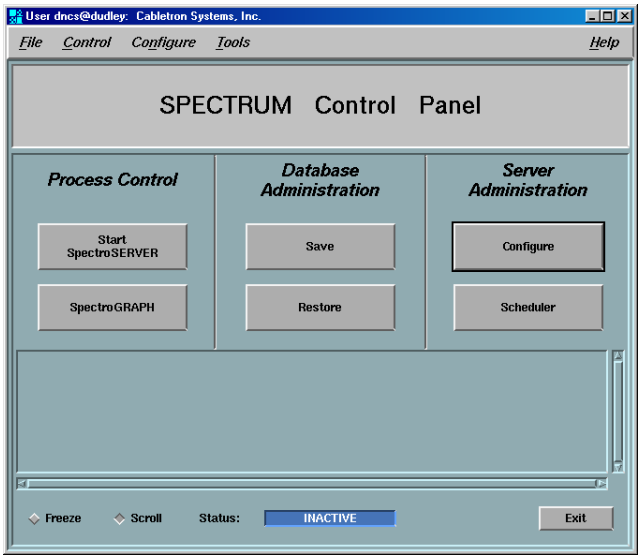
❑ 1. On the DNCS, click the middle mouse button and select **Administrative Console**.

❑ 2. On the DNCS Administrative Console Status window, click **Control** in the NMS area.

Result: The Select Host Machine window opens with the Spectrum Control Panel in the background.

❑ 3. Click **OK**.

Result: The Select Host Machine window closes and the Spectrum Control Panel moves to the forefront.



- ❑ 4. Click **Start SpectroSERVER**.

  Result: 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**.

  Result: A confirmation window opens

- ❑ 6. Click **OK**.

  Result: The confirmation and Spectrum Control Panel windows close.

- ❑ 7. Go to **Restarting the DNCS**, next in this section.

Restarting the DNCS

Complete these steps to restart the DNCS.

- ❑ 1. Log in to the DNCS as dncs user.
- ❑ 2. On the DNCS, click the middle mouse button and select **Administrative Console**.

  Result: The DNCS Administrative Console window opens, along with the DNCS Administrative Console Status window.

- ❑ 3. On the DNCS Administrative Console Status window, click the **Control** (or **Monitor**) button in the DNCS area.

  Result: 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.

- ❑ 4. Click the middle mouse button and select **DNCS Start**.

  Result: 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.

- ❑ 5. Open an xterm window on the DNCS.
- ❑ 6. At the prompt, type **dncsControl** and press **Enter**.

  Result: The DNCS Control window appears.

❑ 7. Type **2** to select **Startup/Shutdown Single Element Group** and press **Enter**.

Result: A list appears of all the DNCS processes and shows their current working states (*running* or *stopped*).

❑ 8. Press **Enter** to update the working states of the DNCS 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 starting up.

❑ 9. When all processes, except [17] GUI Servers, show **Curr Stt: running(2)**, follow the on-screen instructions to close the DNCS Control window.

Note: GUI Servers will always show Curr Stt: stopped (1).

❑ 10. Close any windows that may be open on the DNCS, except the xterm and the DNCS Monitor windows.

❑ 11. Go to **Restarting the SARA Server**, next in this section.

Restarting the SARA Server

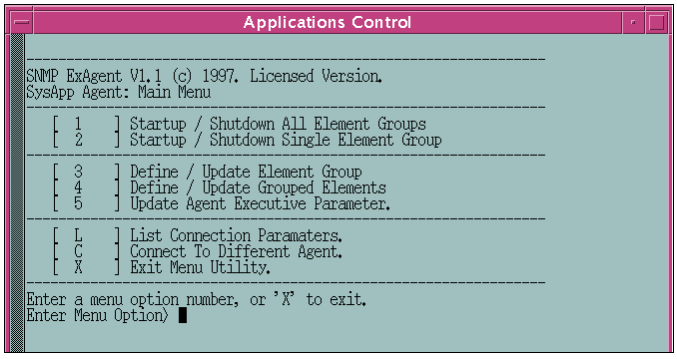
The SARA Server processes may have restarted on their own. Follow these instructions to check if the SARA Server processes have started, and then to start them, if necessary.

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.

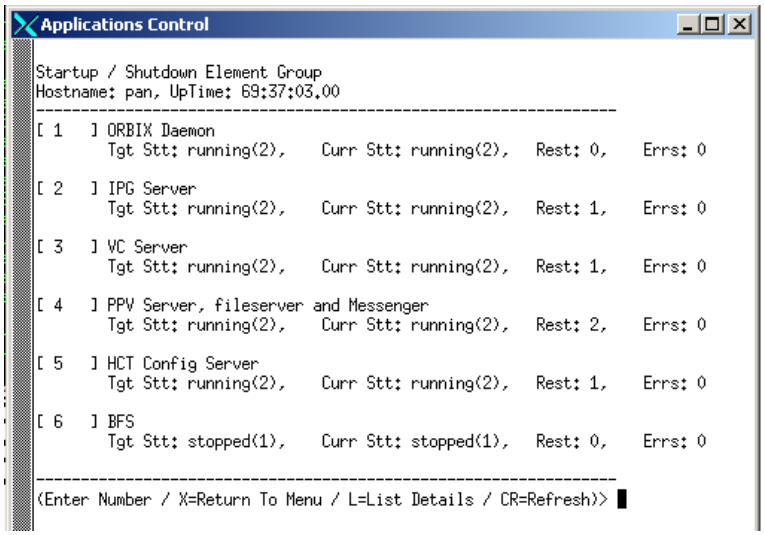
❑ 1. On the SARA Server xterm window, type **appControl** and press **Enter**.

Result: The Applications Control window opens.



❑ 2. Type **2** to select Startup/Shutdown Single Element Group and press **Enter**.

Result: A list appears of all the SARA Server processes and shows their current working states (running or stopped).



❑ 3. Does the word **running** appear next to the current state field (Curr Stt) of each process?

- If **yes**, the SARA Server restarted automatically. Go to **Restart Cron Jobs**, next in this section.
- If **no**, go to step 4.

❑ 4. Click the middle mouse button and select **App Serv Start**.

Result: The SARA Server begins restarting all of its processes.

❑ 5. 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(1).

Note: You will not see a status message while the processes are restarting.

❑ 6. 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.

❑ 7. Ensure that cron jobs are restarted. Go to **Restarting cron Jobs**, next in this section.

Restarting cron Jobs

Follow these instructions to restart the cron jobs on the DNCS and SARA Server.

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

- ❑ 1. If necessary, open an xterm window on the DNCS.
- ❑ 2. Follow these instructions to log in to the xterm window as root user.
  a) Type **su -** and then press **Enter**.
  Result: The **password** prompt appears.
  b) Type the root password and then press **Enter**.
- ❑ 3. Type **/etc/rc2.d/S75cron start** and then press **Enter**.
  Result: The system restarts all cron jobs.
- ❑ 4. Confirm that the cron jobs have restarted by typing **ps -ef | grep cron** and then press **Enter**.
  Result: The system should list **/usr/sbin/cron**.
- ❑ 5. Type **exit** and then press **Enter** to log out the root user.
- ❑ 6. If necessary, open an xterm window on the SARA Server.
- ❑ 7. Follow these instructions to log in to the xterm window as root user.
  a) Type **su -** and then press **Enter**.
  Result: The **password** prompt appears.
  b) Type the root password and then press **Enter**.
- ❑ 8. Type **/etc/rc2.d/S75cron start** and then press **Enter**.
  Result: The system restarts all cron jobs.
- ❑ 9. Confirm that the cron jobs have restarted by typing **ps -ef | grep cron** and then press **Enter**.
  Result: The system should list **/usr/sbin/cron**.
- ❑ 10. Type **exit** and then press **Enter** to log out the root user.
- ❑ 11. If necessary, manually run the IPG collector.
- ❑ 12. Go to **Restarting Billing and Other Third-Party Applications**, next in this section.

Restarting Billing and Other Third-Party Applications

Contact your billing vendor to restart the billing interface. If you stopped any third-party interfaces prior to installing the SARA Server 3.1.6 software, restart those interfaces as well.

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**, next in this section.
- If your system does not use the RCS option, go to **System Validation Tests**, next in this chapter.

Note: If you are unsure whether or not your system uses the RCS option, go to **Determining Whether RCS Is Enabled**, at the end of this section.

Restarting RNCS Processes

If your system uses the RCS feature, follow either of these methods to restart Remote Network Control Server (RNCS) processes at each remote site in your RCS:

- Use the **siteControl** command to restart RNCS processes at each site in your system, one site at a time.
- Use the **siteCmd** command to restart RNCS processes at all sites in your system.

❑ 1. Open an xterm window on the DNCS as the dncs user.

❑ 2. Use one of the following methods to restart RNCS processes:

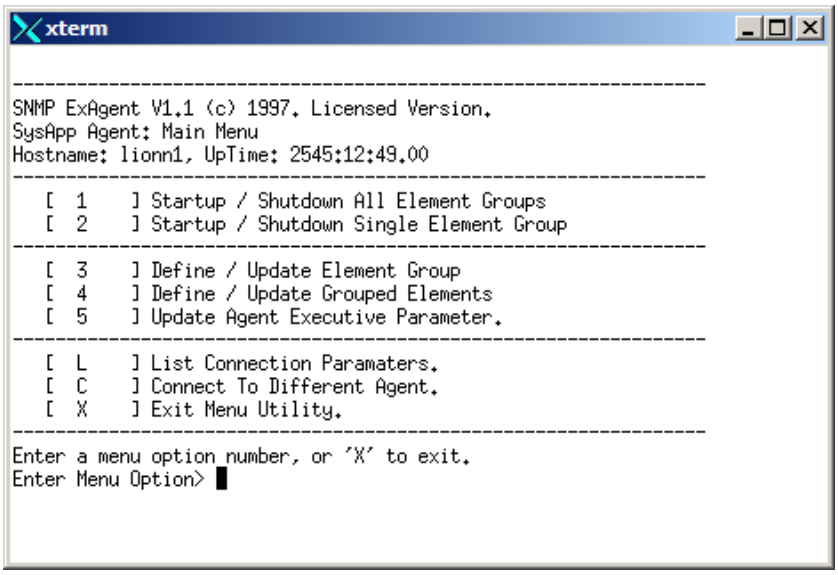
- To restart RNCS processes at all sites in your system, type **siteCmd –a lionnStart** and press **Enter**. When the system prompts you to verify that you want to "start the LIONN" (all RNCS processes at all sites), go to step 3.
- To restart RNCS processes at each site in your system, one at a time, go to step 4.

❑ 3. Type **Y** (yes) and press **Enter** to confirm that you want to restart the processes on all sites in your system.

Result: 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 **System Validation Tests**, next in this chapter.

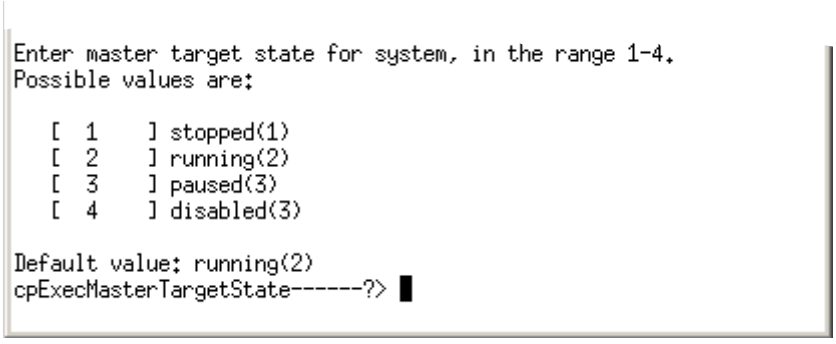
❑ 4. Type **siteControl (host name of the RNCS)** and press **Enter**. For example if houston is the name of the RNCS host, you would type **siteControl houston**.

Result: A menu opens, similar to the following example, that allows you to start the RNCS processes at this site.



❑ 5. Type **1** to select **Startup/Shutdown All Element Groups** and press **Enter**.

Result: The system prompts you to select the target state of the element groups, similar to the following example.

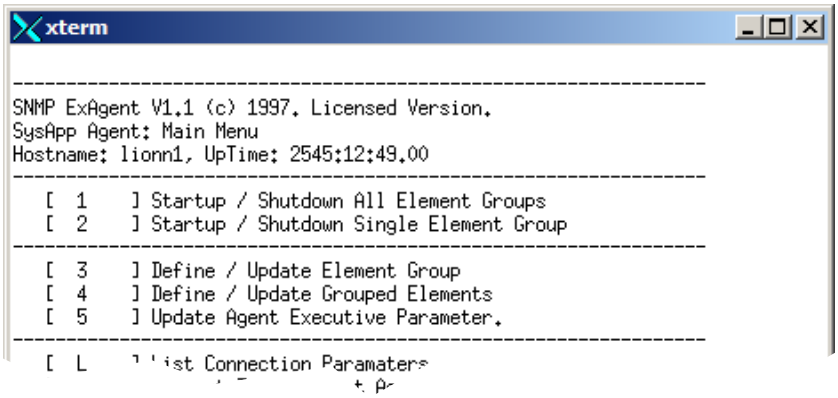


❑ 6. Type **2** to select Running, and press **Enter**.

Result: A confirmation prompt appears.

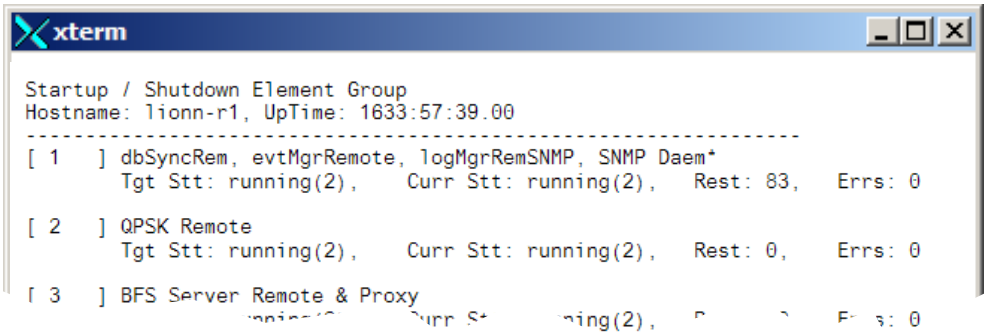
❑ 7. Type **y** to select **yes**, and press **Enter**.

Result: The main menu displays, similar to the following example.



❑ 8. Type **2** and press **Enter**.

Result: The system displays the status of each process, similar to the following example.



❑ 9. When all processes show a status of "running," follow the on-screen instructions to exit the utility.

❑ 10. Have you restarted RNCS processes at all sites in your RCS?

- If **yes**, go to step 11.
- If **no**, repeat steps 2 to 9 to restart the processes on another RNCS at another site in your system.

❑ 11. To exit, type **x** and then press **Enter**.

❑ 12. If necessary, manually run the IPG collector.

❑ 13. Go to **System Validation Tests**, next in this chapter.

Determining Whether RCS Is Enabled

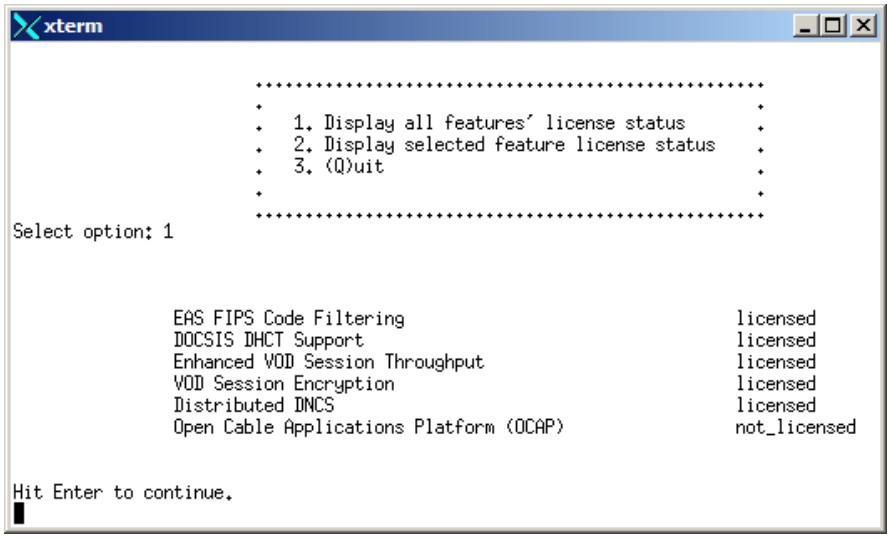
Complete these steps to determine whether or not the RCS feature is enabled on your system.

1. Open an xterm window on the DNCS as the dncs user.
2. Type **cd /dvs/dncs/bin** and press **Enter**.

   Result: The system makes /dvs/dncs/bin the working directory.
3. Type **licenseAud** and press **Enter**.

   Result: The main menu of the License Audit utility opens.
4. Type **1** and press **Enter**.

   Result: The utility displays the license status for all licensable features, similar to the following example.



5. Is the Distributed DNCS feature listed as licensed?
   - If yes, the RCS feature is enabled on your system. Restart RNCS processes. Go to **Restarting RNCS Processes**, earlier in this section.
   - If no, the RCS feature is disabled on your system. Go to **System Validation Tests**, next in this chapter.
6. Press **Enter** to continue.
7. Type **3** and press **Enter** to close the License Audit utility.
8. Type **exit** and press **Enter** to close the xterm window.

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 these steps to verify that SARA Server 3.1.6 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.

Result: 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**, go to step 2.

– If **no**, contact Cisco Services.

❑ 2. Ping the DHCT.

- ❑ 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**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting.
- ❑ 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**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting.
- ❑ 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**, refer *to Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting.
- ❑ 10. Do third-party applications load properly?
  - If **yes**, go to step 11.
  - If **no**, refer to *Correcting Session Issues Relating to the BFS BIG and BFS QAM Modulator Technical Bulletin* for help in troubleshooting.
- ❑ 11. Did every test in this section pass?
  - If **yes**, you have successfully installed SARA Server 3.1.6 on the SARA Server.
  - If **no**, contact Cisco Services.

Chapter 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.

Appendix A
SARA Server 3.1.6 Rollback Procedure

Overview

Introduction

If you notice that your system is unstable after having installed SARA Server 3.1.6, 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 SARA Server 3.1.6. 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.

In This Appendix

This appendix contains the following topic.

Roll Back SARA Server 3.1.6

Introduction

In the unlikely event that you experience a problem installing this SARA Server, the rollback process involves reinstalling the previous versions of the SAIapsrv and SAItools packages for the SARA Server.

Note: You identified these versions and set aside this CD in the **If You Need to Roll Back** section of Chapter 1.

Rolling Back SARA Server 3.1.6

Complete these steps to roll your SARA Server software back to the previous release before you installed SARA Server 3.1.6.

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

- ❑ 1. Locate the previous version installation CD that you identified in the **If You Need to Roll Back** section of Chapter 1.

  Note: If you were unable to locate this CD and instead made a backup of SARA Server 3.1.2, locate the backup tape that you made as instructed in the **If You Need to Roll Back** section of Chapter 1.

- ❑ 2. Complete the procedures in the following sections of Chapter 2 of this publication:

  a) Stop System Components

  b) Stop the cron Jobs

  c) Ensure No Active Sessions on the DNCS

- ❑ 3. Are you restoring from the previous installation CD?

  - If **yes**, go to step 4.
  - If **no**, refer to *DBDS Backup and Restore Procedures for SR 2.2 and SR 3.2, SR 2.4 and SR 3.4, SR 2.5 and SR 3.5, and SR 3.3* 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.

  Result: A password prompt appears.

- ❑ 6. Type the **root** user password.

  Result: A prompt appears.

- ❑ 7. Type **pkgrm SAIapsrv SAItools** and press **Enter**.

  Result: The system prompts you to confirm that you want to remove the packages.

- ❑ 8. Type **Y** for yes then place the CD labeled similar to **SARA Server** into the CD drive of the SARA Server.

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

  Result: The system automatically mounts the CD to /cdrom within 30 seconds.

- ❑ 9. Type **df -n** and then press **Enter**.

  Results:

  - A list of the mounted file systems appears.
  - The presence of **/cdrom** in the output confirms that the system correctly mounted the CD.

- ❑ 10. Type **cd /cdrom/cdrom0** and then press **Enter**.

  Result: The /cdrom/cdrom0 directory becomes the working directory.

- ❑ 11. Type **./install_pkg** and then press **Enter**.

  Important: Make certain that there are no spaces between the dot (.) And the slash (/).

  Result: A message asks you to confirm that you want to proceed with the installation.

❑ 12. Type **y** and press **Enter** to start the installation.

Result: The Installation Configuration screen opens and lists the installation configuration settings.

❑ 13. Do the settings listed match those of your installation environment?

- If **yes**, go to step 15.
- If **no**, go to step 14.

❑ 14. 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 matches the option that is 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 is shown 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, continue with step 15.

❑ 15. Type **c** to continue and press **Enter** to start the installation.

Result: When the installation is complete, the system displays a message stating that the installation was successful, lists the directory where the 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 in this directory on the SARA Server: /var/sadm/system/logs.
- The log file for the SARA Server software is called **SAIapsrv_3.1.x.x_install.log**.

- ❑ 16. Follow these instructions to eject the CD:
  a) Type **cd /**and then press **Enter**.
  b) Type **eject cdrom** and then press **Enter**.

  Result: The CD ejects.
- ❑ 17. Remove the CD from the CD drive and store it in a secure location.
- ❑ 18. At the root user prompt on the SARA Server, type **/usr/sbin/shutdown -y -g0 -i0** and then press **Enter**.

  Result: The SARA Server shuts down and an ok prompt appears.
- ❑ 19. At the root user prompt on the DNCS, type **/usr/sbin/shutdown -y -g0 -i6** and then press **Enter**.

  Result: The DNCS reboots and a login prompt appears.
- ❑ 20. At the login prompt on the DNCS, log on as **dncs**.
- ❑ 21. On the SARA Server, type **boot** at the ok prompt and press **Enter**.
- ❑ 22. At the login prompt on the SARA Server, log on as **dncs**.
- ❑ 23. Complete the procedures in the **Restart System Components** section of Chapter 2 of this publication
- ❑ 24. Follow the steps in the **Verify DBDS Stability** section of Chapter 2 of this publication to ensure that the system is stable after the rollback.

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