System Release i4.3
Release Notes

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

Trademark Acknowledgments

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at **www.cisco.com/go/trademarks**.

Third party trademarks mentioned are the property of their respective owners.

The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1009R)

Publication Disclaimer

Cisco Systems, Inc. assumes no responsibility for errors or omissions that may appear in this publication. We reserve the right to change this publication at any time without notice. This document is not to be construed as conferring by implication, estoppel, or otherwise any license or right under any copyright or patent, whether or not the use of any information in this document employs an invention claimed in any existing or later issued patent.

Copyright

Contents

About This Guide

Introduction

System Release i4.3 (SR i4.3) is a minor release built on System Release i4.2.2 (SR i4.2.2). These release notes contain the following information:

- Descriptions of the standard features introduced with this system release
- Information you need to prepare your site for an upgrade to SR i4.3
- General information on contacting us
- A list of software versions installed with the base SR i4.3 system

Known Issues

There are no known issues in this release.

Online Help

The online Help loaded with your system reflects a previous release. A PDF of Online Help for SR i4.3 is available on the Chennai Support Website at the following URL:

http://sainchesns02/index.htm

Audience

These release notes are written for sales and program managers, system operators, and field technicians.

Scope

These release notes provide an executive overview of SR i4.3. If you have questions about this release or require more detailed information call Cisco Services at 1-866-787-3866.

Document Version

This is the second formal release of this document.

1

Why Choose System Release i4.3?

Introduction

SR i4.3 includes many features and enhancements implemented at the request of our customers. This chapter provides an "at-a-glance" look at the features and enhancements for SR i4.3. Each feature and enhancement is described in detail later in this chapter.

In This Chapter

What Are the New Features in SR i4.3?

External Download Interface Support

Prior to this release, the set-top Image (ROM) management was performed only on the user interface of the DNCS. This release offers an external web (SOAP based) interface to allow any third-party front-end application to perform the set-top image management activities.

This external interface enables the third-party web service client applications to perform the following set-top image management activities:

- Upload images to the DNCS
- Delete images from the DNCS
- Send CVT triggers to a set-top or group of set-tops through the DNCS
- Query the DNCS for the list of firmware files uploaded, groups, DHCT versions, image carousels, and CVT triggers available

EMM Carousel Improvements

Improvements have been made to the EMM carousel to address the following issues that were encountered in previous releases:

- The DNCS did not fully utilize the EMM carousel because the distribution cycle was configured in days. With this release, you can configure the distribution cycle in hours.
- A new Refresh EMM Cycle started only after the configured period of the last cycle ended, even though all set-tops are refreshed.
- Some EMM Packets were dropped because of heavy BOSS activity (for example, ModDhctConfig/DhctInstantHit) taking place at the same time as the refresh cycle.

The following EMM Carousel improvements have been made to address the challenges above and enable the system to:

- Refresh EMMs at a faster rate
- Configure the Refresh EMM cycle in order of hours to increase the distribution cycle rate and to allow for multiple cycles in a day
- Allow users to manage the EMM pipe bandwidth dynamically between the following contributing sources
  - Refresh EMMs

- Staging EMMs
- Adhoc EMMs (EMMs that are sent out by the Instant hit and ModifyDhctCfg BOSS commands)
- PPV EMMs
- Other Conditional Access (CA) messages

Improved Database Performance

SR i4.3 uses Informix version 11.10.FC2W2 to improve the performance of accessing the database at the database layer. This version of Informix offers the following benefits:

- **Restricting Database Creation.** You can restrict which users can create Informix databases.
- **Server Utilities Check for Secure Environment Before Starting**. Server utilities now check if the environment is secure by testing for certain conditions before starting.
- **Storing Multiple Table or Index Fragments in a Single Dbspace.** You can store multiple fragments of the same table or index in a single dbspace, reducing the total number of dbspaces needed for a fragmented table.
- **Increase Size of Chunks, Chunk Offsets, and Number of Allowable Chunks**. Chunks and chunk offsets now have a limit of 4 TB. The previous limit was 2 GB. The number of chunks per database server is now 32,766. The previous limit was 2,047.
- **Improved Transaction Processing with the B-tree Scanner.** The new B-tree scanner improves transaction processing for logged databases when rows are deleted from a table with indexes. The B-tree scanner threads remove deleted index entries and re-balance the index nodes. The B-tree scanner automatically determines which index items are to be deleted, based on a priority list.
- **Improved Priority Management for the Buffer Manager**. Buffers are now divided into two classes: High priority class is used for frequently accessed buffers, and low priority class is used for infrequently accessed buffers. Priority classification is dynamic, based on observed access frequencies of the buffers. The CPU usage of the buffer manager is reduced, thus improving performance.
- **Configurable Default Lock Modes**. You can set the default lock mode to page or row for new tables.
- **RTO Policy to Manage Server Restart.** You can now create a recovery time objective (RTO) policy to set the amount of time, in seconds, that Informix Dynamic Server has to recover from a problem after you restart the server.

- **Non-blocking Checkpoints.** Informix Dynamic Server has replaced its checkpoint algorithm with a virtually non-blocking checkpoint algorithm. Informix Dynamic Server now allows applications to continue to process transactions while checkpoint processing is occurring. This feature eliminates fuzzy checkpoints.
- **Monitor and Analyze Recent SQL Statements**. You can now monitor the performance of recently executed SQL statements by configuring SQL statement tracing. This feature provides statistical information about each SQL statement executed on the system.

2

What's Fixed?

Introduction

This chapter provides a list of known issues that have been resolved with SR i4.3.

For More Information

The list in this chapter is not intended to be comprehensive. If you have questions about a particular change request (CR), contact your account representative.

Note: There are no Critical issues or warnings in this software release.

In This Chapter

Implemented CRs

Introduction

This section provides a description of the CRs implemented in SR i4.3.

ID #	Title and Description
69645-09	emmDistributor does not close DB connections when closing a thread Impact: The emmDistributor process has been corrected to clean up the database connections when closing threads.
93191-02	Device got deleted, on editing the Sat transport Impact: The mmds/satellite configuration Web user interface has been modified to include validation for duplicate TSIDs.
95783-03	Extended CVT creation is not definitive with duplicate TSID Impact: The DNCS code has been modified to generate the extended CVT in ascending order of the TSID.
97110	dncsDbData -u option for taking backup on the hard disk drive is not working Impact: The long database table names have been corrected for the ASCII unload operation to succeed.
97647-03	hctmInd cored when dncs bounced Impact: The hctmInd process has been corrected to not core on startup when MQAM is Home Transport. **Note:** Home Transport is where the set-top parks the tuner when in standby.
97724-03	oitRemote and bfsRemote getting bounced continuously during batch installation Impact: The oitPump process has been corrected to not core because of a logging race condition.
98999-02	Updating the GoDB services in bfsServer results in the bfsServer process being core dumped Impact: The bfsServer has been corrected to not core during a createFile BFS API exercise.
99013-02	emmDistributor leaks Memory Impact: Memory leaks in the emmDistributor process have been corrected.
99774	System allows only 127 MMM message groups Impact: The MMMServer has been corrected to allow for up to 65535 messages to be created.
102370-05	camPsm - no ECMs delivered for PCG sessions Impact: The system now sends ECMs for PCG sessions.

ID #	Title and Description
108205-02	CAM processes found to be the cause for memory leak in oninit processes Impact: Applied corrections to clean up Informix resources (cursors and statements) to prevent Informix leaks.
109035-01	bossServer memory leaks Impact: The bossServer memory leaks are now corrected.
110759-02	camAuditor memory leaks and cores Impact: Corrected the camAuditor core when the network binding feature is enabled.
110899-02	PassThru memory leaks in i4.4.0.3 Impact: Corrected PassThru memory leaks.

3

What Are the Site Requirements?

Introduction

This chapter provides information that helps you prepare for the upgrade to SR i4.3. Read this entire chapter before you upgrade.

If you have questions or would like to order our products, please contact Cisco Services at 1-866-787-3866.

In This Chapter

Upgrade Logistics

Introduction

This section contains information that can help system operators plan the upgrade to SR i4.3.

Supported Upgrade Path

Note these important upgrade requirements:

- Systems that upgrade to SR i4.3 must currently be operating with system software from SR i3.0.0.x, SR i4.2.0x, or later. The upgrade software is contained in a DVD due to significant changes contained in SR i4.3 and other time saving factors. Rollback procedures are included in the *DVD Upgrade Installation Instructions for System Release i4.3* (part number 4036632) in the event that the upgrade is unsuccessful.
- Our field service engineers or the system operator must have already installed the DNCS Utilities software onto the DNCS and should have already run the pre-upgrade checks to ensure system compatibility with SR i4.3 DVD upgrade requirements. Refer to the appropriate DBDS Utilities guide.

Important: You can now use Live Upgrade with the installation DVD. Through the use of Live Upgrade, engineers can upgrade without shutting down the system processes until you activate the new system software.

Time to Complete

The actual upgrade to SR i4.3 must be completed within a single maintenance window that usually starts around midnight. A few pre-upgrade procedures, consisting mainly of system checks, backups, and various operations upon the metadevices of the DNCS, can be completed *before* the maintenance window begins.

Our engineers have determined that a typical site can be upgraded within one maintenance window. See ***Scheduling Requirements*** (on page 13) for additional details.

System Performance Impact

Interactive services will not be available during the maintenance window; however, regular television viewing by existing customers should not be affected.

DNCS and Application Server Hardware Platforms

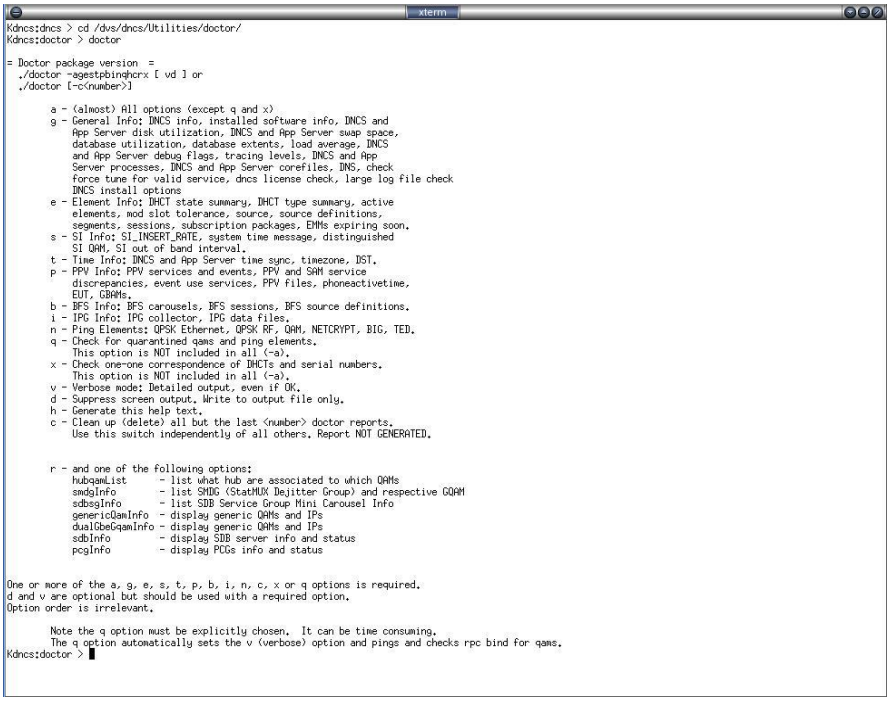
Introduction

This section describes the hardware configurations that are supported by SR i4.3.

Running the Doctor Report

1. If necessary, open an xterm window on the DNCS.
2. Type **cd /dvs/dncs/Utilities/doctor** and then press **Enter**. The /dvs/dncs/Utilities/doctor directory becomes the working directory.
3. Type **doctor** and then press **Enter**. The system generates a list of parameters that you can use to run the Doctor Report.

   Note: Each parameter causes the Doctor Report to generate output with specific configuration information.



4. Type **doctor -g** and then press **Enter** to view the version of DNCS software installed and the DNCS and Application Server platform, CPU, and disk information.

What to Verify Using the Doctor Report

Using the results of the Doctor Report, verify that your system meets the following requirements. For detailed information on reading the data in the Doctor Report, see the appropriate DBDS Utilities guide.

DNCS System Release Required

Your system must be running SR i3.0.0.x, SR i4.2.0x, or later. In the Doctor Report, look for the **SAIdncs** entry under the **All SAI Installed Package Information** section. If you have installed Service Packs for SR i4.2.2, your version may include additional letters and numbers.

DNCS Hardware Configurations

Ensure your site meets the following DNCS hardware requirements before upgrading to SR i4.3. The following table lists the minimum requirements for the DNCS hardware platforms that are supported by SR i4.3.

DNCS Server Platform	Hard Drive Configuration	Memory	Processor
Sun Fire V890	■ 6 X 146 GB ■ 12 X 146 GB	■ 8 GB min. ■ 16 GB min.	■ 2 X 1.5 GHz min. ■ 4 X 1.5 GHz min.
Sun Fire V880	■ 12 X 73 GB ■ 6 X 73 GB	■ 8 GB min. ■ 4 GB min.	■ 4 X 900 MHz min. ■ 2 X 900 MHz min.
Sun Enterprise 445	4 X 73 GB	4 GB	2 X 1.6 GHz min

Application Server Hardware Configurations

The following table lists the Application Server hardware platforms that are supported by SR i4.3.

Application Server Platform	Hard Drive Configuration	Memory	Processor
Sun V240	2 X 73 GB min.	2 GB min.	1 X 1.34 GHz min.
Sun V245	2 X 73 GB min.	2 GB min.	1 X 1.34 GHz min.
Sun Blade 150	1 X 20 GB min.	512 MB min.	1 X 550 MHz min.

Scheduling Requirements

How Long Does It Take to Complete the Upgrade?

With the live upgrade, the DNCS is not available for 2 to 3 hours during the entire upgrade process. Most of the upgrade procedures have no system impact. You can perform the pre-install and pre-upgrade steps at any time of day. However, the actual upgrade process normally takes place during a maintenance window beginning at midnight. The following table describes each upgrade process.

Process	Length of Time	Activity
Pre-install	1-3 hours	Activities are performed by Cisco Services, including checking the overall health of the system. These activities do not impact the system.
Pre-upgrade	3-4 hours	Backing up the system: ■ Back up the system components ■ Back up the DNCS and Application Server files ■ Complete system checks These activities do not impact the system.
Upgrade	6-8 hours total; 2-3 of these hours require DNCS downtime **Note:** Actual time may vary based on the number of devices being upgraded.	Upgrade the DBDS network: ■ Back up the DNCS database ■ Install the DNCS and Application Server software ■ Determine which optional features (licensed or unlicensed) need to be enabled as a result of this upgrade ■ Install and download the component software (QAM, MQAM, and GQAM) ■ Reboot the hardware ■ Complete functional checks Some QAM and MQAM upgrades can be completed with little or no subscriber impact. However, 2-3 hours of the upgrade require system outage. While the DNCS is down, new customers cannot be added to the DNCS database.
Post-Upgrade	3-4 hours	Back up the system: ■ Back up the file system ■ Back up the DNCS database These activities do not impact the system.

Software Configuration

Introduction

This section lists the software versions in each media kit supplied with SR i4.3.

Software Versions

The following table lists the configuration of headend components *after* the upgrade to SR i4.3.

DBDS Component	Version Number
DNCS	
Application	i4.3.0.2p6
GUI	i4.3.0.2
WEBUI	i4.3.0.2p5
DNCS Support Software	
DNCS & Application Server Tools	6.2.0.5
DNCS Report Writer	r1.0.0.0
DNCS Online Help	i4.2.1.1
Platform	
DNCS / Application Server Platform	3.0.6
Solaris	10 05/08
Solaris 10 Recommended / Security Patches	4.4.0.3
Informix	11.10.FC2W2
Common Platform (SAIcomplat)	1.0.0.7
Tools (SAItools)	4.2.1.22
Video Propulsion DVB ASI (SAIasi)	1.0.0.6
Application Server	
Application Server	i3.4.0.3
Tools (SAItools)	4.2.1.22
Application Server Software Support	
DNCS & Application Server Tools	4.2.1.22

DBDS Component	Version Number
MQAM	
MQAM App	3.2.0
PCG	
PowerKEY Conditional Access System (CAS) Gateway	1.0.18
ORCA	
ORCA	4.2.0.0
Backup and Restore	
Backup and Restore	6.0.19
DVD Version	
DVD Version	i4.3.0.2p6_intl43_BR6.0.19

4

DNCS i4.3 – Post DVD Installation Instructions

Introduction

This section provides the steps you should follow after you upgrade your system to SR i4.3.

Your system must be running either i4.2.1 or i4.2.2 for the upgrade.

In This Chapter

Post DVD Installation Steps

This section provides the steps to follow after you upgrade your system to SR i4.3 using the DVD.

Note: These instructions are required only after the installation of P6 patch.

1. Open an xterm window.
2. Log in as dncs user.
3. Type **dncsStop** and press **Enter** to stop the DNCS processes.
4. Type **ps -ef | grep** and press **Enter** to make sure that all processes are stopped.
5. If any processes are still running, kill the processes by typing **kill -9 <PID>** and press **Enter**.
6. Use the stopSOAPServers script to stop the UI Servers.
7. Type **/etc/rc2.d/S98tomcat stop** and press **Enter** to stop Tomcat server.
8. Type **startFirefoxPatch** and press **Enter** to correct configuration settings for Firefox.
9. Type **/etc/rc2.d/S98tomcat start** and press **Enter** to start Tomcat server.
10. Type **dncsStart** and press **Enter** to start the DNCS processes.
11. Use the startSOAPServers script to start the UI Servers.

5

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.

Cisco Systems, Inc.
5030 Sugarloaf Parkway, Box 465447
Lawrenceville, GA 30042

678 277-1120
800 722-2009
www.cisco.com

[month] 2012 Printed in USA

Part Number 4038809 Rev B