System Release 2.8
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.

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Contents

About This Guide

Introduction

System Release 2.8 (SR 2.8) is a minor release built on System Release 2.7 (SR 2.7). These release notes contain the following information:

- Descriptions of the new standard and optional features introduced with this system release
- Information you need to prepare your site for an upgrade to SR 2.8
- General information on contacting us
- A list of software versions installed with the base SR 2.8 system

Audience

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

Scope

These release notes provide an executive overview of SR 2.8. If you have questions about this release or require more detailed information, refer to the documents listed in the **Related Publications** section of this Preface, or call Cisco® Services at 1-800-283-2636.

Software Product Offering

We currently offer several types of software products that enable the cable service provider to better manage their Digital Broadband Delivery System (DBDS) networks:

- Application Platform Releases (Client Releases) offer a bundled software package that includes both the SARA and PowerTV® OS. Application Platform Releases are compatible with multiple system releases.
  - Application Maintenance Releases address a group of specific change requests that are required before the next application release is available.
- System Releases are software releases that are designed to improve or enhance the functionality of the Digital Network Control System (DNCS). A system release can be categorized as one of the following product types:
  - Major Releases and Minor Releases introduce new DBDS functionality while fixing known issues in the network.

  - Service Packs are executable files that are an accumulation of fixed change requests since the last major or minor release. After a service pack is issued for a specific major or minor release, each subsequent service pack includes all previously fixed change requests.
  - Patch Releases are single, executable files that address an urgent customer issue before the next system release.
  - Maintenance Releases incorporate patch releases and service packs into one software release.
- Headend Software Releases are software releases designed specifically for headend components to enhance hardware functionality.
- Application Software provides cable service providers with unique services and increased functionality that enhance the subscriber experience.

Related Publications

You may find the following publications useful as resources when you implement the procedures in this document.

- *Application Server 3.5 Release Notes* (part number 4022899)
- *Application Server 3.5 User Guide* (part number 4023142)
- *Configuring and Troubleshooting the Digital Emergency Alert System* (part number 4004455)
- *Configuring the DBDS System for Using the Common Download Process With OpenCable Hosts Application Guide* (part number 4011041)
- *DBDS Utilities Version 6.3 Installation Instructions and User Guide* (part number 4031374)
- *DBDS Utilities Version 6.3 Release Notes* (part number 4031373)
- *Digital Network Control System Online Help (UNIX) Version 4.3.0.3* (part number 4019357)
- *DNCS Report Writer Version 3.5 User's Guide* (part number 734347)
- *Enabling Content Protection for Broadcast Programming Configuration Guide* (part number 4005893)
- *Enhanced Channel Maps User's Guide* (part number 4011413)
- *GQAM Modulator Software Version 4.0.17 Release Notes and Installation Instructions* (part number 4021641)
- *Maintenance Recommendations for the DBDS* (part number 4002341)
- *MQAM Modulator Software Version 2.6.18 Release Notes and Installation Instructions* (part number 4023372)

- *Netcrypt Bulk Encryptor Hardware Installation and Operation Guide* (part number 4001444)
- *OCAP Architecture Guide* (part number 738184)
- *OCAP Installation and Upgrade Instructions* (part number 732578)
- *Program and System Information Protocol Configuration for System Releases 2.5, 2.7, 3.5, 3.7, 4.0, 4.2, and CV 3.4* (part number 4011319)
- *Provisioning the DNCS to Support SDV Services User Guide for System Release 2.7.1/3.7.1/4.2.1* (part number 4012948)
- *QAM Modulator Software Version 2.5.7 Release Notes and Installation Instructions* (part number 4025081)
- *QPSK (Release G08) Installation Instructions* (part number 4022031)
- *QPSK G08 Release Notes* (part number 4026559)
- *Recommendations for Data Carousel Rate Management Technical Bulletin* (part number 716377)
- *TSBroadcaster User's Guide Cisco's OCAP Object Carousel Solution* (part number 4011043)

The SR 2.8 version of the DNCS includes online Help which you can access from the DNCS. However, if you would like to order a CD of the online Help separately, you can order the following PC version:

- *Digital Network Control System Online Help (PC) Version 4.3.0.3* (part number 4019356)

Document Version

This is the second release of this guide.

1

Why Choose System Release 2.8?

Introduction

SR 2.8 includes many features and enhancements implemented at the request of our customers. Review this chapter to learn more about these exciting changes.

Important: This chapter describes the features and enhancements for the standard version of this software release. This chapter also describes certain features and enhancements that are carried forward from previous system releases along with several optional features that are also carried forward.

In This Chapter

SR 2.8 at a Glance

Overview

This section provides an "at-a-glance" look at the new features and enhancements for SR 2.8. Each new feature and enhancement is described in detail later in this chapter. In addition, this chapter also describes certain features and enhancements that are carried forward from previous system releases.

What Are the New Features in SR 2.8?

SI Application ID for ADSG

This feature allows you to populate the application ID field with an appropriate downstream channel descriptor (DCD) message.

To enable a tru2way-compatible set-top in the Aspen system to determine the location of the mini-carousel protocol (MCP) required for switched digital video (SDV) operation, a special setup must be configured on the DNCS. The location of the DSG tunnel in which the MCP is spooled must be transmitted on a hidden channel that each set-top can access.

In addition to the MCP, other configuration information is available to the set-top through this same mechanism. This includes the first 8 hours of electronic program guide (EPG) data.

This operation is performed by using the new functions present in this system release to create a special hidden source with a value of **5000** and the service name **TVW_OCAP**. This source is then mapped to channel **1899** in the channel lineup where it is retrieved by the set-top host.

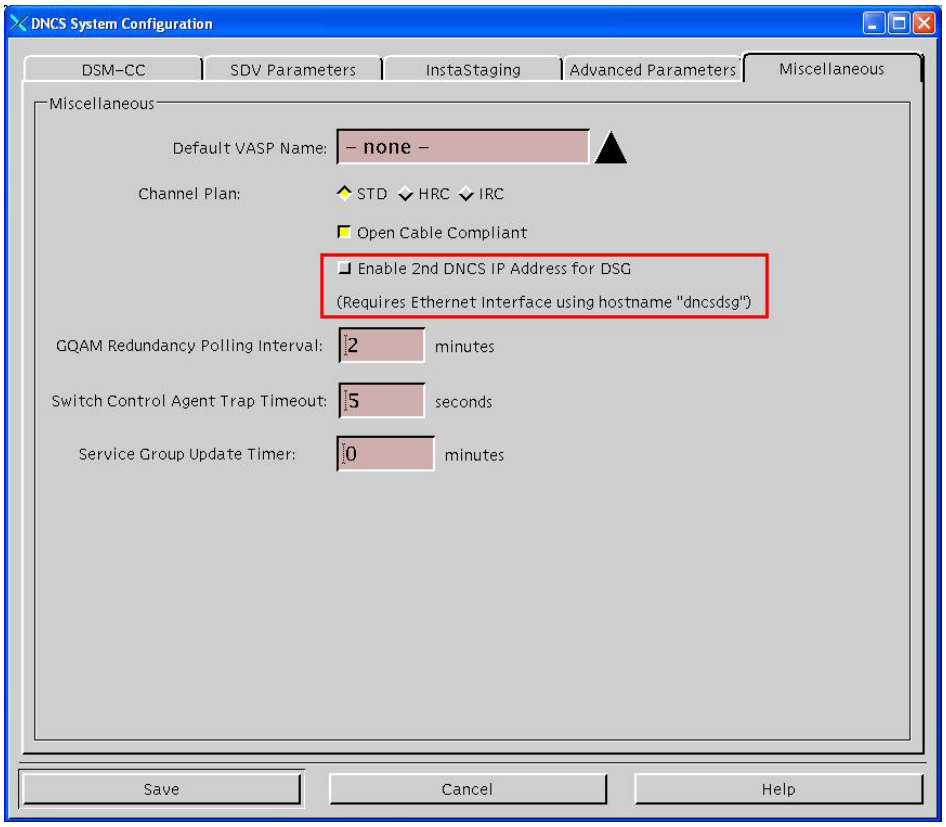
Additional DNCS Network Interface for ADSG Clients

The DNCS uses a single IP address which all of our headend components (such as QAMs, QPSKs, Netcrypt Bulk Encryptors, and so on) and set-tops recognize for provisioning.

All real world implementations of the CMTS bridges require delivery on a multicast-enabled network. However, many DBDS networks currently in the field are not multicast enabled. Several service providers have expressed the desire to have a separate DNCS physical interface for their multicast-enabled High Speed Data Networks which service cable modems.

To address this request, the DNCS System Configuration window now includes an option to select an additional DNCS IP address specified by the name "dncsdsg" to be used in the DOCSIS path. This option will be provided only if the DOCSIS feature is enabled. Once selected, this option applies to all CMTS bridges in the system.

Quick Path: DNCS Administrative Console > DNCS tab > System Provisioning tab > Sys Config

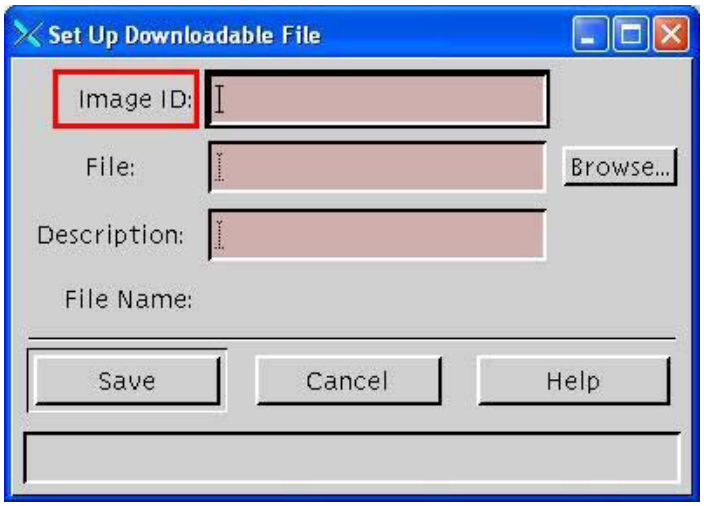


Assignable Image ID Field

This system release now allows you to specify an Image ID for device image files, instead of allowing the DNCS to assign an ID automatically. This feature allows you to use the same name for an image file across multiple headends.

If you want to specify an image ID, type the ID in the Image ID field on the Set Up Downloadable File window. If you do not want to specify an image ID, leave the Image ID field blank. Refer to the online help for more information.

Quick Path: DNCS Administrative Console > DNCS tab > Home Element Provisioning tab > Image > Downloadable Files tab > File > New



Counter-Based Autobinding

This feature allows CableCARD modules to bind to hosts based on a pre-defined counter. When the counter expires, the DNCS does not allow the CableCARD module to bind to any other hosts.

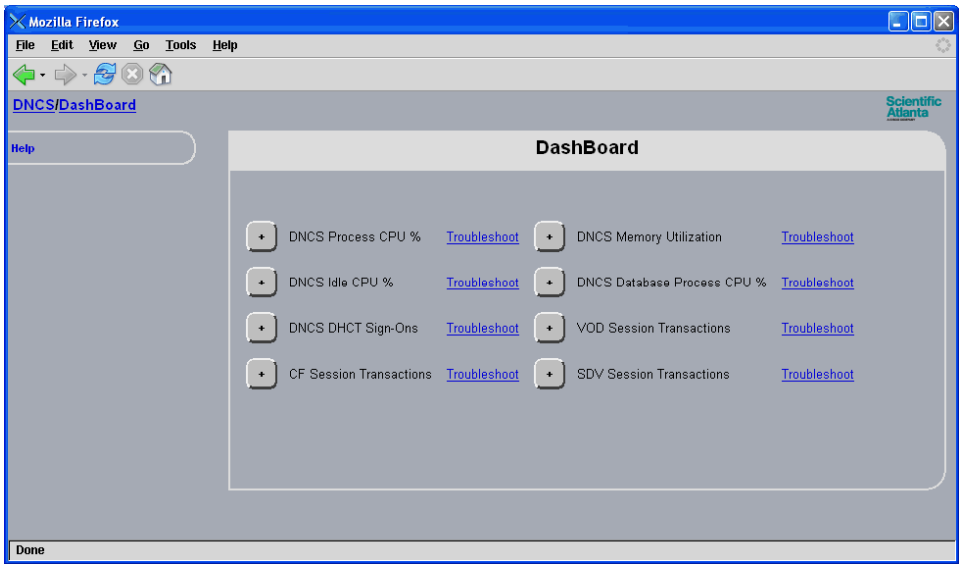
The Counterbased Autobinding feature can help you prevent the unauthorized use of CableCARD modules. This feature tracks each time a CableCARD module and host are bound with the autobinding method, and prevents a module from autobinding with a host whenever the module exceeds the maximum number of host autobindings set for your system.

Important: When a module and host are bound with a billing transaction, combo-binding, or manual binding method, the host and module are allowed to bind even if the module has exceeded the maximum number of host bindings for the system. Binding is prevented only when a module has exceeded the maximum number of **automatic** bindings with a host.

The default setting allows an unlimited number of module and host autobindings. To change the default setting and limit the number of module and host autobindings, customize the Maximum Host Change Count Allowed setting when you configure the CableCARD server.

DBDS Dashboard

The DBDS now provides a dashboard application, which provides "at-a-glance" information about the current activity on the DBDS. Key indicators provide real-time information that assist you in monitoring your system. To help you ensure the system performs as expected, troubleshooting assistance is provided for each key indicator.



DCAS Support

The DBDS now supports a CA Image download to the secure micro of a DCAS Host.

DREDD Proxy Support

The DREDD proxy server enables our set-tops and CableCARD Hosts to run the GuideWorks iGuide IPG navigator. This requires a number of new components on the DNCS platform including:

- DREDDProxy Server
- DREDDConfig
- iGuideFiles

Refer to *Setting Up the DREDD Proxy Server for System Release 4.3 User Guide* (part number 4022451) for more information on the DREDD proxy server.

Contact the representative who handles your account to have the DREDD proxy server enabled on your DNCS.

Dual Port GQAM VOD Redundancy

This feature provides a solution for VOD redundancy that takes advantage of the dual-GbE feature of the GQAM.

With GQAM software version 4.2 or later, GQAM modulators with dual GbE ports support the VOD Redundancy feature. This feature allows system operators to carry VOD and Broadcast services on the same GQAM, thereby leveraging the redundancy capability of the GQAM modulator's dual GbE ports.

Generic QAM Support

This system release adds support to manage provisioning of generic QAMs through the published interface made available to the QAM vendors.

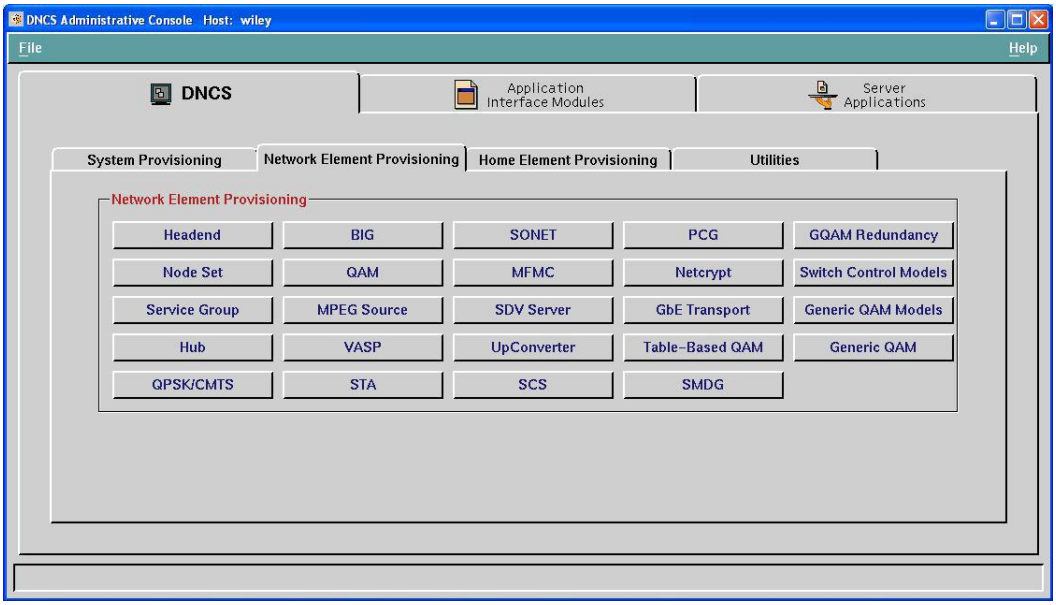
A Generic QAM button and a Generic QAM Models button have been added to the Network Element Provisioning tab. These buttons allow you to add traditional table-based QAM modulators to the DNCS. (The DNCS refers to these modulators as generic QAM modulators.) Adding a generic QAM modulator to the DNCS allows you to set up sessions on the modulator and manage the sessions.

However, unlike session-based modulators, generic QAM modulators do not support DNCS-supplied provisioning. As a result, specifications saved to the DNCS when the modulator is added (or provisioned) in the DNCS are not provided to the modulator when the modulator reboots. Instead, the modulator must be provisioned separately. For assistance provisioning generic QAM modulators, consult the documentation provided by the manufacturer of the modulator.

Note: You must contact your account manager to enable the feature. Then, you must stop and restart your DNCS processes.

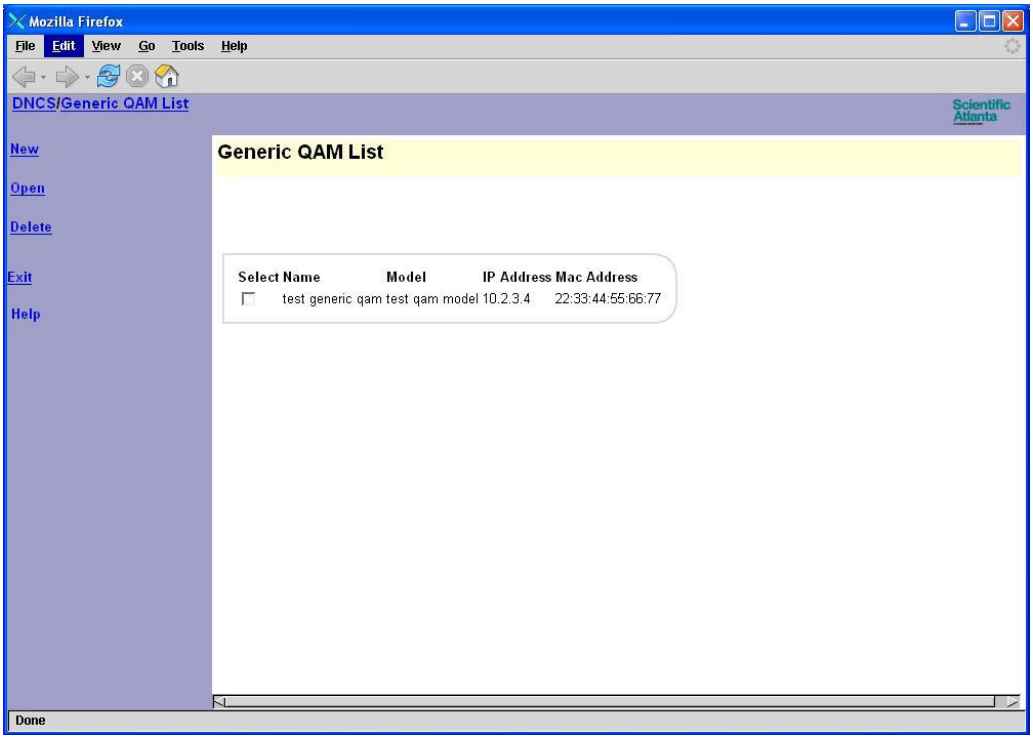
The following illustrations provide examples of the new Generic QAM and Generic GAM Models buttons.

Quick Path: DNCS Administrative Console > DNCS tab > Network Element Provisioning tab



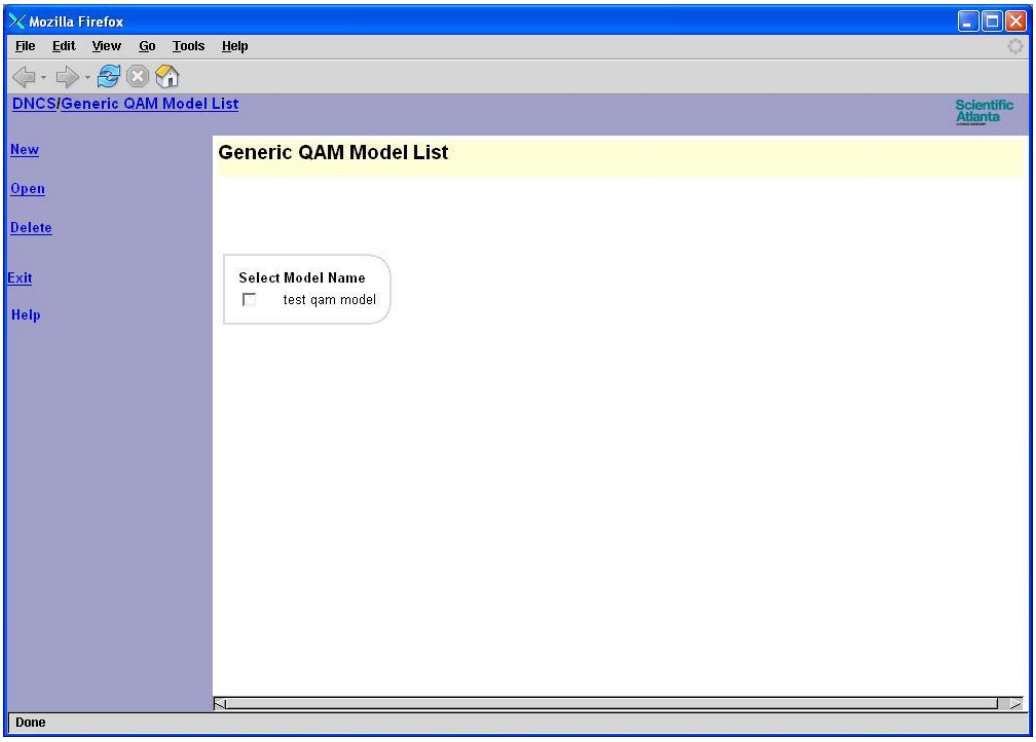
Generic QAM List window

The Generic QAM List window allows you to add, modify, or delete generic QAM modulators as needed. From this window, you can also set up multicast sessions on any modulator listed in the window.



Generic QAM Model List window

The Generic QAM Model List window allows you to add, modify, or delete a generic QAM model on the DNCS. Adding a generic QAM model to the DNCS is the first step in adding generic QAM modulators to the DNCS. When you add a generic QAM model to the DNCS, you define specifications that are unique to a particular model of QAM modulator. After you add generic QAM models, you can use the model to add an individual generic QAM modulator to the DNCS; the modulator will be added with the specifications of the model you used.



Hub Specific OOB SI DST

Out-of-band system information (SI) now carries a Daylight Saving Time (DST) descriptor for cable hosts with a CableCARD module

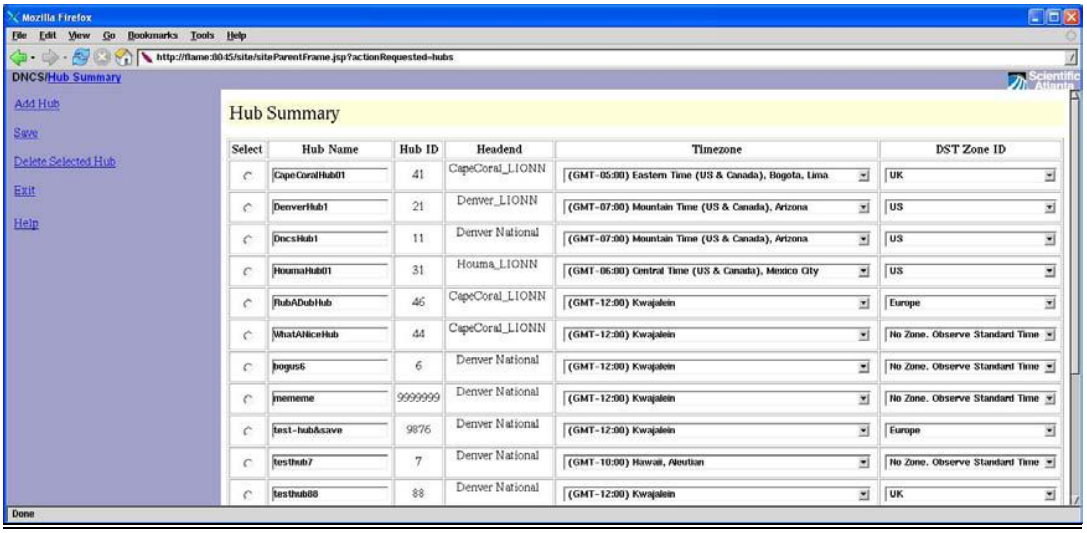
In earlier system releases, every DHCT received the default hub DST rule regardless of the hub to which they were associated. Beginning with SR 2.8, you can define specific DST rules for each hub that distributes DST rules out-of-band. Every CableCARD Host that receives DST rules out-of-band will be able to receive a specific DST rule that is tailored for its hub.

Important: This feature does not affect DST rules that are distributed by Program and System Information Protocol (PSIP). It also does not affect legacy DHCTs that do not include CableCARD modules. In these situations, DHCTs will continue to receive the DST rule for the default hub.

The SCTE 65 requirements mandate support for DST descriptors for out-of-band (OOB) system information (SI). The DNCS implements support for hosts with CableCARD modules by populating the OOB SI daylight saving time (DST) descriptor based on the hub DST zone.

To define a specific DST rule for a hub, you must create a DST rule to define the start and end dates for DST and assign the DST rule to a hub, just as in earlier system releases. You should also check the Hub Summary window and confirm that the correct settings are selected for the Timezone and DST Zone ID fields.

Quick Path: DNCS Administrative Console > Network Element Provisioning Tab > Hub

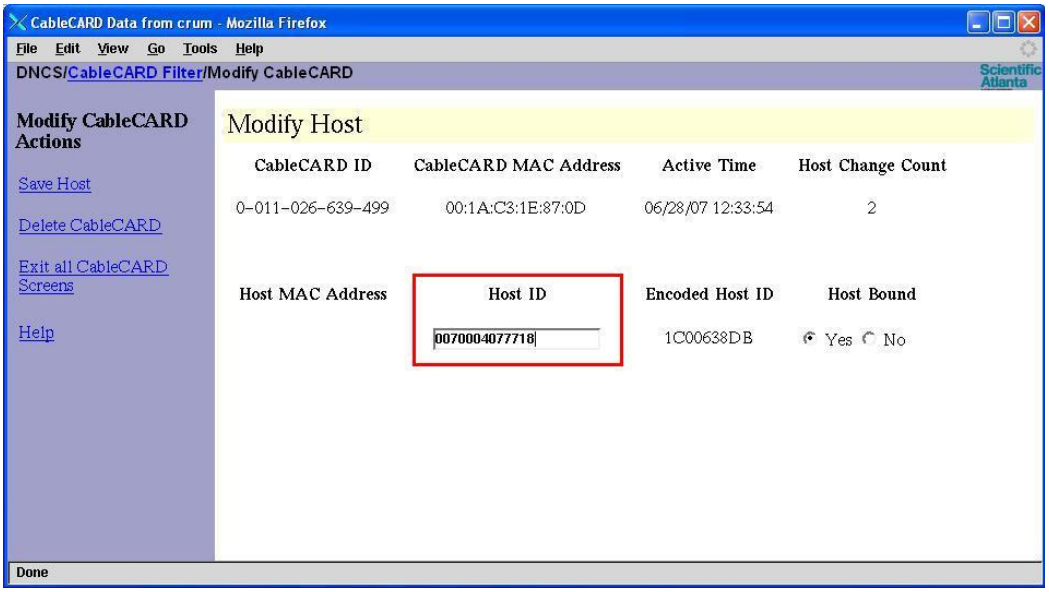


Multiple Bootloader Carousels

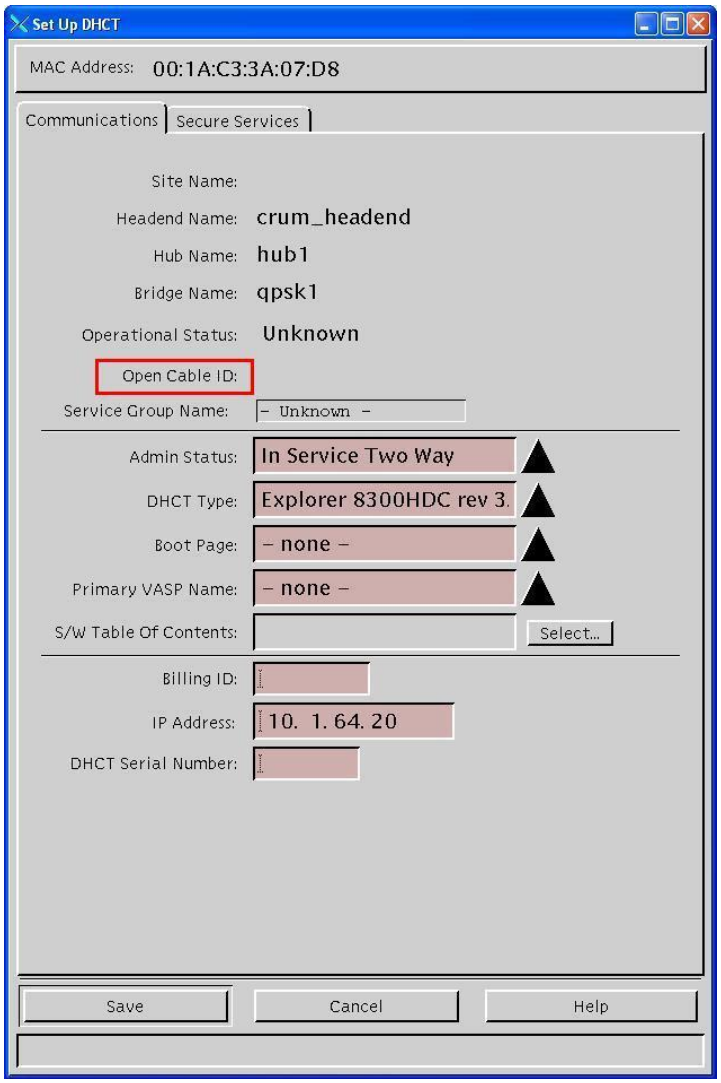
The Broadcast File System (BFS) has been enhanced to allow you to designate multiple carousels as bootloader carousels. With multiple bootloader carousels, the BFS can send DHCT software version images using more than one carousel. This enhancement gives you the flexibility needed to reduce download times and maintain system performance by creating the optimal number of bootloader carousels for their system.

OpenCable ID UI Support

The DNCS now provides UI support for the OpenCable™ host ID. The CableCARD WUI has been updated to show the host ID.



Also, the DHCT UI now includes a field to show the OpenCable ID.



RPC API Version Communication

Beginning with SR 2.8, reset commands are now transmitted from the DNCS to the target GQAM through RPC API version 3 calls.

In earlier versions of code, the DNCS supported RPC API version 2. SR 2.8 introduces support for RPC API version 3 so that the DNCS can perform more advanced RPC communications.

The GQAM supports RPC API version 3 beginning in the GQAM 4.2 family of code. When the DNCS first attempts to communicate with a GQAM, it uses RPC API version 3 calls. If the communication fails, the DNCS marks the GQAM as not supporting version 3. In that case, the DNCS uses version 2 APIs for all future communications until either the GQAM or qamManager is rebooted. At that point, the DNCS will attempt once again to communicate using version 3 calls.

Removal of Spectrum Support

Service providers want the flexibility of being able to choose whether or not to install the Spectrum Network Management Service (Spectrum). Past versions of the DNCS had Spectrum bundled in. Beginning with SR 2.8, the Spectrum network management product has been removed from the DNCS package and replaced with a separately installable product, allowing the customers to install the DNCS without Spectrum.

The UniPack installation process now prompts you to specify if you want to disable Spectrum.

Third-Party SDV Server Support

This feature allows the DBDS to provision third-party SDV servers with Service Group Table, Offered Program Table, TSID Table, and Traps.

USRM 1.0 Support

Universal Session and Resource Manager (USRM) is a standard Intel/Linux-based server that supports many major VOD and SDV interfaces and protocols. The USRM is integrated with the DBDS and enables systems to distribute and scale the real-time session and resource management functions of the DNCS.

This feature allows USRM to interface with the DNCS CAM processes to support encrypted VOD. This feature includes a DNCS-USRM RPC CA interface.

Known Issues

Introduction

This chapter lists the CRs that were found while testing this software product. Efforts to address these issues are ongoing in the Cisco laboratories.

CR 74881: DNCS Saves Values When User Presses Enter in Text Box in Session Data

In the Configure Session Data user interface, if a user enters a UDP port number for a table-based QAM and then presses Enter, the DNCS automatically saves the information.

CR 74887: Service Group ID Does Not Accept Valid Values in the Service Group WUI

In the Service Group Data user interface, the DNCS does not accept 08 or 09 as valid values for the Service Group ID field. However, it does accept other values with a leading zero (01, 02, 03, and so on). This prevents users from entering valid service group numbers.

CR 75012: Netcrypt WUI Throws Exception When User Clicks on Update Netcrypt

The DNCS may throw an exception if a user follows a series of commands through the Netcrypt user interface. For this to occur, the user must open the Netcrypt List user interface, select a Netcrypt and click Edit, and then click Multicast Sessions. After this window has been open for several minutes, click Update Netcrypt. The DNCS may throw an exception if this occurs.

CR 79907: Set-Top May Not Boot When User Changes DCM Mode for a QPSK Modulator

If the user changes the DCM mode for a QPSK modulator, then the set-top may search indefinitely for Uncfg, BFS, SAM, and IPG. If this occurs, you can bounce the DNCS to clear the issue.

CR 82770: SAM Service Must Be Refreshed to See Newly Created Service

When the user creates and saves a new SAM service, the service does not automatically appear in the SAM service user interface. The user must refresh the screen to see the new SAM service.

CR 84145: Channels, Sources and Sessions Report Doesn't Allow Users to Toggle Correctly

The Channels, Sources, and Sessions Report in Report Writer may not allow users to toggle properly between channels.

CR 84823: IP Address Table Does Not Handle IP Addresses Correctly

The ipaddr table does not store information correctly for Netcrypt or table-based QAM devices. This issue allows users to commit IP addresses more than once when building other network elements. For example, a user may be able to configure a QAM, QPSK or CMTS bridge with the same management IP address as a Netcrypt or table-based QAM.

CR 85285: SDV Server WUI Sends Reset Command When User Clicks Refresh

If a user resets an SDV server and then logs in to the SDV server to restart it, the SDV server user interface sends a reset command again when the user clicks Refresh in the SDV server user interface.

CR 85503: SgManager "Service Group Update Timer" Changes do not Update When Back to Back

If a user makes multiple changes to the Service Group Update Timer back-to-back (one immediately after the other), the DNCS only remembers the first set of changes and discards the second set of changes.

CR 86243: PCG Report is Showing Database Error Message

PCG Reports include an error message that states, "You have Report Generation Errors." This error is incorrect and should not appear.

CR 86498: Table-Based QAM WEBUI File Upload Feature Not Working Properly

The Table Based QAM list GUI displays the following message after loading a new file:

```
UDP Port 51218,51474,51730, Output Port 1,2,3, specified already
exists. If you want to overwrite the existing session data, press
Save.
```

Once the user presses the Save button, the DNCS only saves only one session per output port. Any additional sessions are not saved.

CR 87341: SDV Server "Download Software" Save Changes Primary and Online Status to "No"

A "Download Software" save on the SDV server changes the Primary and Online status to "NO," causing the save attempt to fail because the SDV server cannot SSH to the DNCS. The user may need to change the primary status from "NO" to some other status in order to SSH successfully.

CR 88276: Output Stream Delivery Type Displays Unicast Instead of Multicast

The Show Session user interface may indicate that session is Unicast, even though it was entered with a multicast source IP address and a multicast destination IP address.

CR 88387: VOD Session Transaction Graph Does Not Update Correctly In Dashboard

The VOD Session Transaction graph in the Dashboard does not update as often as expected.

CR 88689: First Row Does Not Load for a Table-Based QAM

When users configure session data for new table-based QAM modulators, the first record of the table may not be loaded.

CR 89253: DNCS Allows User to Assign Reserve PID in ECM PID Range

When the user builds a TSR on the GQAM, the ECM PID range in the WUI allows the user to assign the starting PID as 1. This PID is currently reserved as the CAT PID. This causes an interruption of services on third-party QAM devices.

Important: Be careful that you do not assign the starting PID in the ECM PID range as 1.

CR 89326: User Can Configure Generic QAM with IP Address That Has Already Been Assigned to a Netcrypt

The DNCS allows users to configure a generic QAM with an IP address that has already been assigned to a Netcrypt. If two devices have the same IP address, the DNCS will encounter problems using the GQI to talk to generic QAMs.

CR 89452: OOB Bridge GUI Does Not Include All CCM Values In Drop-Down List

The CableCARD module ignores the DCM when the CableCARD Comm Mode field is present. Instead, the GUI defaults to CableCARD Comm Mode value ADSG-IM-CC. This may cause problems with the client boot-up.

CR 89529: Newly Created BT Header Bridges Are Not Receiving SI

Newly created BT header bridges do not indicate any SI traffic at all.

Workaround: After creating the BT header bridge, change the bridge to an ADSG bridge and then back to a BT header bridge.

CR 90140: CMTS Bridge Advanced ADSG with BT Headers Allows SI and EAS Flag Enabled Simultaneously

The CMTS Bridge Advanced ADSG with BT Headers GUI should not allow the SI and EAS flags to be enabled at the same time. For Direct ADSG, you cannot have SI and EAS on the same bridge.

CR 90883: Recapture BW Changes at Service Group UI Are Not Updated at SDV Server

Any changes made to the Recapture BW field in the Service Group user interface are not reflected at the SDV server. The SDV server still shows the original values.

CR 91265: Multicast Session Setup Fails on GQAM TSR Port

If a user tries to set up a DNCS Multicast Session where the RF port has a TSR defined as Multicast IP + UDP Port, the GQAM issues fails the session request and displays 0x90020010 "Route Conflict Ouput."

CR 91794: CCardServer Doesn't Save New Host from RegisterHost Transation if HostChangeCount=MHCCA

The user will not be able to modify the host for a CableCARD/Host pair using the RegisterHost transaction from a billing system when the CableCARD Host Change Count value equals the system's Max Host Change Count Allowed value. The RegisterHost transaction will reset the CableCARD Host Change Count value to zero, but the host ID will not be updated for this CableCARD module.

Workarounds:

- If the MHCCA does not equal 0, the user can send the same RegisterHost transaction a second time. The Host ID will update with the second transaction following the CableCARD Host Change Count being reset to zero. This second transaction will cause the Host Change Count to increment to a value of one (1).
- The user can also use CableCARD WUI to edit the existing CableCARD/Host record by changing the host ID in the CableCARD WUI on the DNCS. The CableCARD WUI edit Host ID will work regardless of the CableCARD Host Change Count value and MHCCA value.

CR 92130: Table-Based Session Upload Feature Does Not Validate UDP Port Values

The table-based session upload feature allows users to enter UDP port values above 65535, even though these values are not valid. If a user enters values above 65,535 (for example, if the user creates a csv file and forgets the comma following the UDP port), the system creates a new, lower value for that file. For example, 65,536 would be saved as 0, 65,537 would be saved as 1, and so on.

CR 92748: emmDistributor Default Average Packets Is Incorrect

The default average packet count is set to be 1. This value can cause cycle times to exceed the targeted cycle time, in some cases by a factor of two. For instance a 7-day set cycle time can become a 14-day cycle time.

CR 94077: Loss of DSG Filter for OCAP Object Carousel

After boot on all ASPEN RNG platforms 200/150/100, the filter for OCAP Object Carousel does not always display in diagnostic filter pages. This occurs periodically across all hubs and both SVT ASPEN headends. As a result there is no info populated on diagnostic page 15 - Object Carousel Information when this occurs.

CR 95016: OCDL WUI Does Not Check Image IDs for Existing CVT Images

The OCAP Common Download WUI does not check the values of the CVT image IDs that are already assigned when attempting to assign IDs to new OCAP images. The code logic adds one to the previous OCAP image when creating a new one. Thus, if you have a CVT image with an ID of 2, you will always get an error when attempting to add the second image via the OCDL WUI.

CR 95032: Image ID Displays an Invalid Error Message When Saving Image

When the user tries to save changes to an Image, the DNCS displays a message that the "Image ID is invalid," even if the ID is acceptable. This issue prevents the user from changing the description of the downloadable image file.

CR 95528: BSM Connection Logic to siMgr Retries too Many Times and Incorrectly

If the BSM tries to connect to siManager when siManager is down, the BSM makes too many attempts to reconnect, which causes the siManager to churn constantly, trying to send source definitions to the BSM.

CR 96397: ADSG DCM Table Contents Are Incorrect When Sessions Are Deleted and Recreated

When a user deletes and recreates sessions, the contents of the ADSG DCM table may not be correct after a user deletes and recreates sessions. This incorrect data may lead to incorrect processing in ADSG hosts and ADSG STBs.

Workaround: Restart qpskManager. All SI tables are regenerated correctly including ADSG DCM.

CR 96853: Dual-GbE Port/GQAM Port Switch Indication Failing

Port Switch RPC calls from GQAM to DNCS are not properly handled by the DNCS. This results in RPC messages to GQAMs queueing up on DNCS.

Workaround: GQAM 4.2.3 changed the default setting so that it will not send port switch RPC messages to DNCS. The DNCS can still query the GQAM for the current GIGE port status when necessary.

To enable the port switch, enter the following line in the GQAM's config file:

```
EnablePortSwitchReports=yes
```

Then reboot the GQAM to take and use the new value. To turn the reporting off, enter the line "EnablePortsSwitchReports=No" instead.

CR 97039: qamManager Audits GQI QAMs Assigned to USRM

The DNCS does not honor the "Assigned to USRM" selection on a Generic QAM. When the QAM is rebooted, DNCS may delete sessions from an RFGW10 configured as a GQI QAM. The subscriber may lose video if the session is removed.

CR 97052: Incorrect Boss Transaction from Web UI

When a multicast source definition is added from the WUI, the WUI does not check the DB for the pre-existing session ID and sends an incorrect Boss Transaction to siManager. If the siManager is in the process of regenerating the SI data, the boss request is held in the queue. siManager reads and respond to the request only when it is done with SI generation. This causes the UI to wait on the response.

CR 97065: OOB Bridge Library Returns Hub ID Instead of Headend ID

The hctmConfig process returns the hub ID instead of the headend ID. The set-top boxes appear to function correctly; however, long-term impact and compatibility with third-party applications are not yet known.

CR 97325: CDS Frequencies of 0 Should Not Be Added to the C2 Table in the CDT Section

The C2 table for CDT should not add entries that have a frequency of 0 to the table. This issue causes needless entries in SI tables.

CR 97326: Disabled QAM Ports Should Not Be Added to the C2 Table in the CDT Section

The C2 table for CDT should contain entries that have frequencies which correspond to disabled QAM ports. This issue causes unnecessary entries in SI.

CR 97438: Data Pumps Should Catch All Signals and Close the ASI Stream

An ASI card may enter a bad state if a user resets the ASI card while an ASI stream is open. If this occurs, the DNCS must be rebooted.

2

What Are the Site Requirements?

Introduction

This chapter provides information that helps you prepare for the upgrade to SR 2.8. Read this entire chapter before you upgrade.

For More Information

If you have questions or would like to order our products, please contact Cisco Services at 1-800-283-2636.

In This Chapter

Upgrade Logistics

Introduction

This section contains information that can help system operators plan the upgrade to SR 2.8.

Supported Upgrade Path

Note these important upgrade requirements:

- Systems that upgrade to SR 2.8 must currently be operating with system software from SR 2.2 or SR 3.2, or later, as well as DHCT client operating system (OS) 3.1 or later. The upgrade software is contained in a UniPack due to significant changes contained in SR 2.8 and other time saving factors. Rollback procedures and software are included in the UniPack installation instructions in the event that the upgrade is unsuccessful.
- You must already have the DNCS Utilities software installed onto the DNCS and should have already run the pre-upgrade checks to ensure system compatibility with SR 2.8 UniPack upgrade requirements. Refer to *DNCS Utilities Installation and Operation Guide* for instructions on installing and executing the DNCS Utilities.

Important: You can now use Live Upgrade with the UniPack. 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 2.8 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 24) for additional details.

System Performance Impact

Interactive services will not be available during the maintenance window.

DNCS and Application Server Hardware Platforms

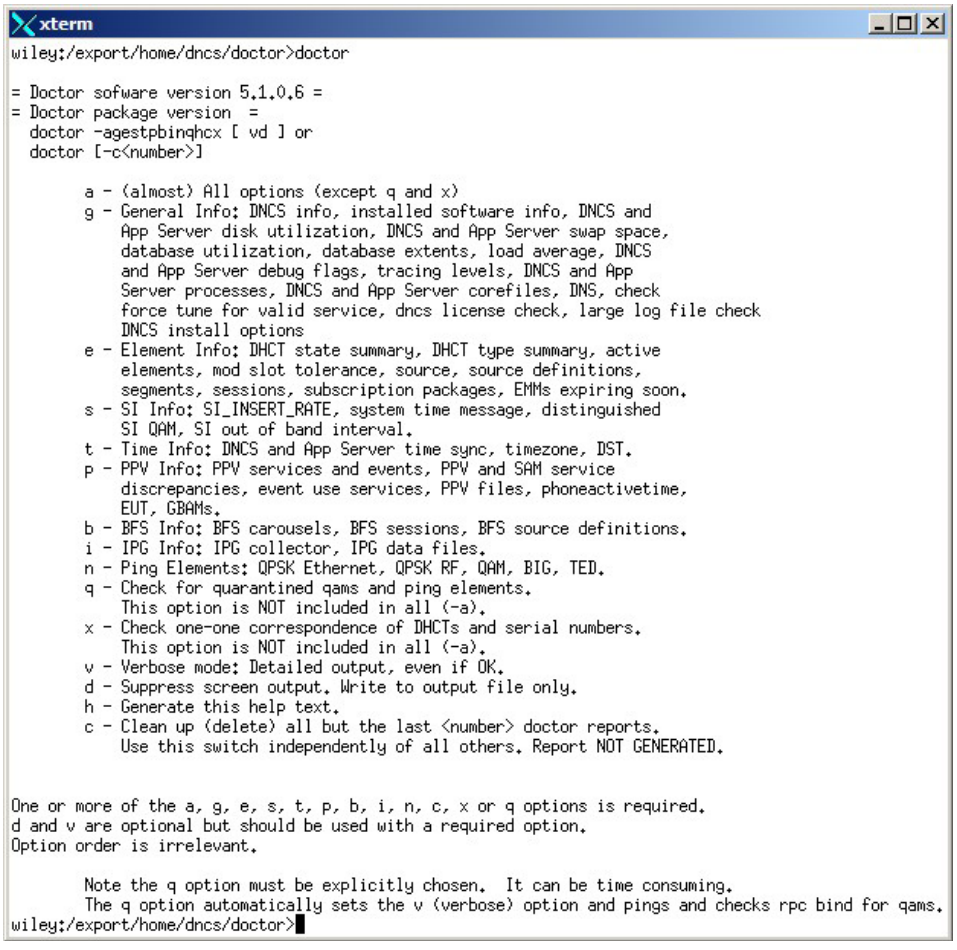
Introduction

This section describes the hardware configurations that are supported by SR 2.8.

Running the Doctor Report

1. If necessary, open an xterm window on the DNCS.
2. Type **cd /export/home/dncs/doctor** and then press **Enter**. The /export/home/dncs/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 *DBDS Utilities Version 6.3 Installation Instructions and User Guide* (part number 4031374).

Important: DBDS Utilities 6.3 is required for SR 2.8.

DNCS System Release Required

Your system must be running SR 2.2, SR 3.2, or later. In the Doctor Report, look for the **SAIdncs** entry under the **All SAI Installed Package Information** section. Ensure the version is 3.0.1.16 or later. If you have installed Service Packs for your system release, your version may include additional letters and numbers.

DNCS Hardware Configurations

Ensure your site meets the following DNCS hardware requirements before upgrading to SR 2.8. The following table lists the minimum requirements for the DNCS hardware platforms that are supported by SR 2.8.

DNCS Server Platform	Hard Drive Configuration	Memory	Processor
Sun Fire V445	■ 4 X 73 GB	■ 4 GB min	■ 2 X 1.5 GHz min.
Sun Fire V890	■ 6 X 146 GB ■ 12 X 146 GB	■ 8 GB min. ■ 16 GB min.	■ 4 X 1.5 GHz min. ■ 2 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.

Application Server Hardware Configurations

The following table lists the Application Server hardware platforms that are supported by SR 2.8.

Application Server Platform	Hard Drive Configuration	Memory	Processor
Sun V240	2 X 36 GB min.	512 MB min.	1 X 1.34 GHz min.
Sun V245	2 X 73 GB min.	2 GB min.	2 X 1.5 GHz min.
Sun Blade 150	1 X 20 GB min.	512 MB min.	1 X 550 MHz min.
Sun Ultra 5	1 X 18 GB min.	256 MB min.	1 X 333 MHz min.

Application Platform Release Dependencies

The following table shows the application platform release dependencies for this software.

Important: You must have these versions of application platform software *or later* installed on your system prior to beginning the upgrade process. If you do not install the correct application platform software *before* you upgrade your network, subscribers may see video freezing and black screens when using VOD or *anything*-On-Demand (xOD) applications.

Set-Top Platform	Operating System (OS)	SARA	PowerKEY® Conditional Access Version
Explorer RNG200 DVR 1.5.5.1003 or later	OS 8.0.40.1	1.90.12.1	N/A
Explorer 4250HDC Exp 2.0.0 (0701) or later	OS 6.20.28.1	1.61.5a100	4.0.1.1
Explorer 8300HDC DVR 1.5.3 (0801) or later	OS 6.20.28.1	1.90.5a101	3.9.7.13
Explorer 8300 DVR v. 1.4.3a10 or later v. 1.5.2	 OS 6.14.74.1 OS 6.14.79.1	 1.88.22.1 1.89.16.2	 3.9 3.9
Explorer 8000/8010 DVR v. 1.4.3a10 or later v. 1.5.2	 OS 6.12.74.1 OS 6.12.79.1	 1.88.22.1 1.89.16.2	 3.7.5 3.7.5
Explorer 3250HD HD 1.6.0 or later	OS 3.24.5.2	1.59.18.1	3.9
Explorer 2xxx, 31xx, 3200, 3100HD	OS 3.13.6.1	1.60.6.2	1.0.6.20 (Explorer 2000s) 1.0.7 (all others)

Scheduling Requirements

With the live upgrade, your site only needs to be down for 2 to 3 hours during the entire upgrade process. Most of the upgrade procedures have no system impact. The pre-install and pre-upgrade steps can be performed at any time of day. However, the actual upgrade process normally takes place during a maintenance window beginning at midnight. The following table provides a breakdown of 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 system outage **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, GQAM, and QPSK modulator) ■ Reboot the hardware ■ Complete functional checks QPSK modulator upgrades and some QAM and MQAM upgrades can be completed with little or no subscriber impact. However, 2-3 hours of the upgrade require system outage.
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 2.8.

Antecedents

This release succeeds and carries forward all of the enhancements, features, and improvements of previous releases and related service packs.

Software Versions

The following table lists the configuration of headend components *after* the upgrade to SR 2.8.

DBDS Component	**Version Number**
DNCS	
Application	4.3.0.14
GUI/WUI	4.3.0.14
DNCS Support Software	
DNCS & Application Server Tools	4.2.1.16
DNCS Spectrum Kit	4.2.1.0
DNCS Report Writer	4.3.0.6
DNCS Online Help	4.3.0.3
DBDS Maintenance CD (v3.1.7)	
Unipack Install Scripts	2.1.1.8
Backup / Restore Scripts	6.0.18
DBDS Utilities (v6.2.0.5)	
Spectrum Installation (v4.2.1.0)	
Platform	
DNCS / Application Server Platform	4.3.0.5
Solaris	10 08/07
Solaris 10 Recommended / Security Patches	4.3.0.1

DBDS Component	Version Number
Fore ATM Drivers	4.2.0.0
Video Propulsion DVB Direct ASI	1.0.0.6
Media Pump Package	1.0.0.5
Application Server	
Application Server	3.5.0.1
Application Server Software Support	
DNCS & Application Server Tools	4.2.1.16
QAM	
QAM App	2.5.7
MultiQAM	
MQAM App	2.6.18
GQAM	
GQAM	4.0.17
GoQAM RF / GoQAM IF	
GoQAM RF / GoQAM IF	1.1.4
QPSK Mod/Demod	
QPSK Modulator	G08
QPSK Demodulator	A62/G08
Netcrypt	
Netcrypt Bulk Encryptor	1.2.12

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.

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