Cisco Series D9510 USRM Release 1.7.3 Release Note

Overview

Introduction

The Cisco Series D9510 Universal Session and Resource Manager (USRM) release 1.7.3 succeeds and carries forward all of the enhancements and features of prior USRM releases (1.7.2, 1.7.1, 1.7.0, 1.6.1, 1.6.0, 1.5.1, and 1.5.0).

Purpose

This release note is being provided for user support related to the installation and operation of USRM System Release 1.7.3.

Qualified Personnel

Only appropriately qualified and skilled service personnel should attempt to install, operate, maintain, and service this product.

> ⚠️ **WARNING:**
> **Allow only qualified and skilled personnel to install, operate, maintain, and service this product. Otherwise, personal injury or equipment damage may occur.**

In This Document

General Information

Additional Features

Release 1.7.3 offers the following additional feature:

■ The maximum number of SDV Offered Programs has been increased to 1000.
   Note: As of this writing, the expanded offered programs are **not** carried forward up to at least the 2.1.3-8 versions of USRM software. Later versions of USRM are planned to include the expanded offered programs.

Enhancements and Corrections

Release 1.7.3 includes the following enhancements and corrections:

■ The software application has been enhanced to detect the type of server hardware on which it runs. The Dell R210 servers changed IPMI on the hardware, and USRM 1.7.1-12 was reporting alarms when there were none. This issue is corrected.

■ The USRM code has been enhanced to eliminate a race condition whereby the client services process could start before the platform was ready. This would result in a software core dump when the client services tried to write to the database that was not yet ready.

■ The software has been enhanced to detect if the Brassd (SNMP Manager) service is present when the USRM application is started. If not, the USRM restarts the Brassd service.

■ The software has been enhanced to eliminate a Log2 stalling issue. The software did not properly detect the loss of a Log2 client and release resources associated with the connection. The software has been enhanced to detect when a client is no longer using the Log2 connection. Upon detection that the client has disconnected, the software releases the resources associated with the connection.

■ Enhanced the Primary/Standby alarm monitoring application. The Primary server now polls the Standby and will alarm on link-loss.

■ The software has been enhanced to eliminate a rare lockup condition with the web server that required a software restart to correct.

■ The software has been enhanced to support a non-CCMIS compliant client's (Rovi) behavior for scheduled recordings. CCMIS compliant clients send LUAs during scheduled recordings, but the Rovi client does not. A setting was added to allow bandwidth reclamation to be inhibited during scheduled recordings for these clients. A timer was also added to act as a safety for clients that do not tell the USRM to tear the session down. This default time is 12 hours.

- The software has been enhanced to support 1000 Offered Programs (increased from 500).

  Note: As of this writing, the expanded offered programs are **not** carried forward up to at least the 2.1.3-8 versions of USRM software. Later versions of USRM are planned to include the expanded offered programs.

Open Issues and Known Restrictions

Release 1.7.3 has the following known open issues and restrictions:

- There is no conversion of the persistdata files from 1.7.1 or previous versions to 1.7.3 to account for the changes required for the Offered Programs and Zone Programs tables to go from 500 – 1000 programs. This requires extra steps to complete the upgrade. Refer to *Installation and Upgrade Using a Cisco DNCS* (on page 5) for details.

- No commas, periods, or spaces can be used in any device name on the USRM.

  - Workaround: If multiple words are required, use an underscore in the place of the comma, period, or space.

- During initial configuration or any other operation that requires adding a large number of high density QAMs (i.e., 72 TSIDs or more) to a USRM database via a config file, we recommend adding a maximum of 15 QAMs per config file.

- During Service Group migration or any other operation that requires removing a large number of Service Groups containing 6000 or more STBs from a USRM database via a config file, we recommend removing a maximum of 20 SGs per config file.

- The Offer State of static programs in the Active Programs Base table does not display correctly after a user has tuned to the program and then tuned away. The NumUsers column will display 0:Fill instead of 0:Static. This is a display issue only; the functionality of the static program is still correct.

- RFGW-1 GigE port switchover is an event-based operation. That is, if a port fails (i.e., LOS) and attempts to switch over to another port, but no ports are available, the sessions will remain on the failed port until an operator manually forces a switch to an available port.

Interoperability Notes

- **Mini-carousel size.** The size of the mini-carousel (MC) bandwidth required for proper operation is dependent on the number of active programs within any given service group.

For a system with service groups that have an average of 100 switched programs (a combination of HD and SD), we recommend a value of 135 kbps. This number is arrived at based on the following calculation for MC data rate transmitted at 4 Hz:

MC size in bits ~= 8*{288 + [(0.2*N+1)*188]}

where N= number of active SDV channels

To get the bandwidth in bps required, multiply the above MC size by 4.

Note: The USRM sends the MC out at a rate of 4 Hz unless the size of the MC sent at 4 Hz exceeds the bandwidth allotted for the MC. The USRM will then decrease the rate to match the bandwidth setting.

- **RFGW-1: RFGW-1 model.** When the RFGW-1 is entered into a USRM using the RFGW-1 model, the operator only needs to enter the Management port IP address into the CtrlIp Address field on the Chassis page. The server will execute a series of SNMP gets to obtain all of the QAM parameters and fill the tables.

  Note: Service Groups will need to be assigned to each output port in a separate operation; service group information is not read by the USRM.

- **RFGW-1 model – Edge Inputs.** An RFGW-1 is configured with IP Addresses for each individual GigE port and also a Virtual IP Address for each port-pair. The USRM retrieves the Virtual IP addresses and assigns them as the Edge Input IP addresses in Dual Port Pair mode. In 4-port independent mode, the USRM retrieves each individual port IP address and uses them as the Edge Input IP addresses.

- **USRM Load Balancing.** If there is more than one Edge Input with an Admin State of InService for any given QAM device, the USRM will load balance across these ports. If a given QAM does not support external load balancing (i.e., it uses its own internal algorithms), or if only 1 Gig of input traffic is desired, then set all but one of the Edge Inputs to OutOfService.

- **RFGW-1 48-to-96 channel upgrade.** Upgrading an RFGW-1 from 4 QAM channels per port to 8 QAM channels per port requires USRM 1.6 or greater. A special upgrade procedure is required for proper functionality, and is detailed in a separate document.

- **Software download from DNCS 4.3.** When downloading USRM code from a DNCS 4.3 system, the operator should not leave the software download screen prior to seeing the "In progress…" message in the Last Software Download Status field. In most cases, this message appears almost instantly after initiating the download. However, under extreme conditions, when there is load on the dbUIServer/rpcUIServer in the DNCS, it may take a few seconds.

  If the operator leaves the Software Download screen and goes back to the SDV Server screen prior to the "In progress…" message being displayed, the server information in the DNCS database will become corrupted, and the Server will be set to Offline and will show up as a Standby Server.

Installation and Upgrade Using a Cisco DNCS

Note: When upgrading from an SDV Server to a USRM, refer to *SDV Server to USRM Upgrade Instructions, part number 4029428*.

Installation Requirements

Before performing the upgrade procedure, make sure the following requirements are met:

■ The Provisionkeys application has been run on each of the servers.

■ The desired USRM software release has already been uploaded to the DNCS via FTP and is located in the /export/home/dncs directory.

Release 1.7.3 from 1.6.0 (or later) Upgrade Procedure

A change in the database to increase the number of Offered Programs from 500 to 1000 requires that all SDV sessions and mini-carousels be deleted prior to the software upgrade and then rebuilt after the upgrade is complete. Additionally, if Zone Programs are being used, the zone programs must be deleted from the Offered Progs Zones table and reloaded after the upgrade is complete. This assumes the zone programs are loaded from configuration files.

1 If you have not done so already, complete the steps listed under **Installation Requirements** above.

2 Download software to the USRM Standby Server as follows:

   a From DNCS SDV Server software page, fill in the **Image Download String** and **Image Execute String** fields with the appropriate software version.

   b Select **Download** to download the software to the USRM.

3 Terminate the USRM Standby Server process, preferably from the USRM WebUI System.Reset page. The Standby Server will remain terminated until all of its Primary servers have been upgraded.

4 Download Software to the USRM Primary Server as follows:

   a From DNCS SDV Server software page, fill in the **Image Download String** and **Image Execute String fields** with the appropriate software version.

   b Select **Download** to download the software to the Primary USRM.

5 Remove SDV sessions and mini-carousels on the USRM Primary Server as follows:

   a From the USRM Applications.SdvSm.Configuration page, set **AdminState = Release**.

   b From the Applications.McmisServer.Configuration page, set **AdminState=Release**.

   c Verify that all sdv and mini-carousel sessions have been torn down.

   d Remove all Offered Progs Zones information. This can be done manually or by modifying a configuration file.

6 Reset the USRM Primary Server as follows:

    a From the USRM WebUI System.Reset page, select **ServerState=Reset**.

    b Verify that the 1.7.3 image has loaded properly by opening an ssh shell, going to the /opt/usrm directory, and typing

```
[usrm]# ./usrm -x
```

The following should display as a result:

```
Universal Session & Resource Manager (USRM)
(c) Copyright 2006-2008 Cisco Systems, Inc., All Rights Reserved.
Configuration is VALID.
USRM Version 1.7.3-8
```

7 Restart SdvSm and McmisServer on the USRM Primary Server as follows:

    a From the USRM Applications.SdvSm.Configuration page, set **AdminState = InService**.

    b From the Applications.McmisServer.Configuration page, set **AdminState=InService**.

    c Verify that mini-carousel sessions have been recreated on each TSID, and confirm that SDV sessions are able to build.

    d Reload the original Offered Progs Zone configuration file.

8 After all USRM Primary Servers in a given cluster have been upgraded, restart the associated USRM Standby Server as follows:

    a From an ssh shell session in the /opt/usrm directory, start the usrm process in supervised and daemon mode by typing

```
[usrm]# ./usrm --supervised -d
```

Appendix A: Inhibiting Program Teardown During a Scheduled Recording for Non-CCMIS Compliant Clients

The Rovi client does not send an LUA during program recordings. To avoid bandwidth being reclaimed, two new setting were added to the SdvSm application on the Applications.SdvSm.Configuration page:

- **RecaptureSchedRecordings.** For the Rovi client, set this to **Inhibit**. The default is Enable, which is used for SARA or any other CCMIS compliant client.

- **InhibitRecaptureSchedRecordingTimer.** The default is 720 minutes, or 12 hours.

By setting RecaptureSchedRecordings to Inhibit, a program will essentially not be subject to the bandwidth reclamation rules during a scheduled recording. A program will not be torn down unless the client does it.

As a safety measure, there is also a timer that causes the USRM to tear down the session if the client fails to do so by the end of the timer period. The default setting on this timer is 12 hours.

For 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.