



Release Notes for Cisco VDS-VR 4.1.1

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These release notes describe the features and caveats for all Cisco Videoscape Distribution Suite Video Recording (VDS-VR) Release 4.1.1. The main purpose of this release is to support the Cisco Content Delivery Engine 465 (CDE 465-4R4). For a list of caveats that apply to this release, see [Caveats, page 4](#).

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Introduction

Cisco VDS-VR is a next-generation cloud DVR appliance that works together with Cisco Cloud Object Store (COS) as well as third-party cloud storage products. VDS-VR embodies the program recording functions of Cisco Video Distribution Suite for Television (TV VDS), but provides new features and enhancements in response to customer requests.



In particular, VDS-VR Release 4.1.1 provides:

- Support for archival storage via the Cisco Cloud Object Store (COS)
- Feature enhancements relative to previous Cisco TV recorder offerings
- Multiple bit rate (MBR) VOD ingest integration with the COS
- Optional archiving to cloud storage using the OpenStack Swift API
- Use of Yellow Dog Updater Modified (YUM) for installation and upgrade
- SNMP MIBs for enhanced monitoring of TV Recorder statistics

Hardware Requirement

VDS-VR Release 4.1.1 was developed specifically to support the CDE 465 equipped with 6 TB hard drives (CDE 465-4R4). This support allows for DVR storage in a high capacity cloud.



Note

VDS-VR 4.1.1 does not support CDE 100, CDE 200, CDE 300, or CDE 400 hardware models. Testing for support on CDE 460-4R1, CDE 460-4R3, and CDE 470-4R2 is planned for a future VDS-VR release.

For additional information, see the following:

- *Cisco Content Delivery Engine 465 Hardware Installation Guide*
- *Cisco Content Delivery Engine 205/220/250/280/420/460/470 Hardware Installation Guide*

Feature Enhancements

VDS-VR 4.1.1 provides the following enhancements over previous Cisco cloud DVR offerings:

- SNMP support for CDE 465
- Inclusion of Supermicro SuperDoctor 5 software
- Improved system management
- Redundancy and recovery capabilities
- Comcast R8 updates for I03 and I04
- Comcast C2 video indexing I04 (Version 2)
- Enhanced statistics monitoring
- Enhanced AVS database (AVSDB) data protection (see note below)
- Swift API support for Cloud Object Store (COS) archiving
- Comcast R8 I03 and I04 support
- MBR Profiles alignment
- Cross-recording prevention
- HTTP ingest
- Orphaned Global Object ID (GOID) cleanup
- Support for Comcast C2 Indexing V2 specification, including:
 - Reduction of index file size

- Reordering of index records
- Update to Audio Header Records
- Limiting Audio Index Records
- HE-AAC Support
- Removal of AVC B and P Frame Records
- Update to AVC I Frame Record
- Update to EBP Index Record
- Update to AVC Normal Rate Random Access Picture Record
- Variable Bit Rate (VBR) Record Flag
- Implementation of AVC PPS, AVC SEI, and AVC Slide Header records
- Additional Program Map Table (PMT) Descriptor support, including
 - Audio Descriptor - High Efficiency Advanced Audio Coding (HE-AAC)
 - Maximum Bit Rate Descriptor - Provides hints to TV Recorder for resource allocation
 - Closed Caption (CC) Descriptor - Eliminates the need to parse AVC SEI for CC information
- CableLabs Encoder Boundary Point (EBP) Support
- Configuration changes to support new features and enhancements
- Supports recording start times later than the current NTP time for interoperability with Cisco Recorder Manager
- Enhanced AVSDB automatic shutdown with configurable partition check for /arroyo/db and /arroyo/log
- Service start/stop script and process monitoring for live backup server
- Transaction log file reduction for live backup feature

**Note**

Due mainly to the storage constraints of the database partition, Cisco recommends that VDS-VR servers used as backup servers handle backup for only a single client.

Unsupported Features

The following features are not implemented in VDS-VR 4.1.1:

- CDSM GUI support for CDE465 model hardware
- Support for red LED SAS/SATA drive failure LED indicators
- Support for PMT Change
- Support for CableLabs AAC Audio Descriptor

**Note**

Although the system is equipped with two hot-swappable system disks, Cisco does not recommend unplugging either of these drives during normal operation.

Supported Environments

VDS-VR 4.1.1 supports RTSP environments. Some RTSP environment features only apply to certain RTSP deployment types.

System Requirements

VDS-VR 4.1.1 supports the Cisco CDE 465 hardware equipped with 6 TB hard drives (CDE 465-4R4).



Note

Support for the CDE 465-4R4 is fully tested in this release. Testing for support on CDE 460 and CDE 470 hardware models is planned for a future release.

For additional information, see the following:

- *Cisco Content Delivery Engine 465 Hardware Installation Guide*
- *Cisco Content Delivery Engine 205/220/250/280/420/460/470 Hardware Installation Guide*



Note

VDS-VR 4.1.1 does not run on Cisco CDE 100, CDE 200, CDE 300, or CDE 400 hardware models.

VDS-VR 4.1.1 supports Recorder Manager version usrm-3.3.0-40.e15.

Caveats

Caveats describe unexpected behavior in Cisco VDS-VR software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. Severity 3 caveats are moderate caveats, and only selected severity 3 caveats are included in the caveats document.

Caveat numbers and brief descriptions for Cisco VDS-VR Release 4.1.1 are listed in this section.

Open Caveats

Open Caveats for Cisco VDS-VR Release 4.1.1

[Table 1](#) lists the open issues in the VDS-VR 4.1.1 release.

Bug details are displayed in the [Bug Search](#).

Table 1 *Open Caveats in VDS-VR 4.1.1 Release*

Bug ID	Description
CSCuq51102	3.8 Rec: Support compaction without avbdb running.
CSCuu04917	R8 connection sometimes will fail if the live backup service is enabled.
CSCuu31650	CISCO-637: 3.10 REC terminating prior to scheduled recording end time.
CSCuu38919	CDE465 error booting to DOS when using USB flash drives.
CSCuu44341	nDVR dash-r 375 connection limit due to 503 errors.

Resolved Caveats

Resolved Caveats Cisco VDS-VR Release 4.1.1

[Table 2](#) lists the fixed issues in the VDS-VR 4.1.1 release.

Bug details are displayed in the [Bug Search](#).

Table 2 *Resolved Caveats in VDS-VR 4.1.1 Release*

Bug ID	Description
CSCun02763	[CISCO-159] DB trigger problem causes recordings to fail.
CSCuo90819	[CISCO-295] Orphan COIDS and GOIDS.
CSCuq01328	nDVR-Recorder (CDE460) is not generating a vmcore.
CSCuq51102	3.8 Rec: Support compaction without avbdb running.
CSCuq66076	380B39: Yum upgrade changes ttyS0 console baud rate.
CSCuq87435	3.8: live backup should be able to clean up B_* directories.
CSCuq95607	3.8 avbdb: unclosed transactions in several tables.
CSCur03647	3.8: avbdb exists due to /arroyo/log partition >95% full.
CSCur24931	3.8 recsvr hit coredump when deleting contents.
CSCur26221	Online 38131B recorder displays as Down on CDSM.
CSCut24740	CISCO-581: Recorder: no alert sent to RM when avbdb was not running.
CSCut41158	CISCO-601: Unable to handle kernel paging request at 000000000000ffd8.
CSCuu18863	cDVR Recorder Bound/Unbound issue during IGMP ingest.

Accessing the Bug Search Tool

This section explains how to use the Bug Search tool to search for a specific bug or to search for all bugs in a release.

-
- Step 1** Go to <https://tools.cisco.com/bugsearch/>.
- Step 2** At the Log In screen, enter your registered Cisco.com username and password; then, click **Log In**. The Bug Search page opens.



Note If you do not have a Cisco.com username and password, you can register for them at <http://tools.cisco.com/RPF/register/register.do>.

- Step 3** To search for a specific bug, enter the bug ID in the Search For field, and press **Enter**.
- Step 4** To search for bugs in the current release, specify the following criteria:
- Select the **Model/SW Family** Product Category drop-down list box, then enter **Cisco Videoscape Distribution Suite for Television** or select the name from the **Select from list** option.
 - Select **Cisco Videoscape Distribution Suite for Television** from the list that displays.
 - The **VDS Television Software** type displays in the Software Type drop-down list box.
 - Releases: 4.1.1.
 - Advanced Filter Options—Define custom criteria for an advanced search by selecting an appropriate value from the drop-down lists by choosing either one Filter or multiple filters from the available categories. After each selection, the results page will automatically load below the filters pane. If you select multiple filters, it behaves like an AND condition.
 - Modified Date—Select one of these options to filter bugs: **Last Week**, **Last 30 days**, **Last 6 months**, **Last year**, or **All**.
 - Status—Select **Fixed**, **Open**, **Other**, or **Terminated**.

Select **Fixed** to view fixed bugs. To filter fixed bugs, uncheck the Fixed check box and select the appropriate suboption (Resolved or Verified) that appears below the Fixed check box.

Select **Open** to view all open bugs. To filter the open bugs, uncheck the Open check box and select the appropriate suboptions that appear below the Open check box.

Select **Other** to view any bugs that are duplicates of another bug.

Select **Terminated** to view terminated bugs. To filter terminated bugs, uncheck the Terminated check box and select the appropriate suboption (Closed, Junked, or Unreproducible) that appears below the Terminated check box. Select multiple options as required.
 - Severity—Select the severity level:
 - 1: Catastrophic.
 - 2: Severe
 - 3: Moderate
 - 4: Minor
 - 5: Cosmetic
 - 6: Enhancement

- Rating—Select the bug’s quality rating: **5 Stars** (excellent), **4 or more Stars** (good), **3 or more Stars** (medium), **2 or more Stars** (moderate), **1 or more Stars** (poor), or **No Stars**.
- Support Cases—Select whether the bug **Has Support Cases** or **No Support Cases**.
- Bug Type—Select whether the bug is **Employee Visible & Customer Visible** or **Customer Visible Only**.

Step 5 The Bug Toolkit displays the list of bugs based on the specified search criteria.

Step 6 You can save or email the current search by clicking their respective option.

If you have any problems using the Bug Search tool, log into the Technical Support website at <http://www.cisco.com/cisco/web/support/index.html> or contact the Cisco Technical Assistance Center (TAC).

Configuring New CDE 465 Systems

Complete the following steps to set up a new CDE 465 with VDS-VR 4.1.1.

Step 1 Configure `/etc/hosts`, `/etc/sysconfig/network`, and `/etc/sysconfig/network-scripts/ifcfg-eth0`.

Step 2 Execute `service network start` to start the network device.

Step 3 Was VDS-VR Release 4.1.0 previously installed on the CDE 465?

If not, skip this step and continue with step 4 below.

If so, remove the existing SuperDoctor5 installation as follows:

a. Enter `yum groupremove recorder`, and when prompted, enter `y` to confirm.

b. Enter `yum clean all`.

c. Execute the following commands:

```
/opt/Supermicro/SuperDoctor5/uninstallSD5Service.sh
rpm -e $(rpm -qa 'SuperDoctor*')
```

d. Reboot the CDE 465.

e. Log on as `root` and copy (scp) the new 4.1.1 VDS-TV-PROD.iso image to `/root`.

f. Execute `/vdstvprepinstall /root/VDS-TV-PROD.iso`.

g. If prompted, select `5` for RECORDER.

h. Skip step 4 below and resume with step 5.

Step 4 Execute `/vdstvprepinstall /VDS-TV-PROD.iso` and select `5` for RECORDER.

Step 5 Enter `yum groupupdate recorder`.

Step 6 Reboot the CDE 465.

Step 7 Execute `cdsconfig`.

Step 8 Configure the following files manually (the CDSM GUI is not supported).

a. The interface setup file at `arroyo/test/recorder/setupfile`:

```
# CServer core configuration. Changes to this file require # a server reboot.
ndvr 1
serverid      248
groupid       1
management    eth0
```

```

ingest          eth2
ingest          eth4
control         eth0
localip         0afdfb14
http_dscp              37

streamer 0 vault 1 cache 0
bypass_isacheck 1
service http locate port address 10.253.251.29

igb adapters: maxrate 975
igb 1: streaming 0 fill 0 ip      10.253.251.29 tport    0 cport    0
tgid 0

e1000 adapters: maxrate 975
ixgbe adapters: maxrate 9850
ixgbe 0: streaming 1 fill 1 ip    10.253.189.126 tport    0 cport
0 tgid 0
ixgbe 2: streaming 1 fill 1 ip    10.253.34.230 tport    0 cport
0 tgid 0

allow tcp traffic 1
enable generate dynamic tricks 1
trickspeedsv2    -60 -30 -15 -8 8 15 30 60
ftput if eth0 max utilization mbps 0 max sessions 0 disks 36 model CDE465-4R4

test 4
er_enable0
rtp_enable0

allow vault raid 1
vault raid data blocks 12
vault raid parity blocks 2

```

b. The Recorder setup file at /home/isa/bss/etc/rcvr.conf:

```

#RMName=rm01
#RMIPAddress=172.22.102.38
#RMPort=80
#RecorderModelName=CDSTV-CDE220-TEST
#RecorderIPAddress=172.22.99.88
#RecorderPort=50005
#LocationID=1

#RecorderServiceHostName=recorder01

#ReportPeriod=60

#HttpRequestTimeout=5
#RequestTimeoutMS=5000
#ResponseTimeoutMS=5000

LogLevel=3
ServerType=3
RMIPAddress=10.252.88.246
RecorderPort=50005
LocationID=dnlab
HBInterval=5
DbTriggerPeriod=5
RMName=recMgr
RMPort=80
RecorderModelName=CISCO:CDE465-4R4
RecorderIPAddress=10.253.251.28
ProtocolVer=2

```

```
RecorderServiceHostName=CDSRECORDER465:INT-RecB
RecorderServicePath=/root
ReportPeriod=60
```

```
HttpRequestTimeout=5
RequestTimeoutMS=5000
ResponseTimeoutMS=5000
```

c. The route table at /arroyo/test/SubnetTable:

```
network 10.253.251.29 netmask 255.255.255.224 gateway 10.253.251.1 network
10.253.189.126 netmask 255.255.255.252 gateway 10.253.189.125 network
10.253.34.230 netmask 255.255.255.252 gateway 10.253.34.229
```

d. The Afterrun file at /arroyo/test/afterrun:

```
avs_indexingmode -c
echo 5 > /proc/calypso/tunables/recording_nodatatimeout
```

e. The rc.local file at /etc/rc.d/rc.local:

```
#!/bin/sh

#

# This script will be executed *after* all the other init scripts.
# Lines below this one modified by cdsflavconfig (RTSP):
# want to do the full Sys V style init stuff.

touch /var/lock/subsys/local

#/bin/touch /var/lock/subsys/avsdb

su - isa -c "arroyo start avsdb" >& /dev/null

#/bin/touch /var/lock/subsys/avsdb

sleep 30

/arroyo/test/run

sleep 60

# Uncomment the following lines to start monit based process monitoring
#/home/stats/monit/monit -d 1 -c /home/stats/monit/monitrc >& /dev/null

#sleep 1

#/home/stats/monit/monit -c /home/stats/monit/monitrc reload >& /dev/null

#sleep 1

#/home/stats/monit/monit -c /home/stats/monit/monitrc monitor all >& /dev/null

# End - monit initialization

#sleep 30

#/home/stats/statsd -i 10.253.251.28 -s 255.255.255.192 -d eth0

sleep 30
```

```

su - isa -c "arroyo start dnsresolver" >& /dev/null

sleep 3

#Comment: Enable recorder service & core dump

#echo 1 > /proc/sys/fs/suid_dumpable

#echo 1 > /proc/sys/kernel/core_uses_pid

#echo "core-%e-%p-%t" > /proc/sys/kernel/core_pattern

su - isa -c "arroyo start recsvr" >& /dev/null

# CDS Application Monitoring:

/home/stats/cds_app_monitor.py &
sleep 1
# The kernel panic parameter has been set to 1 in sysctl.conf to enable core
# dumps. To allow crash analysis from KDB, comment out "kernel.panic = 1"
# in /etc/sysctl.conf.

#Enable coredump

mkdir -p /arroyo/cores
echo /arroyo/cores/core.%h.%p.%e.%t > /proc/sys/kernel/core_pattern #NTP service

ntpd start

```

Step 9 Reboot the CDE 465.

Step 10 Start **avbdb** as follows:

```
su - isa -c "arroyo start avbdb" >& /dev/null
```

Step 11 Confirm successful startup by entering the following:

```
pgrep avbdb
```

The system response should include two PIDs.

Step 12 Start **cserver** using one of the following methods.

- If starting **cserver** for the first time, enter **/arroyo/test/run -C**, then enter **cleardir**.
- If **cserver** was previously started using **/arroyo/test/run -C**, simply enter **arroyo/test/run**.

Upgrading to Cisco VDS-VR Release 4.1.1

Before beginning this procedure on a CDE 465, do the following:

- If Live Database Backup is in service, shut down the live backup service and allow time for it to close the backup database gracefully.
- If VDS-VR Release 4.1.0, build 94 or later is installed on the CDE 465, remove the existing SuperDoctor5 installation manually as follows:

```

yum groupermove recorder
yum clean all
/opt/Supermicro/SuperDoctor5/uninstallSD5Service.sh
rpm -e $(rpm -qa 'SuperDoctor*')
reboot

```

To upgrade a VDS device, do the following:

- Step 1** Download the ISO image file (VDS-TV-PROD-4.1.1.iso) and the vdstvpreinstall script from the Cisco software download website.



Note VDS-VR servers running RedHat Linux 5.1 and 5.2 may require a patch to fix a vulnerability in the Bash shell, a software component that ships with Cisco VDS-VR Release 4.1.1. To access the patch file and instructions for applying it, go to http://cdsrelease.cisco.com/hotpatch/Bash_Upgrad_3.2.25.



Note In addition to the Bash patch, you must install `kdump-patch-1.0.0-1.x86_64.rpm` when upgrading from releases earlier than `cdstv_3.4.2_es2-b22` to resolve an issue with nDVR-Recorder (see CDETS bug CSCuq01328). If not previously installed, this patch should be installed after a fresh installation using the manufacturing ISO image.

The patch rpm file and a fault analysis report with instructions for installing the patch are available at <http://www.cdsrelease.cisco.com/hotpatch/<customer>/CSCuq01328> (where <customer> is your company name). If upgrading directly from 3.4.2-es2-b22 or a later 3.4.2 image, this patch is already included, so there is no need to install it separately.

- Step 2** Log into the VDS server via SSH as user `root`.
- Step 3** Copy the YUM ISO image file, YUM vdstvpreinstall script, and Bash RPM to the VDS Recorder.
- ```
scp -p <user>@<remote_ip_address>:VDS-TV-4.1.1.iso /root/.
scp -p <user>@<remote_ip_address>:vdstvpreinstall /root/.
```
- Step 4** Enter the following command to kill the monit process and prevent applications from being restarted automatically:
- ```
# ps -ef|grep monit
# kill -9 <PID>
```
- Enter the following command to confirm that the monit process is killed.
- ```
ps -ef|grep monit
```
- Step 5** For VDS-VR, enter the following command to stop all applications, especially avbdb and livebackup:
- ```
# su - isa
# arroyo stop
```
- Enter the following command to confirm that all applications, especially avbdb, have stopped.
- ```
arroyo status
exit
```
- For CDSM, enter the following command to shut down avbdb:
- ```
# db_shutdown
```
- Wait for a moment, and then enter the following command to confirm that avbdb is stopped:
- ```
ps -ef|grep avbdb
```
- Step 6** Enter the following command to back up the previous database (3.4.2 in this example):
- ```
# cd /arroyo/db
```

```
# cp -pr DATADIR DATADIR-342ES2
```

Step 7 Comment out the following lines that start the services in `/etc/rc.local`:

```
# su - isa -c "arroyo start avsdbs" >& /dev/null
# /arroyo/test/run

# /home/stats/statsd.bin -i <Server IP> -s <subnet mask> -d eth0

# /home/stats/monit/monit -d 1 -c /home/stats/monit/monitrc >& /dev/null
# sleep 1
# /home/stats/monit/monit -c /home/stats/monit/monitrc reload >& /dev/null
# sleep 1
# /home/stats/monit/monit -c /home/stats/monit/monitrc monitor all >& /dev/null

# su - isa -c "arroyo start recsvr" >& /dev/null
# su - isa -c "arroyo start dnsresolver" >& /dev/null
```

Step 8 If necessary to resolve the Bash vulnerability described in Step 1, download the Bash patch file and its release notes from http://cdsrelease.cisco.com/hotpatch/Bash_Upgrad_3.2.25. Follow the instructions in the release notes for applying the patch.

Step 9 Enter the following command to run the `vdstvpreinstall` script to prepare for YUM installation:

```
# cd /root
# ./vdstvpreinstall VDS-TV-4.1.1.iso
```

When prompted, choose *one* of the following:

- Choose **5** for RECORDER.
- Choose **1** for CDSM/VVIM.



Note

When installing YUM for the first time, execute `vdstvpreinstall` locally on the Recorder. This will install YUM RPMs, create configuration files, and create a local repository.

For subsequent YUM upgrades, you can use the same method, or optionally, use an external YUM server. To use an external YUM server, configure the server in `/etc/yum.repos.d/vdstv.repo` as shown in the following example:

```
baseurl=http://10.74.15.187/Yukon/VDSTV 4101 3
```

Step 10 For VDS-VR, run the following YUM command to upgrade to Release 4.1.1:

```
# yum -y groupupdate recorder
# reboot
```

For CDSM, run the following YUM command to upgrade to Release 4.1.1:

```
# yum -y groupupdate vdstv-cdsm
# reboot
```

Step 11 After VDS-VR has come up, edit `/arroyo/test/afterrun` to use the new index mode tool.

Replace the old tunable:

```
echo 0x80 > /proc/calypso/internal/trick_test0
```

...with the new index mode tool:

```
avs_indexingmode -c
```

Step 12 Check the execution permission of `/arroyo/test/afterrun`.

```
# ll /arroyo/test/afterrun
# chmod +x /arroyo/test/afterrun
```



Note If afterrun does not have permission to execute, add permission.

Step 13 After VDS-VR has come up, start the services as per the sequence in /etc/rc.local.

a. Start avbdb:

```
# su - isa -c "arroyo start avbdb" >& /dev/null
```

b. Start cserver:

```
# /arroyo/test/run
```

c. Start statsd:

```
# /home/stats/statsd.bin -i <Server IP> -s <subnet mask> -d eth0
```

Step 14 If R8 I04 is to be used, wait until statsd connects to avbdb and both are operational, then change the R8 version from the original I02 to I04.

Step 15 Continue to start the services left in the /etc/rc.local as follows.

a. Start monit:

```
# /home/stats/monit/monit -d 1 -c /home/stats/monit/monitrc >& /dev/null
```

```
# sleep 1
```

```
# /home/stats/monit/monit -c /home/stats/monit/monitrc reload >& /dev/null
```

```
# sleep 1
```

```
# /home/stats/monit/monit -c /home/stats/monit/monitrc monitor all >& /dev/null
```

b. Start the **recsvr** and **dnsresolver** applications:

```
# su - isa -c "arroyo start recsvr" >& /dev/null
```

```
# su - isa -c "arroyo start dnsresolver" >& /dev/null
```

Step 16 Uncomment the following lines that start the services in /etc/rc.local:

```
su - isa -c "arroyo start avbdb" >& /dev/null
/arroyo/test/run
```

```
/home/stats/statsd.bin -i <Server IP> -s <subnet mask> -d eth0
```

```
/home/stats/monit/monit -d 1 -c /home/stats/monit/monitrc >& /dev/null
```

```
sleep 1
```

```
/home/stats/monit/monit -c /home/stats/monit/monitrc reload >& /dev/null
```

```
sleep 1
```

```
/home/stats/monit/monit -c /home/stats/monit/monitrc monitor all >& /dev/null
```

```
su - isa -c "arroyo start recsvr" >& /dev/null
```

```
su - isa -c "arroyo start dnsresolver" >& /dev/null
```

Step 17 For VDS-VR, after the Recorder is operational, return the server to online status.

Step 18 For VDS-VR, verify that the following TRICKLE DOWN files *do not* exist.

```
# ll /usr/tmp/TRICKLE_DOWN
```

```
# ll /tmp/TRICKLE_DOWN
```

If either file exists, remove it using the appropriate command, as follows:

```
# rm -f /usr/tmp/TRICKLE_DOWN
# rm -f /tmp/TRICKLE_DOWN
```

Step 19 For VDS-VR, check the status of the locate port as follows:

```
#cat /proc/calypso/status/resiliencyinfo
```

For example, if the locate port is not started:

```
[root@CDE460-17-30 tmp]# cat /proc/calypso/status/resiliencyinfo
Resiliency Info:
Configured Service Addresses: 1

Service Address: 10.60.190.100
HTTP Redirector Service: Not Usable
```

For example, if the locate port starts successfully:

```
[root@CDE460-17-30 ~]# cat /proc/calypso/status/resiliencyinfo
Resiliency Info:
Configured Service Addresses: 1

Service Address: 10.60.190.100
HTTP Redirector Service: Primary
```

If the locate port does not start successfully, stop the service (see Steps 4-5 above), reboot the server, and repeat Step 18 above.

Step 20 For VDS-VR on Recorder Manager, bring the Recorder online.

Step 21 For VDS-VR, check the heartbeat messages in the Event Log of Recorder Manager to confirm that the Recorder is operational, as follows:

```
# tail -f /opt/cisco/usrm/EventLog/DDMMYYYY_000000.txt |grep <Recorder_IP_ADDR>
```

For example:

```
# tail -f /opt/cisco/usrm/EventLog/25Jun2014_000000.txt |grep 172.22.99.189
```

Related Documentation

Refer to the following documents for additional information about TV Recorder :

- *Cisco VDS-VR 4.1 Software Configuration Guide*
- *Cisco Content Delivery Engine 465 Hardware Installation Guide*
- *Cisco Content Delivery Engine 205/220/250/280/420/460/470 Hardware Installation Guide*
- *Regulatory Compliance and Safety Information for Cisco Content Delivery Engines*
- *Open Source Used in Cisco VDS-VR 4.1.1*

http://www.cisco.com/en/US/products/ps12653/products_licensing_information_listing.html

The entire software documentation suite is available on Cisco.com at:

http://www.cisco.com/en/US/products/ps12653/tsd_products_support_series_home.html

The entire VDS hardware documentation suite is available on Cisco.com at:

http://www.cisco.com/en/US/products/ps7126/tsd_products_support_series_home.html

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

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