



## Installation, Upgrade, and Downgrade via YUM

You can install VDS-VR Release 4.1.4 software on CDE 465 or CDE 460 hardware via a local or a remote YUM server. When installing via YUM for the first time, you must perform the installation locally. During local YUM installation, YUM RPMs are installed and configuration files and a local repository are created.

### Configuring New CDE 465 Systems

Complete the following steps to set up a new CDE 465 with VDS-VR 4.1.4.



#### Note

These instructions apply for new CDE 465 systems obtained from Cisco. Additional steps are needed to install VDS-VR 4.1.4 on CDE 465 systems sourced directly from Supermicro. See the *Release Notes for Cisco VDS-VR 4.1.4* for details.

**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 4.1.4 VDS-TV-PROD.iso image to `/root`.

f. Execute `/vdstvpreinstall /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 `/vdstvpreinstall /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` (IP addresses are examples only):

```
# 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       0afdfeb14
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
0 tgid 0
ixgbe 2: streaming 1 fill 1 ip      10.253.34.230 tport    0 cport    0
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/recsvr.conf` (IP addresses are examples only):

```
LogLevel=3
ServerType=3
RMIPAddress=10.252.88.246
RecorderPort=50005
LocationID=dnlab
HBInterval=5
RMName=recMgr
RMPort=80
RecorderModelName=CISCO:CDE465-4R4
ProtocolVer=2
RecorderServiceHostName=CDSRECORDER465:INT-RecB
ReportPeriod=60
```

**c.** The route table at `/arroyo/test/SubnetTable` (IP addresses are examples only):

```
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
```



**Note**

- This example shows only the minimum required content. The file may contain additional lines.
- Be sure that the afterrun file has -x permission.

**e. The rc.local file at /etc/rc.d/rc.local (IP addresses are examples only):**

```
#!/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 90

# 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** Confirm successful startup by entering the following:

```
pgrep avbdb
```

The system response should include two PIDs.

**Step 11** 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 the CDE 465 or 460 from VDS-VR 4.1.2 or 4.1.3 to 4.1.4

**Step 1** Download the YUM package ISO file (VDS-TV-PROD-4.1.4-b3.iso) and vdstvpreinstall script from the Cisco Software Download website.

**Step 2** For the VDS Recorder, on Recorder Manager, offload the VDS Recorder to prevent new recording requests as follows:

- From the Recorder Manager web GUI, choose **ResourceManager > Recorders**, and select the Recorder to be upgraded.
- Choose **Recorder CDSRECORDER:XXXX:YYY > Configuration**, and change the value of AdminState from InService to **OutOfService**.
- Change the value of ArchiveAdminState from InService to **OutOfService**.
- Click **Commit Changes** to make changes take effect.

**Step 3** Log into the VDS Recorder via SSH as user **root**.

**Step 4** Is the YUM server used?

- If **yes**, skip this step and continue with step 5.
- If **no**, copy the YUM package ISO image file and YUM vdstvpreinstall script to the VDS Recorder.

```
# scp -p <user>@<remote_ip_address>:VDS-TV-4.1.4.iso /root/.
# scp -p <user>@<remote_ip_address>:vdstvpreinstall /root/.
```

**Step 5** Execute the following commands to kill the **/home/stats/monit/monit -d 1 -c /home/stats/monit/monitrc** process and prevent applications from being restarted automatically:

```
# ps -ef|grep monit
# kill -9 <PID>
```

Execute the following command to confirm that the monit process is killed.

```
# ps -ef|grep monit
```

**Step 6** Execute the following commands to stop all applications, avssdb, recsvr, livebackup, and dnsresolver:

```
# su - isa
# arroyo stop
```

Execute the following commands to confirm that all applications, especially avssdb and livebackup, have been stopped.

```
# arroyo status
# exit
```

**Step 7** Is the YUM server used?

- If **yes**, reconfigure **baseurl** in `/etc/yum.repos.d/vdstv.repo` to install the 4.1.4-bX build from YUM server as follows:

```
baseurl= http://172.22.116.17/rec_4.1.4-bX/
```

- If **no**, execute the following commands to run the `vdstvpreinstall` script to prepare for YUM installation:

```
# cd /root
# ./vdstvpreinstall VDS-TV-4.1.4.iso
```

When prompted, choose 5 for 5) RECORDER.



**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://172.22.116.17/rec_4.1.4-bX/
```

**Step 8** Execute the following YUM command to upgrade to Release 4.1.4:

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

**Step 9** Remove all existing tunables in `/arroyo/test/afterrun` *except* for the following two lines.:

- `avs_indexingmode -c`
- `echo 10 > /proc/calypso/tunables/recording_nodatatimeout`



**Note**

Increasing `recording_nodatatimeout` from the default value of 5 seconds to 10 seconds could enable the ingest resiliency feature.

**Step 10** Check the execution permission of `/arroyo/test/afterrun` to confirm that it has execution permission.

```
# ll /arroyo/test/afterrun
```

If `afterrun` does not have execution permission, add permission.

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

**Step 11** Check the contents of `/etc/rc./local` and confirm that the following lines are commented out.

- The starting line for `statsd`:

```
#/home/stats/statsd -i 172.22.71.104 -s 255.255.255.128 -d bond0
```

- The line for the core dump of the recorder service:

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

**Example:**

```
#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
echo /arroyo/cores/core.%h.%p.%e.%t > /proc/sys/kernel/core_pattern
```

**Step 12** Confirm that `/home/isa/bss/etc/recsvr.conf` includes only the nine configurations listed below.

```
[root@CDE465B-71104 db]# cat /home/isa/bss/etc/recsvr.conf

RMIPAddress=172.22.99.242
RMName=recMgr
RecorderModelName=CISCO:CDE465-4R4
RecorderPort=50005
RecorderServiceHostName=VIDEORECORDER:9817:104
ProtocolVer=4
MessageThreadPoolMaxSize=96
AsyncTaskPaceRate=3072
RequestTimeoutMS=100
```



**Note**

ProtocolVer specifies the R8 version. If this configuration is absent in the `recsvr.conf`, the application `recsvr` behaves as R8I02 by default. If present, `ProtocolVer=4` designates R8I04, while `ProtocolVer=2` designates R8I02 (the default).

**Step 13** Reboot the Recorder.

```
# reboot
```

**Step 14** After the VDS Recorder boots up, check the status of `locate` port as follows:

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

**Example: Locate port is not started**

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

Service Address: 192.168.190.100
HTTP Redirector Service: Not Usable
```

**Example: Locate port is started successfully**

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

Service Address: 192.168.190.100
HTTP Redirector Service: Primary
```

- Step 15** On Recorder Manager, bring the VDS Recorder online as follows:
- From the Recorder Manager web GUI, choose **ResourceManager > Recorders**, and select the Recorder to be upgraded.
  - Choose **Recorder CDSRECORDER:XXXX:YYY > Configuration**, and change the value of AdminState from OutOfService to **InService**.
  - Change the value of ArchiveAdminState from OutOfService to **InService**.
  - Click **Commit Changes** to make changes take effect.
- Step 16** Check the heartbeat messages in the Event Log of Recorder Manager to confirm that the VDS Recorder is operational, as follows:

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

**Example:**

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

## Downgrading the CDE 465 from VDS-VR 4.1.4 to 4.1.2 or 4.1.3



**Note**

VDS-VR 4.1.4 supports installation and upgrade on CDE 465s purchased directly from Supermicro, but it does not support downgrade from Release 4.1.4 to any previous 4.1.x release on these systems. To check if a particular CDE 465 supports downgrade, use this command to obtain its serial number:

```
# dmidecode -s system-serial-number
```

If the serial number format begins with **CDE465-V01-FTX**, the system supports downgrade from Release 4.1.4 to a previous 4.1.x release. Otherwise, it does not support such downgrade.

- Step 1** Download the YUM package (for example, VDS-TV-4.1.2-b2.iso or VDS-TV-4.1.3-b2.iso) and the vdstvpreinstall script for Release 4.1.4 from the Cisco Software Download website.
- Step 2** On Recorder Manager, offload the VDS Recorder to prevent new recording requests as follows:
- From the Recorder Manager web GUI, choose **ResourceManager > Recorders**, and select the Recorder to be upgraded.
  - Choose **Recorder CDSRECORDER:XXXX:YYY > Configuration**, and change the value of AdminState from InService to **OutOfService**.
  - Change the value of ArchiveAdminState from InService to **OutOfService**.
  - Click **Commit Changes to make changes take effect**.
- Step 3** Log in to the VDS Recorder via SSH as user **root**.
- Step 4** Is the YUM server used?
- If **yes**, skip this step and continue with step 5.
  - If **no**, copy the YUM package ISO image file and YUM vdstvpreinstall script to the VDS Recorder.
- ```
# scp -p <user>@<remote_ip_address>:VDS-TV-4.1.x-b2.iso /root/.
# scp -p <user>@<remote_ip_address>:vdstvpreinstall /root/.
```
- Step 5** Execute the following commands to kill the /home/stats/monit/monit -d 1 -c /home/stats/monit/monitrc process and prevent applications from being restarted automatically:
- ```
# ps -ef|grep monit
```

```
# kill -9 <PID>
```

Execute the following commands to confirm that the monit process is killed.

```
# ps -ef|grep monit
```

**Step 6** Execute the following commands to stop all applications, especially avsdB and livebackup:

```
# su - isa
# arroyo stop
```

Execute the following commands to confirm that all applications, especially avsdB and livebackup, have stopped.

```
# arroyo status
# exit
```

**Step 7** Execute the following commands to remove the 4.1.4 YUM packages:

```
# yum -y groupremove recorder
# yum clean all
# reboot
```

Wait until the Recorder boots up to continue with installation of the new image.

**Step 8** Is the YUM server used?

- If yes, reconfigure **baseurl** in `/etc/yum.repos.d/vdstv.repo` to install either the 4.1.2-b2 or the 4.1.3-b2 build from the YUM server:

```
baseurl= http://172.22.116.17/rec_4.1.x-b2/
```

- If no, execute the following commands to run the `vdstvpreinstall` script to prepare for YUM installation:

```
# cd /root
# ./vdstvpreinstall VDS-TV-4.1.x-b2.iso
```

When prompted, choose **5** for 5) RECORDER.

**Step 9** Execute the following YUM command to downgrade to the chosen release:

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

**Step 10** Reboot the VDS Recorder.

```
# reboot
```

After the VDS server has rebooted, the services avsdB, cserver, monit, recsvr, and dnsresolver should be started automatically as specified in `/etc/rc.local`.

**Step 11** Check the status of locate port as follows:

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

#### Example: Locate port is not started

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

```
Service Address: 192.168.190.100
HTTP Redirector Service: Not Usable
```

#### Example: Locate port is started successfully

```
[root@CDE460-17-30 ~]# cat /proc/calypso/status/resiliencyinfo
```



```
Resiliency Info:
Configured Service Addresses: 1

Service Address: 192.168.190.100
HTTP Redirector Service: Primary
```

- Step 12** On Recorder Manager, bring the VDS Recorder online as follows:
- From the Recorder Manager web GUI, choose **ResourceManager > Recorders**, and select the Recorder to be upgraded.
  - Choose **Recorder CDSRECORDER:XXXX:YYY > Configuration**, and change the value of AdminState from OutOfService to **InService**.
  - Change the value of ArchiveAdminState from OutOfService to **InService**.
  - Click **Commit Changes** to make changes take effect.
- Step 13** To confirm that the VDS Recorder is operational, check the heartbeat messages in the EventLog of Recorder Manager as follows:

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

**Example:**

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

## Tunable Default Values for CDE465-4R4

Table 3 lists the tunable values for VDS-VR Releases 4.1.2, 4.1.3, and 4.1.4 on the CDE465-4R4.

**Table 1** CDE465-4R4 Tunable Default Values, VDS-VR 4.1.2, 4.1.3, and 4.1.4

Tunable	Default Value in 4.1.2, 4.1.3, 4.1.4
/proc/calypso/tunables/archivePushMaxActiveAgents	00000064
/proc/calypso/tunables/archivePushMaxActiveAgentsPerAddress	0000000a
/proc/sys/fs/suid_dumpable	1
/proc/sys/kernel/core_uses_pid	1
/proc/sys/kernel/core_pattern	/arroyo/cores/core.%h.%p.%e.%t
/proc/calypso/internal/enable_packet_capture	00000000
/proc/calypso/tunables/localizeCancelIfOutstandingAfterMinutes	000002d0
/proc/calypso/tunables/trick_ebpenableimplicit	00000001
/proc/calypso/tunables/trick_ebpendusingvideo	00000000
/proc/calypso/tunables/recording_maxcapturebandwidth	0000000024f47300
/proc/calypso/tunables/recording_maxdiskbandwidth	000000003dfd2400
/proc/calypso/tunables/recording_graceperiod	00000005
/proc/calypso/tunables/recording_nodatatimeout	00000001 (increased to 10 in /arroyo/test/afterrun to enable live resiliency)
/proc/calypso/tunables/ingest_capture_min_failover_timeout	00000005
/proc/calypso/tunables/ndvr_recording_threshold/	00000001
/proc/calypso/tunables/ndvr_delivery_threshold	00000001

**Table 1** CDE465-4R4 Tunable Default Values, VDS-VR 4.1.2, 4.1.3, and 4.1.4 (continued)

Tunable	Default Value in 4.1.2, 4.1.3, 4.1.4
/proc/calypso/tunables/archivePushUseExpectHeader	00000001
/proc/calypso/tunables/http_disable_mac_validation	00000000
/proc/sys/net/core/netdev_max_backlog	5000

## Tunable Default Values for CDE 460

Table 4 lists the tunable values for VDS-VR Release 4.1.3 and 4.1.4 on the CDE 460.

**Table 2** CDE 460 Tunable Default Values for VDS-VR 4.1.3 and 4.1.4

Tunable	Default Value in 4.1.3 and 4.1.4
/proc/calypso/internal/enable_packet_capture	0
/proc/calypso/tunables/localizeCancelIfOutstandingAfterMinutes	000002d0
/proc/calypso/tunables/archivePushMaxActiveAgents	00000064
/proc/calypso/tunables/archivePushMaxActiveAgentsPerAddress	0000000a
/proc/sys/fs/suid_dumpable	1
/proc/sys/kernel/core_uses_pid	1
/proc/sys/kernel/core_pattern	/arroyo/cores/core.%h.%p.%e.%t
/proc/calypso/tunables/trick_ebpendusingvideo	00000000
/proc/calypso/tunables/recording_maxcapturebandwidth	000000014f46b040
/proc/calypso/tunables/recording_maxdiskbandwidth	0000000024f47300
/proc/calypso/tunables/recording_graceperiod	00000005
/proc/calypso/tunables/recording_nodatatimeout	1 (Increased to 10 in /arroyo/test/afterrun to enable live resiliency)
/proc/calypso/tunables/ingest_capture_min_failover_timeout	00000005
/proc/calypso/tunables/ndvr_recording_threshold/	00000001
/proc/calypso/tunables/ndvr_delivery_threshold	00000001
/proc/calypso/tunables/archivePushUseExpectHeader	00000001
/proc/calypso/tunables/http_disable_mac_validation	00000000
/proc/sys/net/core/netdev_max_backlog	5000