AVIGILON AI NVR2 Value Hard Disk Drive Accessories Guide User Guide

Hard Disk Drive Accessories Guide
For Avigilon Systems

Contents

Revisions

Guide Release	Description
March 2023	Initial release of guide for AI NVR2 Value, NVR5, NVR5 Value, AI NVR, NVR4, NVR4X, HD-NVR4, and HD-NVR4X

Before You Start

You can upgrade hard drives or replace the spare hard drives in Avigilon AI network video recorders (AI NVRs) or NVRs with hot swappable drives. The hard drives in the front and back drive bays of all compatible NVRs are hot-swappable. The hard drives in the internal drive bays are not hot-swappable. A hard drive is referred to also as a hard disk drive (HDD).
Instructions differ between NVRs managed with iDRAC 9 and NVRs managed with iLO. Follow the set of

instructions that matches your NVR storage management tool.
Tip: For assistance with any of the procedures in the document, contact Avigilon Technical Support at avigilon.com/contact at any time.

Product Compatibility

Hard Drive Part Number	Compatible NVRs	Storage Management Tool
NVR5-HDDS-HOT-18TB	NVR5 Premium 252/288/360/432TB	iLO
NVR5-HDDS-HOT-16TB-A2	NVR5 Premium 192/224TB	iDRAC 9
NVR5-HDDS-HOT-16TB-A1	NVR5 Premium 128/160TB NVR5 Premium 128/160TB (FIPS Series)	
NVR5-HDDS-HOT-12TB	NVR5 Premium 96TB NVR5 Premium 96TB (FIPS Series)	
NVR5-HDD-HOT-8TB	NVR5 Standard 32/48/64TB NVR5 Value 6/12/16/24TB	
NVR5-HDD-HOT-4TB	NVR5 Standard 16/24TB NVR5 Value 6/12/16/24TB	
AINVR-HDDS-HOT-16TB	AI NVR Premium+ 128TB AI NVR Premium 128TB	
AINVR-HDDS-HOT-12TB	AI NVR Premium+ 96TB AI NVR Premium 96TB	
AINVR-HDDS-HOT-8TB	AI NVR2 Value 6/12/16/24TB AI NVR Premium+ 64TB AI NVR Premium 64TB AI NVR Standard 32/48TB	
AINVR-HDDS-HOT-4TB	AI NVR2 Value 6/12/16/24TB AI NVR Standard 12/24TB	
AINVR-HDDS-HOT-2TB	AI NVR2 Value 6/12/16/24TB AI NVR Value 6TB	
NVR4-HDDS-HOT-16TB	NVR4/4X Premium 128/157/192/217TB NVR4X Premium 128/157TB (FIPS Series)	
NVR4-HDDS-HOT-12TB	NVR4/4X Premium 96TB NVR4X Premium 96TB (FIPS Series)	
NVR4-HDDS-HOT-8TB	NVR4X Premium 64TB NVR4/4X Standard 32/48TB NVR4 Value 16/24TB NVR4X Premium 64TB (FIPS Series)	
NVR4-HDDS-HOT-4TB	NVR4/4X Standard 16/24TB NVR4 Value 12TB	
NVR4-HDDS-HOT-2TB	NVR4 VAL 6TB	

Replacing a Hard Drive (iDRAC 9)

Follow these instructions for any NVR server managed with iDRAC 9. This includes any NVR5 server originally under 252TB storage capacity, any AI NVR, and any NVR4/4X server.

Overview

Complete this procedure from a web browser running on a computer on the same area network and with the same subnet mask as the NVR or appliance that will connect to iDRAC 9 Web Interface.

To replace the hard drive:

1. Use the iDRAC 9 Web Interface to determine if the problem you are seeing with your NVR is due to a failed hard drive. See Step 1: Verifying a Hard Disk Failure.
2. Identify the physical hard drive is affected. See Step 2: Identifying the Failed Physical Hard Drive.
3. Create a SupportAssist Collection and save it locally. See Step 3: Generating a SupportAssist Collection File and Attaching to Support Request.
4. Open a support request with Avigilon Support and attach the SupportAssist Collection to the request as proof of the failed hard drive.
5. Avigilon Support will arrange for a technician to deliver the replacement drive, replace the failed drive if you haven't already, and take away the failed drive.
6. If you have a replacement hard drive already available you can install it now. If you are installing it yourself. There are two different replacement methods depending on the hard drive location. Follow the appropriate instructions:
   - Replacing Hard Drives in Front or Rear Drive Bays
   - Replacing Hard Drives in the Internal Drive Bay

Important: Only replace a hard drive if the hard drive LED indicator and the iDRAC 9 Web Interface displays an error.

Step 1: Verifying a Hard Disk Failure

AI NVR

To check if the issue is due to a failed hard drive, use Server Management accessed from any ACC Client application or compatible browser on a workstation on the same network as the appliance.

On the Storage panel of the AI NVR you can:

- Monitor the storage capacity and the status of the virtual disks configured on the device on the Virtual Disks panel, and the physical disks installed on the device on the Physical Disks panel.
- Expand a virtual disk on the Virtual Disks panel to monitor the status of the physical disks that are members of that virtual disk.
- View details about each physical disk, including capacity, model, and serial number on the Physical Disks panel.
- Set the status of a physical disk to Offline before removing it from the appliance for replacement if it ever fails.

Important: The storage physical disk is a hard disk drive (HDD) that must be replaced with an HDD of the same capacity.

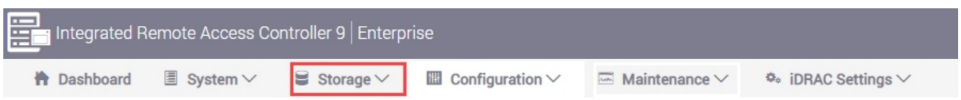
Click Storage on the navigation bar to open the Virtual Disks and Physical Disks panels.

In the…	To…	You can…
Virtual Disks panel	View the capacity and status of a virtual disk	View information about the virtual disk, including its label, the RAID mode in use, and its capacity. When a virtual disk is: ● Correctly working, Ready is displayed. ● Not correctly working, one of several error states is displayed.
	Complete maintenance on a virtual disk	Click to check consistency of the virtual disk.
	Monitor the status of the physical disk members of a virtual disk	Click to display information about all the physical disks that are members of the virtual disk and to hide the information. When the member disks are displayed, the status of each disk is listed. When a physical disk is: ● Correctly working, Ready is displayed. ● Not correctly working, one of several error states is displayed.
Virtual Disks and Physical Disks panel	Prepare to replace a physical disk	Click . You are prompted to Eject or Cancel. The status changes to Offline and changes to , indicating all services have stopped. For more information on replacing a physical disk, see Step 4: Replacing Hard Drives on page 1.
Physical Disks panel	View the capacity and status of each physical disk.	View information about each physical disk, including its label, capacity, model, serial number and status is listed. When a physical disk is: ● Correctly working, Ready is displayed. ● Not correctly working, one of several error states is displayed.
	Rebuild the virtual disk after replacing a failed member physical disk.	Click to rebuild the virtual disk. Note: An HDD in a RAID that has been taken offline has to be rebuilt to return it to service.

NVR

To check if the issue is due to a failed hard drive, use the iDRAC 9 Web Interface.
Complete this procedure from a web browser running on a computer on the same area network and with the same subnet mask as the NVR or appliance that will connect to iDRAC 9 Web Interface.

1. Log in to the iDRAC9 Web Interface by going to 192.168.0.120 or the address set by your DHCP server.
2. If a security certificate warning is displayed, click Continue to this website.
3. Navigate to the Storage tab.



4. In the Storage pane, go to PERC H740P Mini (Embedded) > Enclosure > Physical Disks.
5. Locate the affected hard drive. The last number in the disk name corresponds to the drive number. For example, Physical Disk 0:1:5 corresponds to the hard drive in the fifth slot of the recorder.

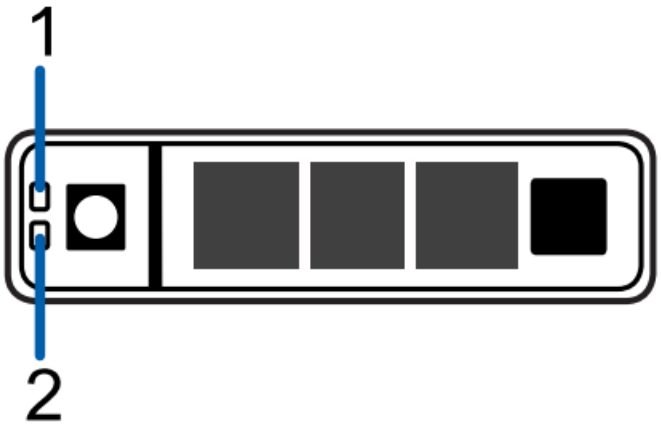
Step 2: Identifying the Failed Physical Hard Drive

Hard drives are located at the front, rear, and internal drive bays, depending on the video recorder.

1. Visually inspect the hard drive status indicators to determine which hard drive is affected.
2. Look for one of the three indications that a hard drive needs replacing:

Avigilon Product Model	LED Indicator	Description
AI NVR2 Value, AI NVR, NVR5 Value	Flashes green, orange, then off	The hard drive is predicted to fail.
	Four short orange flashes per second	The hard drive has failed.
	Blinks green for three seconds, orange for three seconds, and off for six seconds	The hard drive rebuild has been aborted.
NVR5 Premium, NVR5 Standard, NVR4 Premium, NVR4 Standard, NVR4 Value	Flashes green, orange, then off	The hard drive is predicted to fail.
	Four short orange flashes per second	The hard drive has failed.
	Blinks green for three seconds, orange for three seconds, and off for six seconds	The hard drive rebuild has been aborted.

3. Note the hard drive number which is printed on the recorder case below the front drives, and adjacent to the rear and internal drives. This hard drive number is required to turn the hard drive offline.



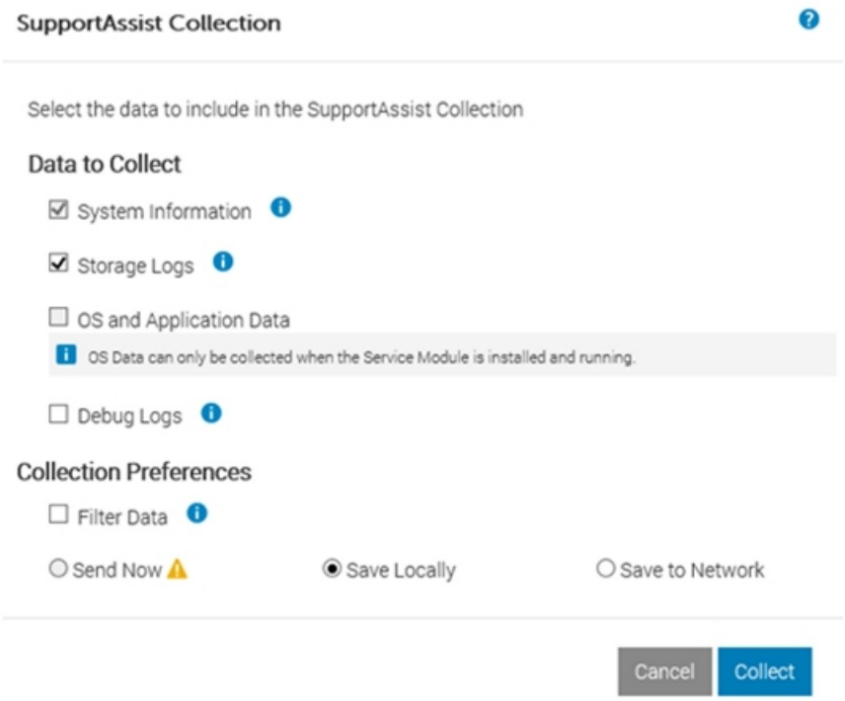
1. Status indicator.
2. Activity indicator.

For more information about each indicator, refer to the user guide for the video recorder or appliance.

Step 3: Generating a SupportAssist Collection File and Attaching to Support Request
After you have identified a hard drive failure, generate a SupportAssist Collection and save it. You need to attach it to the Technical Support Issue you open, so that Avigilon Support can arrange for you to receive a replacement hard drive.
Complete this procedure from a web browser running on a computer on the same area network and with the same subnet mask as the NVR or appliance that will connect to iDRAC 9 Web Interface.

1. Log in to the iDRAC9 Web Interface by going to 192.168.0.120 or the address set by your DHCP server.
2. If a security certificate warning is displayed, click Continue to this website.
3. Navigate to the Maintenance tab.

4. In the Maintenance pane, go to SupportAssist> Start a Collection:



Data to Collect	For a hard drive failure, click to collect System information and Storage Logs data.
Collection Preferences	Click Save Locally to save the generated Collection on the local system, or Save to Network to save the generated Collection to a network share location.

5. Click Collect and then accept the End User Level Agreement (EULA) to complete the process.
6. In your web browser, open a Technical Support Issue with Avigilon, and upload the saved Collection file.

Step 4: Replacing Hard Drives

Important: Only replace a hard drive if an error is displayed in the hard drive LED indicator, and the ACC Server Management or iDRAC 9 Web Interface.

About AI NVR Hard Disk Drives

The hard disk drives (HDDs) on the AI NVR are set up in a RAID configuration. This allows information to be recorded across several HDDs. If one HDD fails on an AI NVR VAL or up to two HDDs fail on an AI NVR STD, AI NVR PRM, or AI NVR PRM+ there is enough information on the other HDDs for the recorder to continue recording video. This allows you to replace a failed HDDwithout any downtime. If two disks have failed on an AI NVR STD, AI NVR PRM, or AI NVR PRM+, they have to be replaced one at a time.

To replace a failed HDD:

1. In the Server Management page, open the Storage panel.
2. In the Physical Disks panel, click . You are prompted to Eject or Cancel. The status changes to Offline and changes to , indicating all services have stopped.

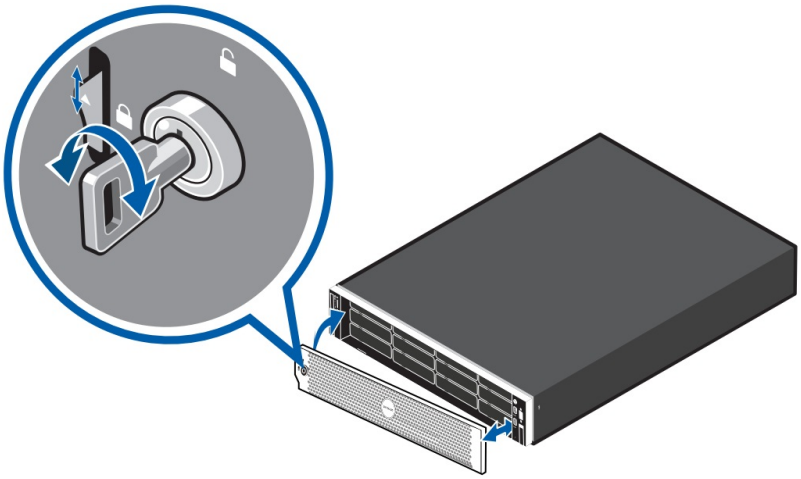
   Important: An HDD in a RAID that has been taken offline has to be rebuilt to return it to service. If you decide not to remove the HDD after ejecting it, click to rebuild the RAID with this HDD. The progress of the rebuilding is displayed in the Physical Disks panel. This may take several hours.
3. You can now remove the HDD from the recorder, as described in the next sections.

Installing a Hard Drive in an Empty Drive Bay

Depending on the recorder model, there may be hard drive blanks protecting empty drive bays at the front of the recorder. You can replace the blanks with hard drives to add additional storage as required.

⚠ **CAUTION** — To maintain proper system cooling, drive blanks must be installed in all empty drive slots.

1. Remove the bezel.

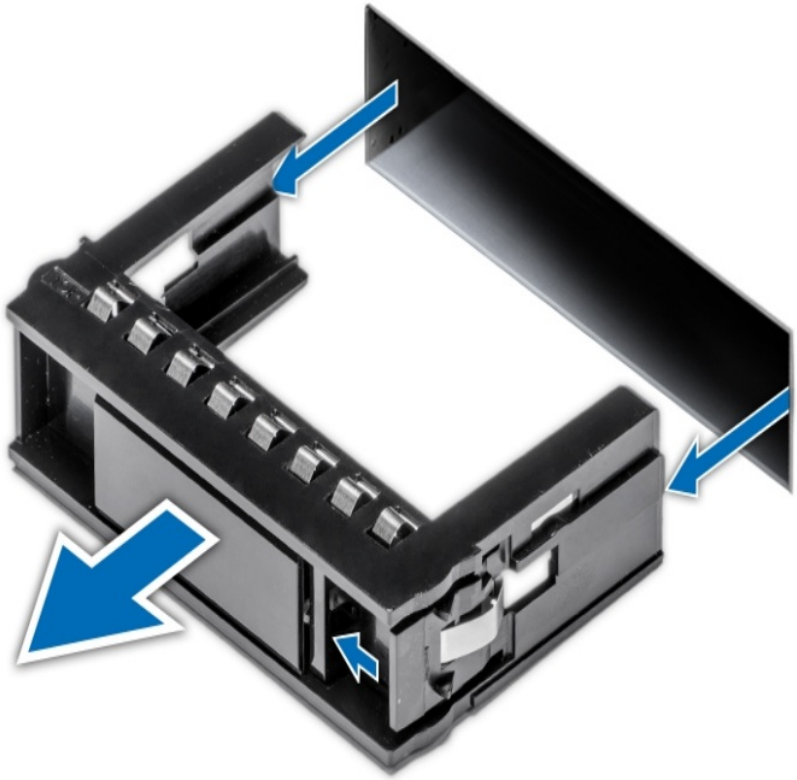


   a. Unlock the bezel.

   b. Push the release button next to the lock.

   c. Pull the left end of the bezel then unhook the right end to remove the bezel.

2. Press the release button and slide the blank out of the hard drive slot.



3. Insert the hard drive all the way into the recorder and then push the handle against the hard drive to lock it into place.
4. Open the Server Administrator application and expand the System Tree.

   The new hard drive should be automatically added to the Physical Disks list. The list is typically available here: System> Storage > PERC H730P > Connector 0 (RAID) > Enclosure (Backplane) > Physical Disks.
5. Assign a task to the new hard drive or allow it to exist as an extra storage drive.

   It is recommended to use the new hard drive as a hot spare. Hot spares are hard drives that are available on

standby in the event of a hard drive failure in the RAID. If that occurs, you can configure the system to automatically redirect recording to the unused hard drive.

To assign the new hard drive as a hot spare:

a. In the Task list, select Assign and Unassign Global Hot Spare.

b. Click Execute.

6. Open the Server Management page and click Storage in the navigation bar.

Troubleshooting

If the new hard drive is not displayed in the Server Administrator, try one of the following:

- Refresh the browser.
- Reboot the recorder.
- In the System Administrator:
  1. Select PERC H730P in the System Tree.
  2. Click the Information/Configuration tab.
  3. Select Rescan from the Controller Tasks list.
  4. Click Execute.

Replacing Hard Drives in Front or Rear Drive Bays

Before you replace the hard drive, remove the front bezel of the recorder.

For rear hard drive replacement, ensure the hard drive is visible and accessible.

Important: When installing a replacement hard drive, the hard drive automatically rebuilds. Existing data will be overwritten. Make sure the replacement hard drive is blank.

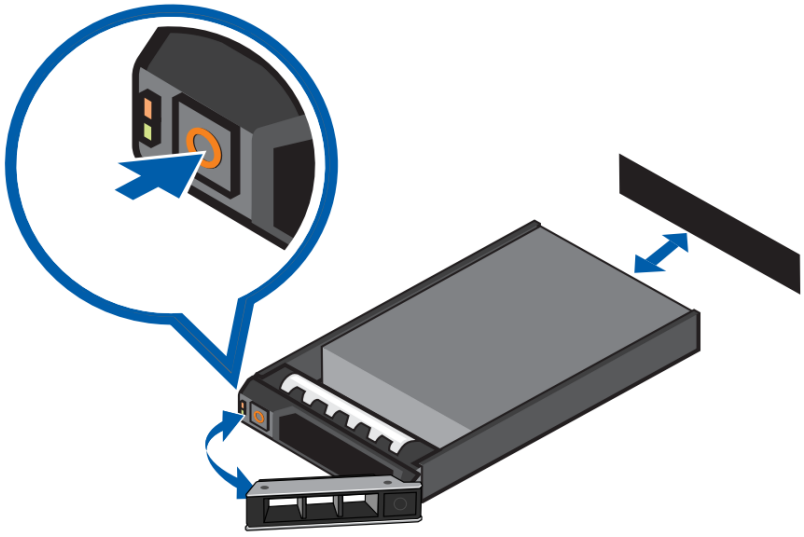
Materials and Equipment

- Replacement hard drive
- Installation instructions
- Physical drive disassembly

Replacing the Hard Drive

The AI NVR is referenced in the following illustrations.

1. Locate the failed hard drive at the front or back of the recorder, depending on the model.



2. Press the release button on the front left of the hard drive.
3. When the handle is released, pull the hard drive out of the recorder.

4. Remove the four screws from the side of the hard drive carrier.
5. Lift the failed hard drive out of the carrier.
6. Insert the replacement hard drive into the carrier and screw it into place. The hard drive connectors should face the back.
7. When the hard drive is secured in the carrier, insert the hard drive back into the recorder.
8. Once the hard drive is inserted all the way in, push the handle against the hard drive to lock it into place.

The recorder immediately starts rebuilding the hard drive. The progress of the rebuilding is displayed in the Physical Disks panel or Server Administrator. This may take several hours.

Replacing Hard Drives in the Internal Drive Bay

Before you replace the hard drive, remove the front bezel of the recorder.

Important: When installing a replacement hard drive, the hard drive automatically rebuilds. Existing data will be overwritten. Make sure the replacement hard drive is blank.

Materials and Equipment

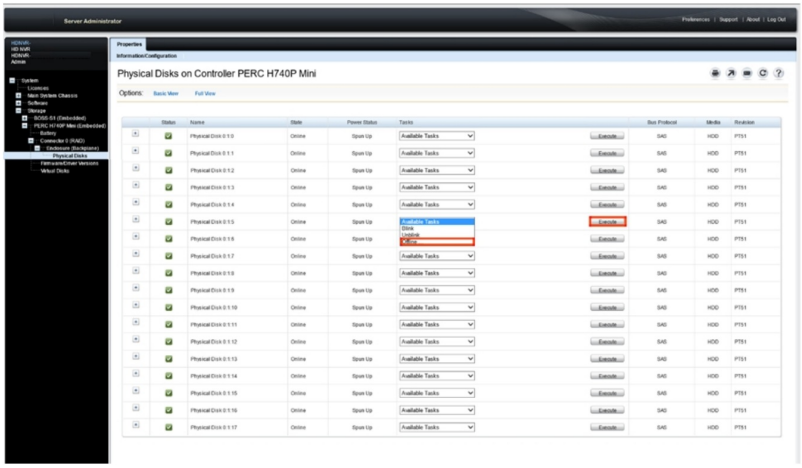
- Replacement hard drive.
- Installation instructions.

Turning the Hard Drive Offline

Before replacing an internal hard drive, turn it offline in the iDRAC 9 Web Interface software.

1. Log in to the iDRAC9 Web Interface by going to 192.168.0.120 or the address set by your DHCP server.
2. If a security certificate warning is displayed, click Continue to this website.
3. Navigate to the Storage tab.

4. In the Storage pane, go to PERC H740P Mini (Embedded) > Enclosure > Physical Disks.
5. Locate the affected hard drive. The last number in the disk name corresponds to the drive number. For example, Physical Disk 0:1:5 corresponds to the hard drive in the fifth slot of the recorder.
6. In the Available Tasks drop-down list, select Offline, then click Execute.



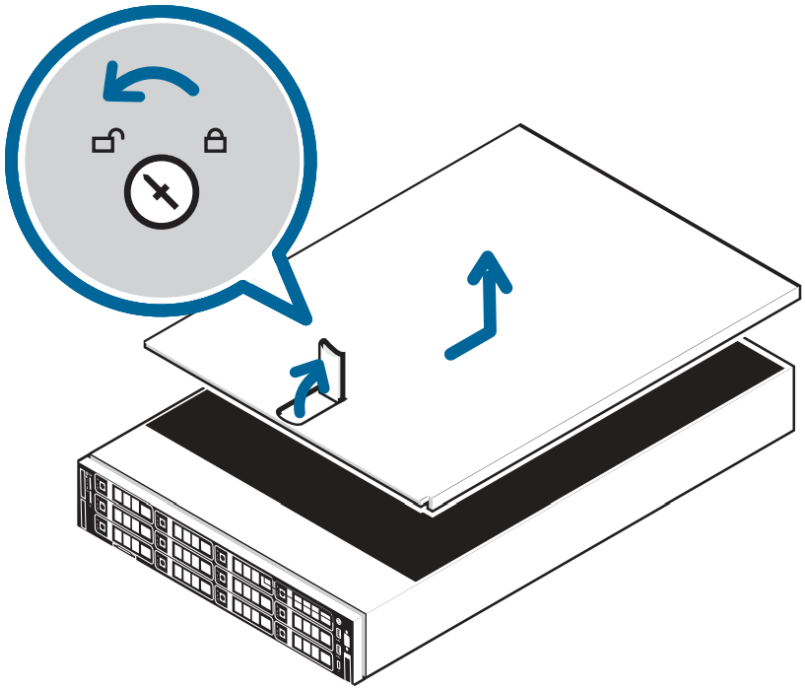
   A warning is displayed.
7. Click Offline.
8. In the following dialog box, click OK.

   The hard drive is offline and can be replaced.

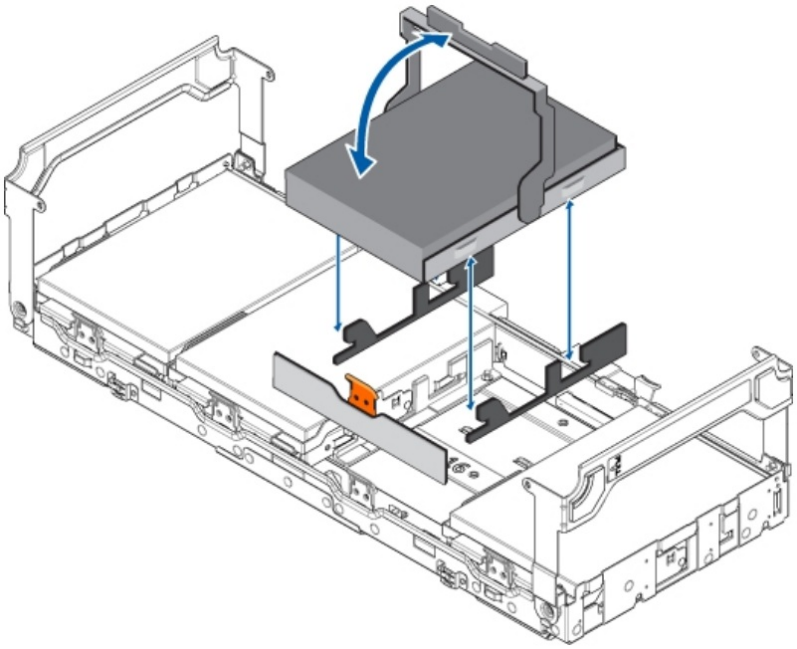
Removing the Drive

The NVR4 recorder is referenced in the following illustrations.

1. At the top of the recorder, unlock the latch release then lift and rotate the latch towards the back of the recorder. The cover slides back and is released from the recorder body.



2. Hold the cover from both sides and lift it off the recorder.
3. Locate the failed hard drive on the center hard drive tray.
4. Lift the handles on either side of the hard drive tray.



5. Press the orange release tab on the hard drive tray then lift up the hard drive carrier handle to release the hard drive.
6. Hold the handle and lift the hard drive out of the tray.
7. While holding the handle, pull the edges of the carrier away from the hard drive to remove the failed hard drive from the carrier.

   Follow the instructions below to replace the hard drive. If the replacement drive is not being installed immediately, install a drive blank.

Replacing the Drive

1. Align the slots on the new hard drive to the tabs on the hard drive carrier.
2. Pull the edges of the carrier over the slots on the hard drive.
3. Place the new hard drive into the tray and push the handle down until the hard drive clicks into place.
4. Fold down the handles on the hard drive tray. Close and lock the recorder cover.
5. For HDNVR only. Reconnect all the cables to the recorder and power it.
6. If applicable, power on the recorder.

   After the operating system starts up, the recorder immediately starts rebuilding the hard drive. The progress is displayed in the Server Administrator. This may take several hours.

Replacing a Hard Drive (iLO)

Follow these instructions for an NVR5 Premium 252-432TB server managed with iLO.

Overview

Complete this procedure from a web browser running on a computer on the same area network and with the same subnet mask as the NVR or appliance that will connect to iLOWeb Interface.

To replace the hard drive:

1. Use the iLOWeb Interface to determine if the problem you are seeing with your NVR is due to a failed hard drive. See Step 1: Checking SystemHealth.
2. Create a Active SystemHealth Log and save it locally. See Step 1: Checking SystemHealth.
3. Identify the physical hard drive is affected. See Step 2: Identifying the Failed Physical Hard Drive.
4. Open a support request with Avigilon Support and attach the Active SystemHealth Log to the request as proof of the failed hard drive.
5. Avigilon Support will arrange for a technician to deliver the replacement drive, replace the failed drive if you haven't already, and take away the failed drive.
6. If you have a replacement hard drive already available you can install it now. If you are installing it yourself. There are three different replacement methods depending on the hard drive location. Follow the appropriate instructions:
   - Replacing Front Hard Drives
   - Replacing Center Hard Drives
   - Replacing Rear Hard Drives

Important: Only replace a hard drive if the hard drive LED indicator and the iLOWeb Interface displays an error.

Step 1: Checking System Health

You can check your system health through the ACC Client Site Health and iLOweb interface.

For more information, see the iLOweb interface documentation (**link**).

ACC Client Site Health

You can check on the health of the system components in the Site Health in the ACC Client software. See **Site Health** in the ACC Client User Guide for more information.

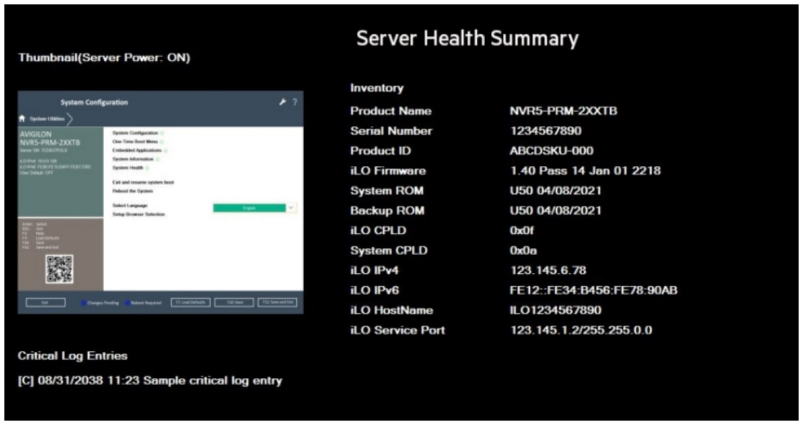
Note: ACC Advanced SystemHealth Package notifications for the NVR5 Premium recorder (252TB 432TB) requires ACC version 7.14.8 or later, and ACS version 3.28.16 or later.

Viewing the Server Health Summary

You can display the Server Health Summary on an external monitor when the recorder is powered on or off.

Use it for troubleshooting when the recorder does not start up, and view the server IP address and other health information.

1. If not done, connect a monitor to the recorder.
2. Press the UID button on the front of the recorder to display it.



3. Press the UID button again to close the summary.

Downloading the Active Health System Log

Note: Before you start, make sure the iLO Service Port and USB flash drives options are enabled in the iLOweb interface.

The Active Health System Log collects server information, processor model, storage capacity, memory capacity, speed, firmware and driver details for troubleshooting.

To download the log to a USB device, complete the following steps:

1. Create a text file named command.txt with the required content for downloading the log.
2. Save the file to the root directory of a supported USB device.
3. Connect the USB device to the iLO service port on the front of the recorder.

   The file system is mounted and the command.txt file is read and executed.

   The iLO Service Port status changes to Busy, and the UID flashes at a rate of four medium flashes, then off for one second.

   If the command is successful, the iLO Service Port status changes to Complete, and the UID flashes at a rate of one fast flash, then off for three seconds.

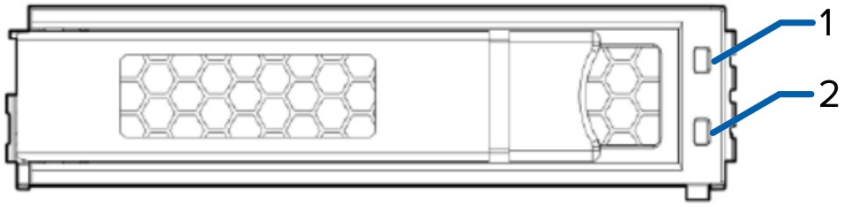
   The file system is unmounted.
4. Remove the USB device from the iLO service port.

   The iLO Service Port status changes to Ready, and the UID stops flashing or flashes to indicate another state such as Remote Console access or a firmware update in progress.
5. In your web browser, open a **Technical Support Issue with Avigilon**, and upload the saved Active SystemHealth Log file.

Step 2: Identifying the Failed Physical Hard Drive

Hard drives are located at the front, rear, and middle of the appliance. Visually inspect the hard drive status indicators to determine which hard drive is affected.

Each hard drive has its own set of LED indicators to show its activity and status.

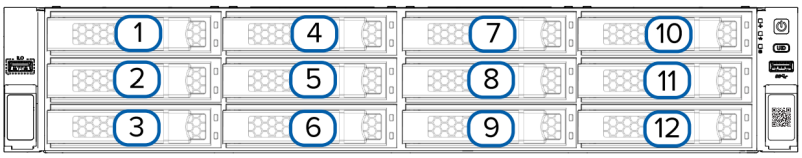


The following table describes what the LEDs indicate:

LED Indicator	Description
1. Fault	
Steady amber	The hard drive has failed.
Steady blue	The hard drive is working and being identified by a management applicati on.
Flashing amber and blue (alternatin g)	One flash per second: The hard drive has failed or is predicted to fail and has been identified by a management application.
Flashing amber	One flash per second: The hard drive is predicted to fail. ⚠ **WARNING** — Replace the drive as soon as possible.
2. Activity	
Off	The hard drive is not configured by a RAID controller or a spare hard driv e.
Steady green	The hard drive is online and has no activity.
Flashing green	Four flashes per second: The hard drive is working and has activity. One flash per second: The hard drive is doing any of the following: ● Rebuilding ● RAIDmigration ● Strip size migration ● Capacity expansion ● Logical drive extension ● Erasing ● Spare part activation

Step 3: Replacing Hard Drives
Guidelines
When replacing hard drives, observe the following general guidelines:

- The system automatically sets all device numbers.
- If only one drive is used, install the drive in the drive bay with the lowest device number. For example:



- Drives must be the same capacity to provide the greatest storage space efficiency when drives are grouped together into the same drive array.

⚠ **WARNING** — To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

⚠ **WARNING** — To reduce the risk of personal injury or damage to the equipment, adequately stabilize the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.

⚠ **CAUTION** — Do not operate the system for long periods with the front drive cages extended. When the front drive cages are extended while the system is powered on, monitor the status of the front drive temp sensor (08-HDMax) in iLO. If the iLO temp sensor (08-HDMax) reading is reporting an N/A value, monitor how long the drive cages have been out of the chassis. Before reaching the 110 second mark, slide the drive cages back into the chassis and keep them there for at least 300 seconds before extending them again.

Failure to observe this caution will result in improper airflow and insufficient cooling that can lead to thermal damage.

⚠ **CAUTION** — Do not operate the server with any of the front or rear drive cage bays empty. To maintain proper airflow and sufficient cooling, all drive bays in the front and rear cage must have a drive or a drive blank.

⚠ **CAUTION** — Do not operate the server with any of the rear drive bays empty. To maintain proper airflow and sufficient cooling in the rear drive cage, all drive bays in this cage must have a drive or a drive blank. Installing at least one drive in the rear drive cage is recommended before operating the server.

Powering Down the Recorder

Note: Before powering down the recorder for any upgrade, recovery or maintenance, back up critical recorder data and programs. For more information, see the Windows™Upgrade and Recovery Guide for Avigilon Systems (**link**).

Important: When the recorder is in standby mode, auxiliary power is still being provided to the system.

WARNING — To reduce the risk of personal injury, electric shock or damage to the equipment, disconnect the power cord to remove power from the server. Pressing the power and standby button does not shut off system power completely. Portions of the power supply and some internal circuitry remain active until AC power is removed.

To power down the recorder, do one of the following:

- Press and release the power and standby button.

  This method initiates a controlled shutdown of applications and the OS before the recorder enters standby mode.
- Press and hold the power and standby button for more than four seconds to force the recorder to enter standby mode.

  This method forces the recorder to enter standby mode without exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown.
- Use a virtual power button selection through the iLOweb interface.

  This method initiates a controlled remote shutdown of applications and the OS before the recorder enters standby mode.

Before proceeding, verify that the recorder is in standby mode by observing that the system power LED is amber.

Powering Up the Recorder

To power up the recorder, press and release the power and standby button.

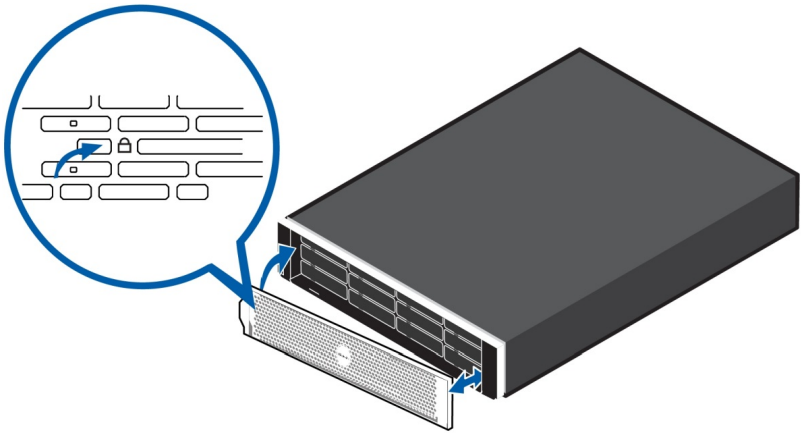
Replacing a Hard Drive Blank

The hard drives on the NVR5 Premium recorder are set up in a RAID configuration. This allows information to be recorded across several hard drives.

If one or two hard drives fail, there is enough information on the other hard drives for the recorder to continue recording video.

Depending on the recorder model, there may be hard drive blanks at the front of the recorder. You can replace the blanks with hard drives as required.

1. Remove the bezel.

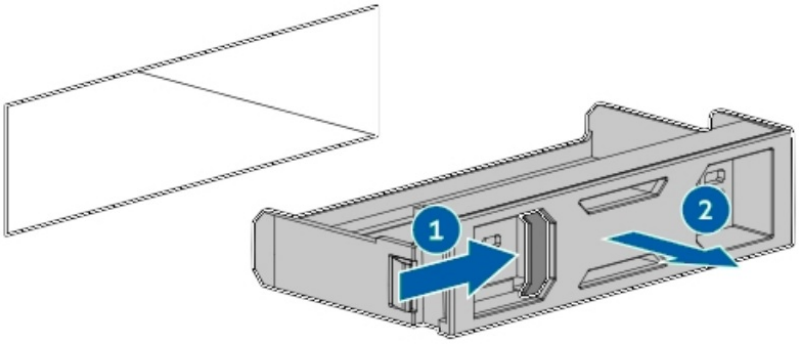


a. Unlock the bezel.

b. Push the release button next to the lock.

c. Pull the left end of the bezel then unhook the right end to remove the bezel.

2. Press the release button and slide the blank out of the hard drive slot.



3. Insert the hard drive all the way into the recorder then push the handle against the hard drive to lock it into place.

Replacing Front Hard Drives

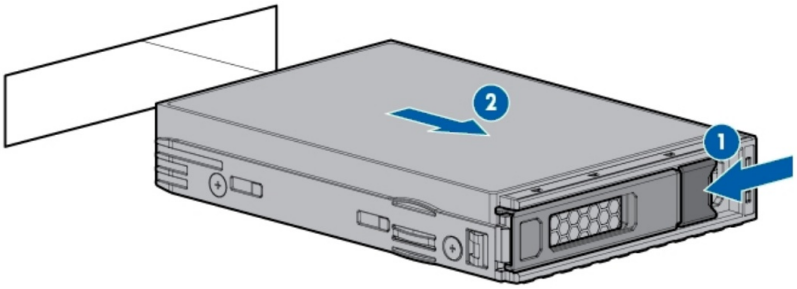
To replace a hard drive stored in the front of the recorder, complete the following steps:

1. Back up all recorder data.

   For more information, see the Windows Upgrade and Recovery Guide for Avigilon Systems (**link**).
2. Power down the recorder.

   For more information, see Powering Down the Recorder.
3. If installed, remove the bezel.
4. Determine the status of the hard drive LED.

   For more information, see Step 2: Identifying the Failed Physical Hard Drive.
5. Wait until the Activity LED stops flashing.
6. To open the release lever, press the latch.
7. Pull the release lever todisengage the drive from the backplane, and then slide the drive out of the bay.



8. To replace the hard drive, reverse the above steps.

Replacing Center Hard Drives

To replace a hard drive stored in the middle of the recorder, complete the following steps:

1. Back up all recorder data.

   For more information, see the Windows Upgrade and Recovery Guide for Avigilon Systems (**link**).
2. Power down the recorder.

   For more information, see Powering Down the Recorder.
3. Extend the server from the rack:

   WARNING — To reduce the risk of personal injury from hot surfaces, allow the drives, power supplies, and internal system components to cool before touching them.

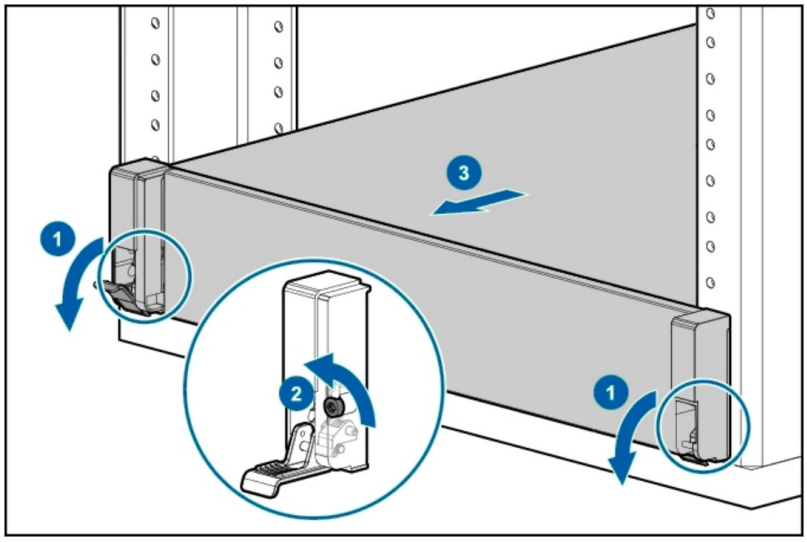
   WARNING — To reduce the risk of personal injury or damage to the equipment, be sure that:

   - The rack is bolted to the floor using the concrete anchor kit.
   - The leveling feet extend to the floor.
   - The full weight of the rack rests on the leveling feet.
   - The racks are coupled together in multiple rack installations.
   - Only one component is extended at a time. If more than one component is extended, a rack might become unstable.

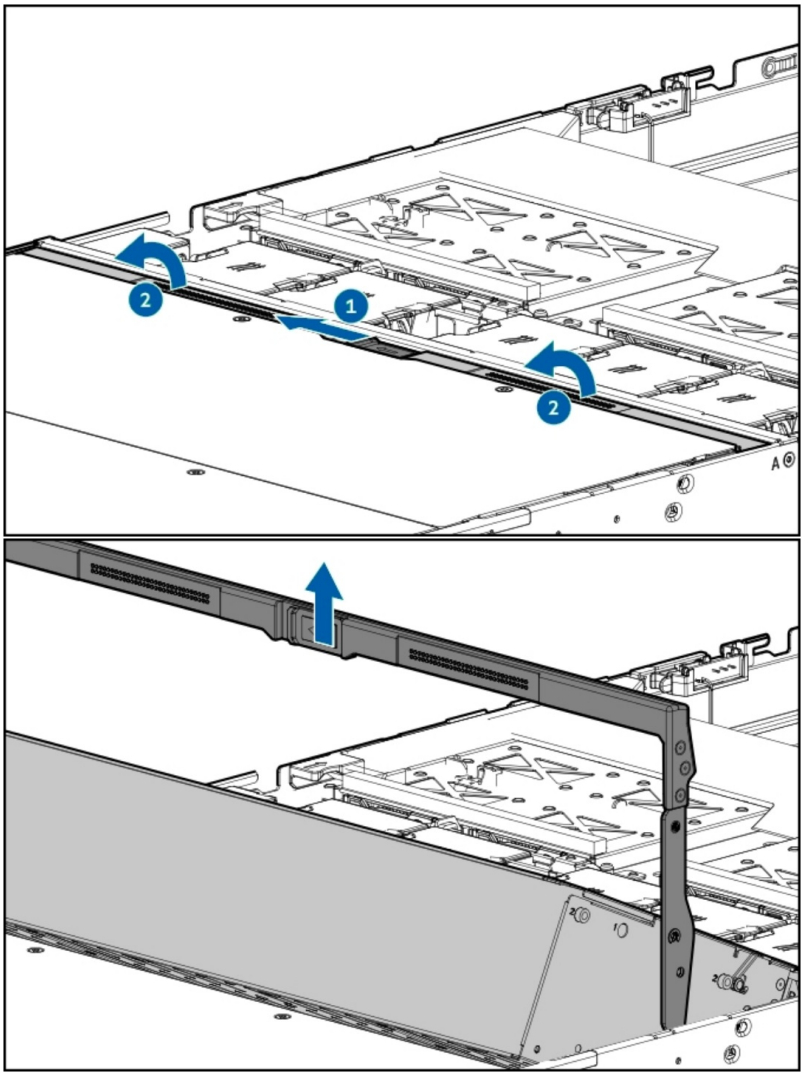
   a. Pull down the quick release levers on each side of the server (see ‘1’ below).

   b. With a star-head screwdriver, loosen the screws behind both quick release levers (see ‘2’ below).

   c. Extend the server from the rack (see ‘3’ below).

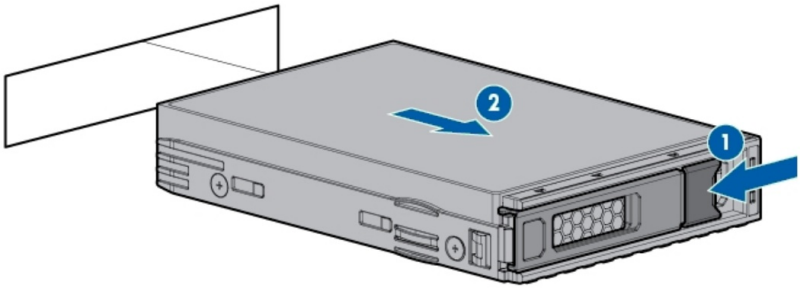


   d. When done, slide the server back into the rack, and then press the server firmly into the rack to secure it in place.
4. Open drive cage 2:



5. Determine the status of the hard drive LED.

   For more information, see Step 2: Identifying the Failed Physical Hard Drive.
6. Wait until the Activity LED stops flashing.
7. To open the release lever, press the latch.
8. Pull the release lever todisengage the drive from the backplane, and then slide the drive out of the bay.



9. To replace the hard drive, reverse the above steps.

Replacing Rear Hard Drives

To replace a hard drive stored in the rear of the recorder, complete the following steps:

1. Back up all recorder data.

   For more information, see the Windows Upgrade and Recovery Guide for Avigilon Systems (**link**).
2. Power down the recorder.

   For more information, see Powering Down the Recorder.
3. Extend the server from the rack:

⚠ **WARNING** — To reduce the risk of personal injury from hot surfaces, allow the drives, power supplies, and internal system components to cool before touching them.

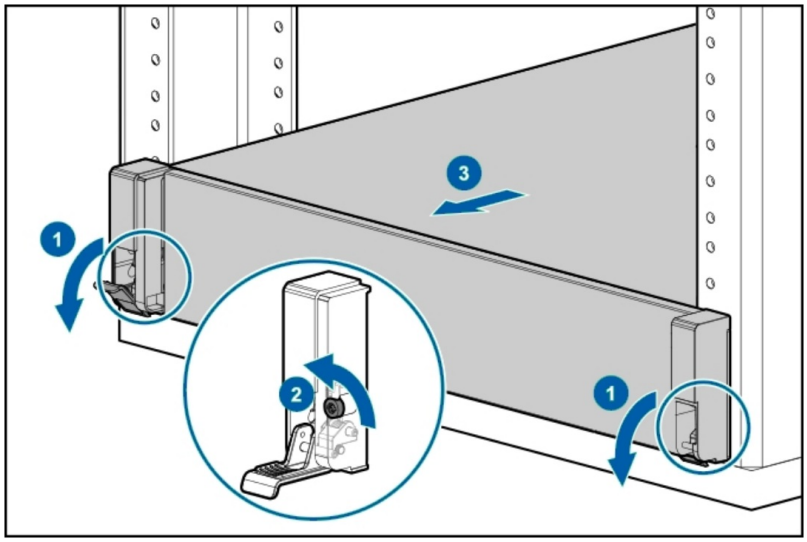
⚠ **WARNING** — To reduce the risk of personal injury or damage to the equipment, be sure that:

- The rack is bolted to the floor using the concrete anchor kit.
- The leveling feet extend to the floor.
- The full weight of the rack rests on the leveling feet.
- The racks are coupled together in multiple rack installations.
- Only one component is extended at a time. If more than one component is extended, a rack might become unstable.

a. Pull down the quick release levers on each side of the server (see '1' below).

b. With a star-head screwdriver, loosen the screws behind both quick release levers (see '2' below).

c. Extend the server from the rack (see '3' below).



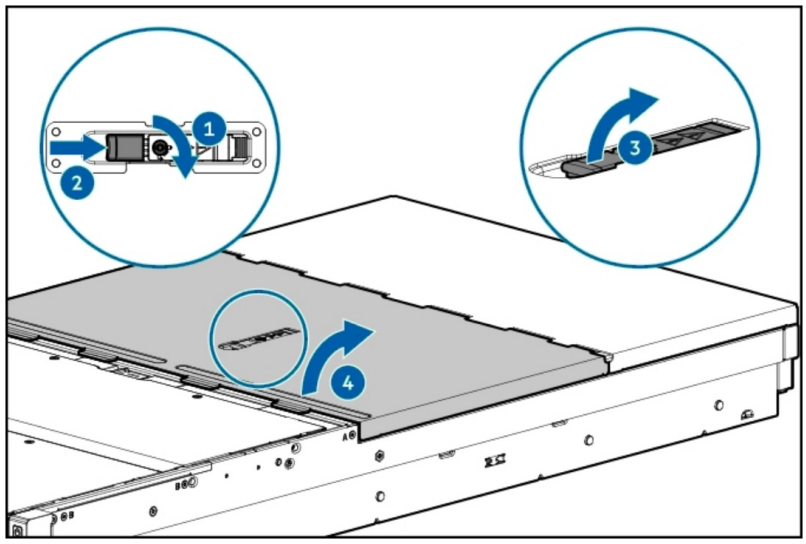
d. When done, slide the server back into the rack, and then press the server firmly into the rack to secure it in place.

4. Open the access panel to access drive cage 3.

⚠ **CAUTION** — Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

a. Extend the server from the rack, as described in the previous step 2.

b. Remove the access panel:

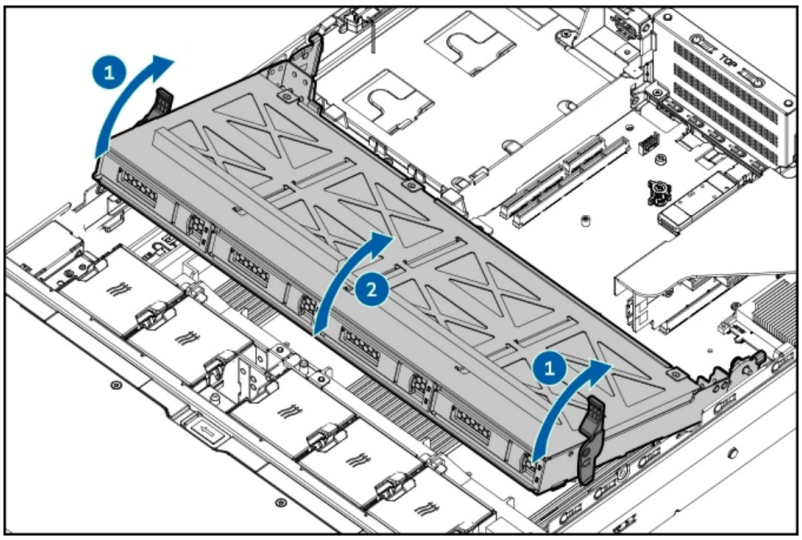


c. If necessary, unlock the access panel latch.

d. Pull up the latch to disengage the access panel from the chassis.

e. Lift the front half of the access panel to access drive cage 3.

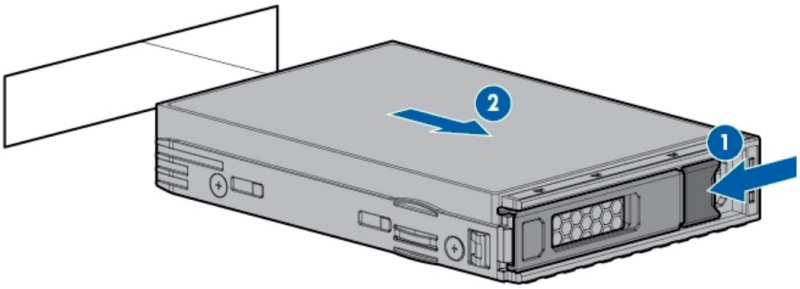
5. Open drive cage 3:



6. Determine the status of the hard drive LED.

   For more information, see Step 2: Identifying the Failed Physical Hard Drive.

7. Wait until the Activity LED stops flashing.
8. To open the release lever, press the latch.
9. Pull the release lever todisengage the drive from the backplane, and then slide the drive out of the bay.



10. To replace the hard drive, reverse the above steps.

Limited Warranty
Avigilon warranty terms for this product are provided at **avigilon.com/warranty**.

For More Information

For additional product documentation and software and firmware upgrades, visit **support.avigilon.com**.
Technical Support
Contact Avigilon Technical Support at **support.avigilon.com/s/contactsupport**.
Product User Guides
For product user guides, visit the Downloads page:
NVR: **https://www.avigilon.com/support/infrastructure/nvr-downloads**
AI NVR: **https://www.avigilon.com/products/video-infrastructure/ai-nvr#downloads**

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Documents / Resources

	**AVIGILON AI NVR2 Value Hard Disk Drive Accessories Guide** [pdf] User Guide AI NVR2 Value Hard Disk Drive Accessories Guide, AI NVR2, Value Hard Disk Drive Accessories Guide, Disk Drive Accessories Guide, Drive Accessories Guide

References

- Contact Sales - Avigilon
- Avigilon Support Community
- Avigilon Support Community
- Site Health
- Before You Start
- Avigilon Support Community
- Avigilon Support Community
- support.hpe.com/hpesc/public/docDisplay?docId=a00018324en_us
- Avigilon Customer Support
- User Manual