AI NVR Standard Performance Kit

Installation Guide

AINVR-STD-PRK

For

AINVR-STD

Avigilon Corporation
avigilon.com

20220309

Table of Contents

Introduction

Avigilon provides an optional AI NVR Performance Upgrade Kit for the AI NVR Standard. This kit increases the analytic capacity of the AI NVR allowing it to run more concurrent analytics. See the **Analytics Sizing Guide** for more details.

Important: An AI NVR Standard with the:

- Performance Upgrade Kit installed is supported on **Release ACC 7.12.4 or later**.
- Performance Upgrade Kit and the 10GbE Kit installed is supported on **Release ACC 7.14.2 or later**.

Your organization must upgrade to a release of the ACC software that supports the upgraded AI NVR Standard if it is using an earlier release of the software.

Part Number	Description
AINVR-STD-PRK	AI NVR Standard Performance Upgrade Kit

Note: If the AI NVR is an operating part of your security system, be aware that it must be shut down to complete this procedure.

Important: If you are installing both the AI NVR Standard 10GbE Kit (AINVR-STD-10GBE) and the AI NVR Performance Upgrade Kit (AINVR-STD-PRK) in the AI NVR, it is recommended that you install the components from both kits as follows:

1. Install CPU and RAM from the AI NVR Performance Kit using the instructions up to the section "2. Removing the Original GPU Card" in the *AI NVR Standard Performance Kit Installation Guide*.
2. Install the second GPU card using the instructions in the section "Installing the 10GbECard in Slot 3 of Expansion Riser 1" of the *AI NVR Standard 10GbE Kit Installation Guide*, which includes instructions to install the GPU card provided in AI NVR Performance Upgrade Kit.

Confirm Package Contents

Confirm that the kit you are installing contains the following components:

- 1 × Intel Xeon CPU
- 1 × processor bracket
- 1 × heat sink
- 2 × 8GB RDIMM
- 1 × P2200 GPU

Required Tools

The following tools are not included in the kit package, but are needed to complete the installation:

- Phillips #2 screwdriver

Important: It is recommended that you always use an antistatic mat and antistatic strap while working on components inside the system.

Installing the AI NVR Standard Performance Kit

Before starting to install the kit:

1. Log in to the ACC Client on a workstation on the same network as the AI NVR you are going to upgrade.
    a. In the System Explorer, select the AI NVR you are going to upgrade.
    b. In the New Task menu, click **Server Analytics**. Note down the number of cameras analytics enabled connected to the AI NVR and the current resource loads. For more information, see the *Enabling Analytics* topic in the ACC Client Help.
2. Turn off the AI NVR, including all attached peripherals.

    WARNING — Opening or removing the system cover while the system is powered on may expose you to a risk of electric shock.
3. Disconnect the AI NVR from the electrical outlet and disconnect the peripherals.

    Important: It is recommended that you always use an antistatic mat and antistatic strap while working on components inside the system.
4. If applicable, remove the system from the rack.

    Important: Whenever you need to lift the system, get others to assist you. To avoid injury, do not attempt to lift the system by yourself.

Install the kit components in the following order:

---

1. Opening the AI NVR

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

   Tip: Use a Phillips #2 screwdriver to remove the shipping screws before unlatching the cover if you are removing the cover of an AI NVR for the first time.

2. Remove the black plastic protective cover over the socket. Press the 2 blue clips and lift off the cover. The protective cover is no longer needed and can be recycled.
3. View the interior of the AI NVR and identify the locations where the components of the kit will be installed.

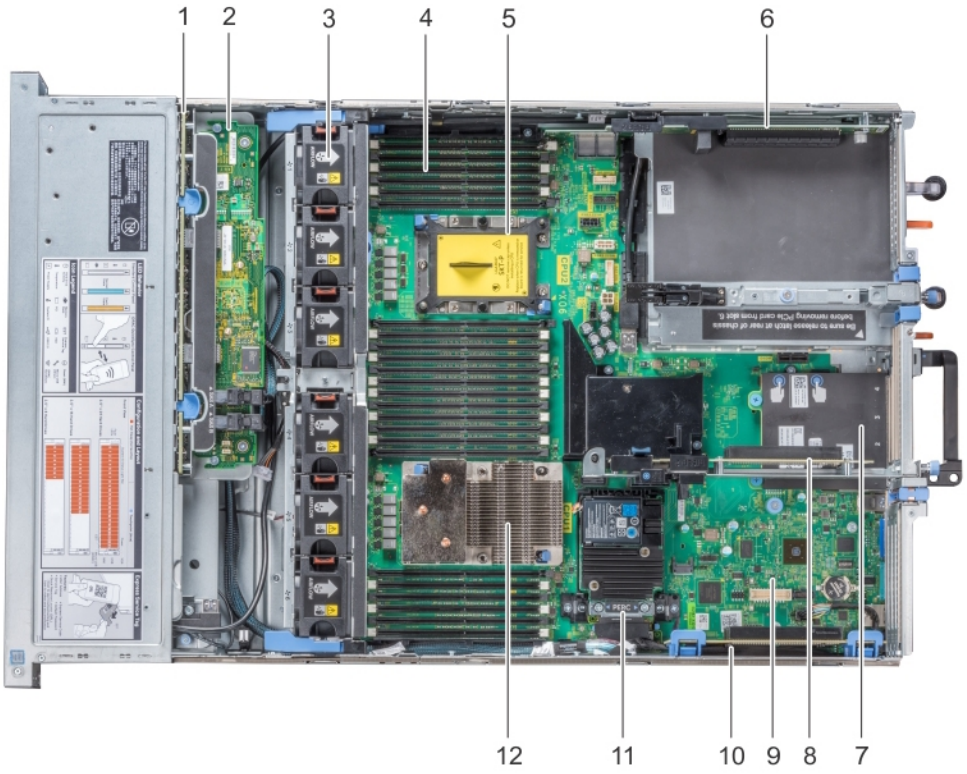
   The view below shows the details of an AI NVR with all of the covers and cards removed, and important components labeled with numbers.

   Important: The view below does not show the GPU card that is pre-installed in slot 1 of Expansion Card Riser 1 Slot 1 (labeled 10 in the diagram). Do not remove this card as part of this upgrade.

   The components affected by the AI NVR Standard Performance Upgrade Kit are:

   - 4— Memory module
     The 2 DIMMs in the upgrade kit are installed here.
   - 5—CPU2 processor and heat sink module socket (with dust cover)
     The second CPU in the performance kit is installed here.

- 10—Expansion Card Riser 1
  The second P2200 GPU card is installed on the middle slot (Slot 2) of this riser, below the original GPU card in the top slot (slot 1).



Note: The other components pointed out in the diagram are not affected by installing the AI NVR Standard Performance Kit.

2. Installing the CPU

You need the processor bracket, processor (CPU), and heatsink provided in the kit to complete this procedure.

With the AI NVR open and the protective cover removed:

1. Locate the 2nd processor socket and pull off the CPU dust cover with the yellow label over the socket.
2. Unpack the CPU.
3. Place the processor in the processor tray.

   Note: Ensure that the pin 1 indicator on the processor tray is aligned with the pin 1 indicator on the processor.

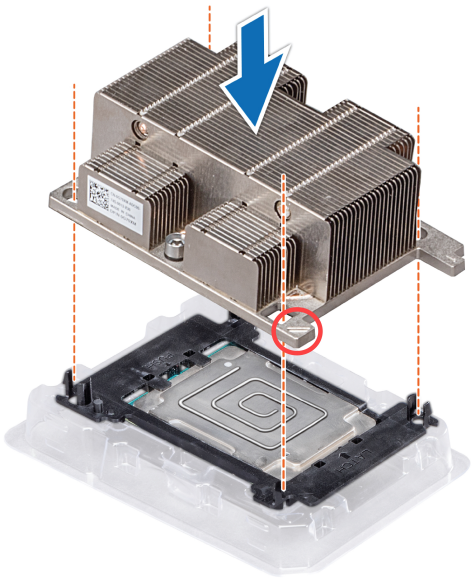
4. Flex the outer edges of the processor bracket and ensure that the processor is locked into the clips on the bracket.

   Note: Ensure that the pin 1 indicator on the bracket is aligned with the pin 1 indicator on the processor before placing the bracket.

5. Unpack the heatsink. Be careful not to touch the thermal paste that is pre-applied to the bottom of the heatsink.
6. Place the heat sink on the processor and push down on the base of the heat sink until the bracket locks onto the heat sink.

   Important: To avoid damaging the fins on the heat sink, do not press down on the heat sink fins.

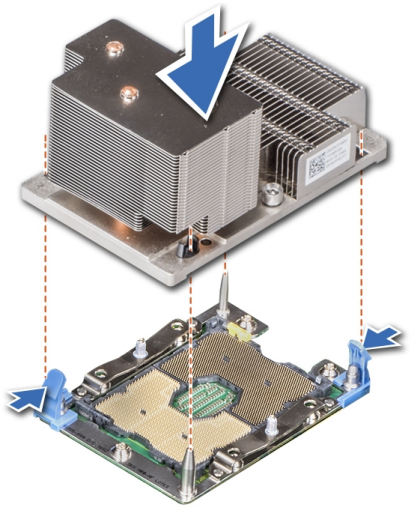
- Ensure that the 2 guide pin holes on the bracket match the guide holes on the heat sink.
- Ensure that the pin 1 indicator on the heat sink (circled red in the image below) is aligned with the pin 1 indicator on the bracket before placing the heat sink onto the processor and bracket.



7. Align the pin 1 indicator on the heat sink to the system board and then place the processor and heat sink module on the processor socket.

   Important: Ensure that the processor and heat sink module is held parallel to the system board to prevent damaging the components.

8. Push the blue retention clips inward to allow the heat sink to drop into place.



Important: Do not force the processor into the socket. The processor should slide easily into the socket when aligned correctly.

9. Use the star-shaped screwdriver #T30 to tighten the screws on the heat sink in the following order:
    a. Partially tighten the first screw (approximately 3 turns).
    b. Tighten the second screw completely.
    c. Return to the first screw and tighten it completely.

    Important: Do not over-tighten or strip the screws.

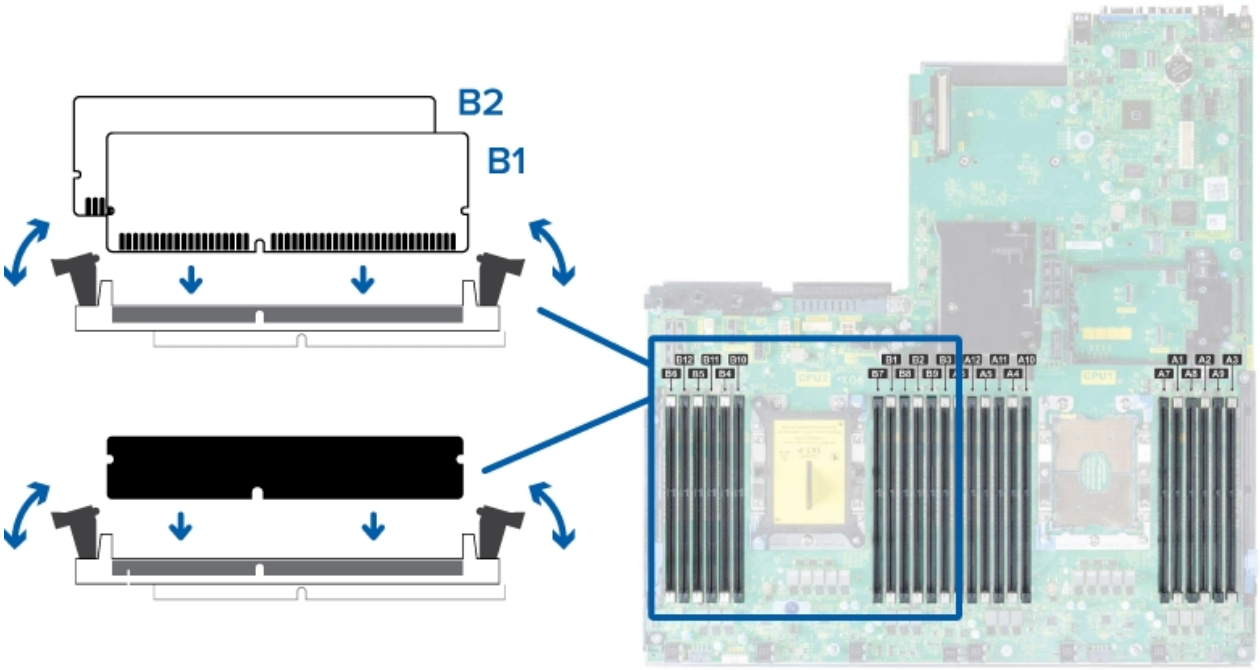
    If the processor and heat sink module slips off the blue retention clips when the screws are partially tightened, follow these steps to secure the module:

    a. Completely loosen both of the heat sink screws.
    b. Lower the processor and heat sink module on to the blue retention clips, following the procedure as described in **step 8** above.
    c. Secure the processor and heat sink module to the system board, following the instructions as described in **step 9** above.

3. Installing Additional RAM

After the CPU has been installed, insert the RAM included in the kit into memory sockets B1 and B2.

Important: Handle each memory module only by the edges to ensure that you don't touch the middle of the memory module or the metallic contacts.



Important: To prevent damage to the memory module or memory module socket during installation, do not bend or flex the memory module. You must insert both ends of the memory module simultaneously.

1. In the row of empty memory sockets near to the newly installed CPU, locate sockets B1 and B2.
2. Open the white ejector clips (shown as black in the diagram) on each side of the empty memory module sockets outward to allow the memory modules to be inserted into the sockets.
3. Align the edge connector of the memory modules with the alignment key of the sockets and press the

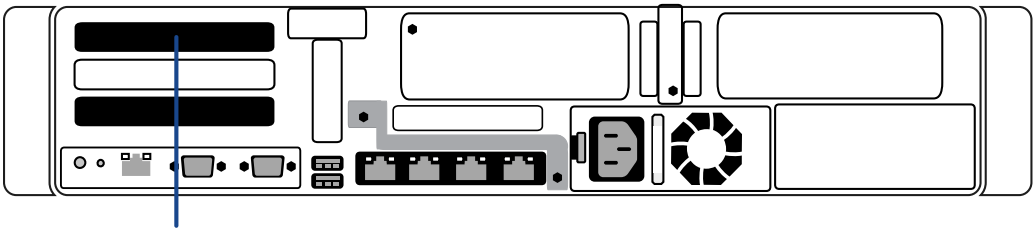
memory modules into sockets until the socket levers click into place.

Important: Do not apply pressure at the center of the memory module. Apply pressure to both ends of the memory module evenly.

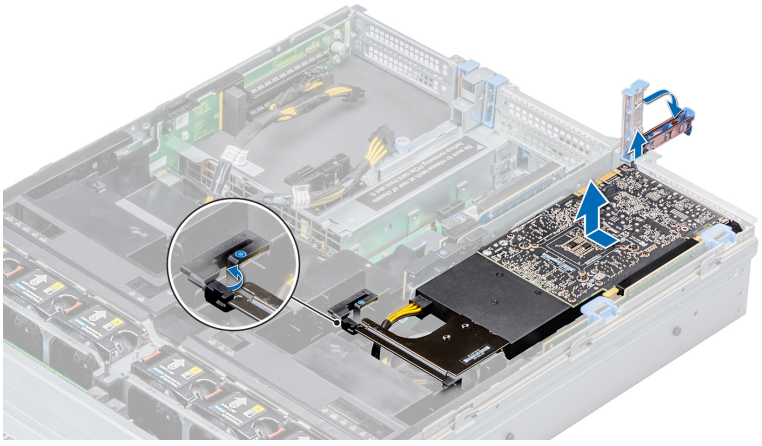
Note: If you are installing both the AI NVR Performance Upgrade Kit and the AI NVR Standard 10GbE Kit (AINVR-STD-10GBE) in the AI NVR, use the using the instructions in the "Installing the 10GbECard in Slot 3 of Expansion Riser 1" section of the *AI NVR Standard 10GbE Kit Installation Guide*, which includes instructions to install the GPU card provided in this kit, to complete the installation of both kits.

4. Removing the Pre-installed GPU Card

1. From the back of the AI NVR, locate where the original GPU card is installed.



2. Lift the expansion card latch to release the slots in expansion riser 1.
3. Disengage the PCIe card holder latch on the GPUcard.
4. Hold the GPU by its edges and slide out the GPU at an angle to release it from the connector on the riser.



5. Disconnect the GPU power cable from the GPU and system board.

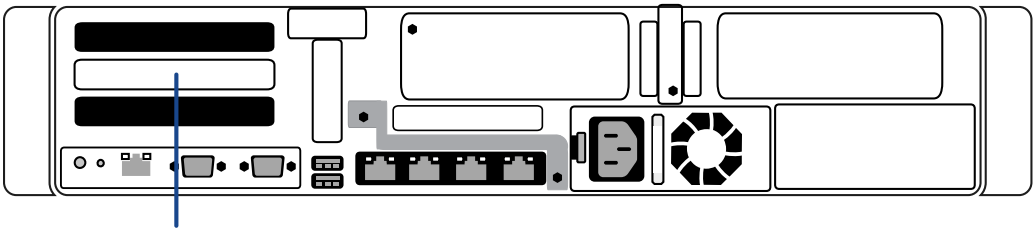
> **Note:** The card in this illustration does not match the appearance of the actual card installed in slot 1.

5. Installing the New GPU card

1. Unpack the GPU card and prepare it for installation.

> **Note:** For instructions, see the documentation accompanying the card.

2. At the back of the AI NVR, locate where the GPU card needs to be installed.



3. Pull the expansion card latch.
4. Remove the filler bracket

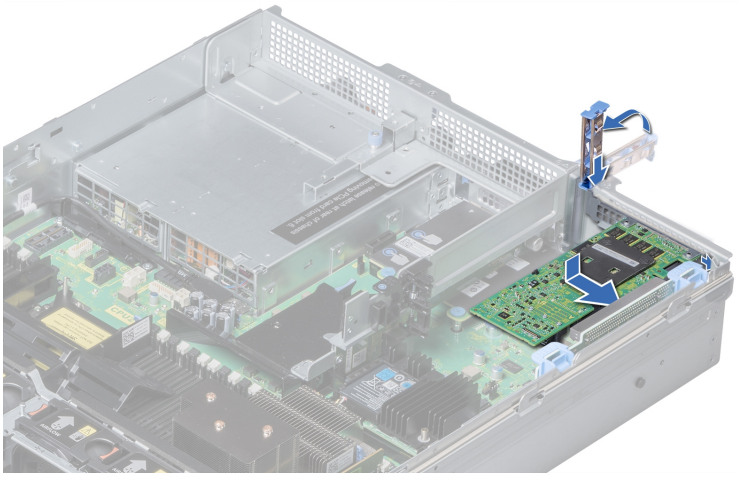
> **Tip:** Store the filler bracket for future use. Filler brackets must be installed in empty expansion card slots to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.

5. Install the new GPU card in slot 2 and reinstall the original GPU card in slot 1.

   For each card:

   a. Slide the card into the slot guide opposite the connector to align the connector on the card with the connector on the riser.

   b. Insert the card edge connector firmly into the expansion card connector until the card is fully seated.



Note: This illustration shows how a card is installed in slot 1 and then how the expansion card latch is closed. The technique to install the card in slot 2 is the same, except it is beneath the card in slot 1 and has to be installed first. The card in this illustration does not match the appearance of the actual card installed in slot 1.

c. Push the expansion card latch closed and re-engage the PCIe Lock .

6. Reattach the NVR5 Cover

When all the components of the kit have been installed:

1. Ensure all expansion card latches are closed and there are filler covers for all empty slots.
2. Close and lock the NVR5 Appliance cover.
3. If the NVR5 Appliance was rack mounted and removed to install the kit, remount it into the rack.
4. Reconnect all the peripherals and cables.
5. Power on the NVR5 Appliance.

7. Confirming the Installation

Verify the upgrade is successful:

1. Log in to the ACC Client on a workstation on the same network as the AI NVR.
2. In the System Explorer, click **Site Setup**, and click  Site to expand the site containing the upgraded AI NVR.
3. Click  to select the upgraded AI NVR.
4. Verify the status of the upgraded AI NVR and the presence of the two advanced processing cards:
    a. Click Server Management to open the Server Management panel.
    b. Enter the administrator credentials for the AI NVR.
    c. On the Server Management **Dashboard**, check that:
        - The status indicators on the ACC Server and System cards are green.
        - Two Quadro P2200 cards appear on the **Accelerators** card and their status is green
    d. Log out of the Server Management and close the panel.
5. Verify that the AI NVR has 2 CPUs and 32GB of memory installed.
    a. In the System Explorer, select the upgraded AI NVR server.
    b. In the New Task menu  , click **Site Health**.
    c. Under the General Information heading, the sum of Memory usage and System Available Memory should be approximately 32 GB (~32,000 MB).
    d. Under the Temperature Probes heading, you should see readings for CPU1 and CPU2.
6. Verify that the analytics load capacity has increased:
    a. In the System Explorer, select the upgraded AI NVR.
    b. In the New Task menu  , click **Server Analytics**  . For more information, see the *Enabling Analytics* topic in the ACC Client Help.
    c. The number of connected cameras should be the same as before the AI NVR was upgraded, and the analytics load should be about half of what it was prior to the upgrade.

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**.

- *Windows™ Upgrade and Recovery Guide for Avigilon Systems* (**link**)
- *Hewlett Packard Enterprise HPE iLO 5 User Guide* (**link**)
- *Hewlett Packard HPE Gen10 Security Reference Guide* (**link**)