Net-Net® 9200
256K CAM Installation Guide

Release Version 1.0

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Notices

About This Guide

Overview

The Net-Net™ 9200 is a high performance, high capacity session border controller that optimally delivers interactive communications—voice, video, and multimedia sessions—across wireline, wireless, and cable IP network borders.

Audience

This guide is written for network administrators, and telecommunications equipment installers and technicians. It provides information related to the hardware components, features, installation, start-up, operation, and maintenance of the Net-Net 9200. Only experienced and authorized personnel should perform installation, configuration, and maintenance tasks.

For information about Net-Net 9200 training, contact your Acme Packet sales representative directly or email support@acmepacket.com.

Who is Acme Packet?

Acme Packet enables service providers to deliver trusted, first class interactive communications-voice, video and multimedia sessions-across IP network borders. Our Net-Net family of session border controllers satisfy critical security, service assurance and regulatory requirements in wireline, cable and wireless networks. Our deployments support multiple applications-from VoIP trunking to hosted enterprise and residential services; multiple protocols-SIP, H.323, MGCP/NCS and H.248; and multiple border points-interconnect, access network and data center.

Established in August, 2000 by networking industry veterans, Acme Packet is a public company traded on the NASDAQ and headquartered in Burlington, MA.

Customer Questions, Comments, or Suggestions

Acme Packet is committed to providing our customers with reliable documentation. If you have any questions, comments, or suggestions regarding our documentation, please contact your Acme Packet customer support representative directly or email support@acmepacket.com.

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Document Revision History

This section provides a chronological overview of the changes made to this document starting with the first revision after the GA posting (rev. 1.00).

Date	Revision Number	Description
February 25, 2009	2.00	Added Procedure for setting jumper to use Rev 3.00+ CAM.

256K CAM Installation

Introduction

This chapter provides information about how to install the 256K CAM Card on your Net-Net 9200's NPU.

The following is a list of the major steps required to install a CAM in a Net-Net 9200.

1. Follow preinstallation guidelines
2. Ground yourself and follow proper ESD grounding procedures
3. Remove the first NPU from the Net-Net 9200 chassis
4. Confirm and install shunt jumper on NPU for some CAM revisions
5. Install the 256K CAM on the NPU
6. Replace the upgraded NPU in the Net-Net 9200 Chassis
7. Repeat for the second NPU

Shipped Parts

The following table lists the contents of one CAM upgrade order:

- 256K CAM
- 2-pin shunt jumper

Installation Tools and Parts

The following tools and parts are required to install an 256K CAM on your NPU:

- #2 Phillips-head screwdriver
- Tweezers
- ESD wrist strap
- ESD workbench
- Anti-static bag

Preinstallation

- This upgrade should be performed during low-traffic periods or scheduled maintenance windows.
- When installing or removing the CAM, move the NPUs to an appropriate maintenance location.
- Ground yourself using an ESD wrist strap or similar device.
- Never install or remove a CAM from an NPU that is not fully removed from the Net-Net 9200.

Installation

ESD Grounding

When performing maintenance on Net-Net 9200 components, you must ground yourself to the chassis with an ESD wrist strap. An ESD wrist strap is used to channel static electricity to ground. Proper grounding is essential for handling static-sensitive equipment such as processing and interface units.

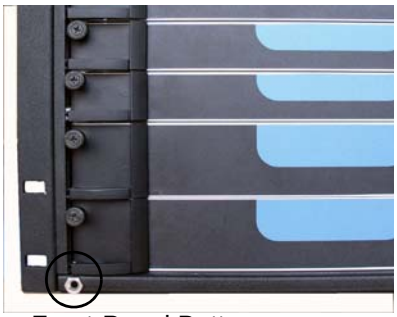
Alternatively, you can ground yourself according to established grounding guidelines of the location where the Net-Net 9200 resides.

The Net-Net 9200 has two grounding jacks, one on the front and one on the back of the chassis. These jacks accept banana plugs. You fasten the wrist-side of the ESD wrist strap to your wrist, and the ground side of the wrist strap is plugged into the Net-Net 9200's chassis.

Note: An ESD wrist strap is not shipped with your CAM order.

To connect an ESD wrist strap to the Net-Net 9200 Chassis:

1. Locate the banana jack on the front side of the chassis. Depending on your model, it will be located either on the bottom or top of the chassis.



Front-Panel Bottom

Front-Panel Top

2. Insert the banana plug into the jack.

3. Attach the wrist strap to your wrist using the procedures that accompany the ESD wrist strap.

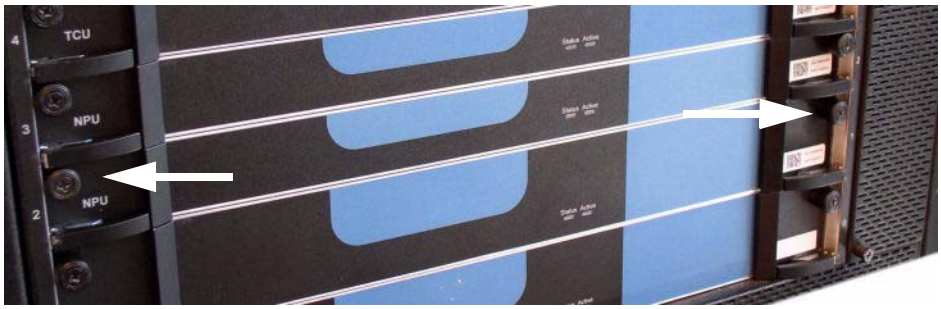
Begin performing maintenance on the Net-Net 9200.

NPU Removal

Before installing the CAM, you must remove the NPU on which the CAM will be attached. The following image shows the location of the two NPUs on the Net-Net 9200.

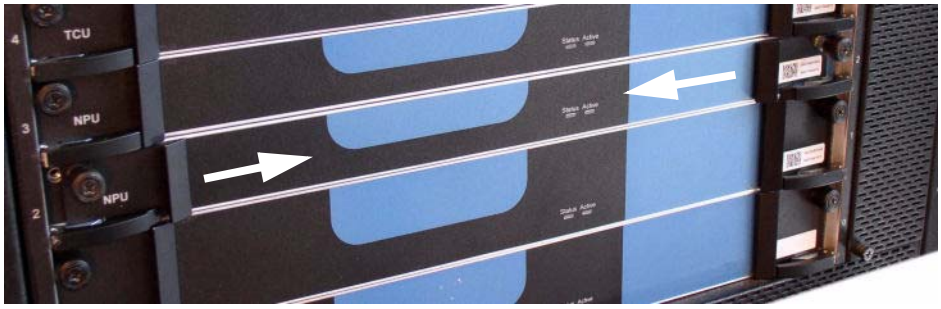
To remove an NPU:

1. Unscrew the two thumb screws located on each side of the processing unit with a #2 Phillips screwdriver.



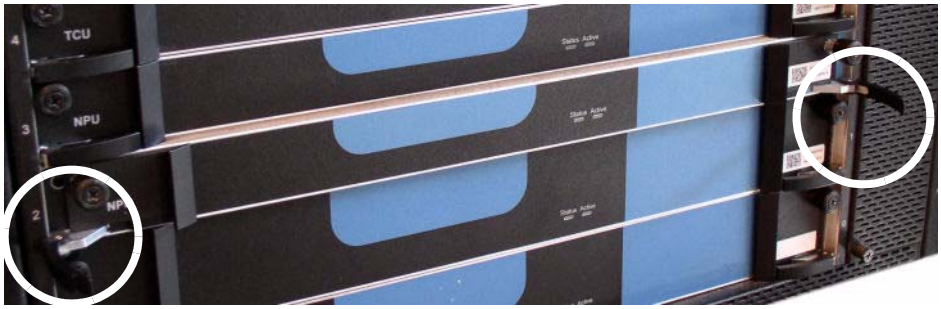
   The screws are spring-loaded and are pushed forward, but do not fall out of the processing unit.

2. Place one or two fingers behind the slide latches and push each one toward the center of the processing unit. This action sends a signal to the NPU to shut down the card and perform all switchover actions if the system is powered up.



   Each slide latch travels 0.28 inches (0.71 cm) before stopping.

3. Hold each ejector lever between your thumb and index finger and pivot each lever away from the center of the processing unit.



This action disengages the processing unit from the mid-plane, severing all electrical contact to the processing unit.

4. Hold the processing unit's front bezel and pull it out of the chassis.

The processing unit rides on the card rails until it is completely removed from the chassis.

5. Move the NPU to an ESD approved workbench or other supportive surface.

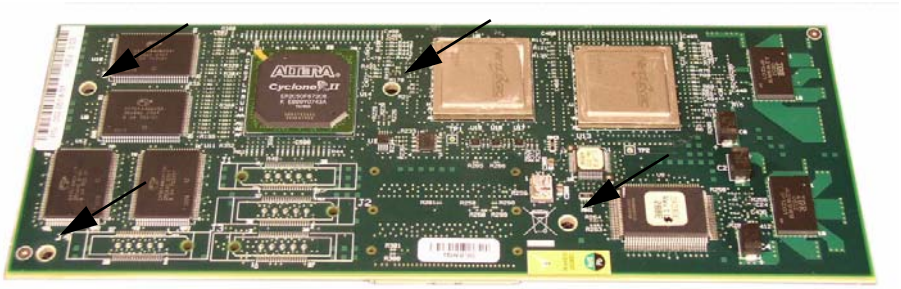
256K CAM Installation

Once the NPU is removed from the Net-Net 9200 chassis, CAM installation is straightforward. You must first remove the old CAM before you can install the upgrade card. The CAM attaches electrically to the NPU by three board-to-board connectors. In addition, it is secured to the motherboard by four screws.

Caution

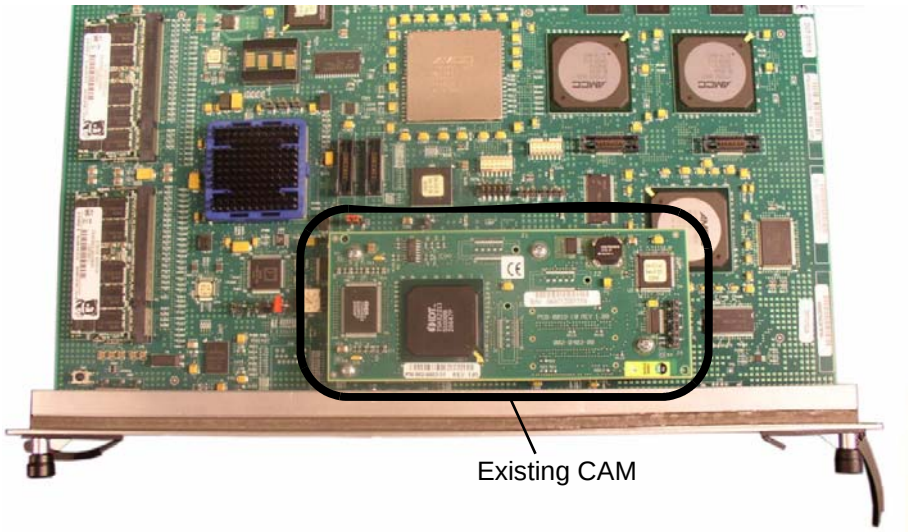
Before handling a CAM card and NPU, ground yourself using an ESD wrist strap or other comparable grounding system. Failure to do so could damage the CAM or the NPU.

The following image shows the 256K CAM. Note that the new CAM is 2″ (~5 cm) longer than the old CAM. The four mounting points you use to screw the CAM to the NPU are identified below.

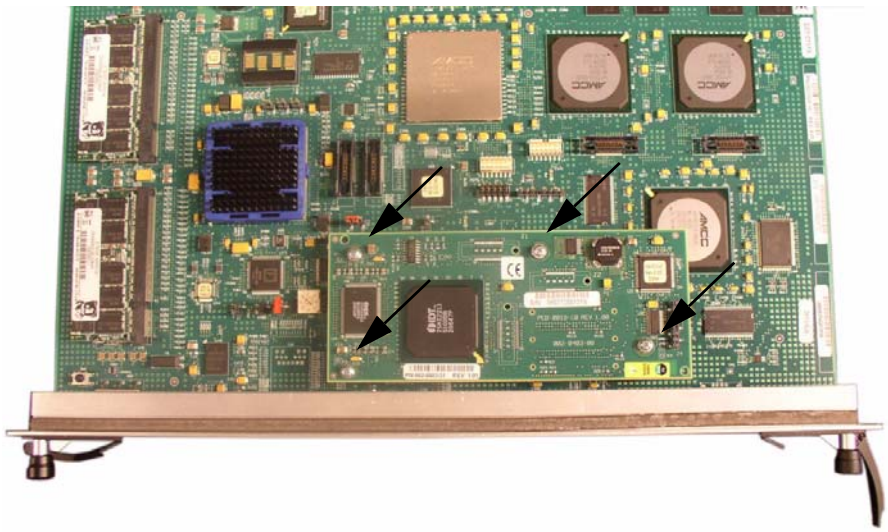


Removing the Old CAM

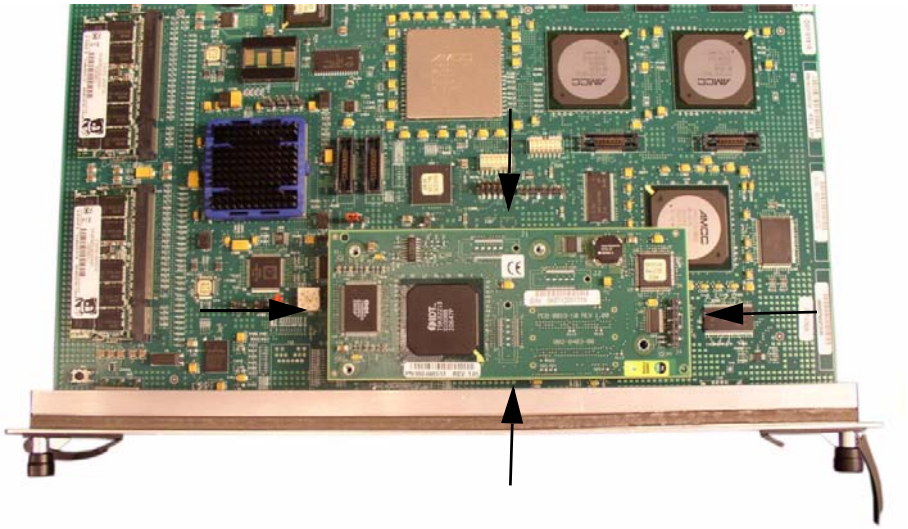
1. Note the region on the NPU where the existing CAM attaches.



2. Unscrew the four screws that secure the existing CAM card in place. Set the four screws aside.



3. Pull the CAM card straight off of the NPU by holding it at the four points shown in the following image.

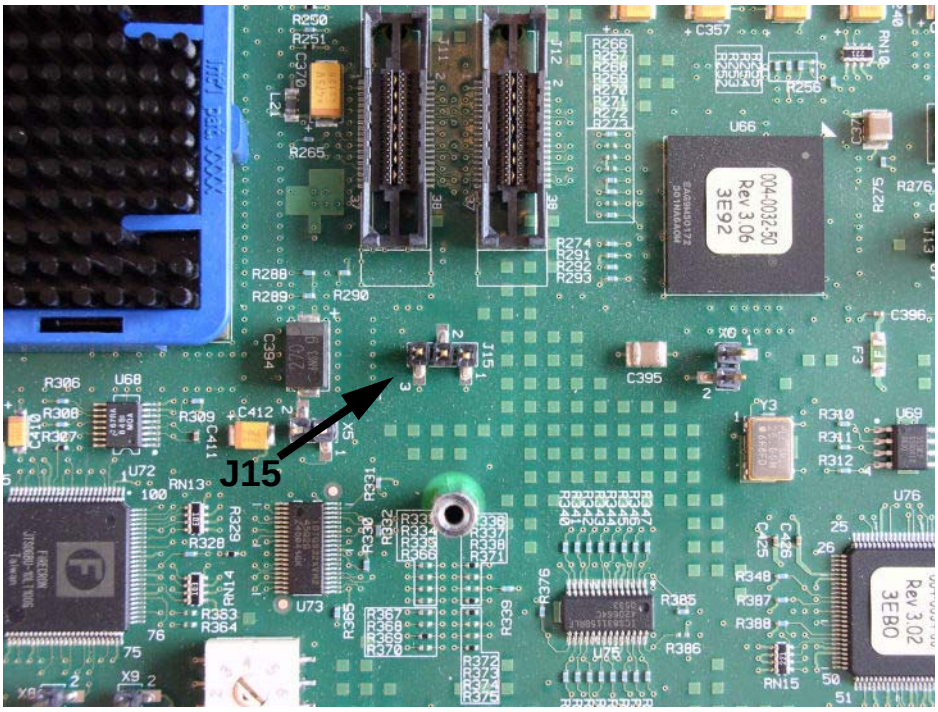


4. Place the card in an antistatic bag.

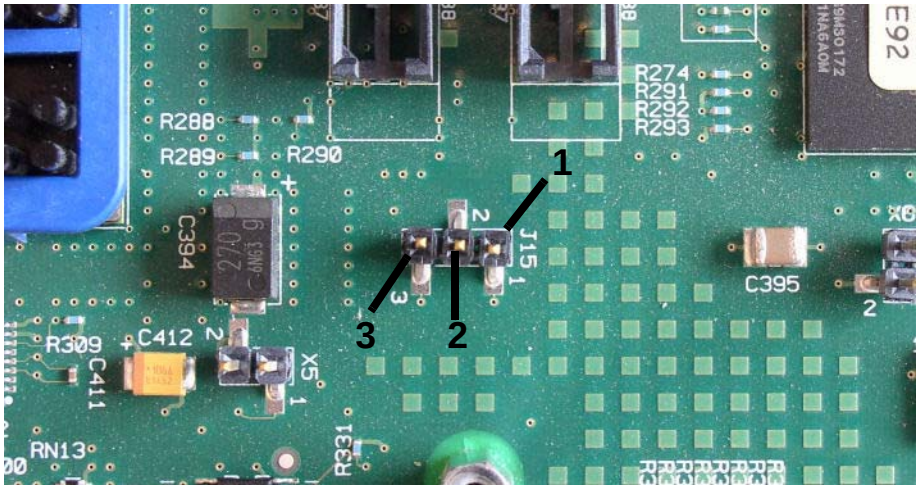
Installing and Confirming NPU Shunt Jumper

In order to run the Rev: 3.00 and above 256K CAM, a jumper must bridge pins 1 & 2 of 3-pin header J15. If your NPU contains no jumper on J15, you must install the supplied jumper.

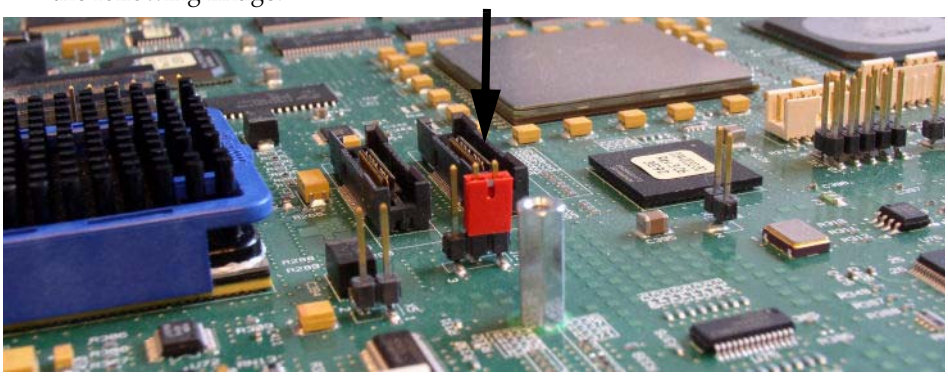
1. Locate the 3-pin header marked "J15" on the NPU. It is situated to the lower right of the blue heatsink retainer, and just above where the old CAM was installed. The following image shows J15 without any jumper installed.



2. Note the numbering of this 3-pin header.

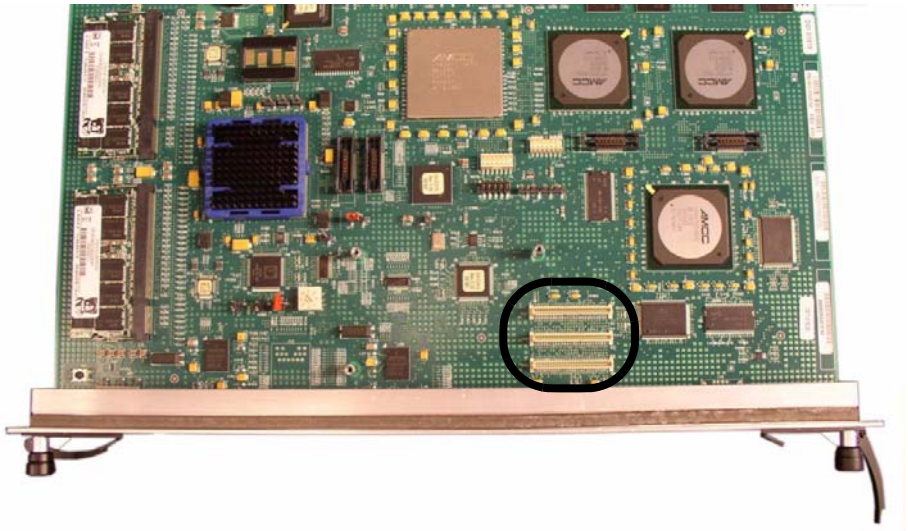


3. Use a tweezers to install the supplied jumper between pins 1 & 2 as shown in the following image.



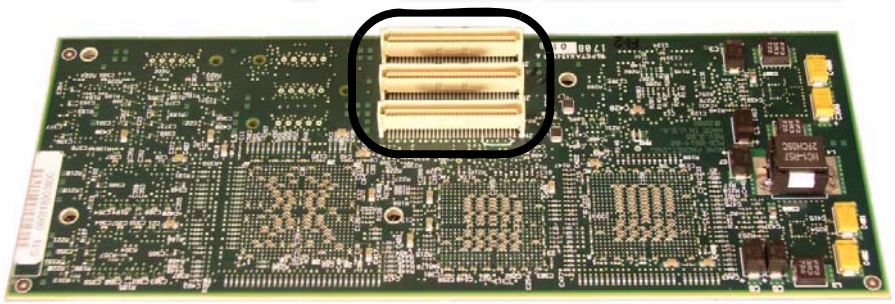
Installing the New CAM

1. In the image below, the three CAM connectors on the NPU are circled. The CAM upgrade card plugs into place here.



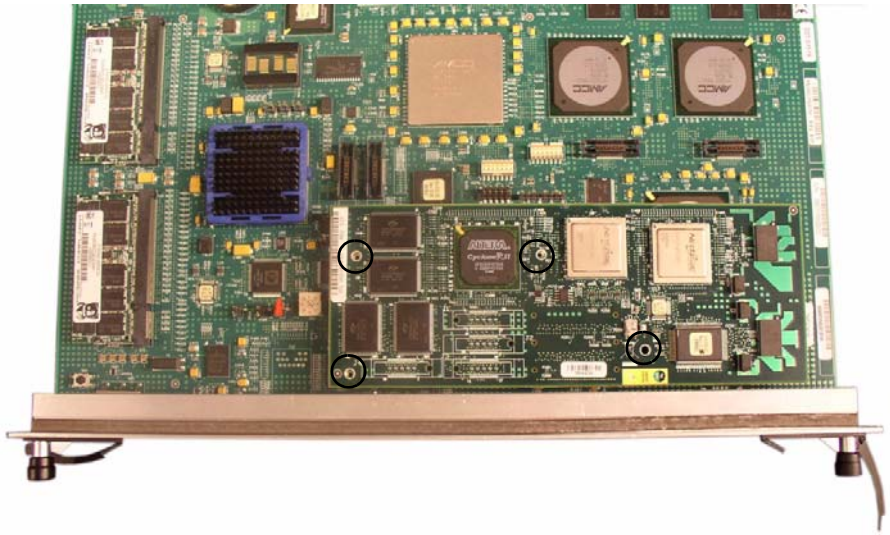
2. Note the three board-to-board connectors on the bottom of the 256K CAM card in the following image.

CAM CONNECTORS

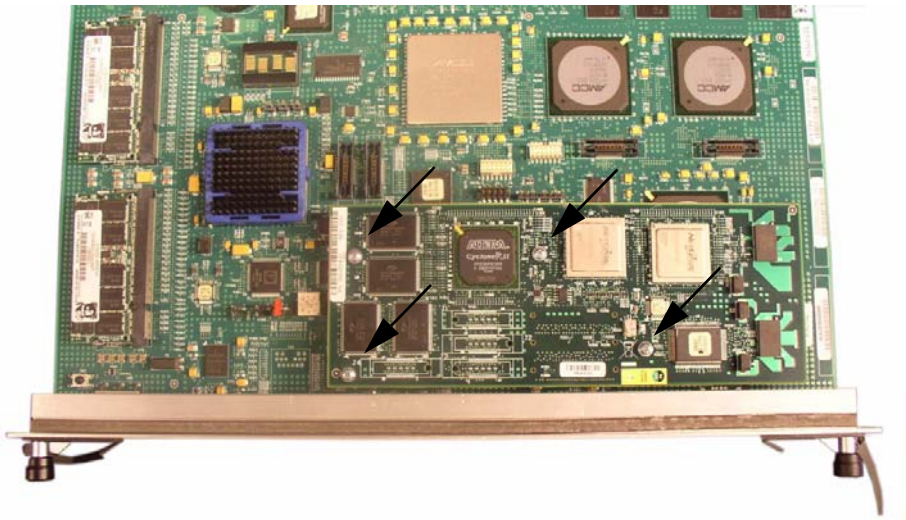


3. Place the CAM card on the NPU by mating the board-to-board connectors.

   Note: When connected correctly, the CAM card lines up directly with the four threaded standoffs so you can screw it to the NPU in the next step.



4. Fasten the CAM card to the NPU by gently screwing the card in at each of the four points with the four original screws. Do not overtighten.



NPU Replacement

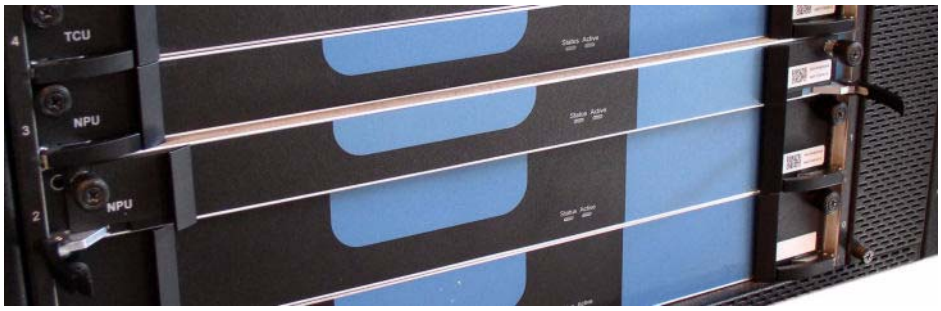
The NPU with 256K CAM card upgrade is now placed back into the chassis. The following steps illustrate the proper way to replace the NPU:

To replace a processing unit:

1. Insert the processing unit into the flared opening of the upper and lower slide rails.

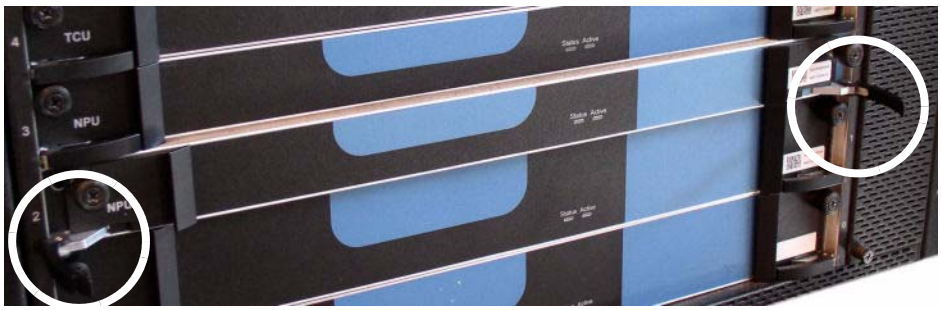
   The rails guide the processing unit to engage the mid-plane connector squarely.

2. Push the processing unit completely into the Net-Net 9200 chassis, until it is almost flush with the front face of the chassis.

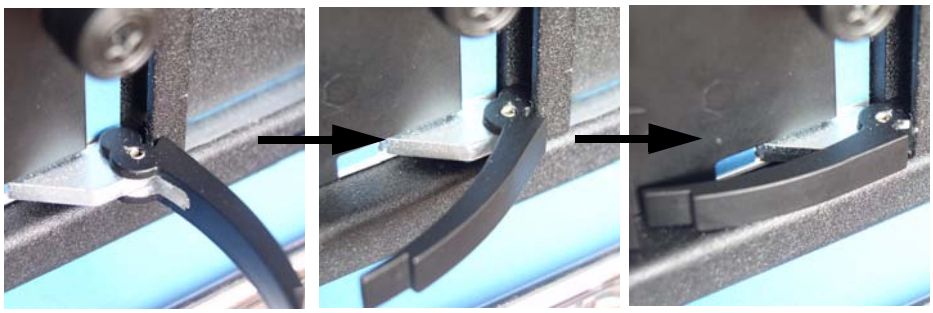


   Make sure that the slide latches are pushed away from the center of the card before proceeding.

3. Swing the ejector levers so that they are perpendicular to the front face of the Net-Net 9200.

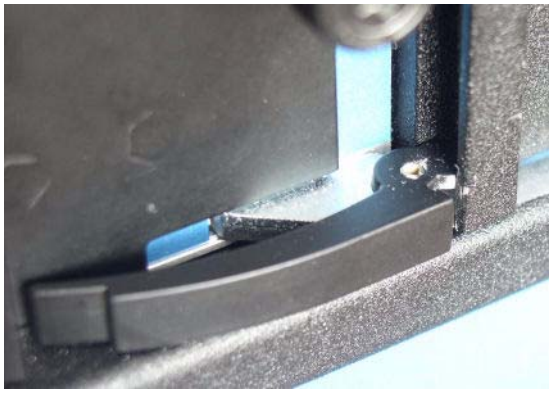


4. Pivot the ejector levers inward toward the mid plane, making sure that the notch on the outer side of each ejector lever catches the processing unit frame's front lip on the front of the chassis.



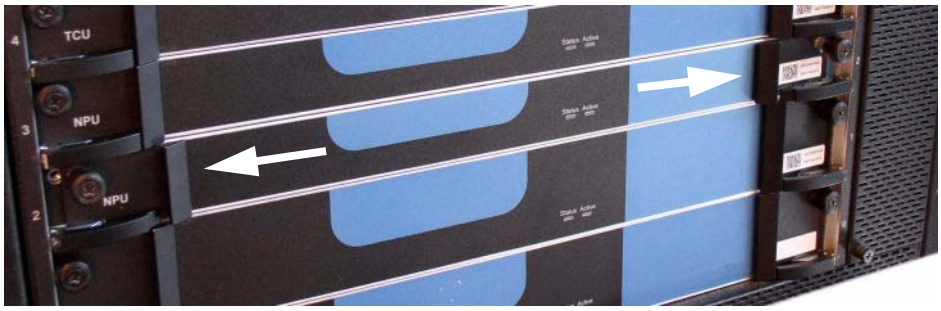
This action draws the processing unit fully into the chassis.

5. Push the ejector levers completely against the processing unit's front panel.



You feel resistance when inserting processing units into the chassis from the EMI mesh gasket pressing on adjacent cards or on the chassis.

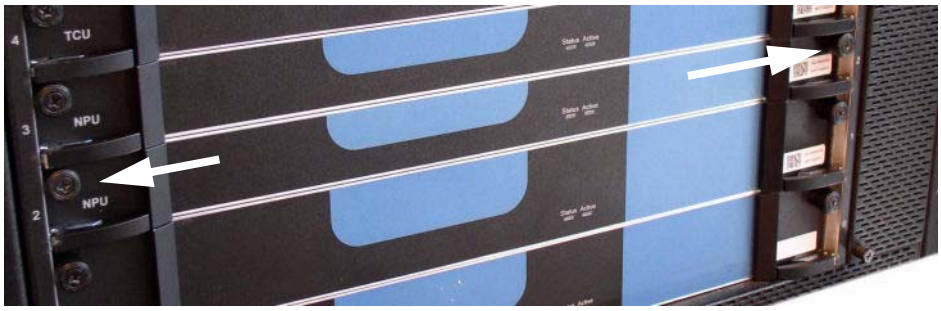
6. Slide the slide latches away from the center of the of the processing unit.



Each slide latch travels 0.28 inches (0.71 cm) before stopping.

Each slide latch covers the cut-out portion of the ejector levers:

7. Screw the thumb screws into the chassis with a #2 Phillips screwdriver. This creates the final connection between the processing unit and the chassis.



Redundant 256K CAM Installation

Repeat the NPU removal, 256K CAM installation, and NPU replacement sections of the redundant CAM in NPU #2 if applicable.