Net-Net® 9200
SSM 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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SSM Installation

Introduction

This chapter provides information about how to install the Signaling Security Module (SSM) Card in your Net-Net 9200's SPU.

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

1. Follow preinstallation guidelines
2. Ground yourself and follow proper ESD grounding procedures
3. Remove the first SPU from the Net-Net 9200 chassis
4. Install the SSM on the SPU
5. Replace the upgraded SPU in the Net-Net 9200 Chassis
6. Repeat Steps 3-5 for the second SPU

Shipped Parts

An SSM upgrade order contains the following:

- Acme Packet SSM
- 4 x female-female nylon hex standoffs
- 8 x Phillips head nylon screws

The following are images of the shipped hardware used for the Net-Net 9200 SSM installation:

Female-Female Nylon Hex Standoff (4 x shipped)

Phillips Head Nylon Screws (8 x shipped)

Installation Tools and Parts

The following tools and parts are required to install an SSM on your SPU.

- #1 Phillips-head screwdriver
- #2 Phillips-head screwdriver
- 4.5 mm nut driver
- ESD wrist strap
- ESD workbench

Preinstallation

- This upgrade should be performed during low-traffic periods or scheduled maintenance windows.
- When installing or removing SSMs, move the SPUs to an appropriate maintenance location.
- Ground yourself using an ESD wrist strap or similar device.
- Never install or remove an SSM on an SPU 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.

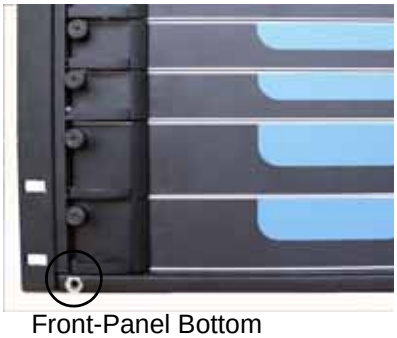
Alternatively, you can ground yourself according to established grounding guidelines of the location where the Net-Net 9200 resides.

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.

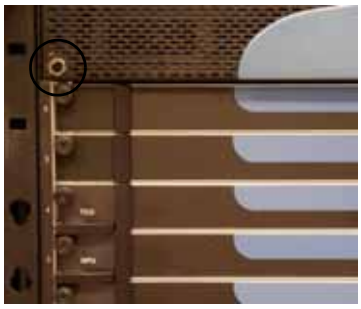
Note: An ESD wrist strap is not shipped with your SSM install kit.

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.

SPU Removal

Before installing the SSM, you must remove the SPU on which the SSM will be attached. The following steps illustrate the proper way to remove an SPU.

To remove an SPU:

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 will be pushed forward, but will not fall out of the processing unit.

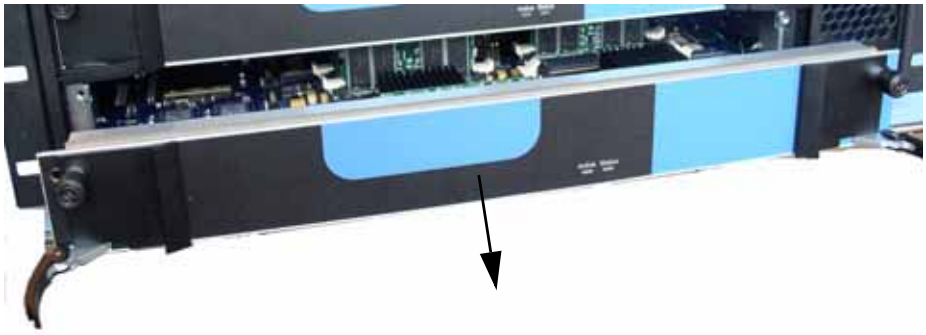
2. Place one or two fingers behind the slide latches and push each one toward the center of the processing unit. This action sends a signal to the SPU to shut down the card and perform all switchover actions if the system is powered up.

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 SPU to an ESD approved workbench or other supportive surface.

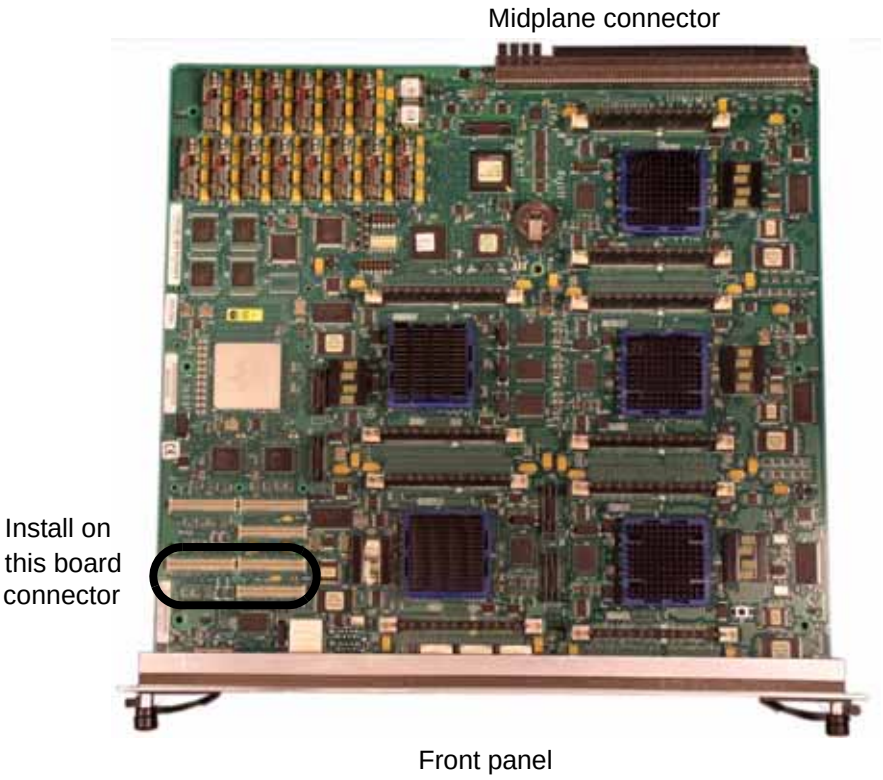
SSM Installation

The SSM attaches electrically to the SPU by three board-to-board connectors. In addition, it is physically secured to the SPU at four points by a nylon standoff set.

Caution

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

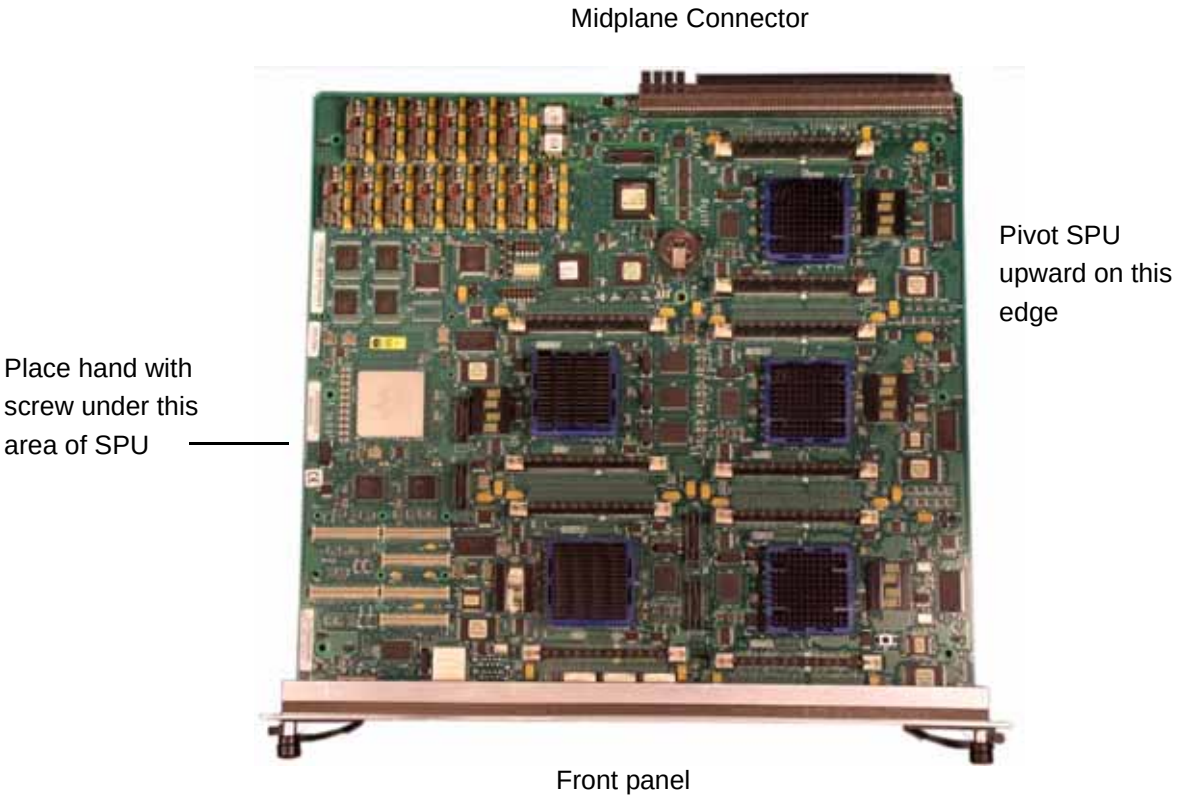
1. Note the region on the SPU where the SSM attaches. In the photograph below, the three SSM connectors are circled. The SSM plugs into place here.



2. Note the four holes in the SPU where you will mount the standoffs.

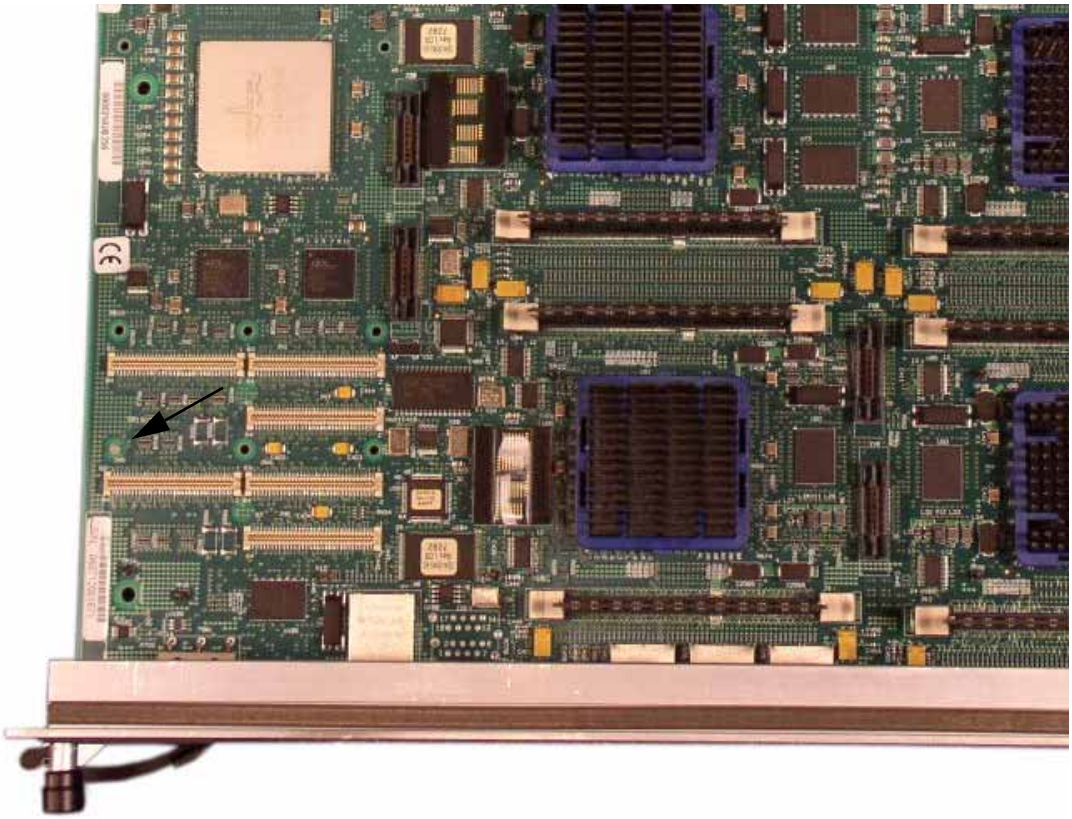
3. Hold one of the nylon Phillips head screws in your left hand between your thumb and index finger.

4. Place your left hand under the SPU on the side where the SSM is connected to the board, pivoting the SPU upward on it's right edge.

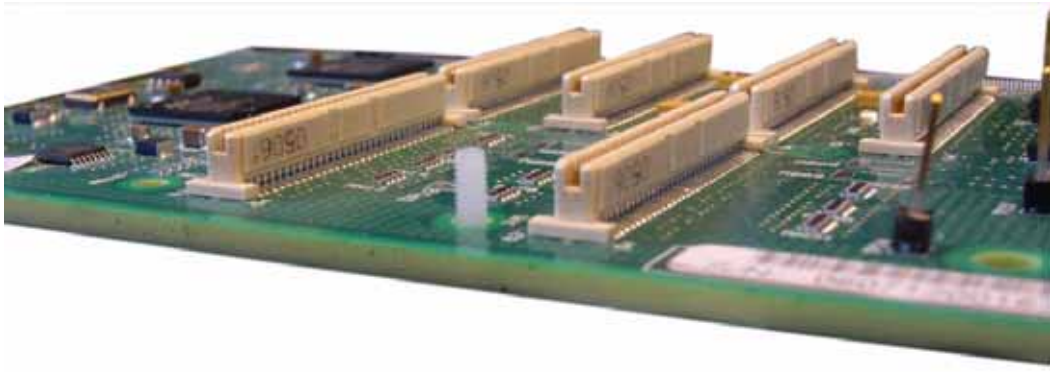


Caution ALWAYS support the SPU so that it does not fall or slip.

5. Place the threads of the screw upward, through one of the four holes noted in Step 2.

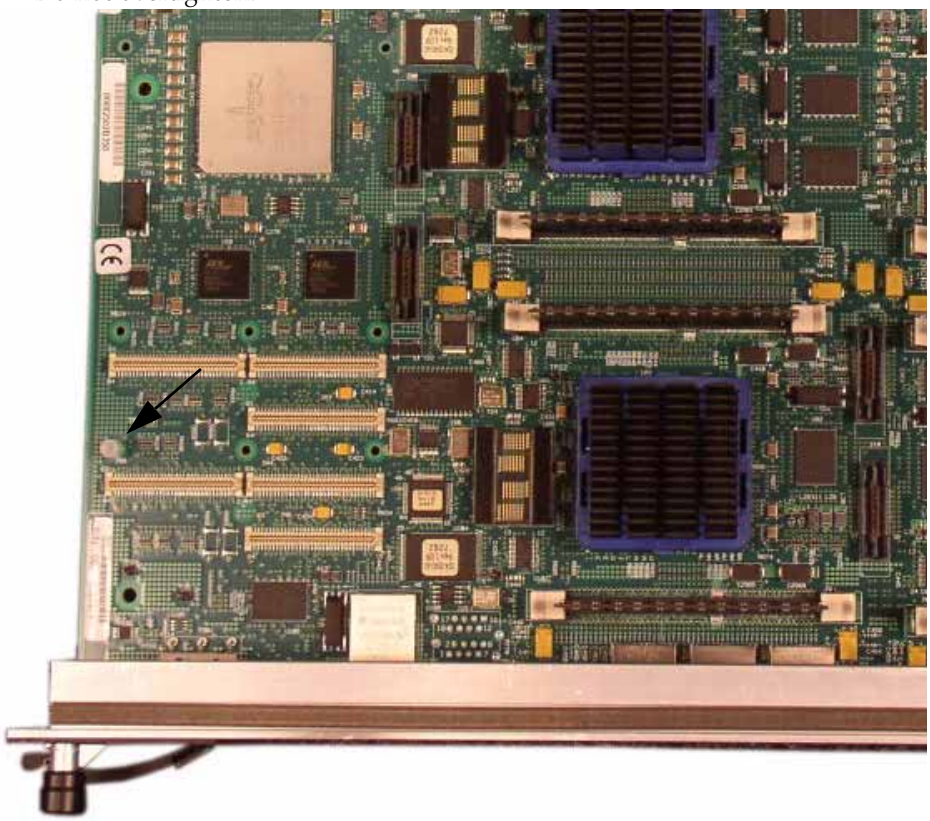


The following image shows a close up of the screw in the board.



6. Screw one of the female-female nylon standoffs onto the threads of the screw.

7. Tighten the standoff just more than hand-tight, using a nut driver if available. Do not overtighten.



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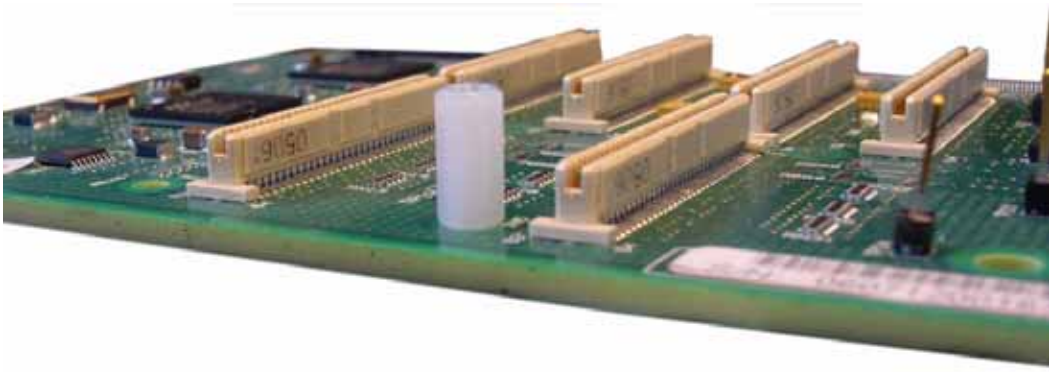
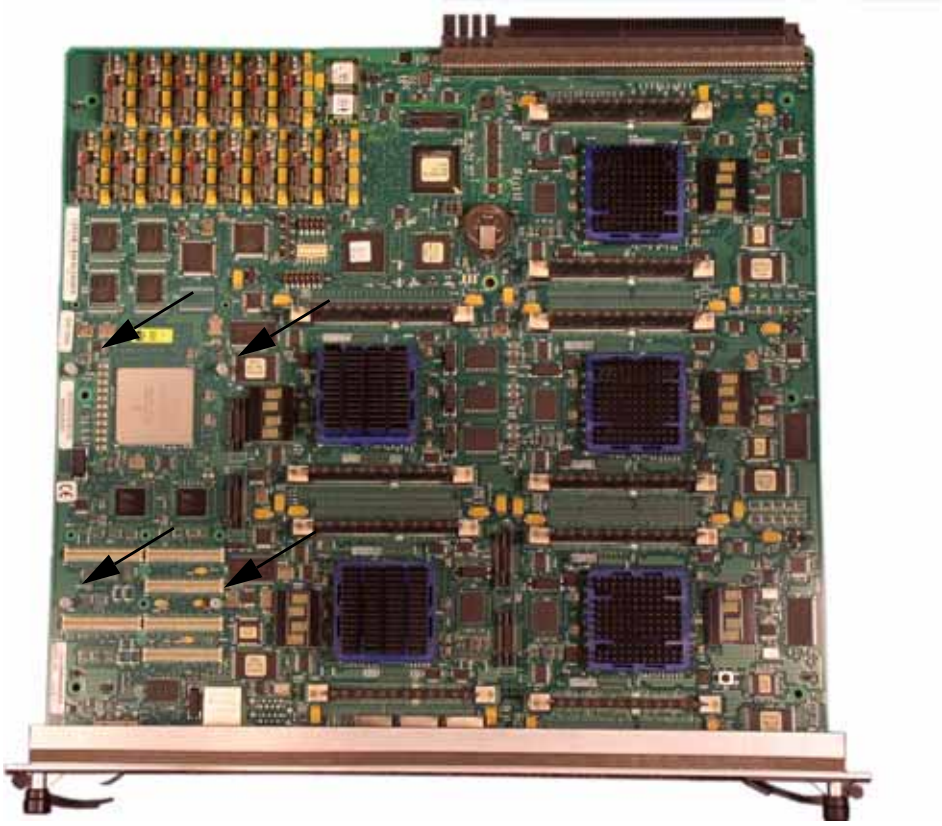


8. Repeat Steps 3-7 for the remaining 3 screws and standoffs. The order of standoff/screw installation is unimportant.



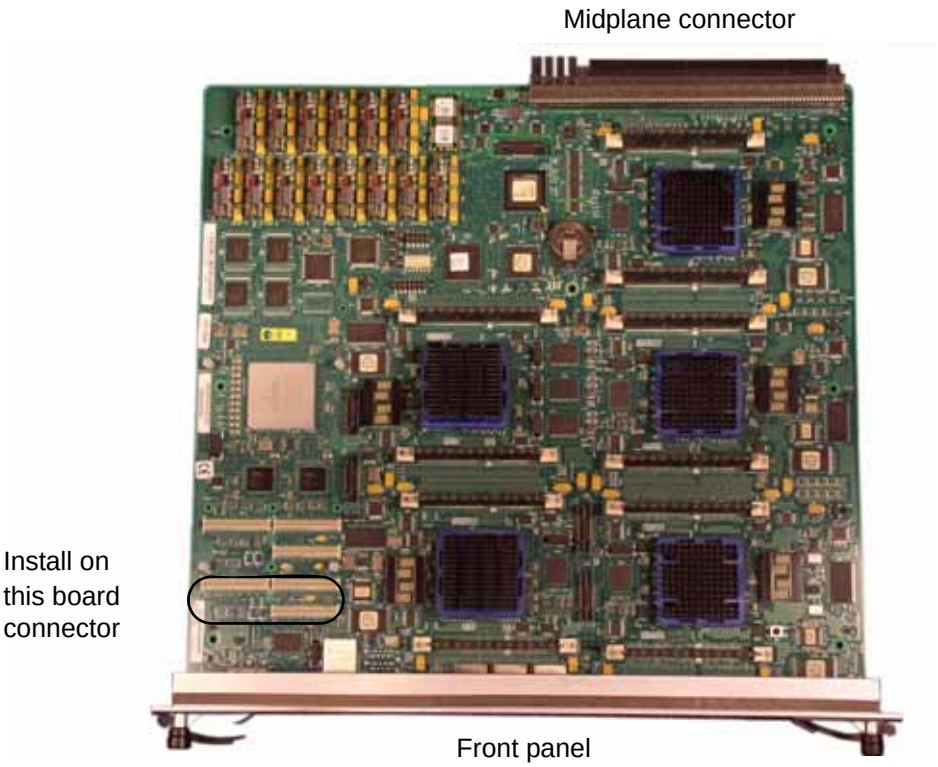
At this point the four standoffs are secured to the SPU, ready to act as a secure mounting point for the SSM.

9. Note the three board-to-board connectors on the SSM in the following photograph. This photograph shows the bottom of the SSM (placement of components may differ from the following image). When attaching the SSM to the SPU, these board-to-board connectors are seated in the set of connectors closer to the SPU's front panel.

SSM Connectors

10. Place the SSM on the SPU by mating the board-to-board connectors. Press down to seat the connectors until the SSM touches the standoffs.

The SSM lines up directly with four threaded stand-offs you just affixed to the SPU so you can screw the SSM to the chassis in the next step.



11. Screw the SSM on to the standoffs at four points with the supplied screws using a #1 Phillips head screwdriver. Do not overtighten the screws.

SPU Replacement

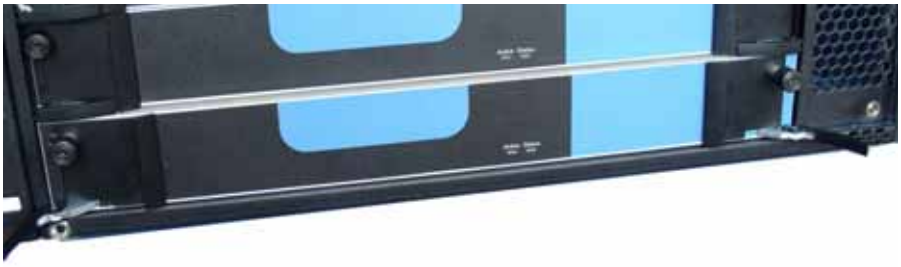
The SPU with SSM attached must be placed back into the chassis. The following steps illustrate the proper way to replace the SPU:

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.



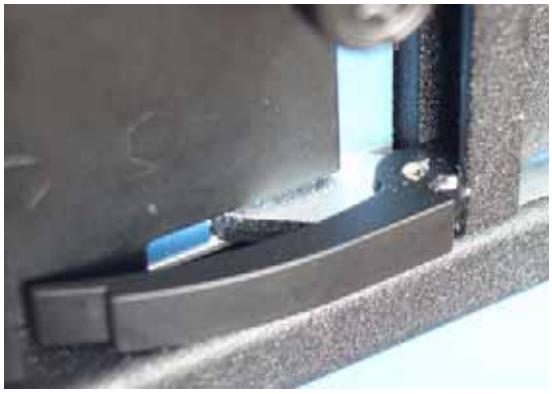
Make sure that the slide latches are pushed toward the center of the card before proceeding.

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 will 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

8. creates the final connection between the processing unit and the chassis.

Redundant SSM Installation

Repeat the SPU Removal (7), SSM Installation (8), and SPU Replacement (16) sections of the redundant SSM in SPU #2 if applicable.

System Startup

You may now start up the Net-Net 9200 in the approved manner.

SSM Installation Verification

You can verify that you've installed the SSM card onto the SPU properly by executing the following command:

```
ACMEPACKET# show security tls status
-----------------------------------------------------------
secure hardware module: detected
-----------------------------------------------------------
```