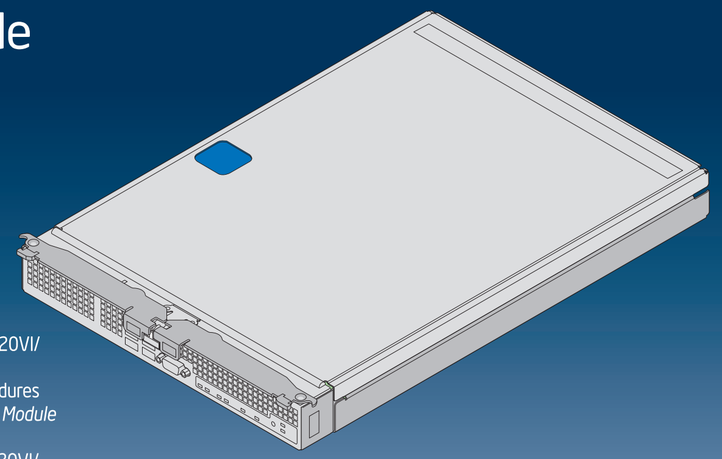
Intel® Compute Module MFS5520VI Quick Start User's Guide



Thank you for buying an Intel® Compute Module. The following information will help you assemble your Intel® Compute Module MFS5520VI and install components.

This guide and other supporting documents are located on the web at http://support.intel.com/support/motherboards/server/MFS5520VI/

If you are not familiar with ESD (Electrostatic Discharge) procedures used during system integration, please see the *Intel® Compute Module MFS5520VI User Guide*, available at http://support.intel.com/support/motherboards/server/MFS5520VI/

Read all cautions and warnings before starting your compute module integration.

Minimum Hardware Requirements

To avoid integration difficulties and possible damage to your system, make sure you have components from each category below.

- *Processor(s):*
  - Minimum of one Intel® Xeon® processor 5500 series or one Intel® Xeon® processor 5600 series.
- *Heatsink(s):*
  - Minimum of one 1U Intel approved passive heatsink.
- *Memory:*
  - Minimum of one 1024-MB, DDR3 1066/1333-MT/s RDIMM or UDIMM.

1 Preparing the Module

Observe normal ESD (Electrostatic Discharge) procedures.

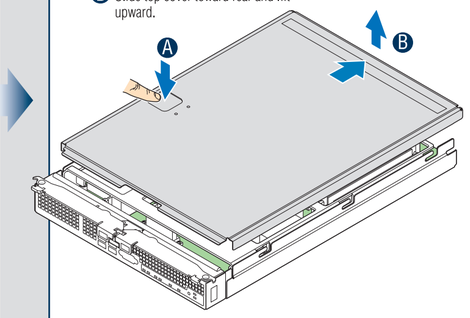
Place your Intel® Compute Module on a flat anti-static surface to perform the following integration procedures.

Always touch the module chassis first, before reaching inside to make connections or to install components.

2 Remove Top Cover

A. Depress cover release button.

B. Slide top cover toward rear and lift upward.

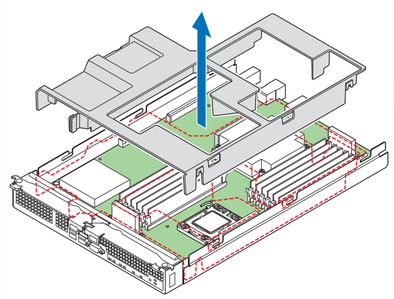


IMPORTANT!

Before proceeding further, do the following:

Check your Intel® Compute Module to ensure no components have loosened during shipping.

3 Remove the Air Duct



4 Remove Heatsink(s)

CAUTION: The heatsink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. *Use gloves to avoid sharp edges.*

NOTE: If you are installing only one processor on your server board, do not remove the heatsink over the second processor.

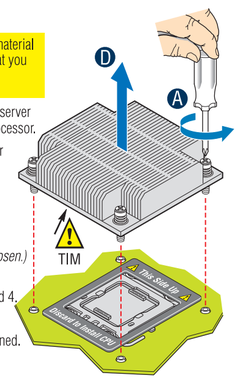
The heatsink is attached to the server board / processor socket with captive fasteners. Using a #2 Philips* screwdriver, loosen the four screws located on the heatsink corners in a diagonal manner using the following procedure:

A. Start with screw 1 and loosen it by giving it two rotations and stop. *(IMPORTANT: Do not fully loosen.)*

B. Proceed to screw 2 and loosen it by giving it two rotations and stop. Similarly, loosen screws 3 and 4.

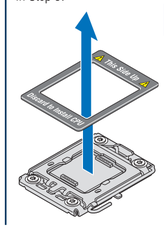
C. Repeat steps A and B by giving each screw two rotations each time until all screws are loosened.

D. Lift the heatsink straight up.



Remove the Spacer

IMPORTANT: This spacer must be removed and discarded before opening the socket to install the processor in Step 5.



Warning

Read all caution and safety statements in this document before performing any of the instructions. Also see the *Intel® Server Board and Server Chassis Safety Information* document at: http://support.intel.com/support/motherboards/server/sb/cs-010770.htm for complete safety information.

Warning

Installation and service of this product to be performed only by qualified service personnel to avoid risk of injury from electrical shock or energy hazard.

Caution

Observe normal ESD [Electrostatic Discharge] procedures during system integration to avoid possible damage to compute module and/or other components.

Tools Required

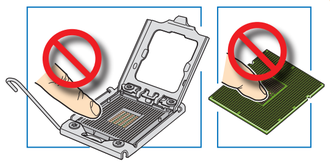
E60811-004

5 Install Processor(s)

Read all Cautions before proceeding.

1. When opening a socket, DO NOT TOUCH the gold socket wires.
2. When unpacking a processor, hold by the edges only to avoid touching the gold contact wires.

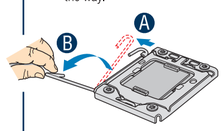
NOTE: If you are only using one processor on your server board, install the processor on the CPU socket labeled 'CPU 1' on the server board.



A. Open the Socket Lever

A. Push the lever handle down and away from the socket to release it.

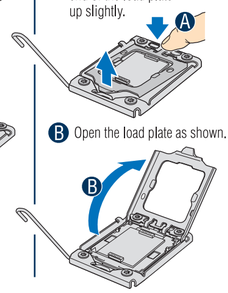
B. Rotate the lever open all the way.



B. Open the Load Plate

A. Push the rear tab with your finger tip to bring the front end of the load plate up slightly.

B. Open the load plate as shown.

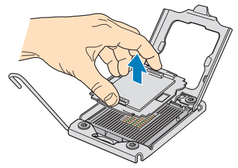


C. Remove Socket Protective Cover

A. Grasp the socket protective cover by the two tabs and carefully lift straight up as shown.

To avoid damage, DO NOT DROP the cover onto the socket wires or components.

Save the protective cover for future use.



D. Remove the Processor Protective Cover

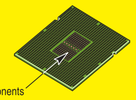
A. Take the processor out of the box and remove the protective shipping cover.

E. Install the Processor

CAUTION: The underside of the processor has components that may damage the socket wires if installed improperly.

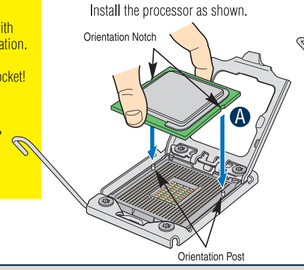
Processor must align correctly with the socket opening before installation.

DO NOT DROP processor into socket!



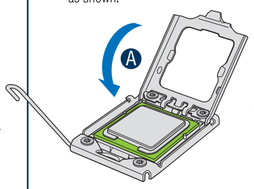
A. Orient the processor with the socket such that the orientation notches on the processor align with the two orientation posts on the socket.

Install the processor as shown.

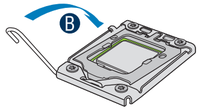


F. Close Load Plate and Socket Lever

A. Close the load plate all the way as shown.



B. Close the socket lever and ensure that the load plate tab engages under the socket lever when fully closed.



6 Install Heatsink(s)

IMPORTANT NOTE:
Intel® Compute Modules require passive heatsinks.

CAUTION: The heatsink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. *Use gloves to avoid sharp edges.*

A. Remove the protective film on the TIM if present.

B. Orient the heatsink over the processor with the heatsink fins positioned as shown to provide correct airflow.
Airflow goes from front-to-back of compute module.

NOTE: Heatsink orientation for CPU 1 is shown. For CPU 2, orient the heatsink in a reverse direction for correct airflow.

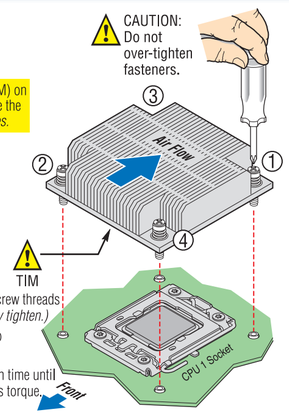
Each heatsink has four captive fasteners and should be tightened in a diagonal manner using the following procedure:

C. Using a #2 Philips* screwdriver, start with screw 1 and engage screw threads by giving it two rotations and stop. *(IMPORTANT: Do not fully tighten.)*

D. Proceed to screw 2 and engage screw threads by giving it two rotations and stop. Similarly, engage screws 3 and 4.

E. Repeat steps C and D by giving each screw two rotations each time until each screw is lightly tightened up to a maximum of 8 inch-lbs torque.

Note: Heatsink styles may vary.

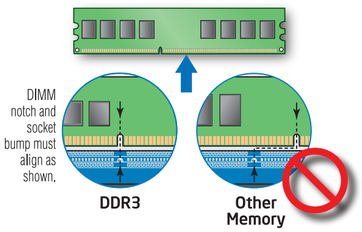


7 Install Memory DIMMs

DDR3 Memory Identification:

This compute module supports up to twelve DDR3-1066/1333 RDIMMs or UDIMMs. Mixing of RDIMM and UDIMM is not supported on this compute module.

Only use DIMMs approved for use in a 1U compute module.



Memory Configurations and Population Order:

Memory Type: Minimum of one 1024-MB, DDR3 RDIMM or UDIMM.

RDIMMs must be ECC only, while UDIMMs can be ECC or non-ECC. RDIMMs and UDIMMs cannot be mixed.

The memory slots of each DDR3 channel from the Intel® Xeon® Processor 5500 Series are populated in a farthest-first fashion.

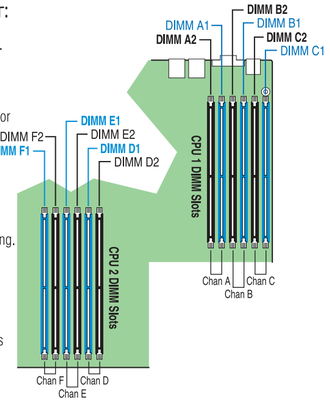
The minimum memory population possible is one DIMM in slot A1.

If both processor sockets are populated, the next upgrade from the Single Channel mode is installing DIMM D1.

If only one processor socket is populated, the next upgrade from the Single Channel mode is installing DIMM B1 to allow channel interleaving.

Note: For additional memory configurations, see the Technical Product Specification and User Guide on the Resource CD that accompanied your Intel® Compute Module MFS5520VI or go to:
http://support.intel.com/support/motherboards/server/MFS5520VI/

Memory sizing and configuration is supported only for qualified DIMMs approved by Intel. For a list of supported memory, see the Tested Memory List at:
http://support.intel.com/support/motherboards/server/MFS5520VI/compat.htm



To Install DIMMs:

CAUTION: Avoid touching contacts when handling or installing DIMMs.

A. Open both DIMM socket levers.

B. Note location of alignment notch.

C. Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.

D. Push down firmly on the DIMM until it snaps into place and both levers close.

E. IMPORTANT! Visually check that each latch is fully closed and correctly engaged with each DIMM edge slot.