Intel® Compute Module MFS2600KI
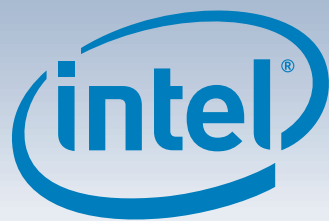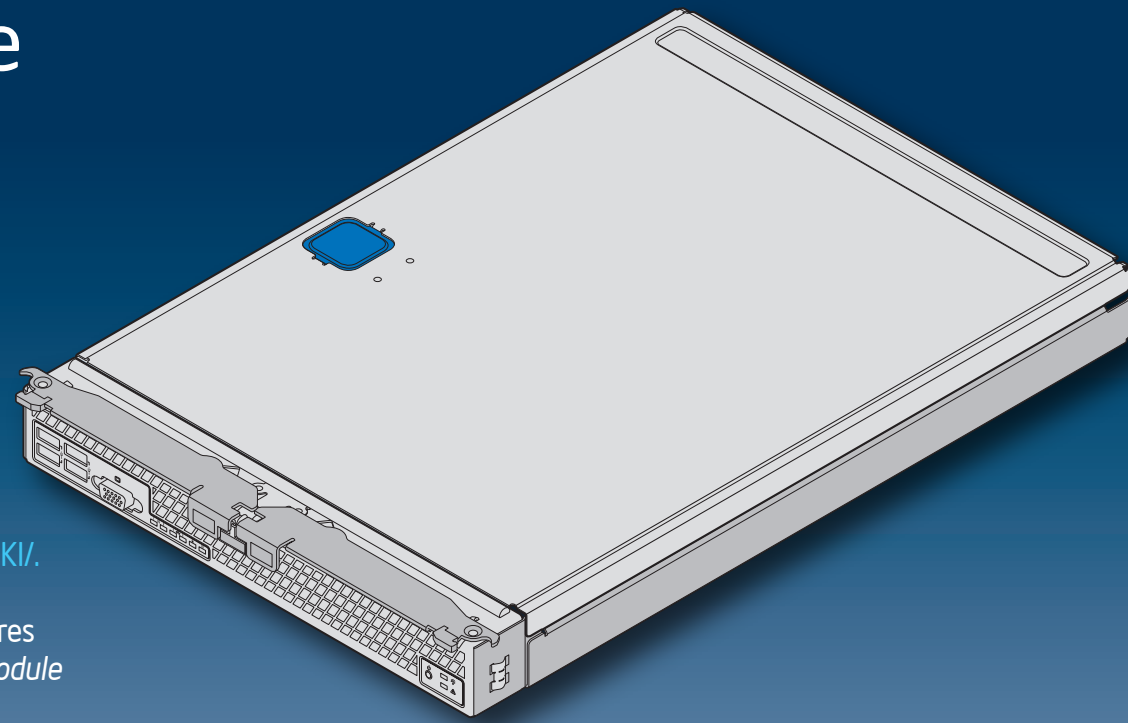# Quick Start User's Guide

Thank you for buying an Intel® Compute Module. The following information will help you assemble your Intel® Compute Module MFS2600KI and install components.

This guide and other supporting documents are located on the web at http://support.intel.com/support/motherboards/server/MFS2600KI/.

If you are not familiar with ESD (Electrostatic Discharge) procedures used during system integration, please see the *Intel® Compute Module MFS2600KI User Guide*, available at http://support.intel.com/support/motherboards/server/MFS2600KI/.

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

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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 E5-2600 series.
- **Heatsink(s):**
  - Minimum of one 1U Intel approved passive heatsink.
- **Memory:**
  - Minimum of one 1024-MB, DDR3 1066/1333/1600-MT/s RDIMM, UDIMM or LR-DIMM.
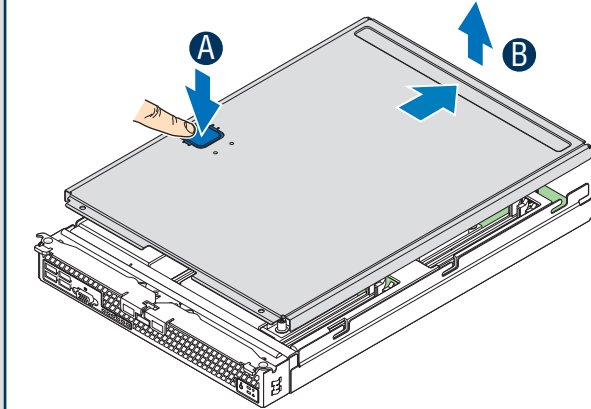
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1 Preparing the Module

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.
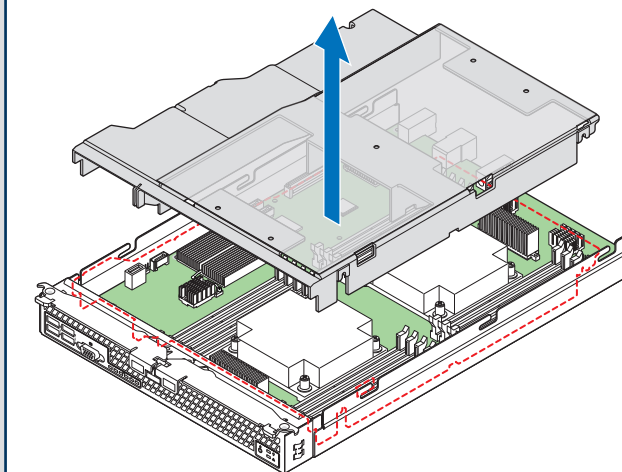
B Slide top cover toward rear and lift upward.

⚠ IMPORTANT!

Before proceeding further, do the following:

Check your Intel® Compute Module to ensure no components have loosened during shipping.
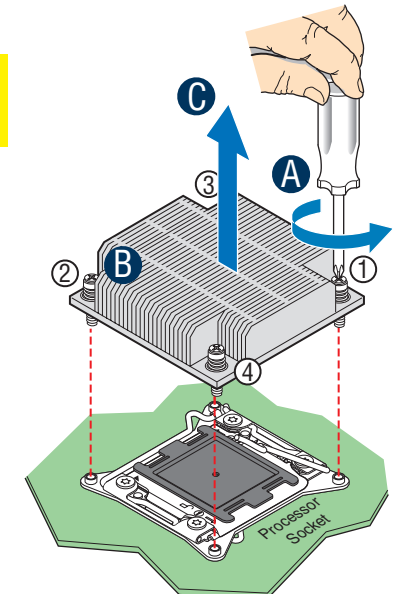
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3 Remove the Air Duct

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.*

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

A Using a #2 Phillips* screwdriver, 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.

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

C Lift the heatsink straight up.

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://www.intel.com/support/motherboards/server/sb/cs-010770.htm for complete safety information.
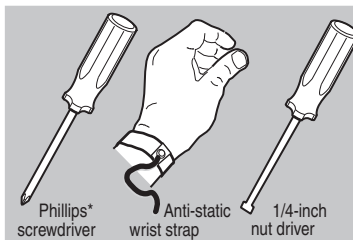
Warning

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.
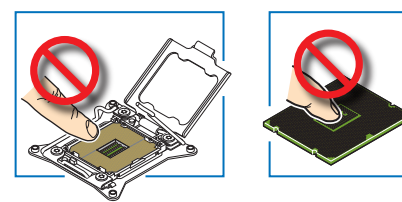
Tools Required

Phillips* screwdriver   Anti-static wrist strap   1/4-inch nut driver

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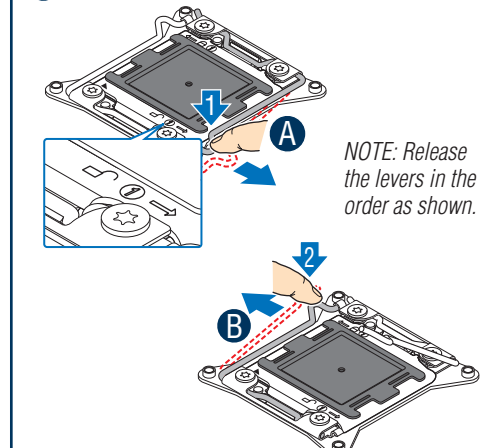## 5 Install Processor(s)

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.
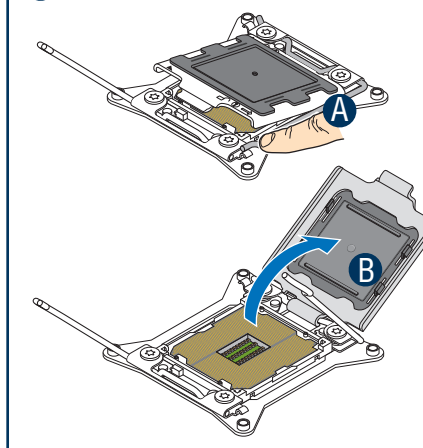
A. Open the Socket Lever

A Push down the lever handle on the **OPEN 1st** side and away from the socket to release it.

B Repeat step A to release the lever on the other side.
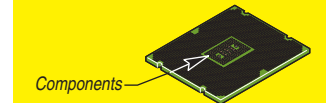
NOTE: Release the levers in the order as shown.

B. Open the Load Plate

A Press the locking lever slightly to raise the load plate.
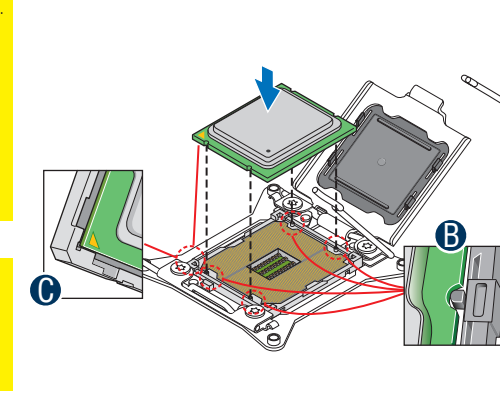
B Open the load plate all the way.

C. Install the Processor

⚠ CAUTION: The underside of the processor has components that may damage the socket pins if installed improperly. Processor must align correctly with the socket opening before installation. **DO NOT DROP** processor into socket!
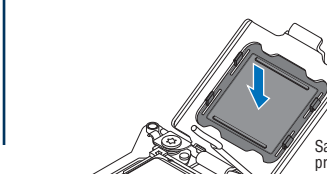
Components

⚠ CAUTION: When unpacking a processor, hold by the edges only to avoid touching the gold contact pins.

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

B Orient the processor with the socket so that the processor cutouts match the four orientation posts on the socket.
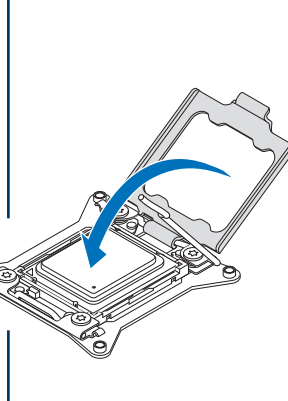
C Note location of gold key at corner of processor.
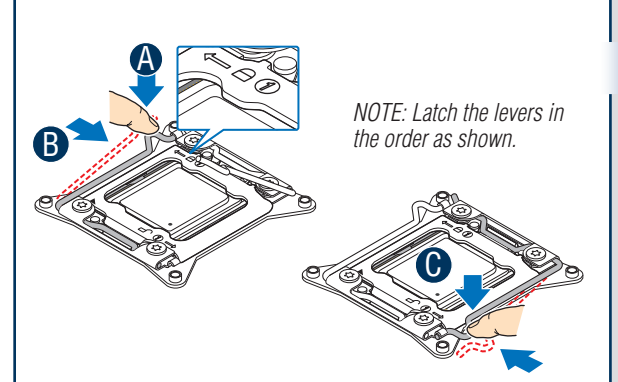
D. Remove the Cover

Press the cover to remove it.

Save the protective cover.

E. Close the Load Plate

Carefully lower the load plate over the processor.

F. Latch the Locking Lever

A Push down on the locking lever on the **CLOSE 1st** side.

B Slide the tip of the lever under the notch in the load plate. *Make sure the load plate tab engages under the socket lever when fully closed.*

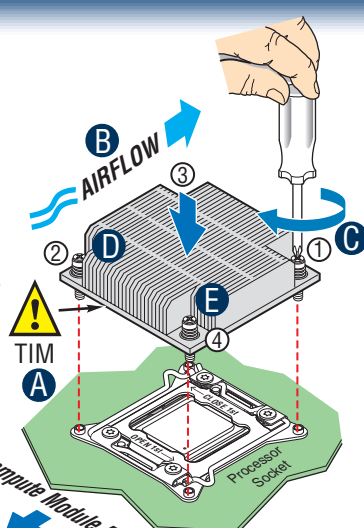C Repeat the steps to latch the locking lever on the other side.

NOTE: Latch the levers in the order as shown.

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6 Install 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.*
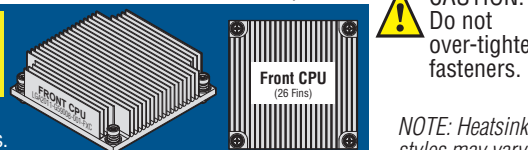
A Remove the protective film on the TIM if present.

B Align heatsink fins to the front and back of the chassis for correct airflow. *NOTE: Airflow goes from front-to-back of chassis.*

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

C Using a #2 Phillips* screwdriver, start with screw 1 and engage screw threads by giving it two rotations and stop. (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.

⚠ CAUTION: Front and back heatsinks are different. Installation of wrong heatsink (front heatsink to back CPU and back heatsink to front CPU) will damage the server.

Heatsink for front CPU has only 26 fins and marked **FRONT CPU** on the side. Heatsink for back CPU has 42 fins.
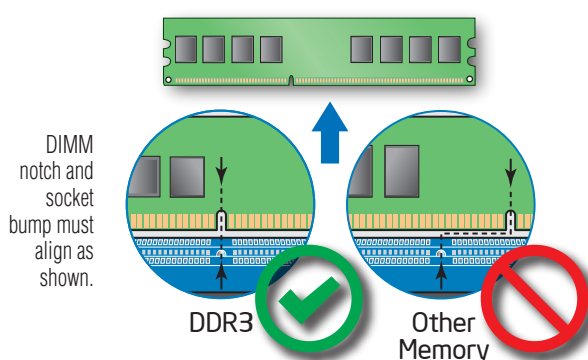
⚠ CAUTION: Do not over-tighten fasteners.

NOTE: Heatsink styles may vary.

AIRFLOW

TIM

Front CPU (26 Fins)

Compute Module Front

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7 Install Memory DIMMs

DDR3 DIMM Memory Identification:

⚠ This compute module supports up to sixteen DDR3-1066/1333/1600 UDIMM, RDIMM or LRDIMM. Mixing of different types of DIMMs is not supported on this compute module.

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

DIMM notch and socket bump must align as shown.

DDR3   Other Memory

Memory Configurations and Population Order:

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

RDIMMs must be ECC only, while UDIMMs can be ECC or non-ECC. RDIMMs and UDIMMs cannot be mixed.
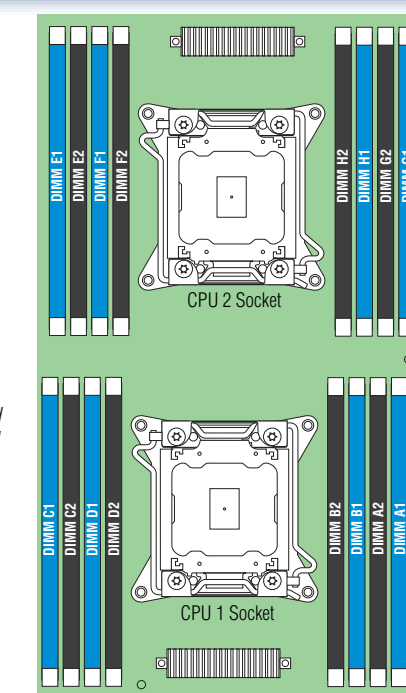
The memory slots of each DDR3 channel from the Intel® Xeon® Processor E5-2600 Series are populated in a farthest-first fashion.

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 E1.

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

NOTE: The MFS2600KI compute module has 14 DIMM blanks installed and DIMM slots A1 and E1 are empty. Take out the DIMM blanks only when real DIMMs are installed into those DIMM slots.
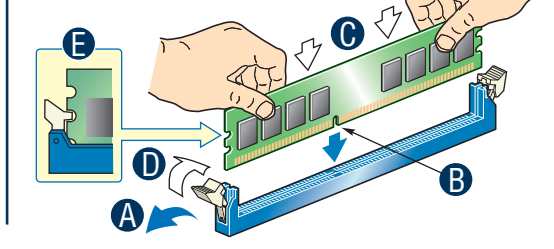
For additional memory configurations, see the *Technical Product Specification* and *User Guide* on the Resource CD that accompanied your Intel® Compute Module MFS2600KI or go to: http://support.intel.com/support/motherboards/server/MFS2600KI/.

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/MFS2600KI/compat.htm.

CPU 2 Socket
CPU 1 Socket

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.

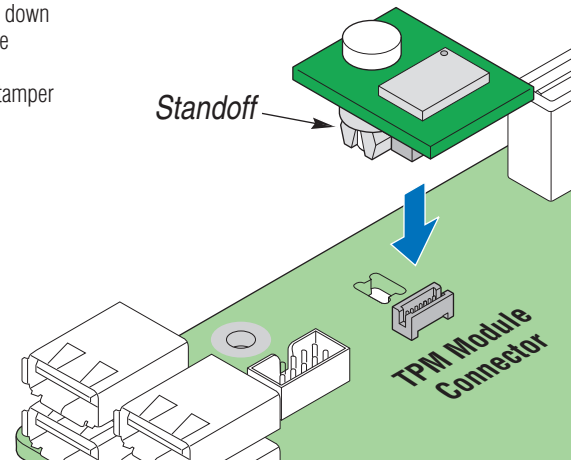E IMPORTANT! Visually check that each latch is fully closed and correctly engaged with each DIMM edge slot.
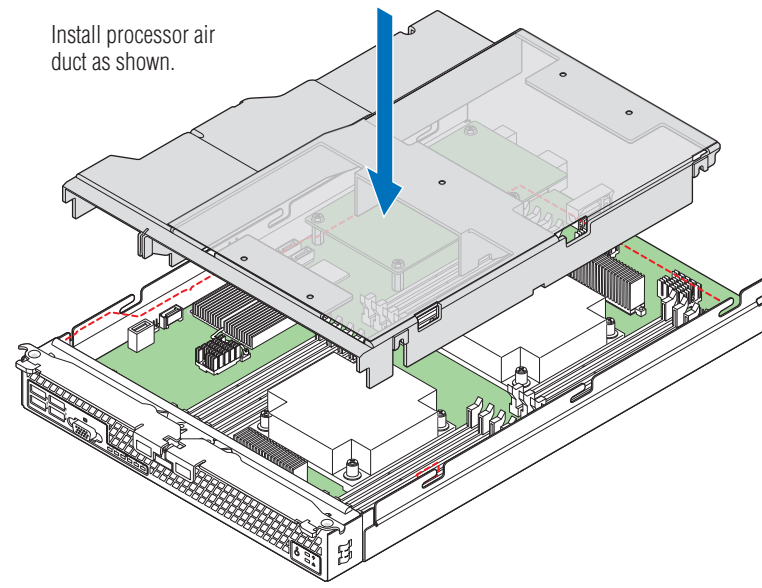
8 Install TPM Module

To install the TPM module, insert the standoff into the hole in the board and insert the TPM module connector into the connector in the board. Press down gently but firmly to ensure that the module is properly seated in the connectors, and then tighten the tamper resistant screw.

Standoff

TPM Module Connector

9 Install Processor Air Duct

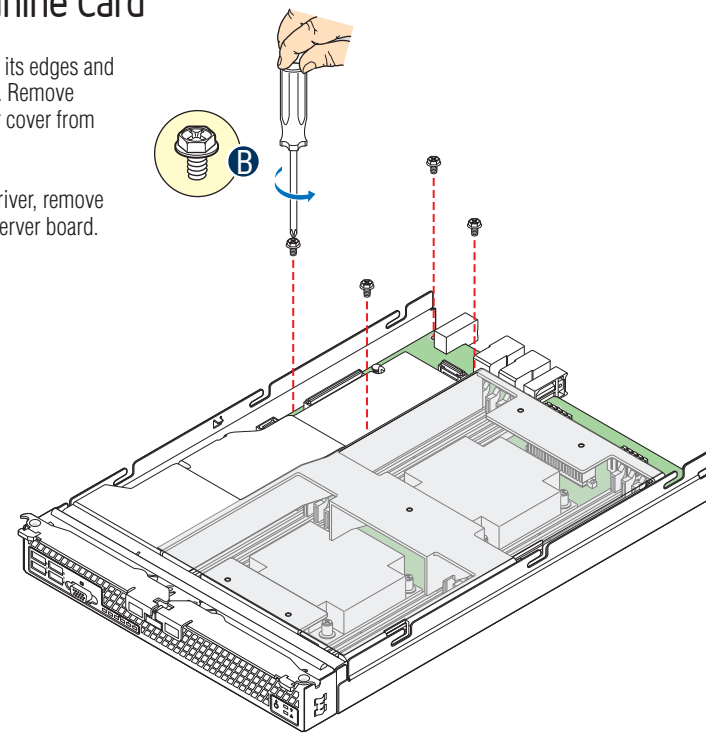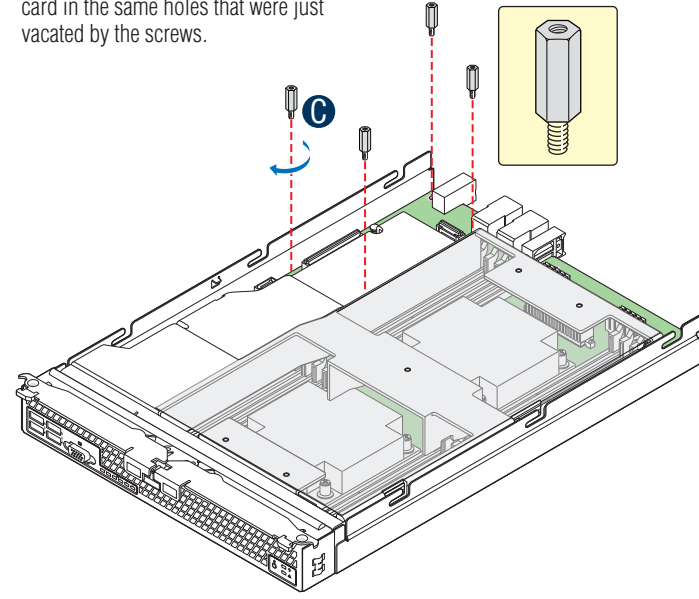Install processor air duct as shown.

10 Install Mezzanine Card

A Hold mezzanine card by its edges and remove from packaging. Remove the protective connector cover from the mezzanine card.
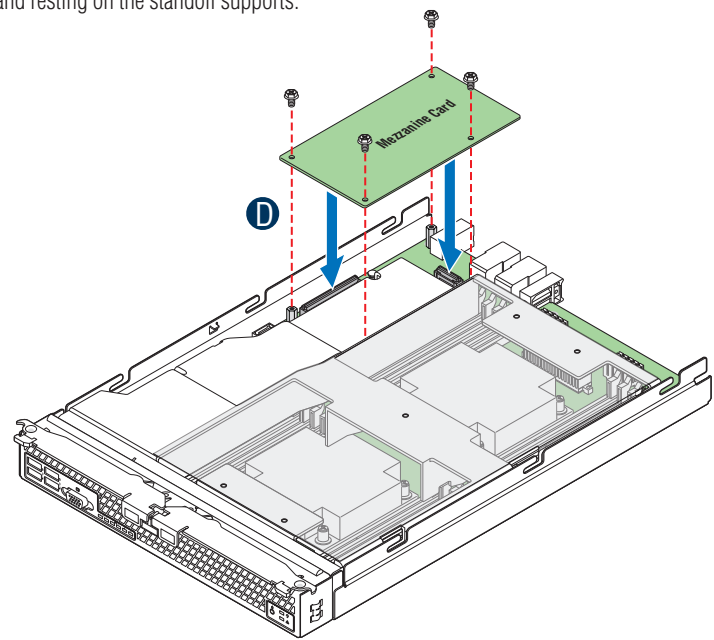
B With a Phillips* screwdriver, remove the four screws on the server board.
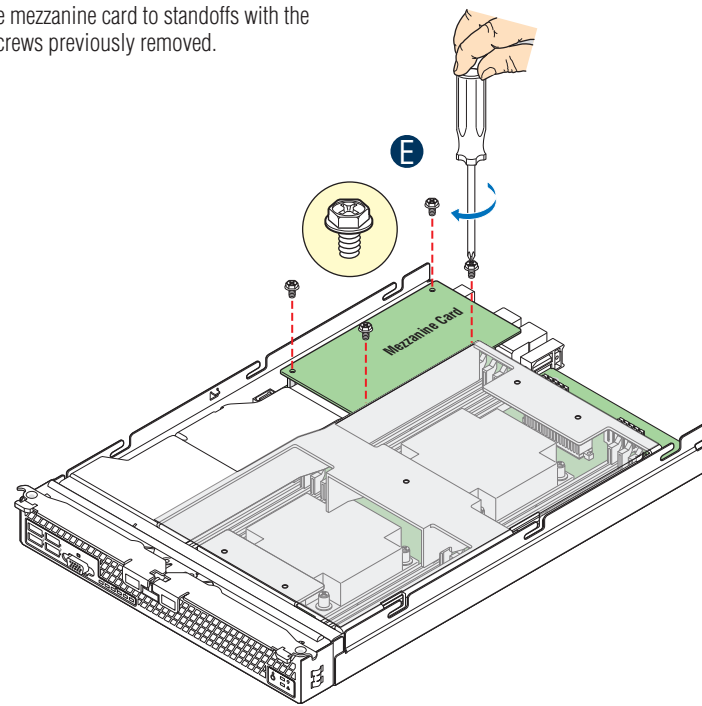
C With a 1/4-inch nut driver, install the four standoffs that shipped with the mezzanine card in the same holes that were just vacated by the screws.

D Position the mezzanine card above the mezzanine card connectors on the server board and align the four holes with the standoffs. Carefully press the mezzanine card into place until it is fully seated in the connectors and resting on the standoff supports.

Mezzanine Card

E Secure mezzanine card to standoffs with the four screws previously removed.

Mezzanine Card

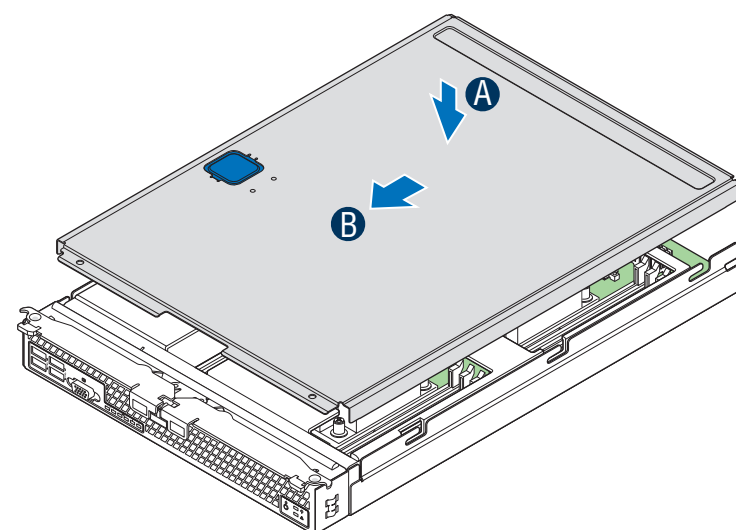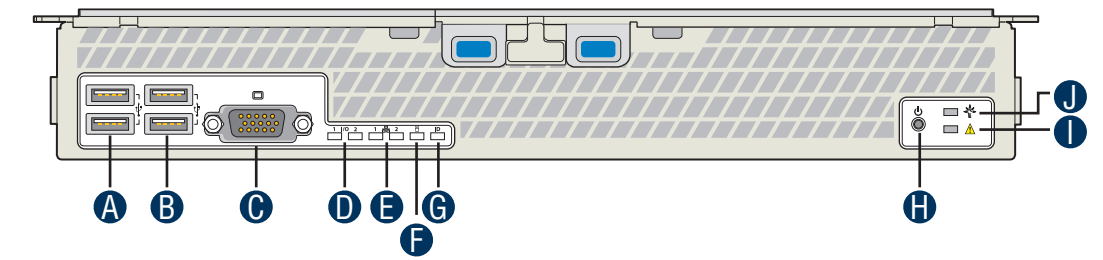## 11 Install Top Cover

A Align top cover over corresponding notches in module chassis.

B Slide top cover forward to close.

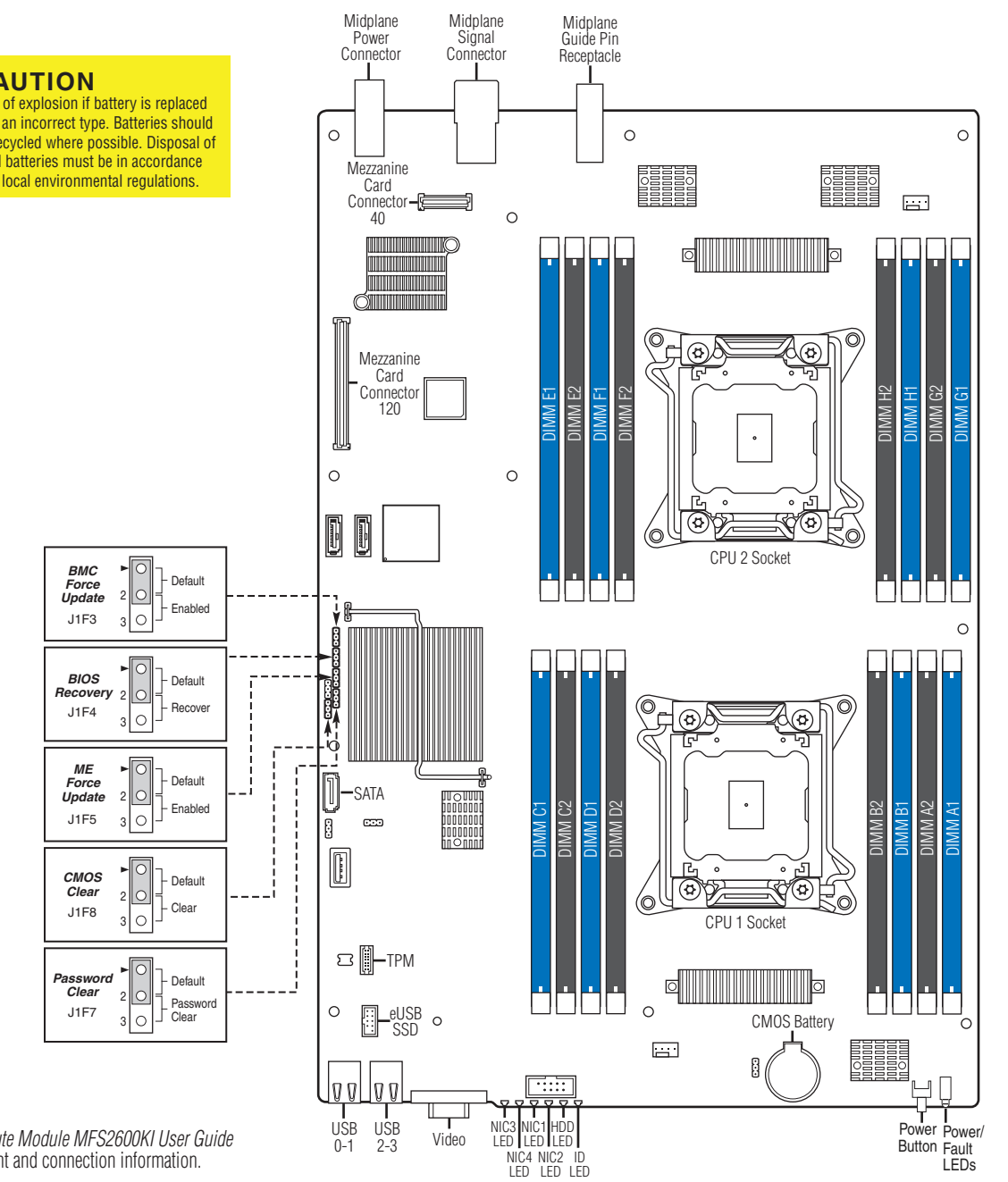## Front Panel Connectors and Indicators

A. USB Ports 0 and 1
B. USB Ports 2 and 3
C. Video Port
D. NIC3 and NIC4 Activity LEDs
   Activity LEDs
E. NIC1 and NIC2 Activity LEDs
F. Disk Activity LED
G. ID LED
H. Power Button
I. Fault LED
J. Power LED

Component Layout

CAUTION
Risk of explosion if battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

Midplane Power Connector
Midplane Signal Connector
Midplane Guide Pin Receptacle

Mezzanine Card Connector 40

Mezzanine Card Connector 120

DIMM E1, DIMM E2, DIMM F1, DIMM F2
DIMM H2, DIMM H1, DIMM G2, DIMM G1

CPU 2 Socket

BMC Force Update J1F3 — Default / Enabled
BIOS Recovery J1F4 — Default / Recover
ME Force Update J1F5 — Default / Enabled
CMOS Clear J1F8 — Default / Clear
Password Clear J1F7 — Default / Password Clear

SATA

DIMM C1, DIMM C2, DIMM D1, DIMM D2
DIMM B2, DIMM B1, DIMM A2, DIMM A1

CPU 1 Socket

CMOS Battery

TPM
eUSB SSD

USB 0-1
USB 2-3
Video
NIC3 LED, NIC1 LED, HDD LED
NIC4 LED, NIC2 LED, ID LED

Power Button
Power/ Fault LEDs

See your *Intel® Compute Module MFS2600KI User Guide* for expanded component and connection information.

Diagnostic LED Information

LED Name	Function	Color	Indicator
Power LED	Identifies power state of compute module	Green	Off = Power is off On = Power on Slow Blink = Power is in standby or sleeping mode
Fault LED	Identifies fault warning	Amber	Off = No Ready/OK Solid On = Critical or non-recoverable error 1Hz Blink = Non-critical or recoverable error
ID LED	Provides an aid in identifying a compute module from the front panel	Blue	Use Intel® Modular Server Control UI to turn ID LED on or off
Drive Activity LED	Indicates drive activity	Green	Off = No drive activity Blink = Drive activity
NIC1 - NIC2 LEDs	Indicates network activity and link	Green	Blink = Outbound Activity
NIC3 - NIC4 LEDs	Indicates network activity and link of NICs on I/O mezzanine card	Green	Off = No link On = Link established Blink = Activity

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