




## About Cautions


 **CAUTION:** A CAUTION indicates a potential for property damage, personal injury, or death.

# System Board Replacement Procedure Update

This document provides updated information for replacing the system board.

 **NOTE:** See the latest version of the system's documentation on [support.dell.com](http://support.dell.com) for instructions on how to remove and replace the system board.

## Removing and Installing the North Bridge Heat Sink

 **CAUTION:** Any installation that requires removal of the system cover is intended solely to be performed by trained service technicians. See your *Product Information Guide* for complete information about safety precautions, working inside the computer and protecting against electrostatic discharge.

When transferring components from the defective system board to the replacement system board, ensure that you also transfer the north bridge heat sink. The north bridge heat sink is located directly behind processor connectors 2 and 4.

### Removing the North Bridge Heat Sink From the Defective System Board

- 1 Compress the two retention-clip tabs together to remove them from the retention-clip securing slots, and then lift up the retention clip. See Figure 1.
- 2 If the heat sink has not separated from the north bridge chip, carefully rotate the heat sink in a clockwise, then counterclockwise, direction until it releases from the chip. Do not pry the heat sink off of the chip.
- 3 Lift off the heat sink.

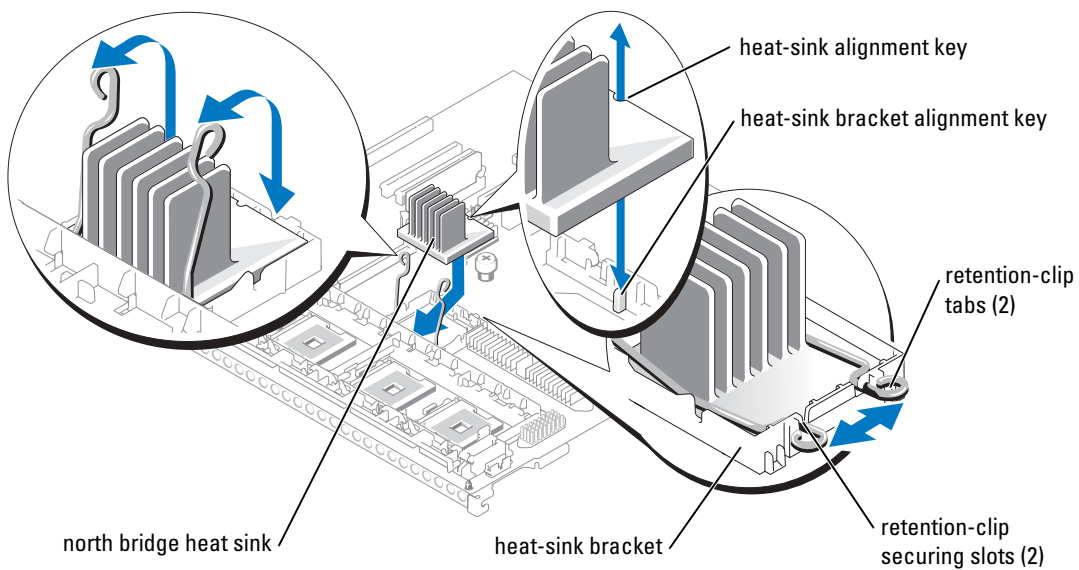
### Installing the North Bridge Heat Sink on the Replacement System Board

- 1 Using a clean lint-free cloth, remove the existing thermal grease from the north bridge heat sink.
- 2 Apply thermal grease evenly to the top of the north bridge chip.



- 3** Install the north bridge heat sink:
  - a** Orient the heat sink so that its alignment key is toward the back of the system board. See Figure 1.
  - b** Slowly lower the end of the heat sink closest to processor connectors 2 and 4 into the heat-sink bracket.
  - c** After the heat sink contacts the bottom of the heat-sink bracket, align the keys on the heat sink and the heat-sink bracket, then lower the heat sink until it lays flat in the bracket. See Figure 1.
  - d** Lower the retention clip, compress the two retention-clip tabs together, and secure the tabs into the retention-clip securing slots.

**Figure 1. Removing and Installing the North Bridge Heat Sink**



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