

3.6.2 Processor Troubleshooting Facts

Symptoms of a failed or failing CPU include:

- System will not boot.
- System boots, but the operating system fails to load.
- System has POST parity problems with a number of devices.
- System locks up shortly after startup:
 - This symptom is possibly thermal issue. Check for this problem by shutting down, letting the system cool off, and restarting the computer to verify whether the problem repeats itself. Check the following if overheating seems to be the problem:
 - Check the heat sink and fan for placement and condition.
 - Verify that thermal paste or a thermal pad has been used between the processor and the heat sink.
 - Ensure the heat sink is firmly attached to the CPU.
 - Verify that the CPU is properly seated in its socket.
 - Make sure system case fans are working and that the case and expansion slots are in place.
 - If the computer is not overheating but has this symptom, the problem could be the clock or system timers in the BIOS/UEFI are set incorrectly.
- System sounds a POST beep code indicating a CPU fault upon boot:
 - Verify that the CPU is receiving sufficient power by checking the power outputs.
 - If these are good, replace the CPU.
 - If the fault remains, the problem is with the motherboard.
- System crashes on startup or when running a software application or certain group of applications:
 - Run repetitive tests using diagnostic software.
 - After replacing a seemingly faulty CPU and the symptom remains, run similar tests on the motherboard and chipset.
 - Do not forget to check for a corrupt file in the software.

If the computer boots, but the processor is running at less than its rated speed, check for incorrectly set motherboard settings or use the BIOS/UEFI to set the appropriate CPU speed. If you cannot set the correct speed, try updating the BIOS with the latest version.

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