

# Intel® Core™ Microarchitecture (Nehalem) CPU Turbo Mode Overview

## What is Turbo Mode?

- Opportunistically and automatically allows the CPU to run faster than the TDP frequency IF the processor is operating below specifications
  - Must be below the power, temperature and current specification limits
  - Increases performance of both multi-threaded and single-threaded workloads

## Turbo Mode Operation:

- Operates under OS control (only entered when OS requests higher performance)
  - Transition from P1 to P0 state in ACPI terminology
  - Can be enabled or disabled by BIOS
- Ability to enter Turbo Mode is independent of the number of active cores