

ICPADS'06

Panel Discussion

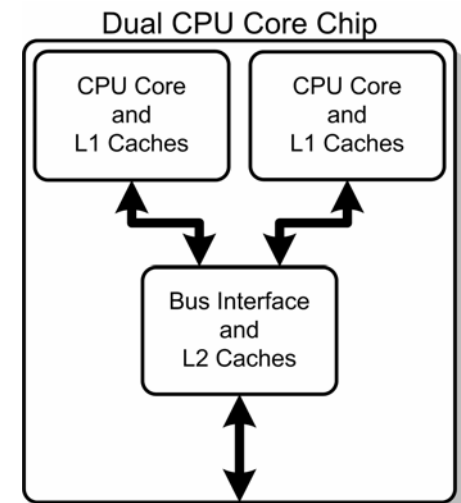
Moderator:

David J. Lilja

University of Minnesota

Panel Discussion

How will we develop and program emerging robust, low-power, adaptive multicore computing systems?



Panelists

- Dennis Abts, Cray, Inc.
 - System and network architecture
- Mark Hill, University of Wisconsin-Madison
 - Parallel architecture
- Margaret Martonosi, Princeton University
 - Low-power processors
- Jose Moreira, IBM
 - BlueGene development and deployment
- D.K. Panda, Ohio State University
 - Distributed systems

Respond to ...

- We do not need to develop new parallel programming paradigms since the old shared-memory and message-passing paradigms will be good enough.
- Multicore systems are irrelevant to application software developers because they will be used only for increasing overall system throughput, not for accelerating individual application programs.

Respond to ...

- Cooling and power consumption will not be a major concern since most of the cores will be idle most of the time.
- The system designer does not need to worry about reliability since the chip and circuit designers will guarantee that the cores are reliable.

Respond to ...

- While an adaptive system sounds like a great idea for adjusting to changes in the system environment, real systems will have no need for adaptation since the environment for any given application will remain relatively constant.
- The new multicore computing systems will not need any performance tools since each core will be fast enough for typical applications (which will be single-threaded).