


Multi-core Parallel System Design

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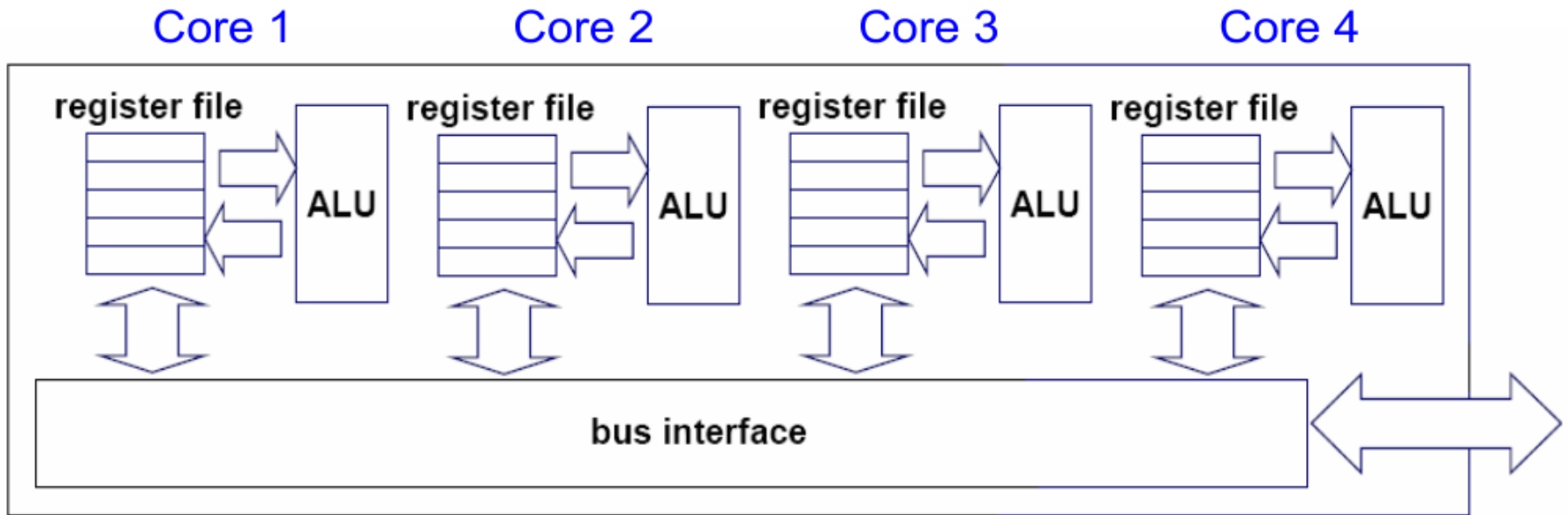
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Multi-core Processor

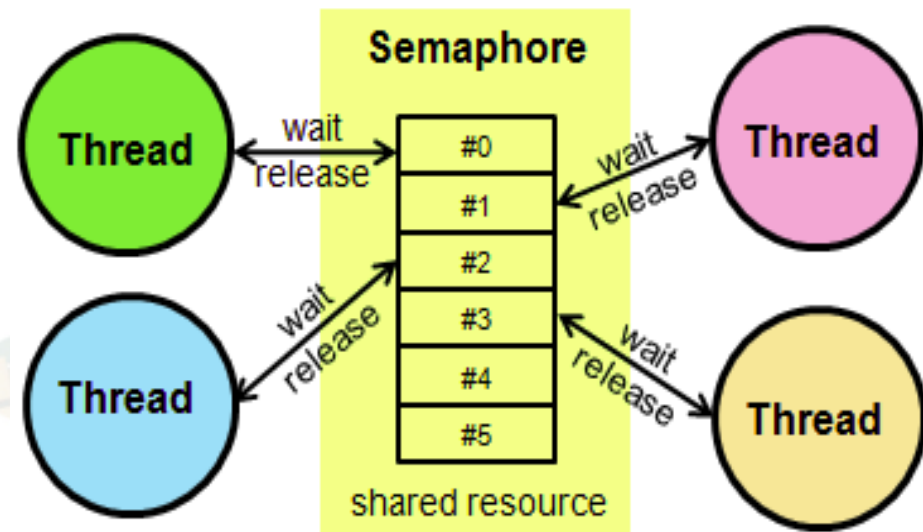


- Processing System
 - SISD, SIMD, MIMD
- Memory System
 - Local Memory: Cache, Scratchpad
 - Global Memory: DDR3, GDDR
- Bus System
 - Shared, Network on a Chip
- Peripherals
- Address Space

- Software Programming
 - Pthread
 - Processes

Mailbox and Semaphore

- A Mailbox features a bi-directional communication channel between two processors.
- A semaphore is a variable or abstract data type that is used for controlling access, by multiple processes, to a common resource in a concurrent system such as a multiprogramming operating system.



Address Space

An address space is a range of valid addresses in memory that are available for a program or process. That is, it is the memory that a program or process can access. The memory can be either physical or virtual and is used for executing instructions and storing data.

