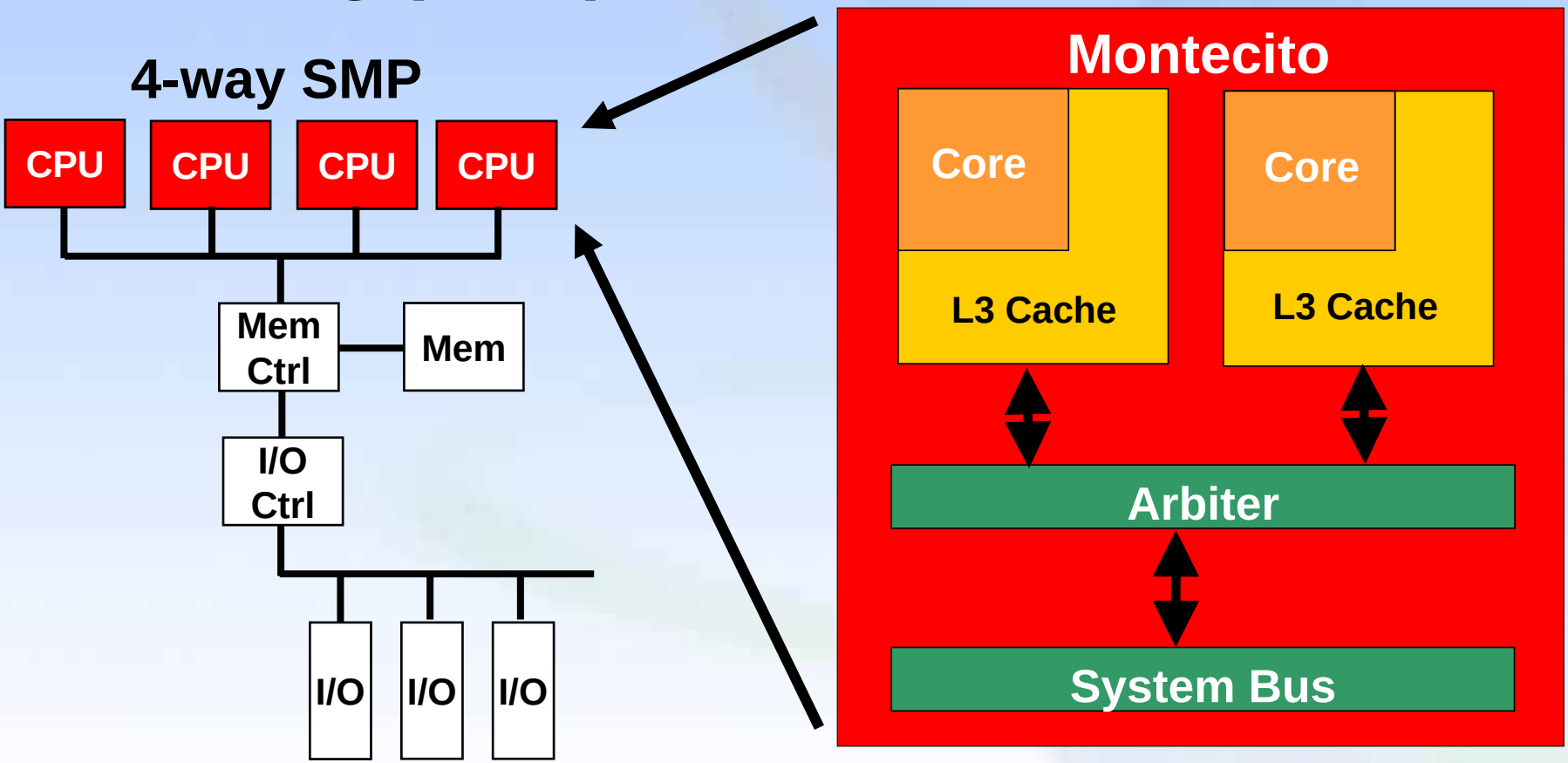
Types of Parallelism: Symmetric Multi-Processing (SMP) and Multi-Core

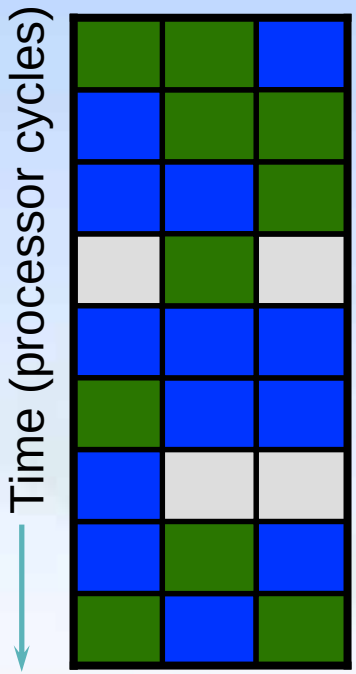


Supported by the Itanium® Processor and Intel® Xeon™ Processor Families

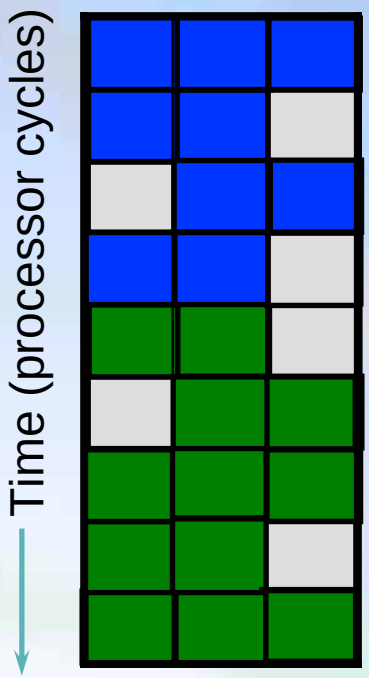
SMT on Intel® Xeon™ Processor vs. MT on a Montecito Core:

Hyper-Threading Technology (Intel ® Xeon™ Processor Family)

- Two threads run at the same time
- Both threads simultaneously share processor resources



Coarse Multi-threading (Itanium® Processor Family)



- One thread runs at a time
- Switches threads on long latency events

Unused Unit

Thread 1

Thread 2

Note: Each box represents a processor execution unit

The EPIC Architecture dictates a different Multi-threading implementation when compared the IA-32 ISA