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Memory Awareness - Lecture 1

Tuesday, 17 June 2014 10:00 (1 hour)

Processor speeds have outperformed the speed of memory which often becomes a bottleneck in modern servers. In this lecture we review the concept of virtual memory and the paging subsystem found in every modern operating system. We discuss the cache hierarchy and go on to look at a relatively new phenomenon in small-scale servers, namely “non-uniform memory access”(NUMA) and how to control it with affinity scheduling.

Finally, we discuss briefly memory footprints and a topic that will become “hot” in the next coming years, “energy-efficient” programming.

Presenter: Mr JARP, Sverre (CERN)

Session Classification: Memory Programming