

Multiprocessor Architectures

Exam, November-2016

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You can answer either in Finnish or in English ... or something between ☺
Use figures to support your text, wherever applicable.

Each question gives up to 10 points

1. Motivate multiprocessor systems by explaining limitations and costs of extreme instruction-level parallelism (ILP) utilized in superscalar uniprocessors.
2. Vector architectures: basic ideas, concepts and implementation aspects.
3. Compare distributed memory MIMD systems and shared memory MIMD systems: What are the main differences (structure, communication, advantages/disadvantages) between these machine types?
4. Static communication networks: basic ideas and topologies.
5. Synchronization of processes in shared memory MIMD systems.