

## Multiprocessor Architectures

Exam, Monday 10.01.2011

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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 upto 6 points, and so the whole exam gives max 30 points.

Exam grading principle: **Fail** (0-10 p), **1** (11-14 p), **2** (15-18 p), **3** (19-22 p), **4** (23-26 p), **5** (27-30 p)

1. The main challenges of parallel processing. How can these challenges be addressed/mitigated/dealt with?
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. Compare switching methods used in multicomputer/multiprocessor communication networks (switching techniques ... NOT routing protocols!)
5. Cache coherence problem and its management in shared memory MIMD systems