

What does distributed computing look like on a multicore machine

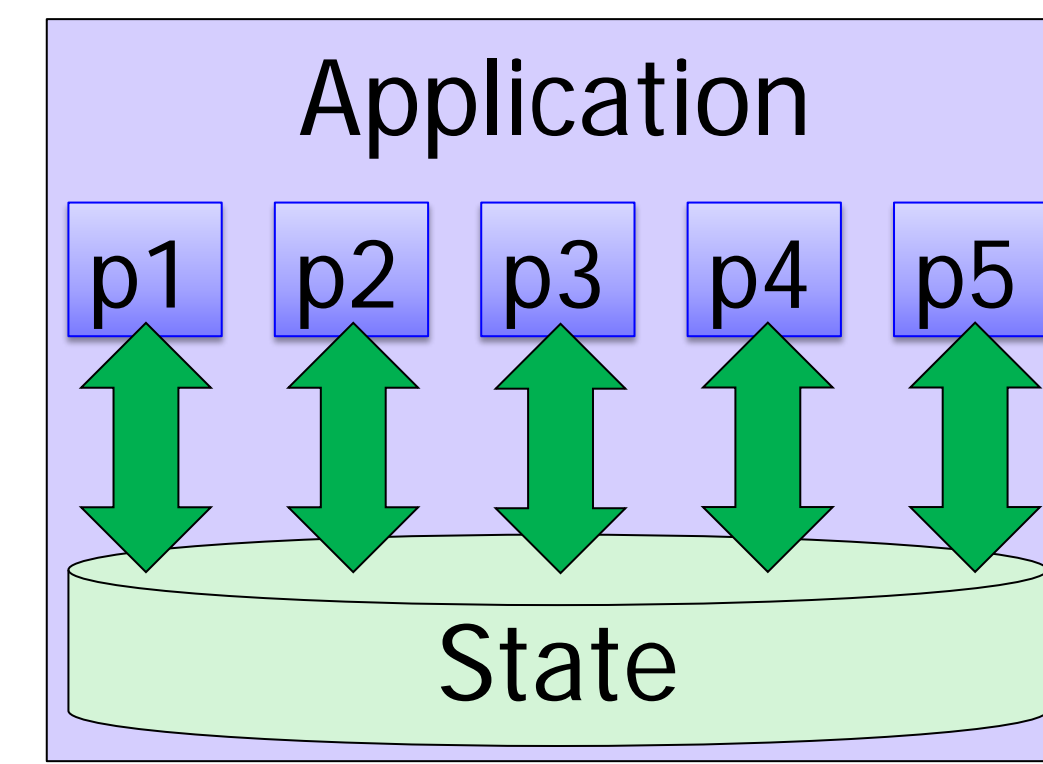
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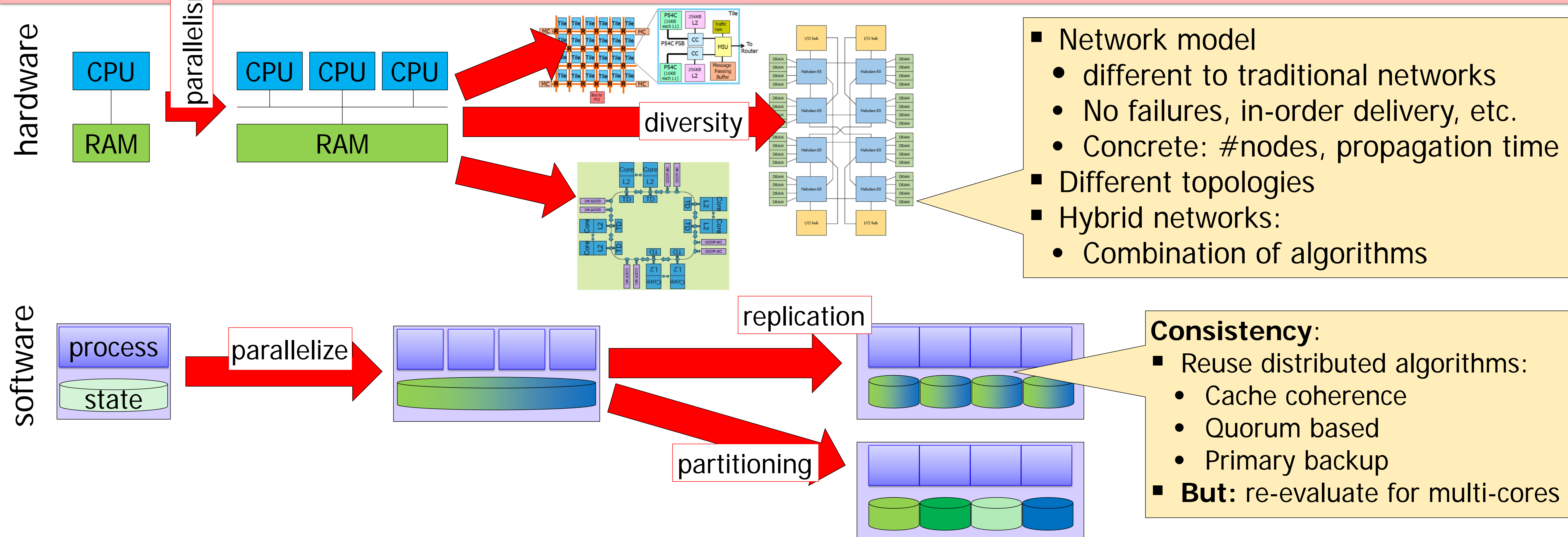


Problem

Deployment of parallel applications on complex multicore machines. Applications need efficient access to **global state**. (e.g. variables, DB tables)



Game Changers



→ **Efficiently** accessing state from all processes is **hard**, need to consider: detailed hardware characteristics & software requirements

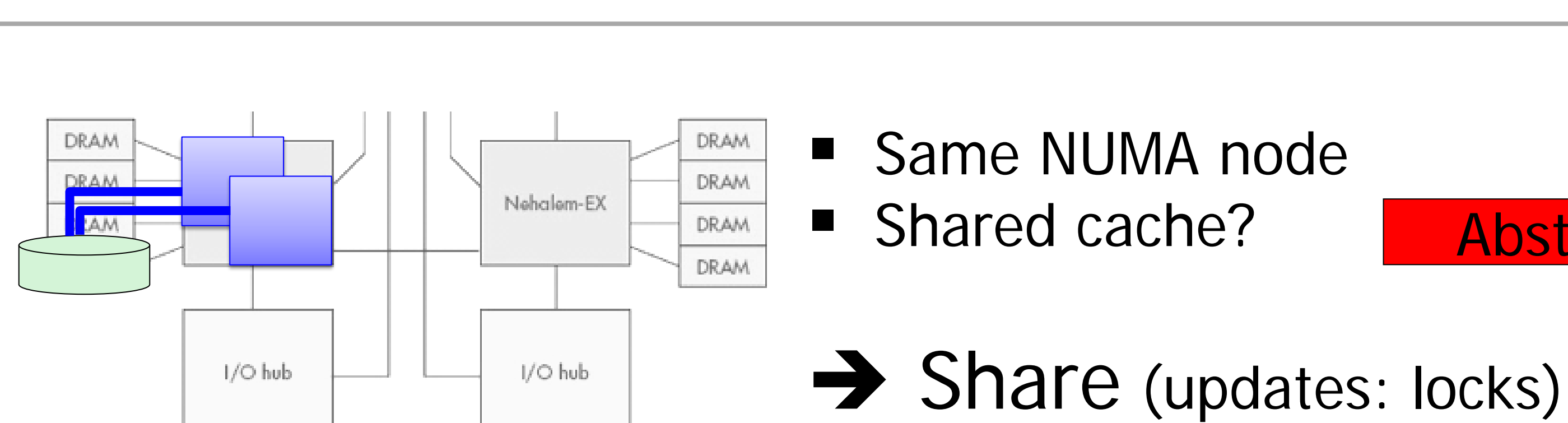
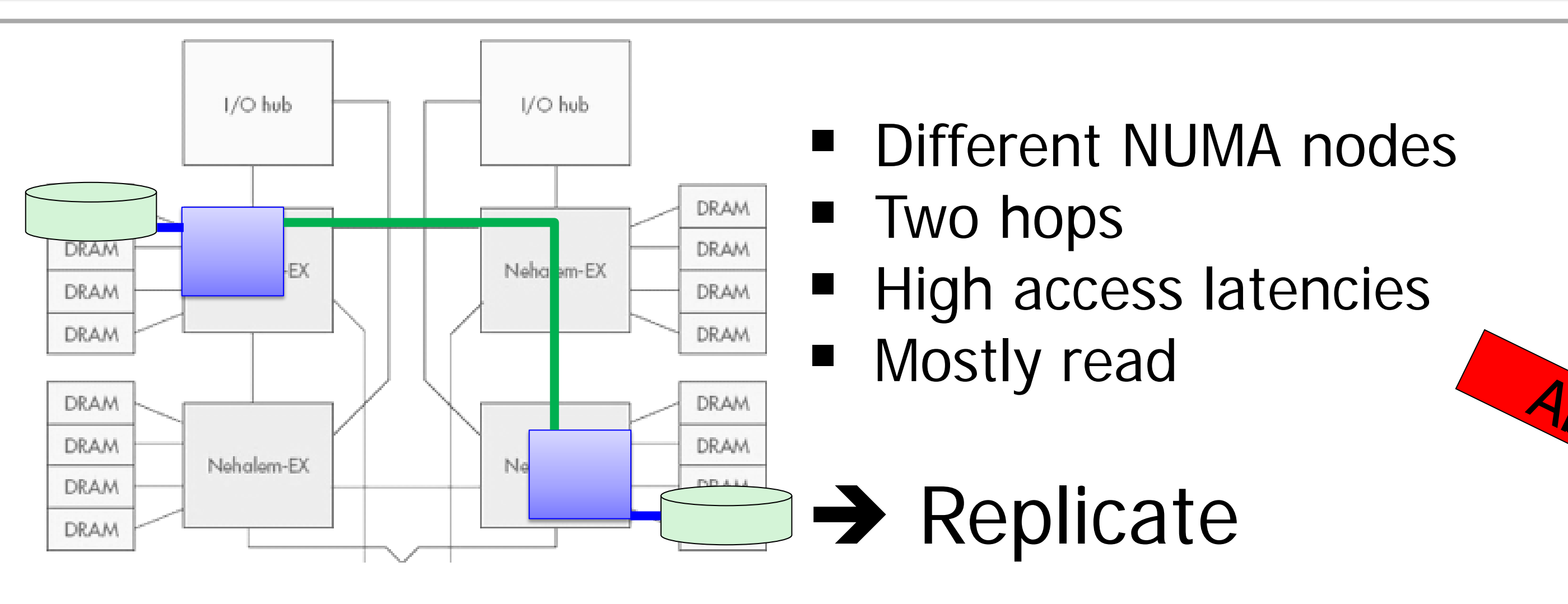
Ideas

- Manually: tedious → **automatically** at runtime
- Abstract state → **agile** placement & access
- Pick algorithms **dynamically**
 - Machine model
 - Application profile

Questions

- How to **abstract** global state?
- What does the **programming model** look like?
- Applicability of existing distributed algorithms
- What is the **cost** of automation?
 - Is it worth over hand-tuned implementations?

Examples



process state

