

# Distributed Computing on Hybrid Multicore Machines

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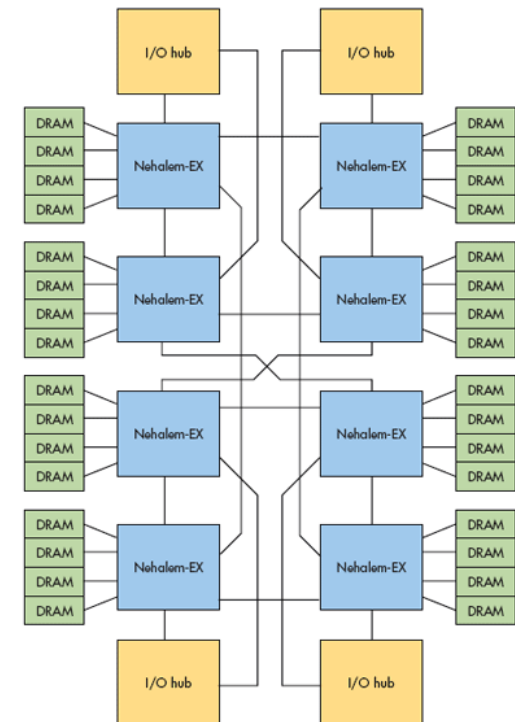
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# Motivation

- Multicores:
  - Increasing number of cores
  - **Hybrid**: different interconnects
  - **Complex** characteristics
    - Important for performance



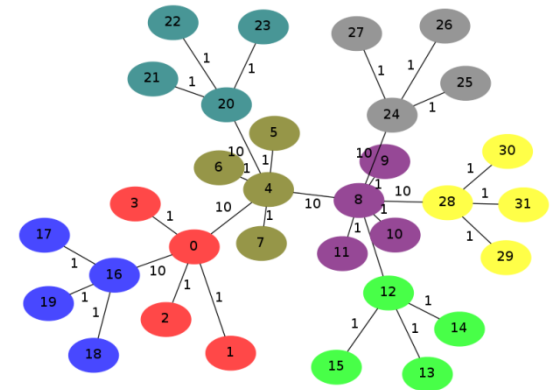
→ Program as **distributed systems**

# Problems

- **Different** from traditional distributed systems
    - **Complexity** measures change:
      - Concept of rounds meaningless
      - Propagation negligible
    - **Hybrid** interconnects
      - Need combination of algorithms
        - No one size fits all
- Classical algorithms **non-trivial to apply**

# Ideas

1. **Model** multicore machines
2. **Reevaluate** classical distributed algorithms
  - Impact of new network on traditional DS work
3. **Pick** combination of algorithms
  - Dynamically
  - Automatically
4. **Compose** final algorithm



→ Programmers do **not** have to consider any of this