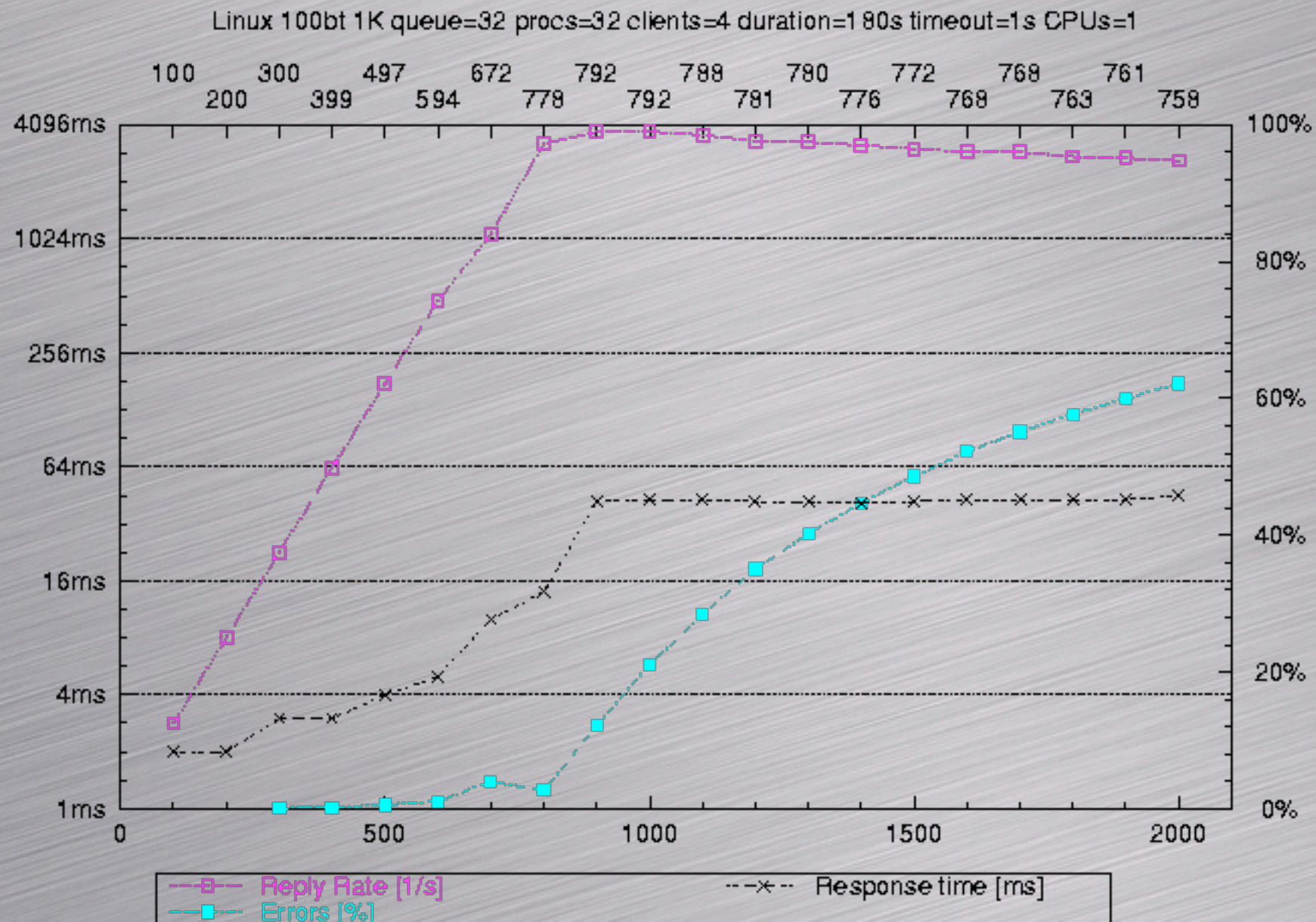


Computational Systems Engineering

Christoph Kirsch
University of Salzburg

3 Unit Graduate Course, Winter 2004/2005
Chapter 2: Threading by Appointment

Benchmarks!

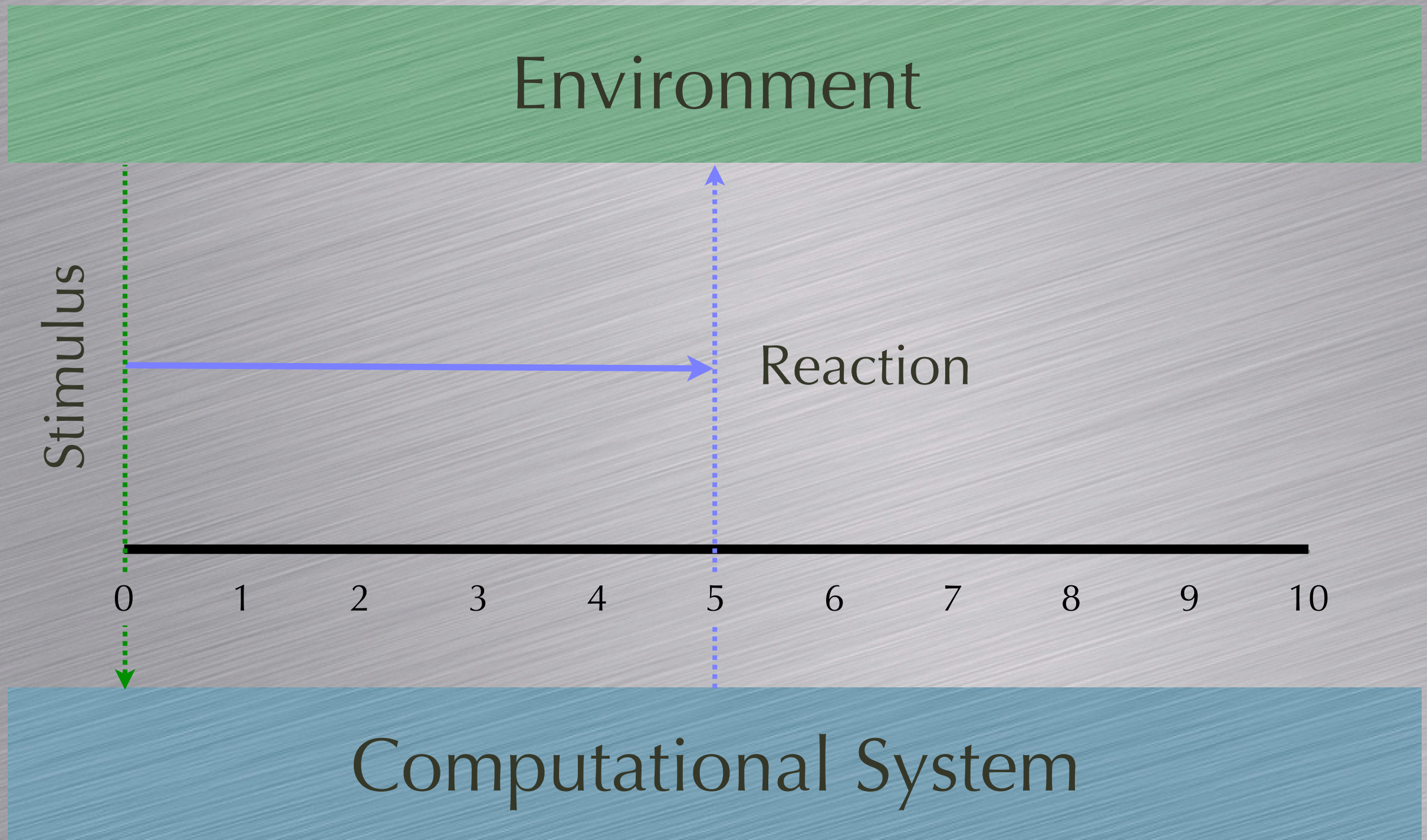


[httpperf benchmarks]

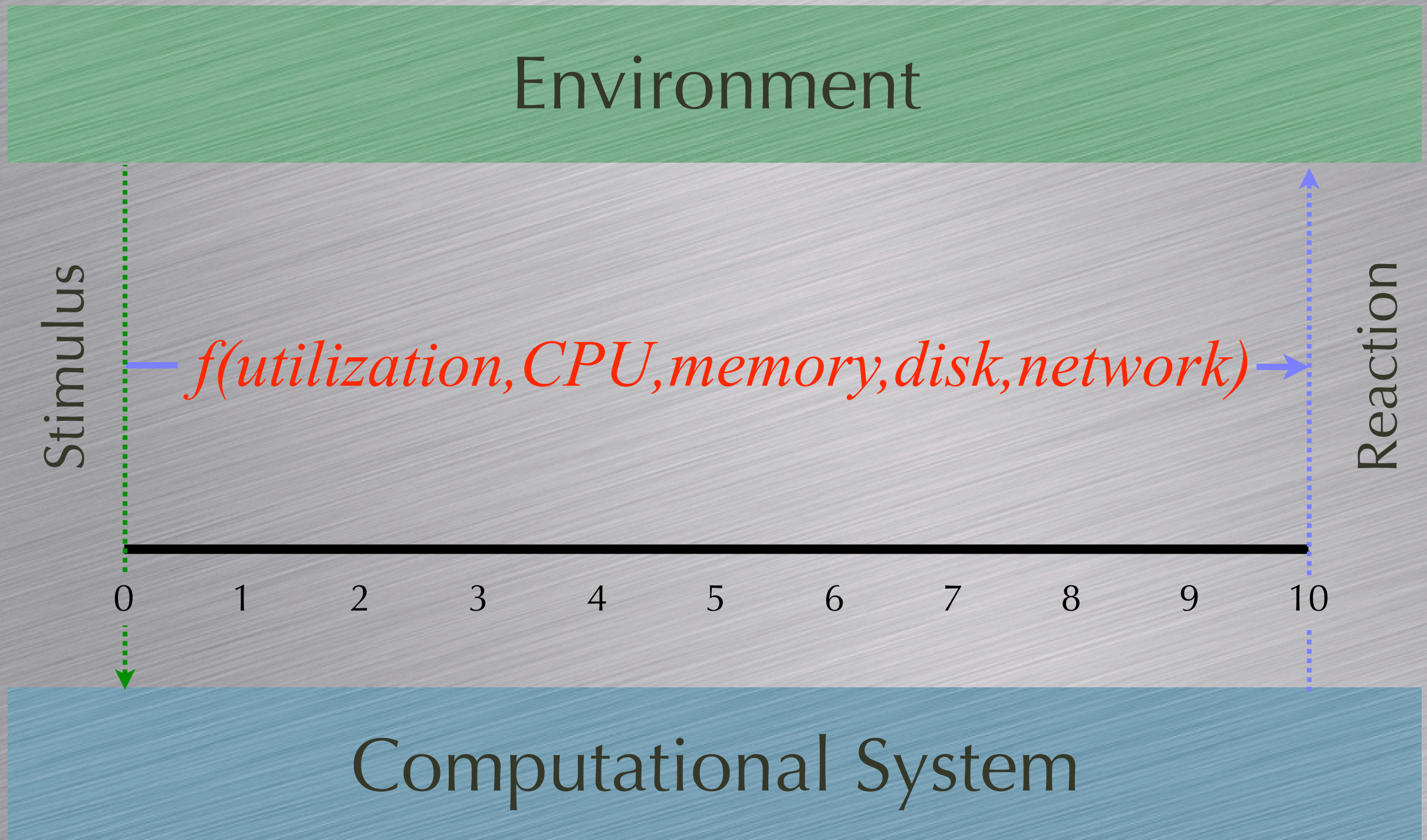
The C10k Problem

- C10k: servers should be able to handle >10000 clients/sec
- Given 20000 clients and a 1GHz CPU with 2GB RAM & 1GBit/sec Ethernet
- We have 50KHz/client, 100KB/client, and 50KBit/sec/client
- Is this enough to grab 4KB from disk and send it to the network once a second for each of the 20000 clients?

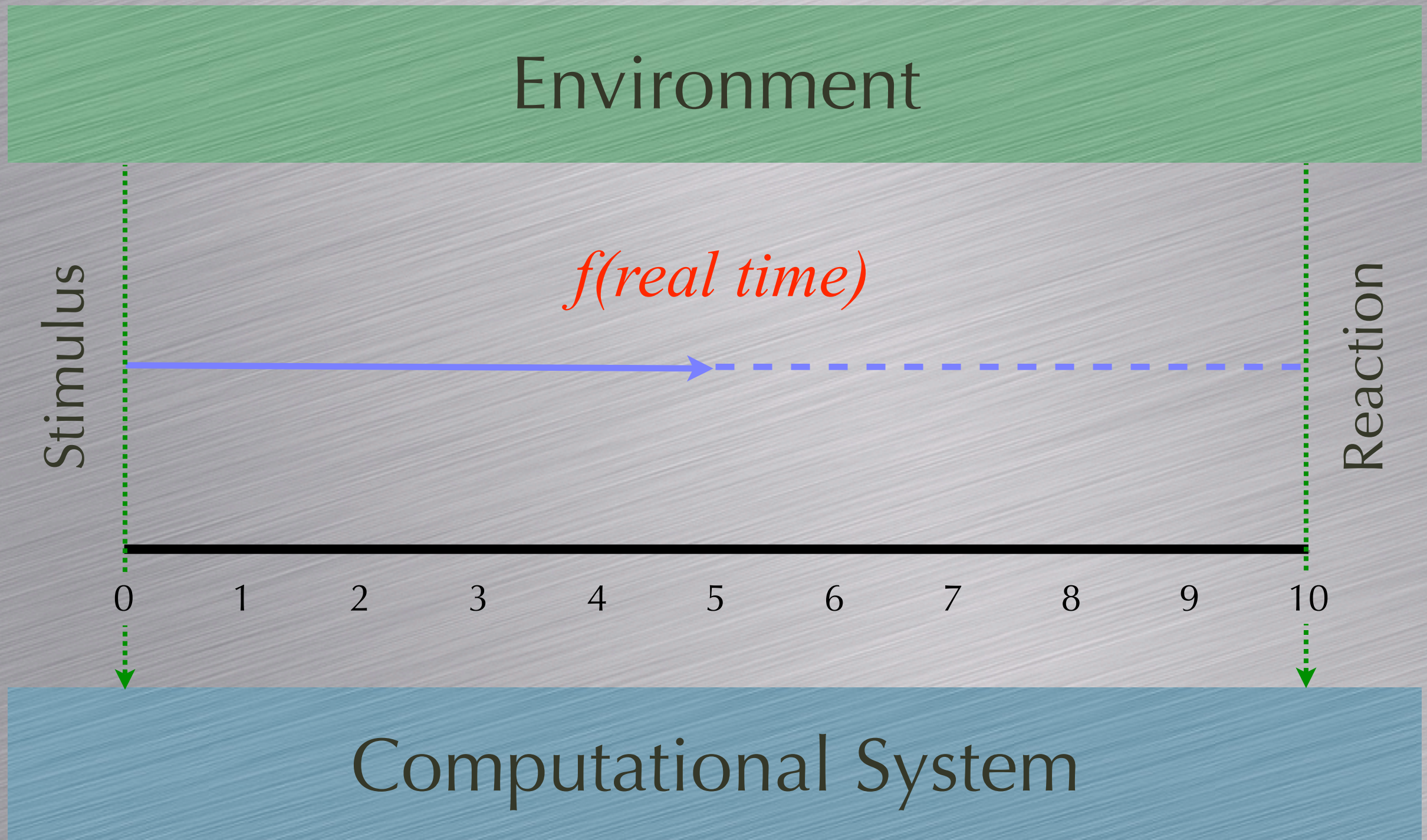
The I/O Problem



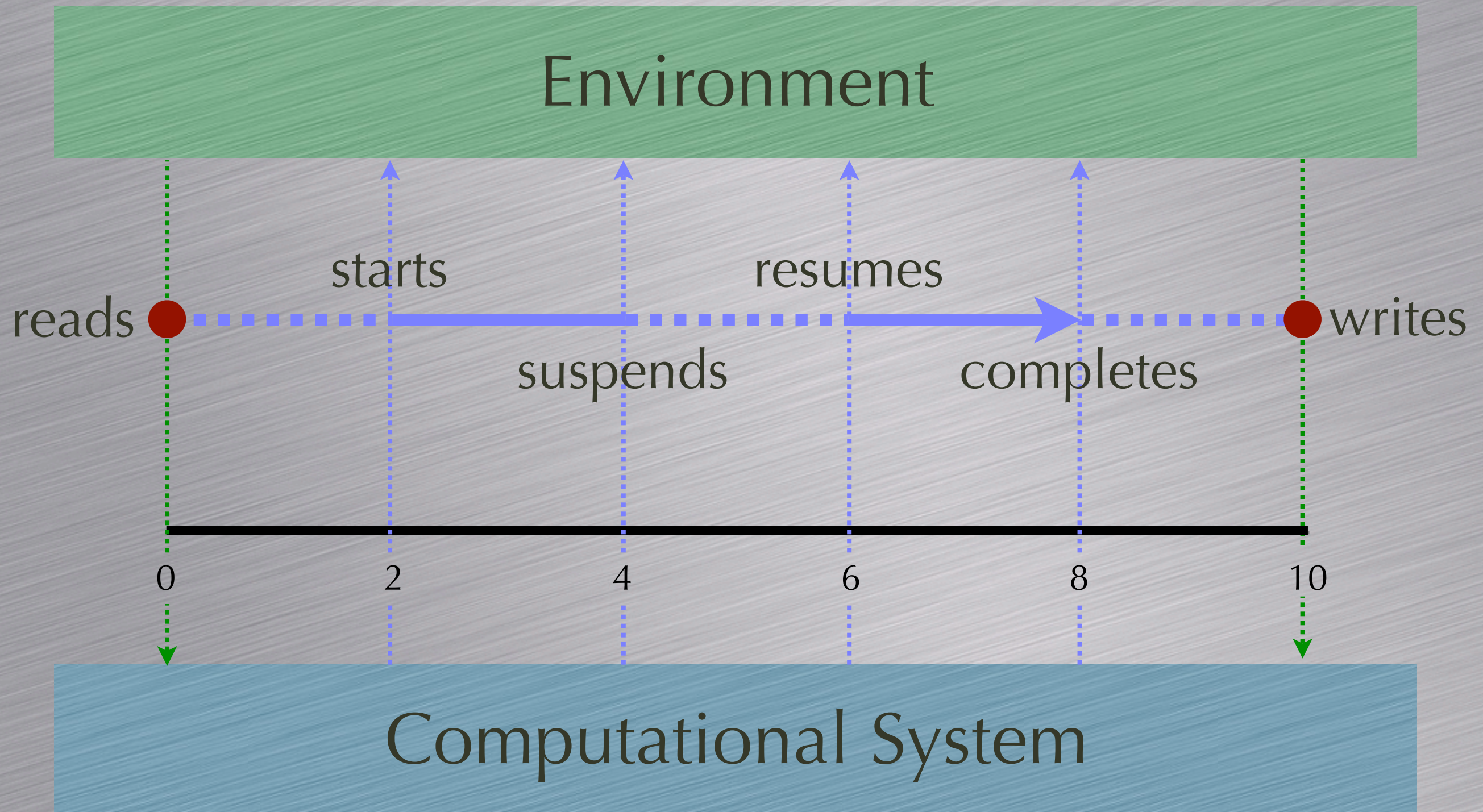
State-of-the-Art



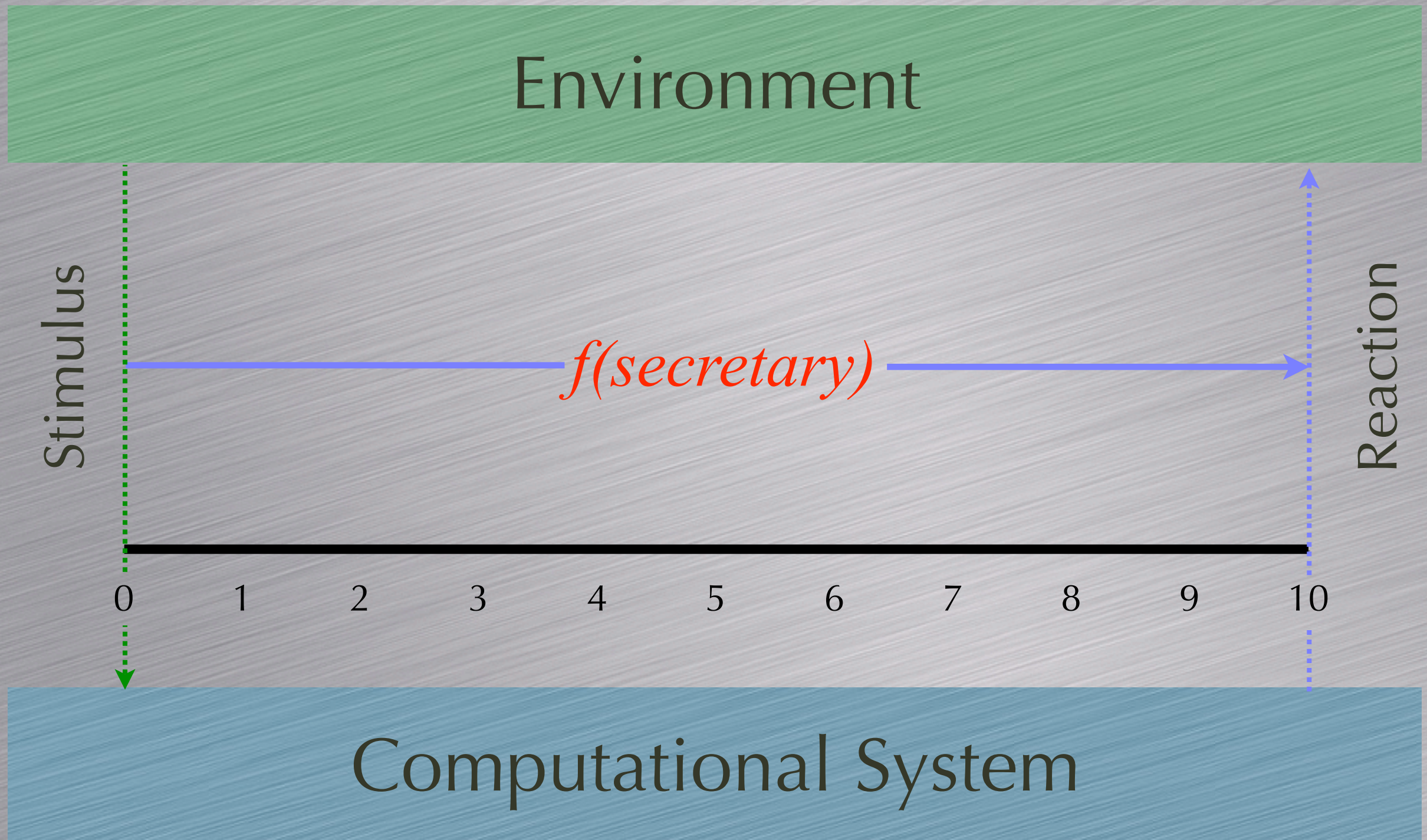
Real Time



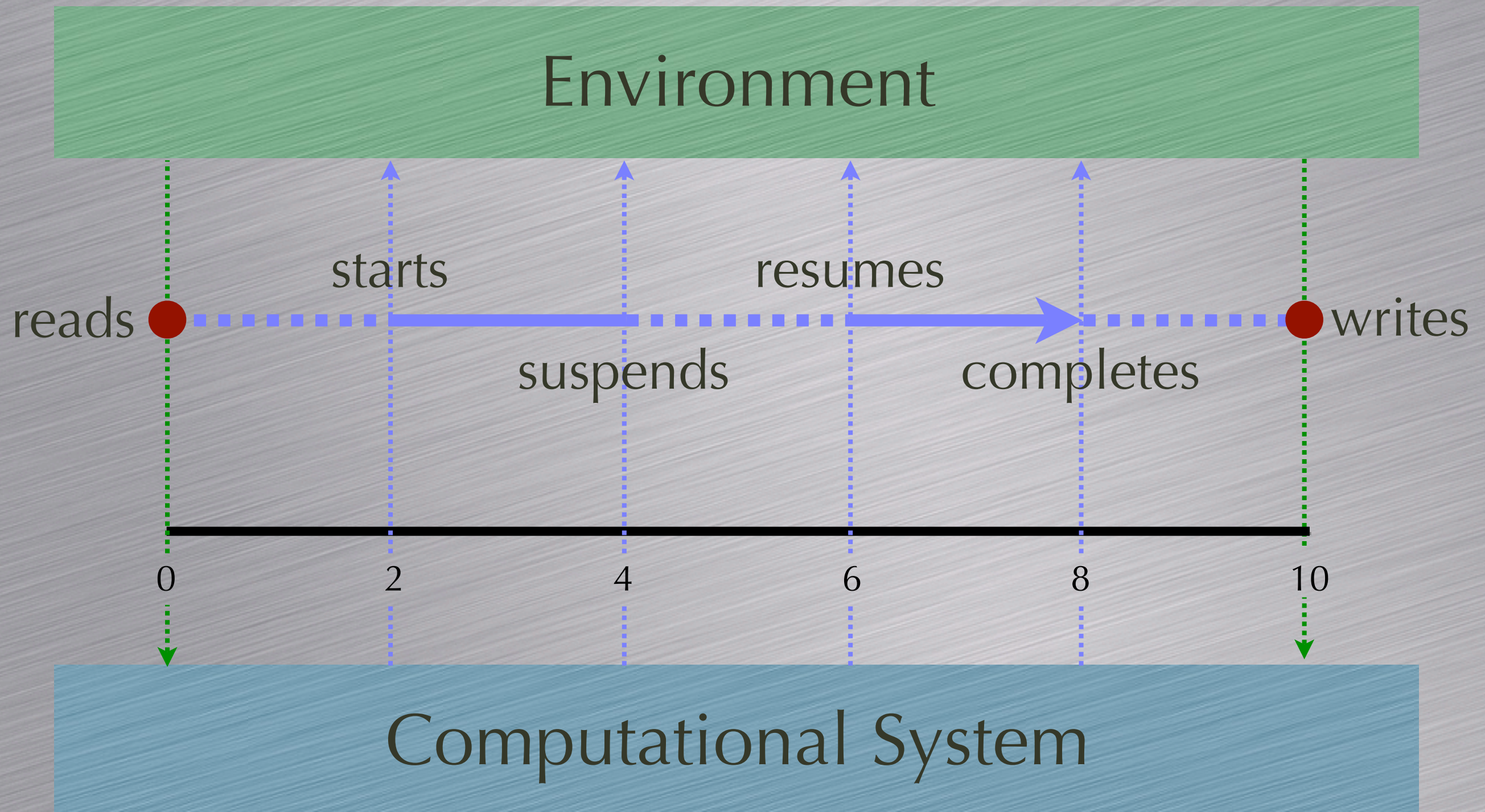
Logical Execution Time



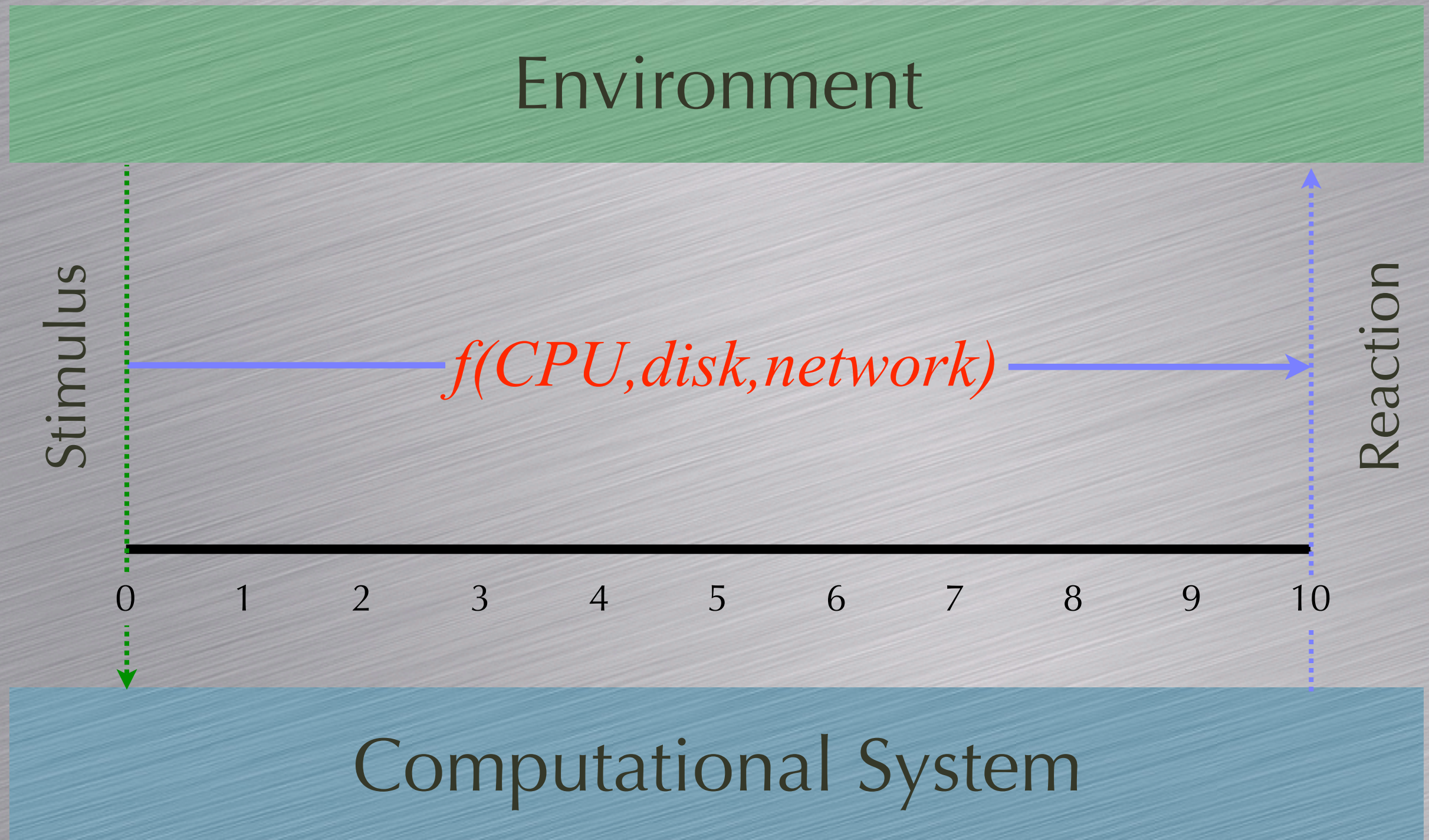
Threading by Appointment



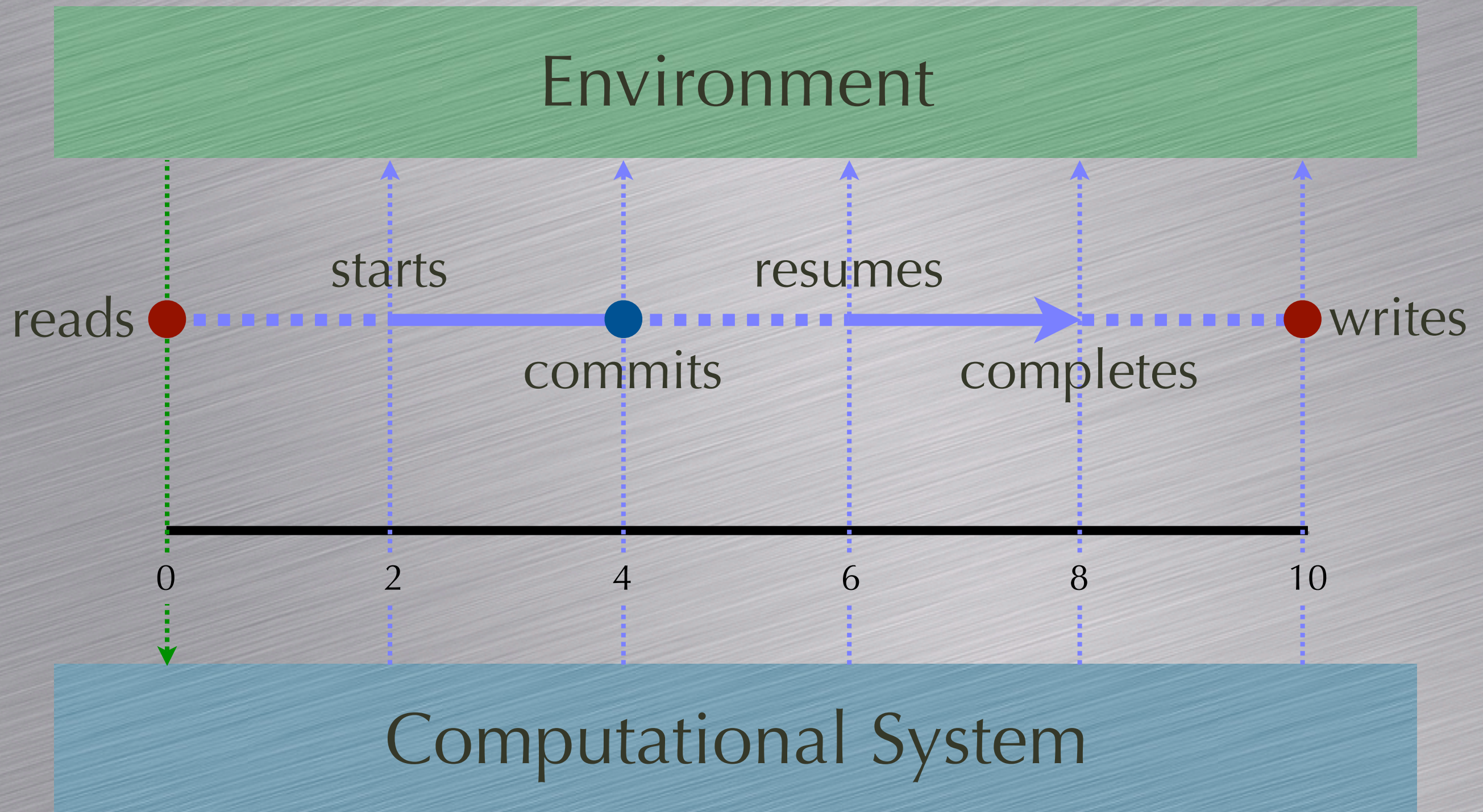
LET Revisited



Resources



Getting an Appointment



What's Next?

1. Get hardware and software
2. Setup hardware and install software
3. Run and analyze benchmarks
4. Identify promising secretary
5. Implement and benchmark TAP
6. Write paper
7. Become famous