

Computer Architecture

计算机体系结构

Lecture 15. Summary

第十五讲、学期总结

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Different Dimensions of Parallelism



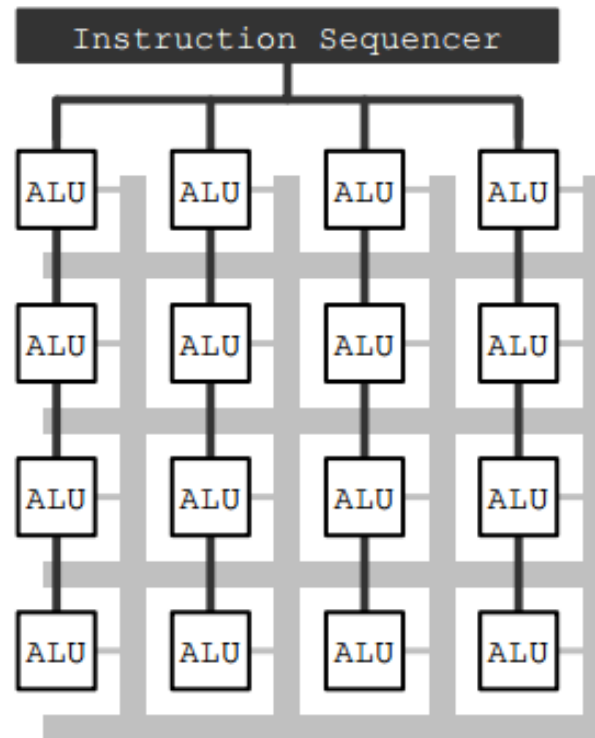
Instruction Path



Global Switch

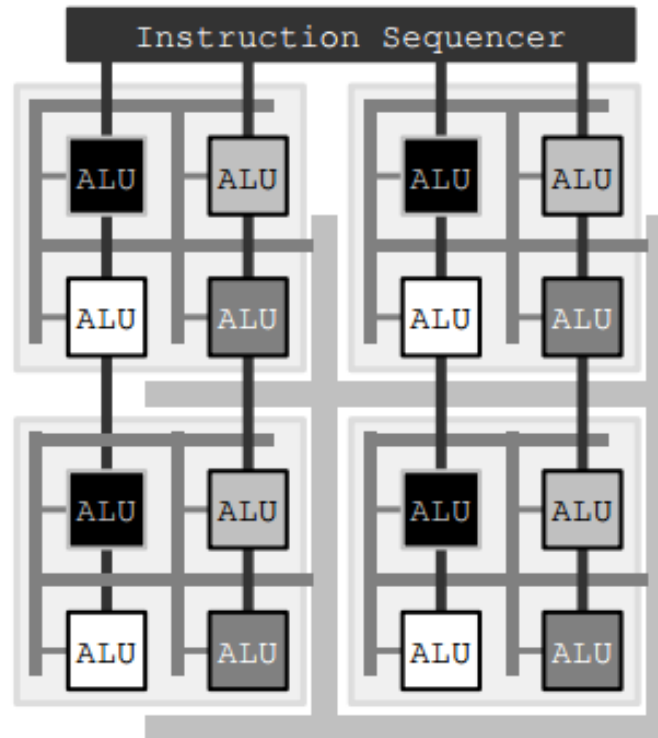
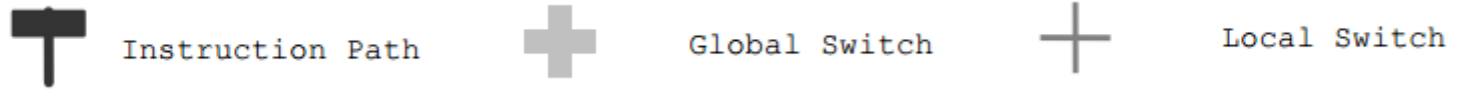


Local Switch



(a) SIMD

Different Dimensions of Parallelism



(b) SIMD+VLIW

Different Dimensions of Parallelism



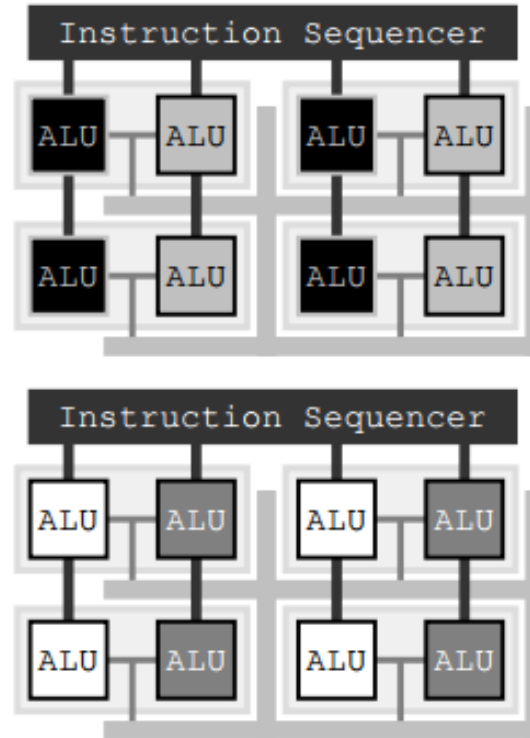
Instruction Path



Global Switch



Local Switch



(c) SIMD+VLIW+MIMD

Review

RLP

TLP

DLP

ILP

Processor Microarchitecture

Memory Hierarchy

Disk, I/O, and Networking

Different Objectives

Adaptivity

Cost Effectiveness

Power/Energy Efficiency

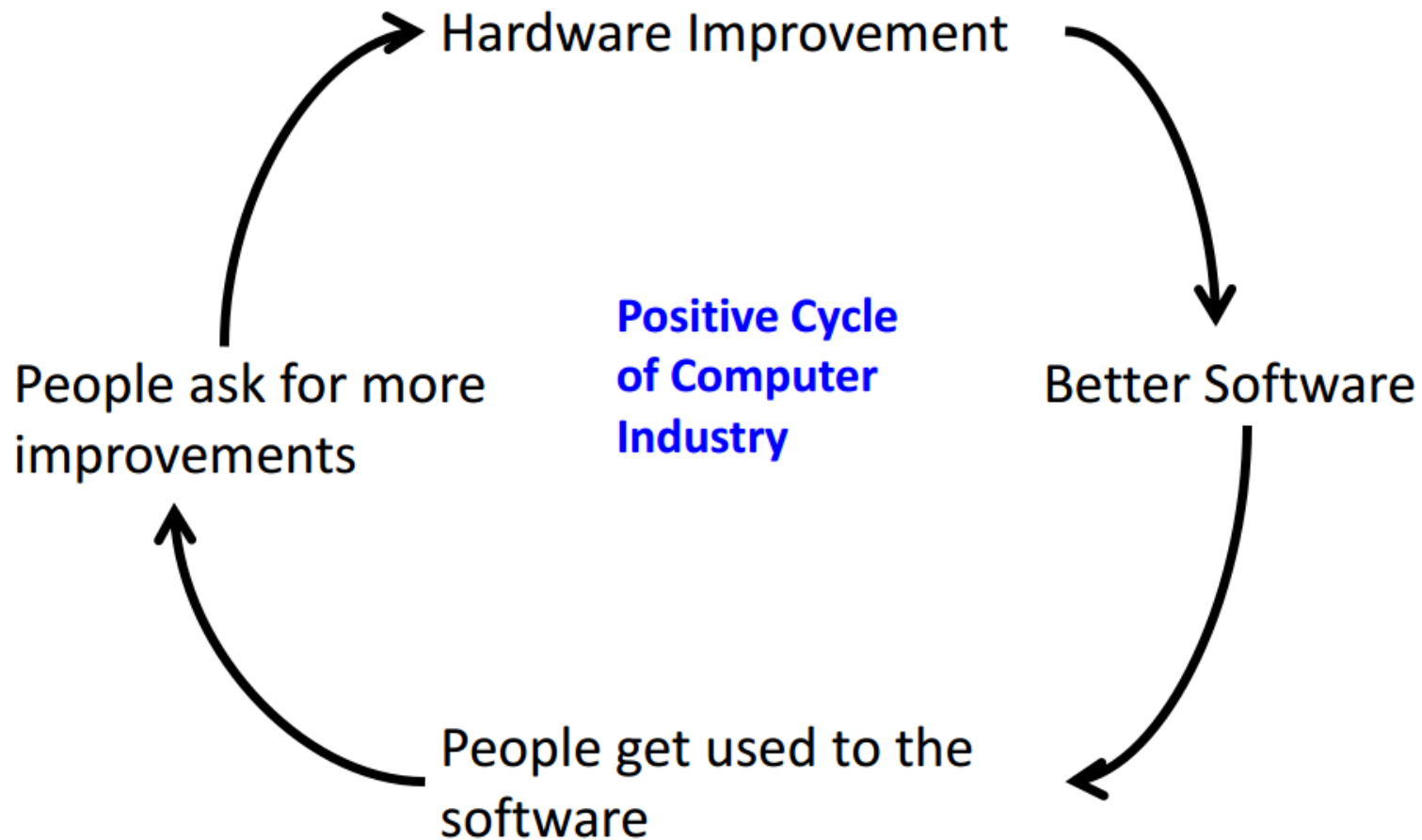
Reliability and Availability

Throughput and Latency

Security and Privacy

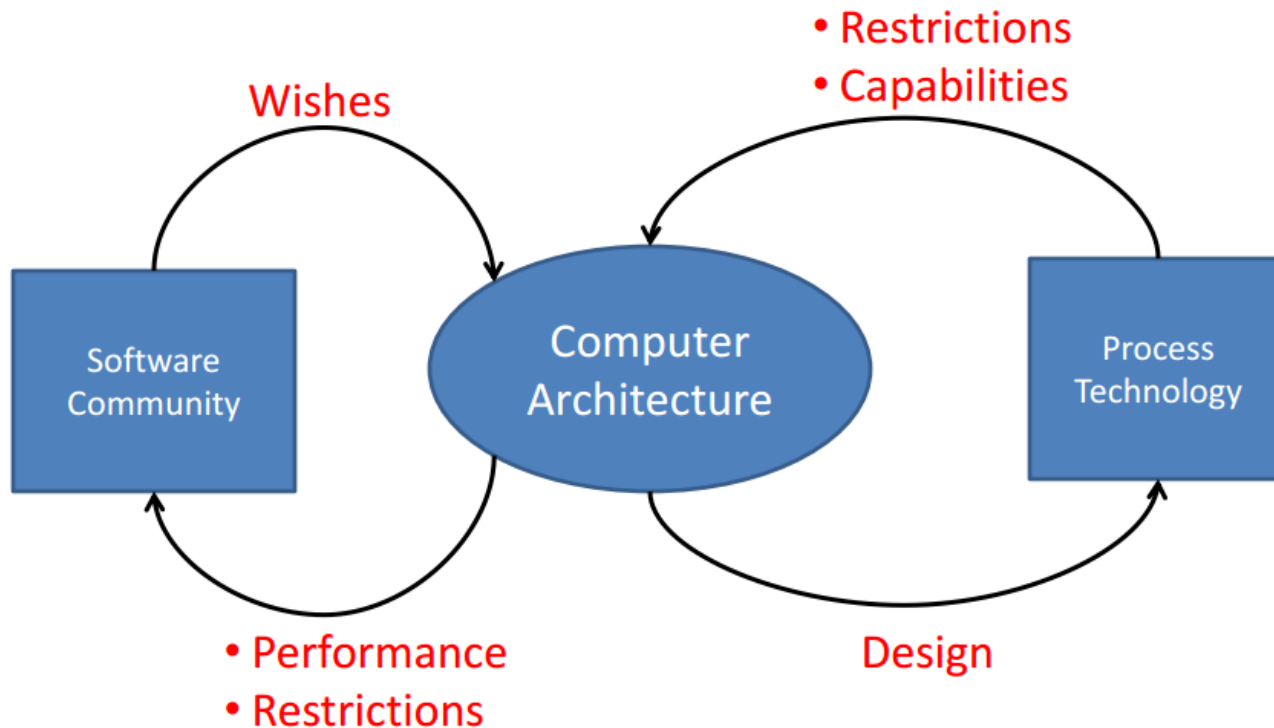
Scalability

The Cycle of Computing Industry



Computer Architecture Research

How Did These Advances Happen?



Thanks for Your Support!
