

Memory Hierarchy

Computer System Architecture

By

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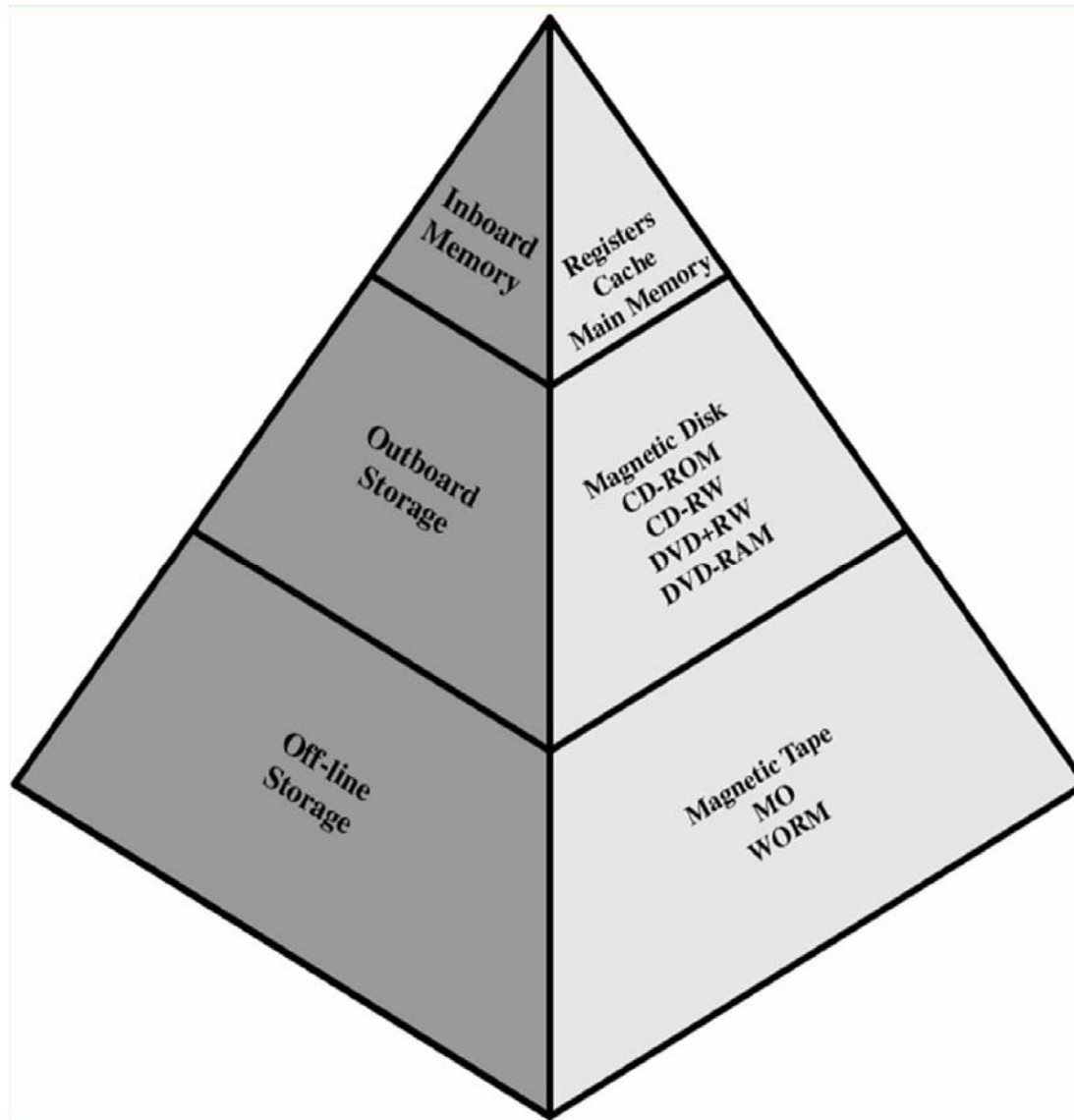
Memory Hierarchy

- Registers
 - In CPU
- Internal or Main memory
 - May include one or more levels of cache
 - “RAM”
- External memory
 - Backing store

The Bottom Line

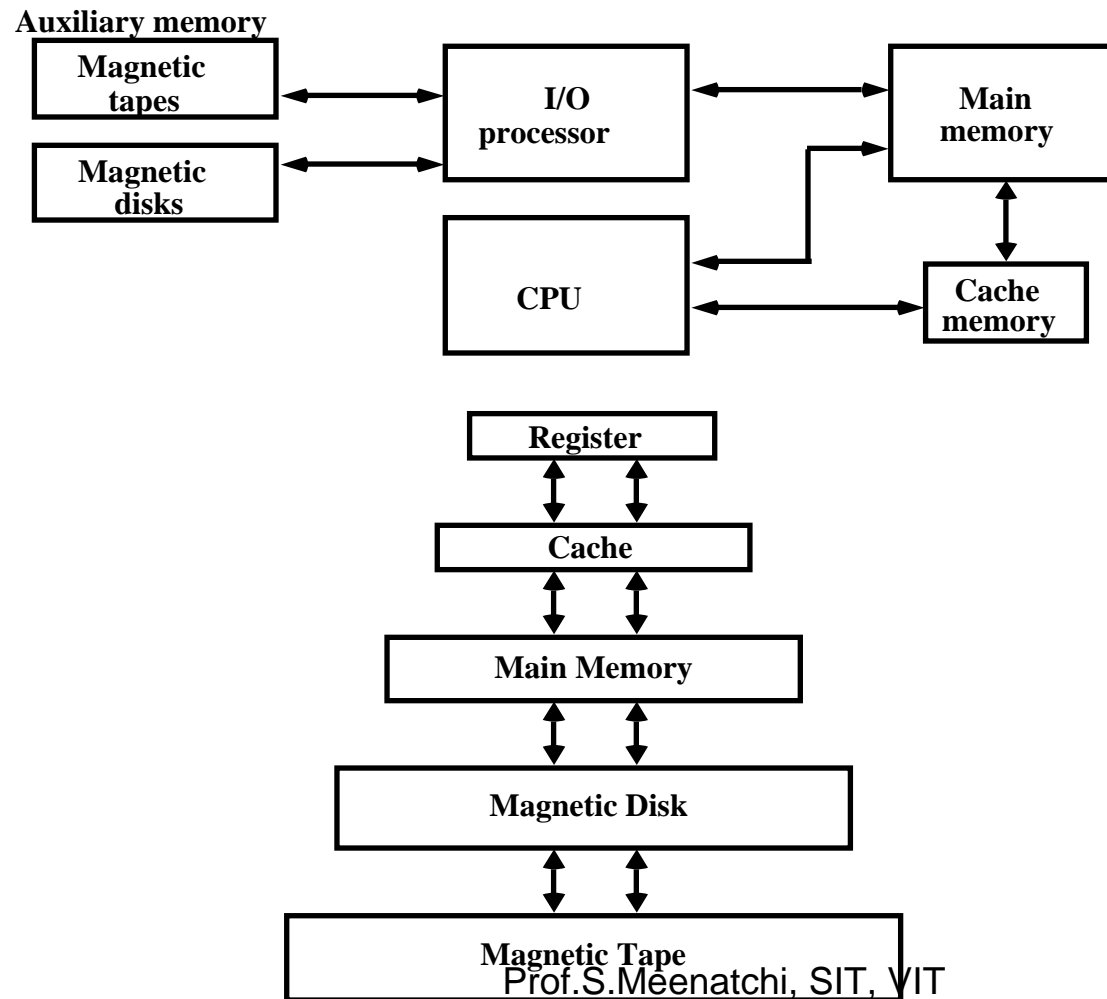
- How much?
 - Capacity
- How fast?
 - Time is money
- How expensive?

Memory Hierarchy



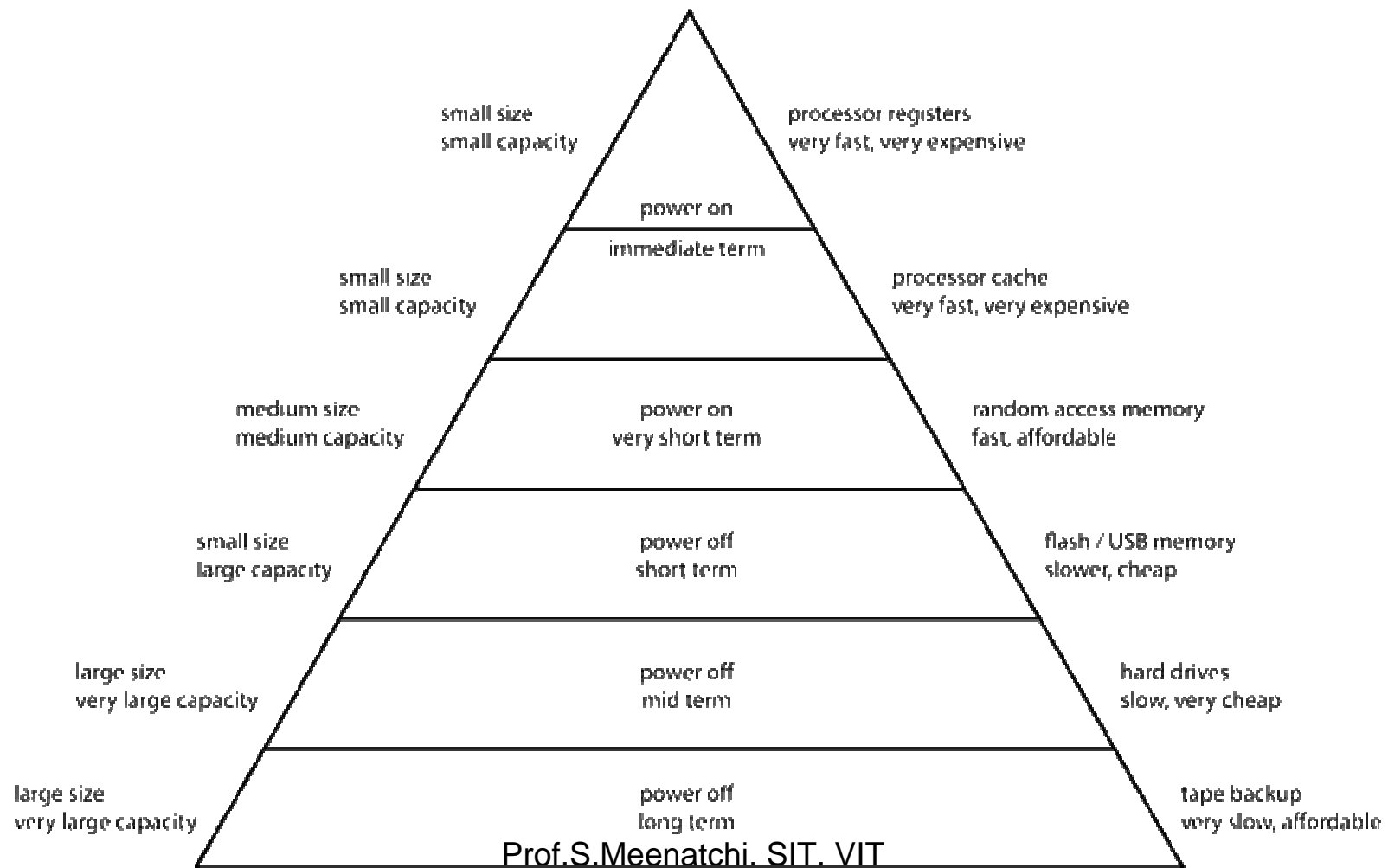
MEMORY HIERARCHY

Memory Hierarchy is to obtain the highest possible access speed while minimizing the total cost of the memory system



Memory Hierarchy - Diagram

Computer Memory Hierarchy



Hierarchy List

- Registers
- L1 Cache
- L2 Cache
- Main memory
- Disk cache
- Disk
- Optical
- Tape