6620 Lecture 5 - Oct. 9th, 2021

Lecture 5 Topics(summary after the lecture)

Tracks and preference, in class polling:

1. SaaS: Web/mobile (about half)
2. IaaS: infrastructure: network, storage, system (2~3)
3. Research (innovation..)
4. AI/MRL (none)

Lecture 5 Topics

How storage works

NAS

Cloud Storage

Databses

NoSQL

Cloud DB

https://www.redhat.com/en/topics/data-storage/network-attached-storage

https://www.redhat.com/en/topics/data-storage/what-is-cloud-storage

https://www.ibm.com/cloud/learn/cloud-storage

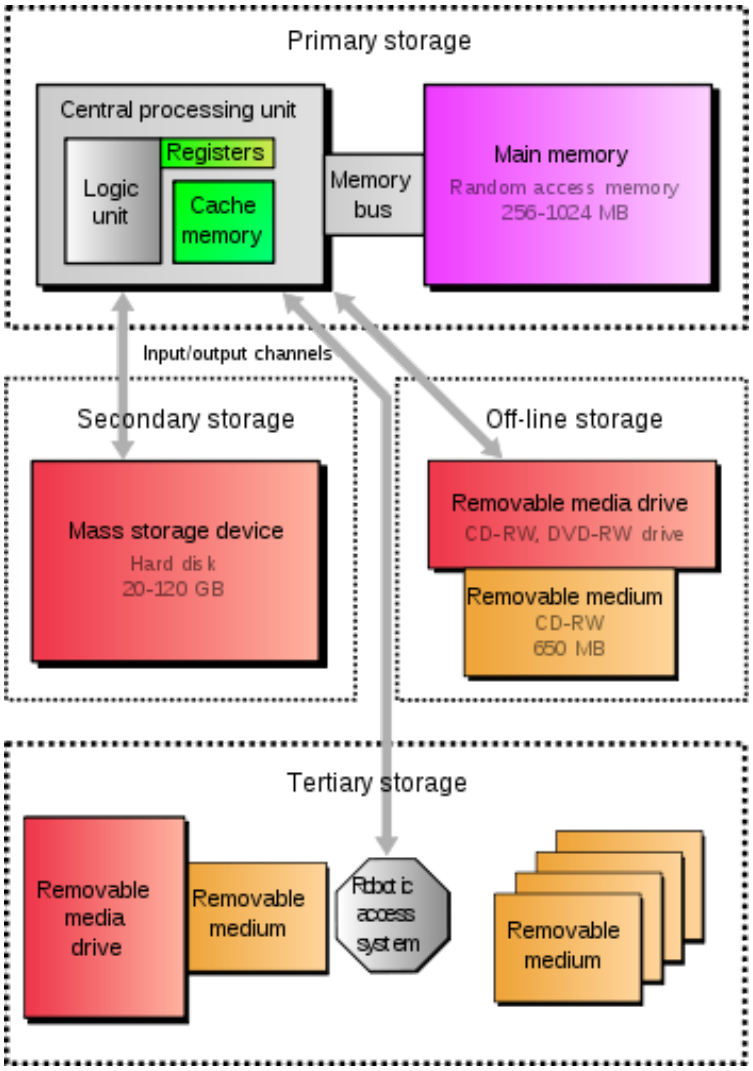
Part 1

- what's database, strcture of DB
    - DB => table
- where's the DB on a physical computer? disk: SSD, ..
    - storage: `Disk.pdf`
    - each storage has its advantage and disadvantage: RAM and Disk:

      durability, dependability, speed, capacity, and cost
    - type of storage tech:
        - Magnetic Storage Technology
        - Optical Storage Technology: read-only, recordable, and rewriteable

        - Solid State Storage Technology: Solid state
        - Remote storage: cloud storage
            - (is there a RAM cloud?) RAM need to be attached to a physical machine, NIC needs RAM, RAM need CPU
    - why we have more data now comparing to 20 years ago? digitialization of human life
    - what do we store in the cloud? structured, non-structured => we need file system
        - disk
        - Sql, nonsql - application layer
        - file system

          (==> Hierarchy of storage: https://en.wikipedia.org/wiki/Computer_data_storage)



- Amazon S3: `textbook chap 5`
    - What is elastic