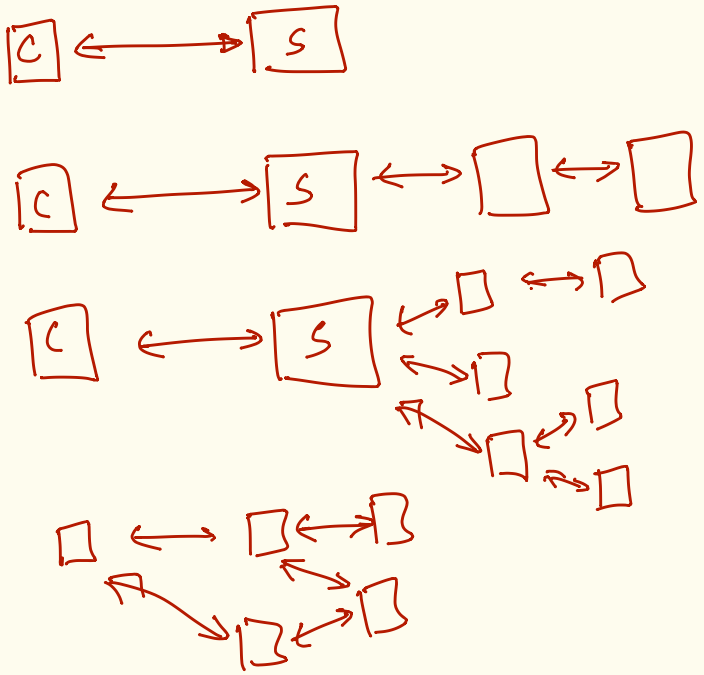
CS744 Lecture 23



Quiz 2

28-29-30th Oct (?)

Labquiz 2

4-5-6th Nov. (?)

Endsem

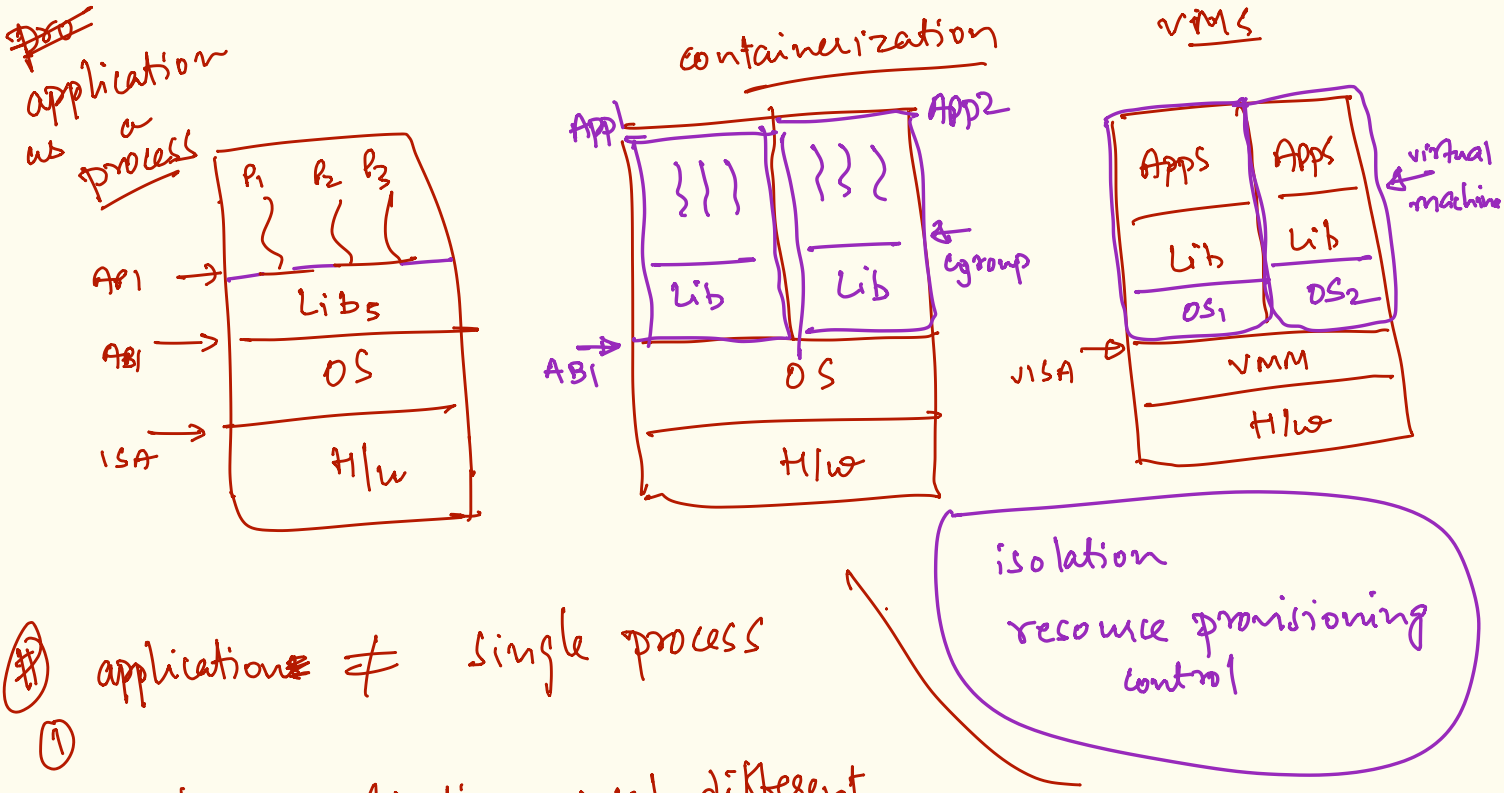
17th Nov. (?)

(*) networked services / distributed systems

- different architectures
- different "components" on the distributed/network
- co-ordination & management challenges.

(#)

Containers & VMs. (virtualization)



(#) application ≠ single process

(1)

(2) diff. applications need different environments / dependencies.

(3) ease of shipping & instantiating applications!

scalable / quick access of h/w & s/w resources!

computing-as-a-service!

- application (*)
- storage
- infrastructure / h/w / machine

containers

↳ main building blocks

1. namespaces
2. cgroups
3. chroot / image files
4. set capabilities / restrictions.

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1. namespaces ~ an OS (Linux) mechanism to provide isolated views/access to system objects/abstractions.

e.g:
NS1 : pids: 11, 23, 56
NS2 pids: 12, 23, 57

namespace examples
- pid
- mount
- proc
- time
- uts
- net
- ipc

- OS feature
- system calls & OS implementation is namespace specific!
- e.g: fork, clone } args.
  - NEW PID
  - NEW UTS
  - NEW USER

new syscalls
- unshare — creates a NS
- setns — joins a NS.