CLOUD COMPUTING APPLICATIONS

Pillars of Linux Containers

Prof. Reza Farivar

Three Pillars of Linux Containers

- cgroups
- Namespaces
- Unionfs

- Not chroot!

chroot

- In a Unix-like OS, root directory(/) is the top directory
  - All file system entries branch out of this root
  - 1979, Unix V7
- Each process has its own idea of what the root directory is
  - By default, it is actual system root
  - But we can change this by using chroot()system call

chroot

- `chroot` changes ***apparent*** root directory for current running process and its children
  - chroot() simply modifies pathname lookups for a process and its children
  - prepends the new root path to any name starting with /
  - Current directory is not modified and relative paths can refer any locations outside of new root
- **chroot() does NOT provide secure isolation**
  - **Docker uses mount namespace instead**