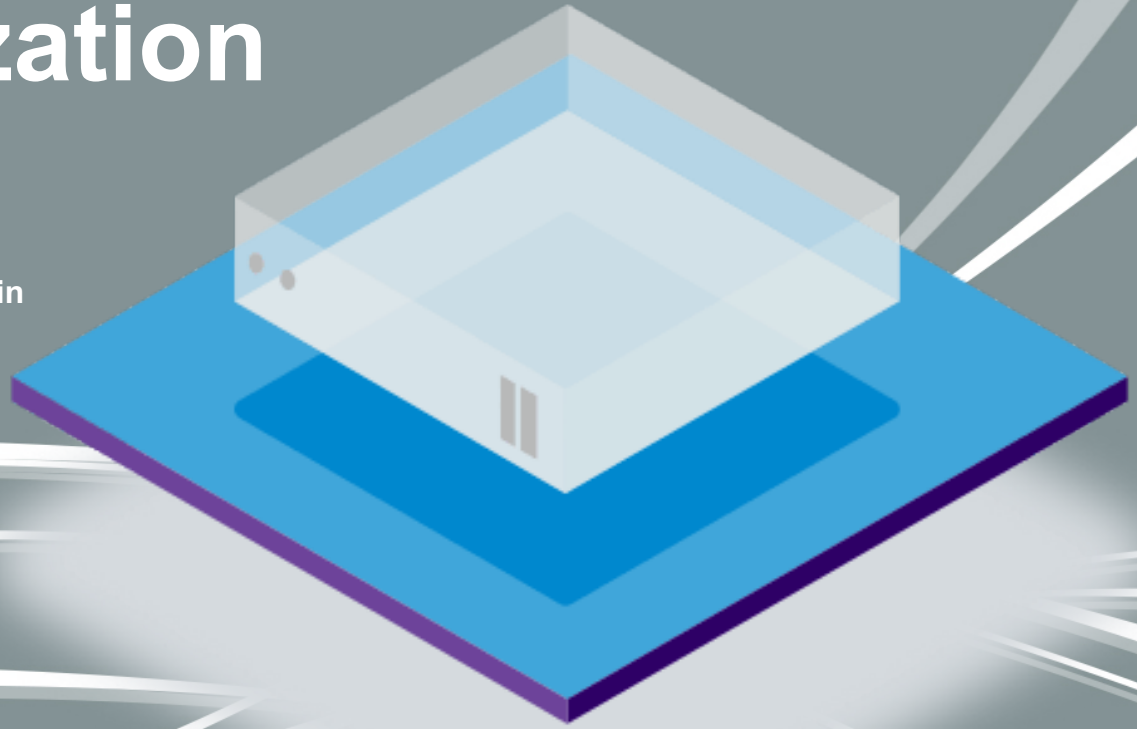
Virtualization

Khandakar Rashedul Arefin

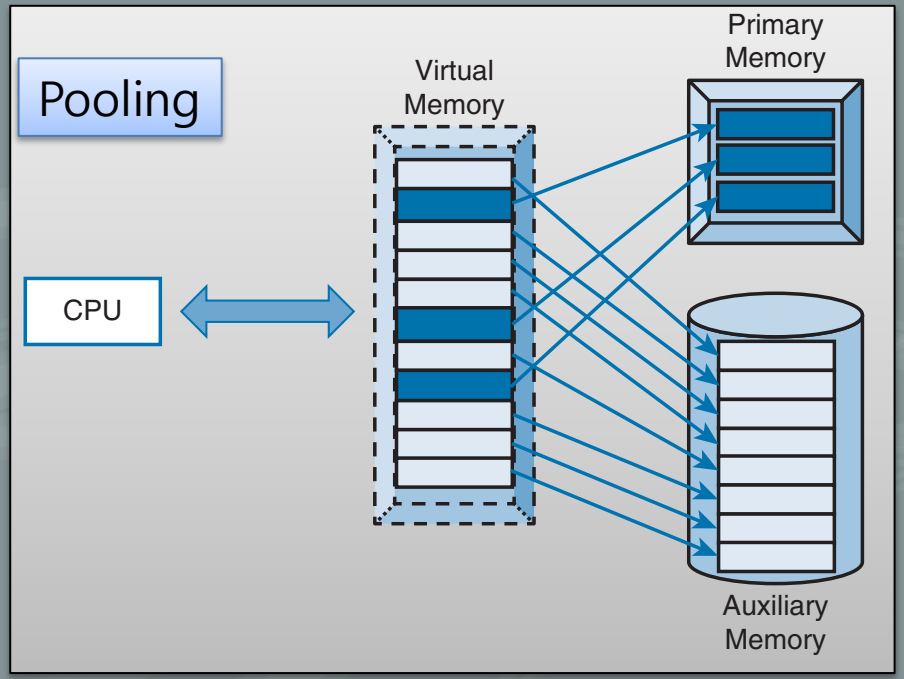


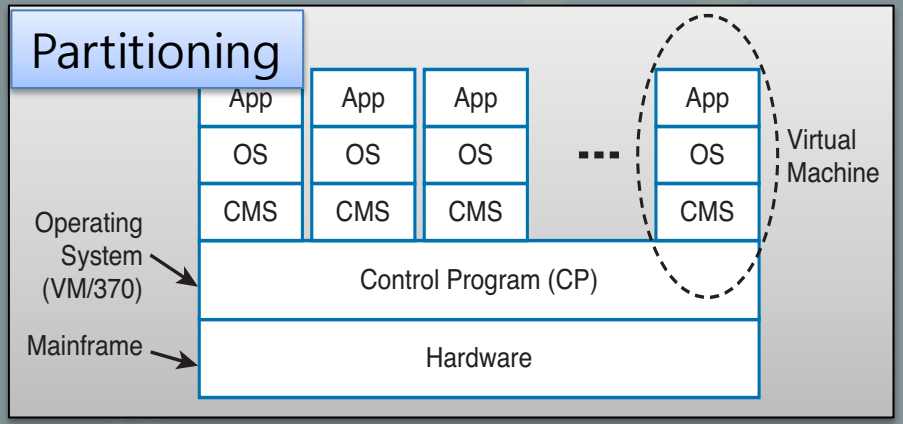
Presentation Outlines

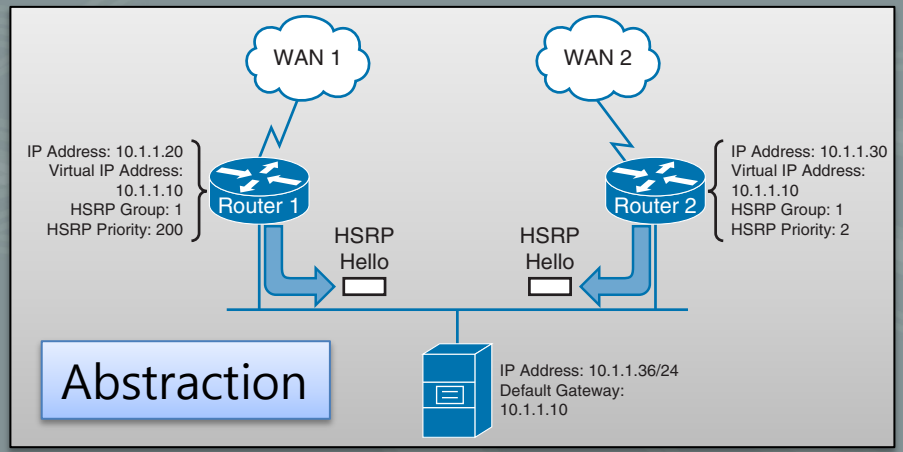
- Virtualization Definition
- Area of Virtualization
- Introduction Containerization
- Linux Container (LXC)
- Demonstration

Virtualization Definition

Transparent emulation of IT resources producing benefits to consumers which is unavailable in physical form





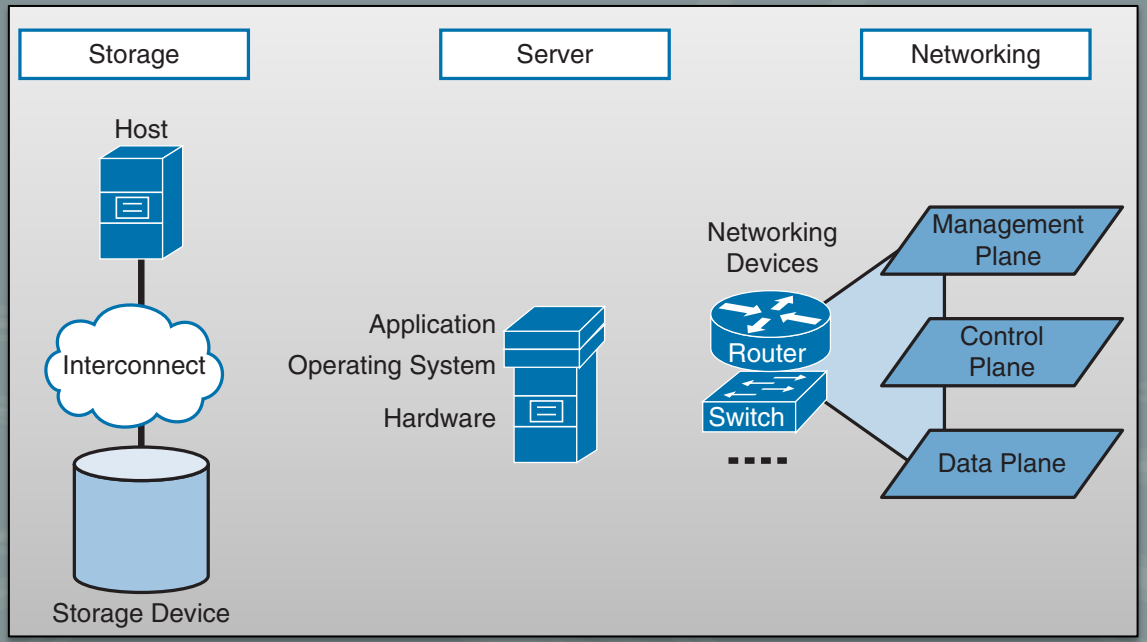


Area of Virtualization

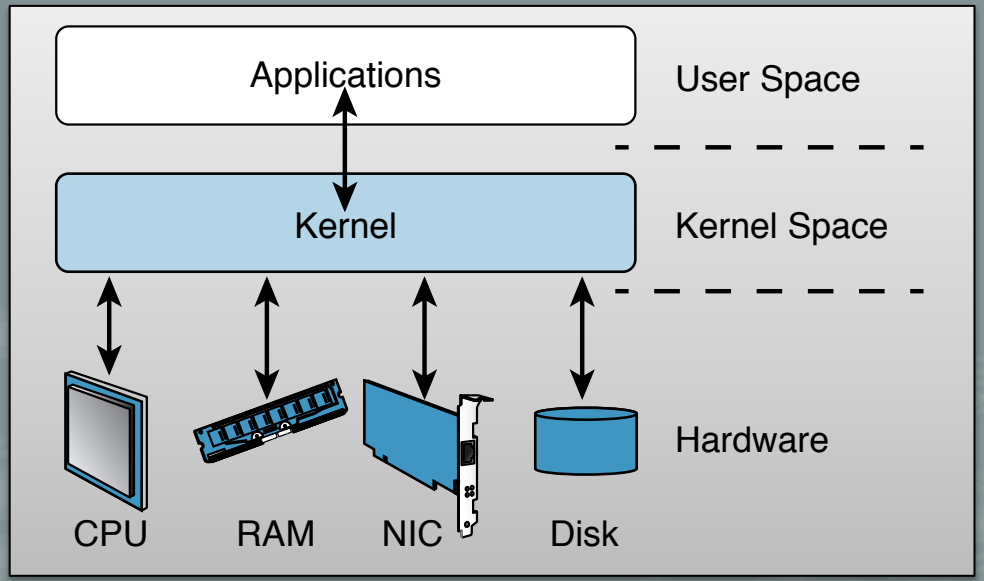
Compute / Server
- Hardware
- Operating System
- Application

Network
- Data Plane
- Control Plane
- Management Plane

Storage
- Storage Device
- Host
- Interconnect



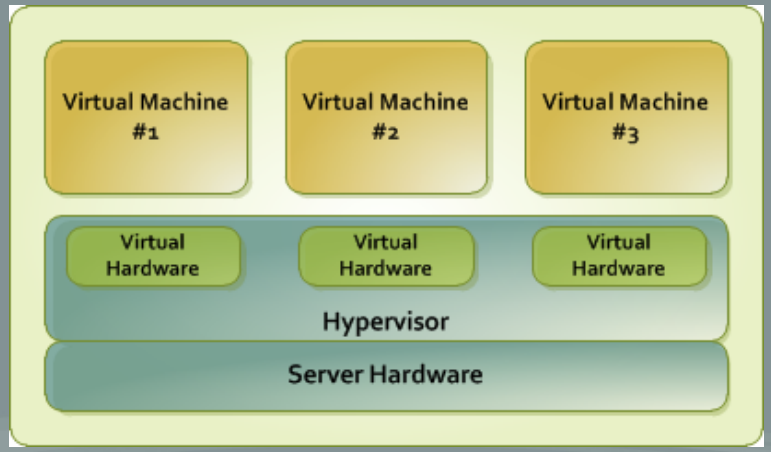
Server Virtualization

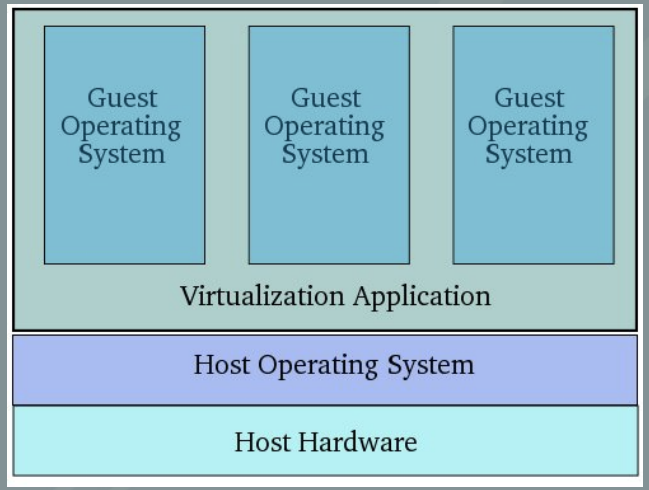


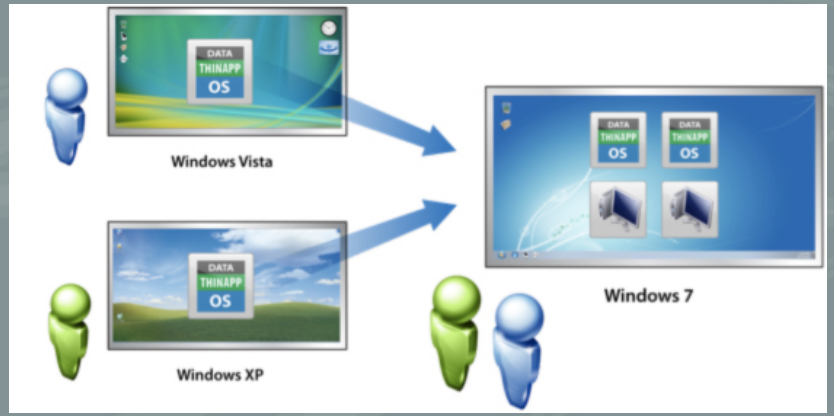
Monolithic: Entire Architecture of OS resides in Kernel Space (Linux and FreeBSD)

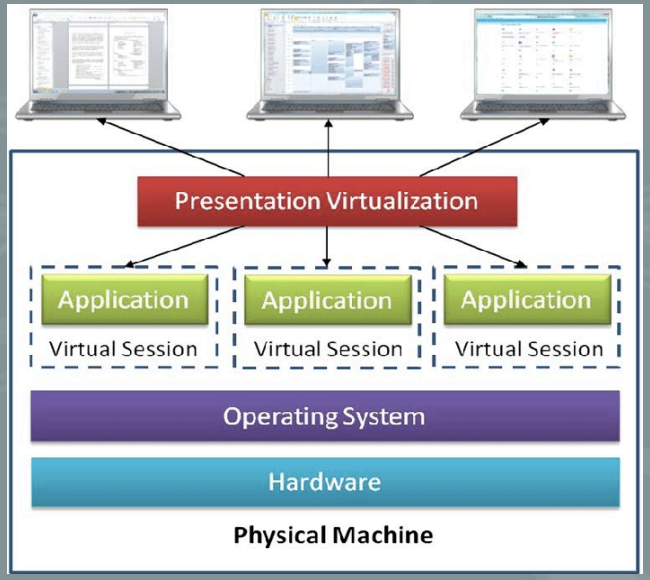
Microkernel: Processes are scatter ed across both Kernel and User S pace (Mac OS X and Windows)

Server Virtualization

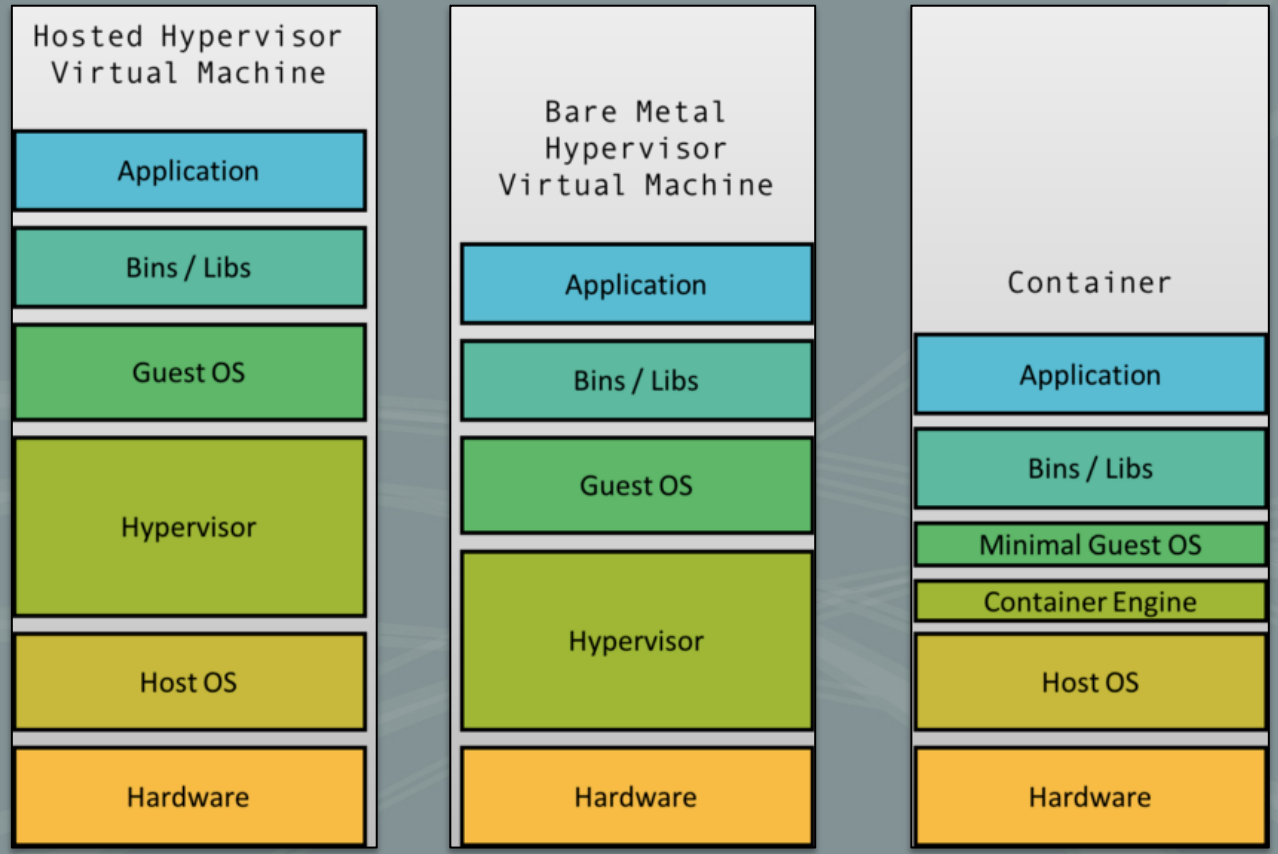




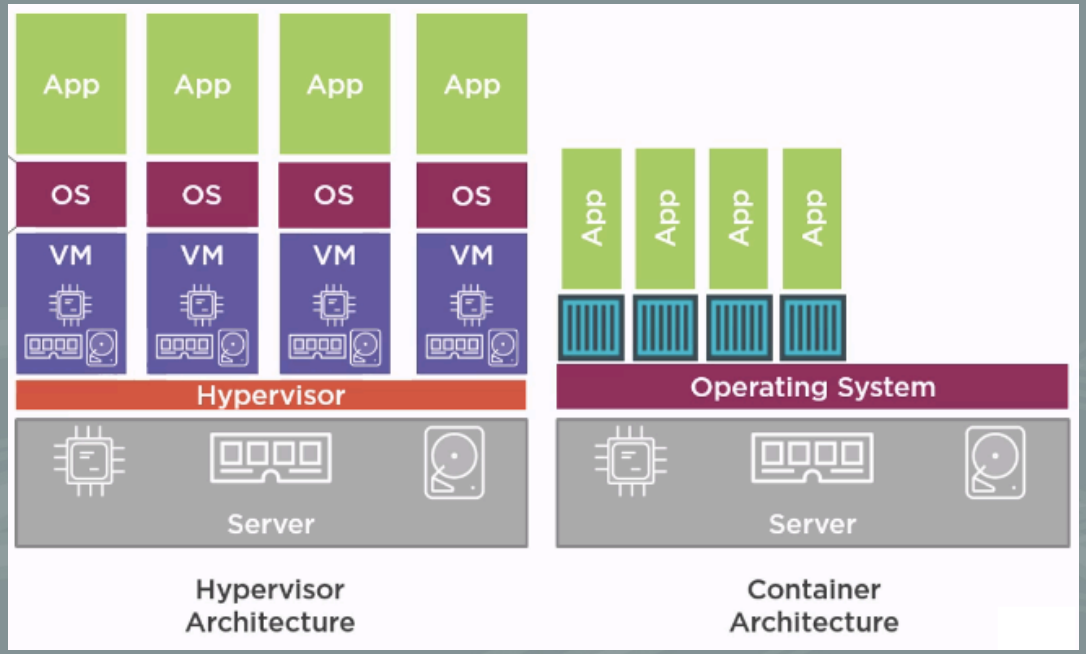


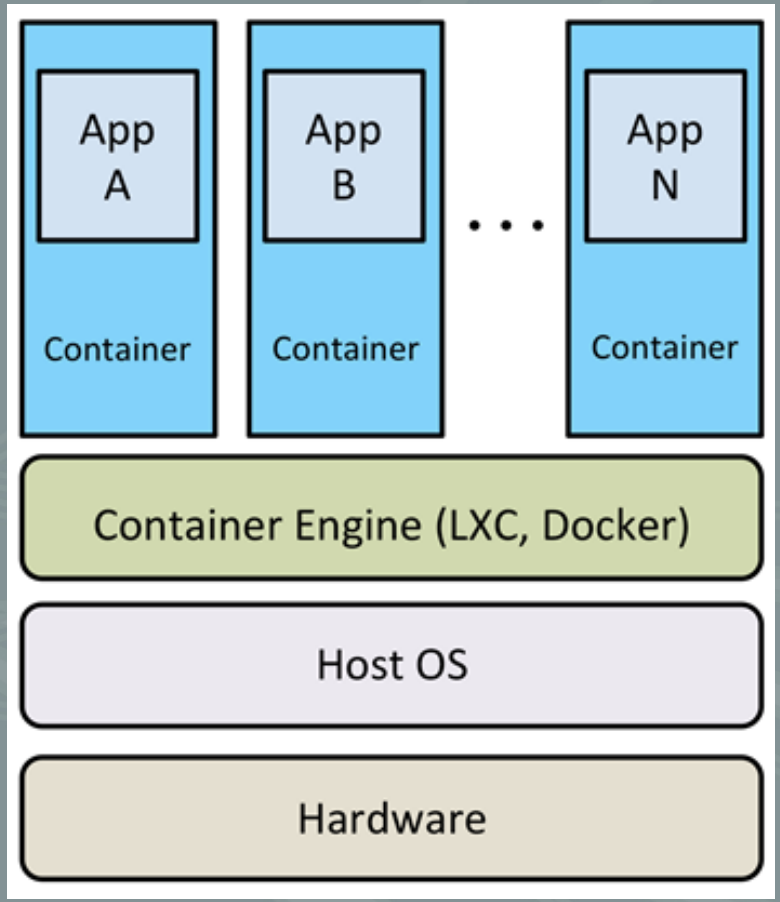


Introduction Containerization



Introduction Containerization





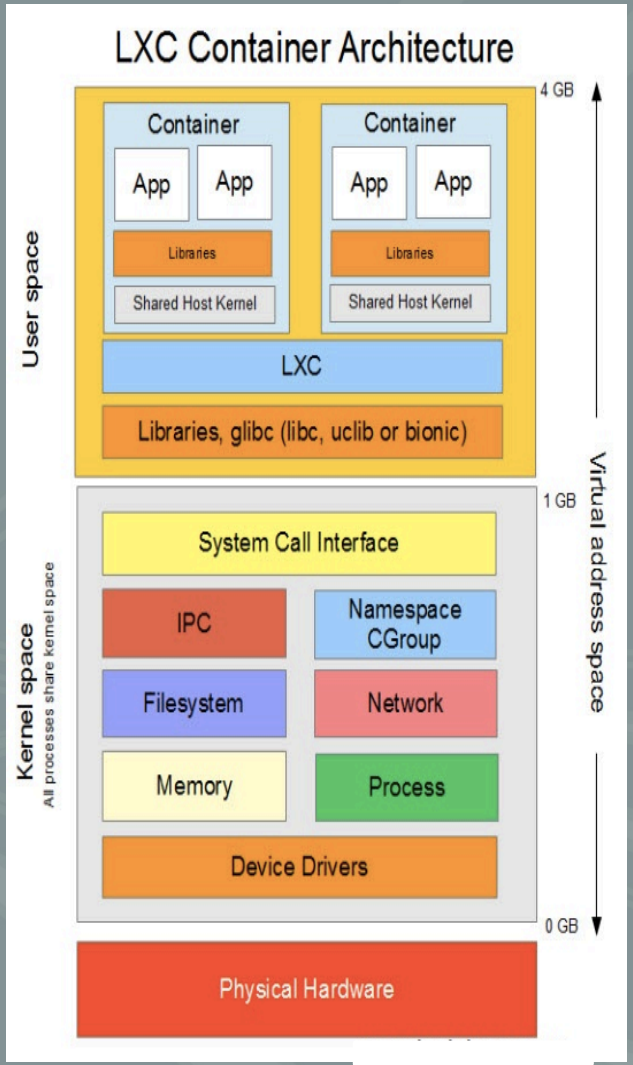
Linux Container (LXC)

A Linux® container is a set of one or more processes that are isolated from the rest of the system.

- ✓ Operating System-level Capabilities
- ✓ Run multiple isolated Linux System
- ✓ Run multiple isolated Application
- ✓ Lightweight alternative to full VM
- ✓ Offer less isolation than VM

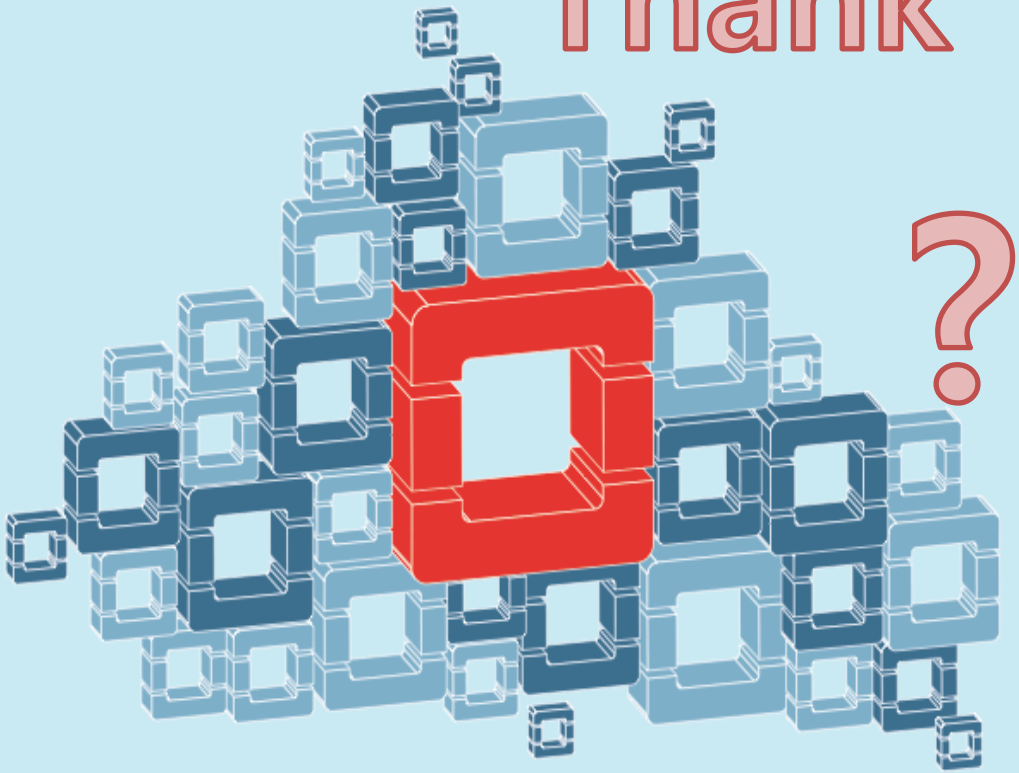
Privileged containers are when they are created and run by the root user only

Unprivileged containers are when the container is created and run as a user as opposed to the root.



Demonstration

Thank You



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