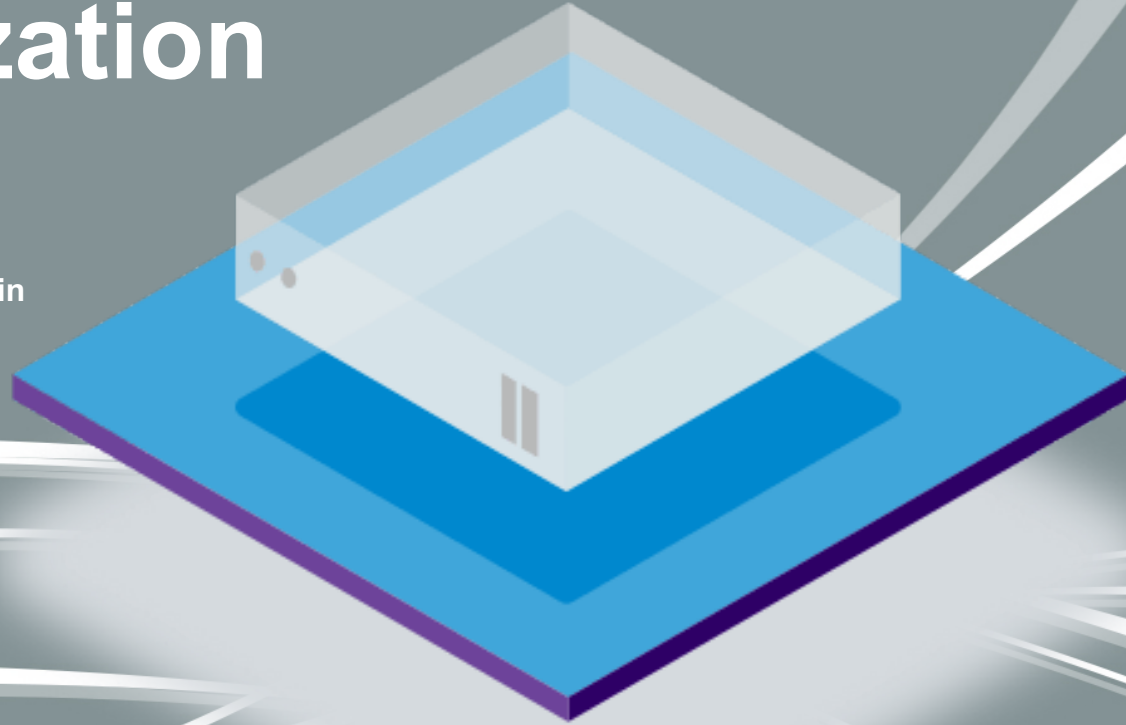


Virtualization

Khandakar Rashedul Arefin



Presentation Outlines

Virtualization Definition

Area of Virtualization

Introduction Containerization

Linux Container (LXC)

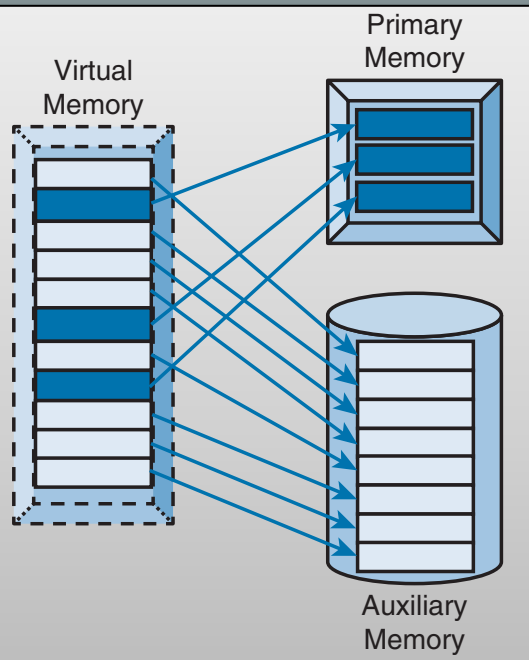
Demonstration

Virtualization Definition

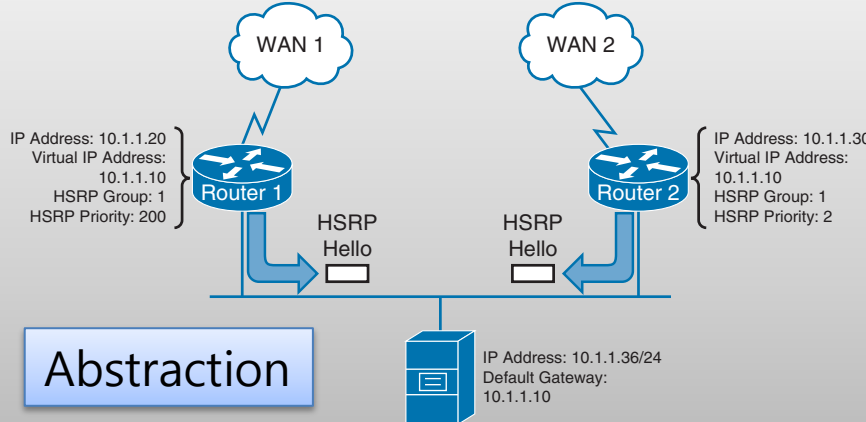
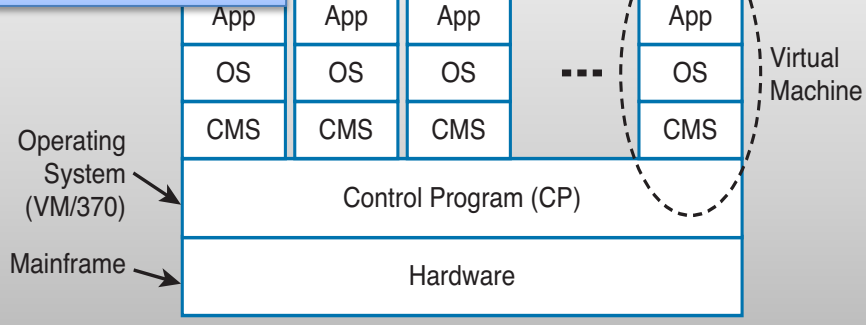
Transparent emulation of IT resources producing benefits to consumers which is unavailable in physical form

Pooling

CPU



Partitioning



Area of Virtualization

Compute / Server

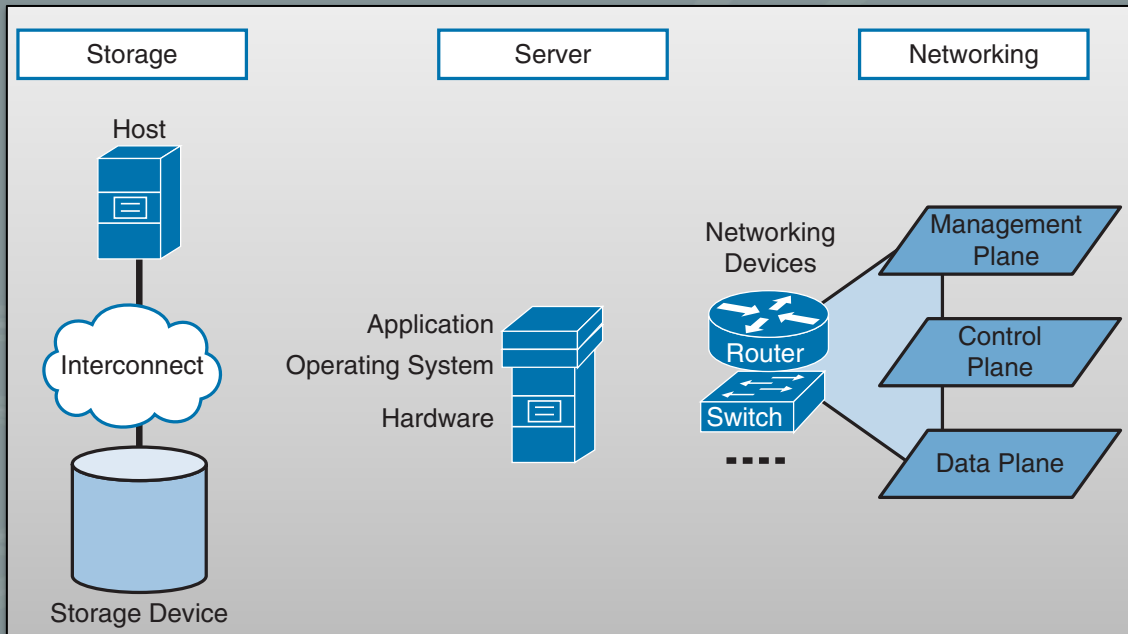
- Hardware
- Operating System
- Application

Network

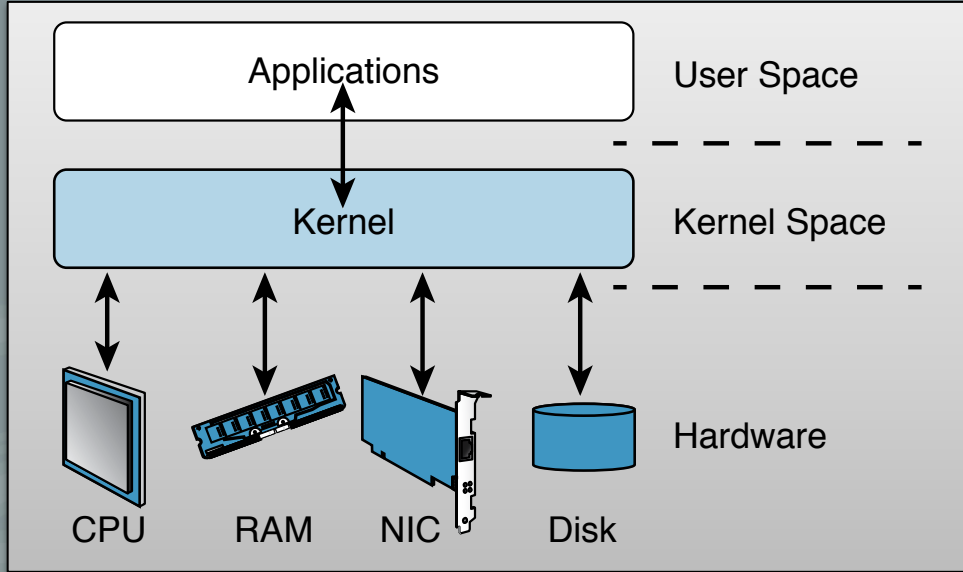
- Data Plane
- Control Plane
- Management Plane

Storage

- Storage Device
- Host
- Interconnect



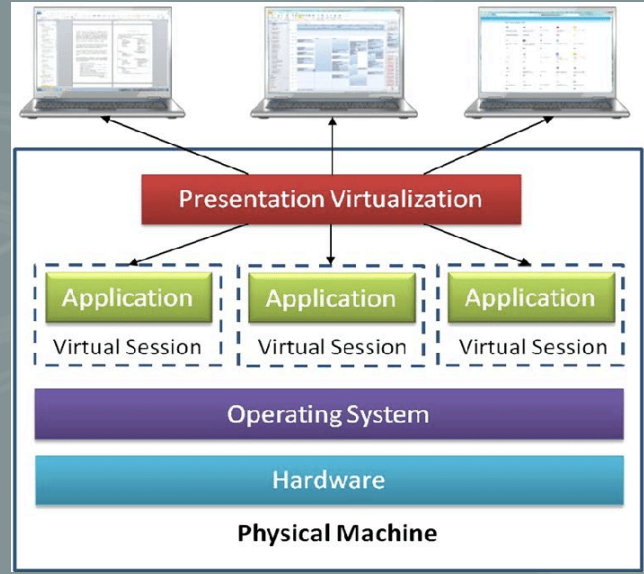
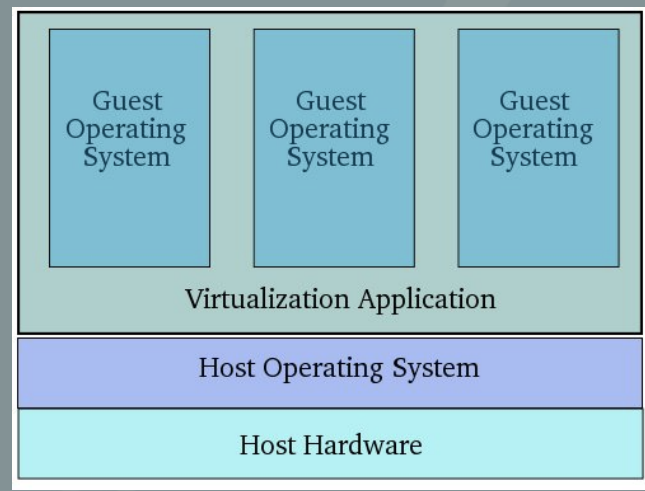
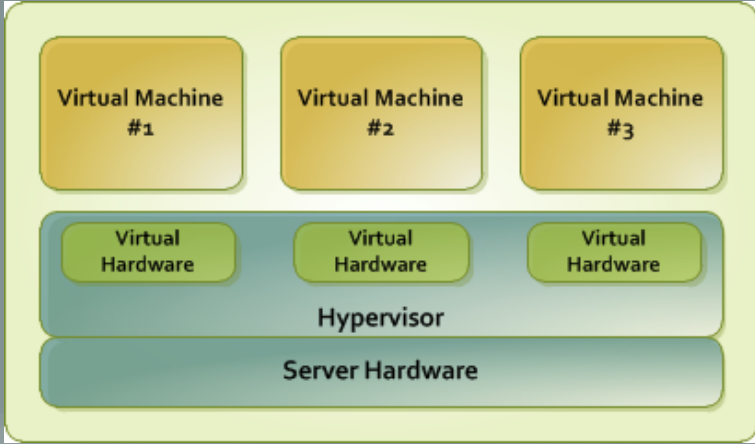
Server Virtualization



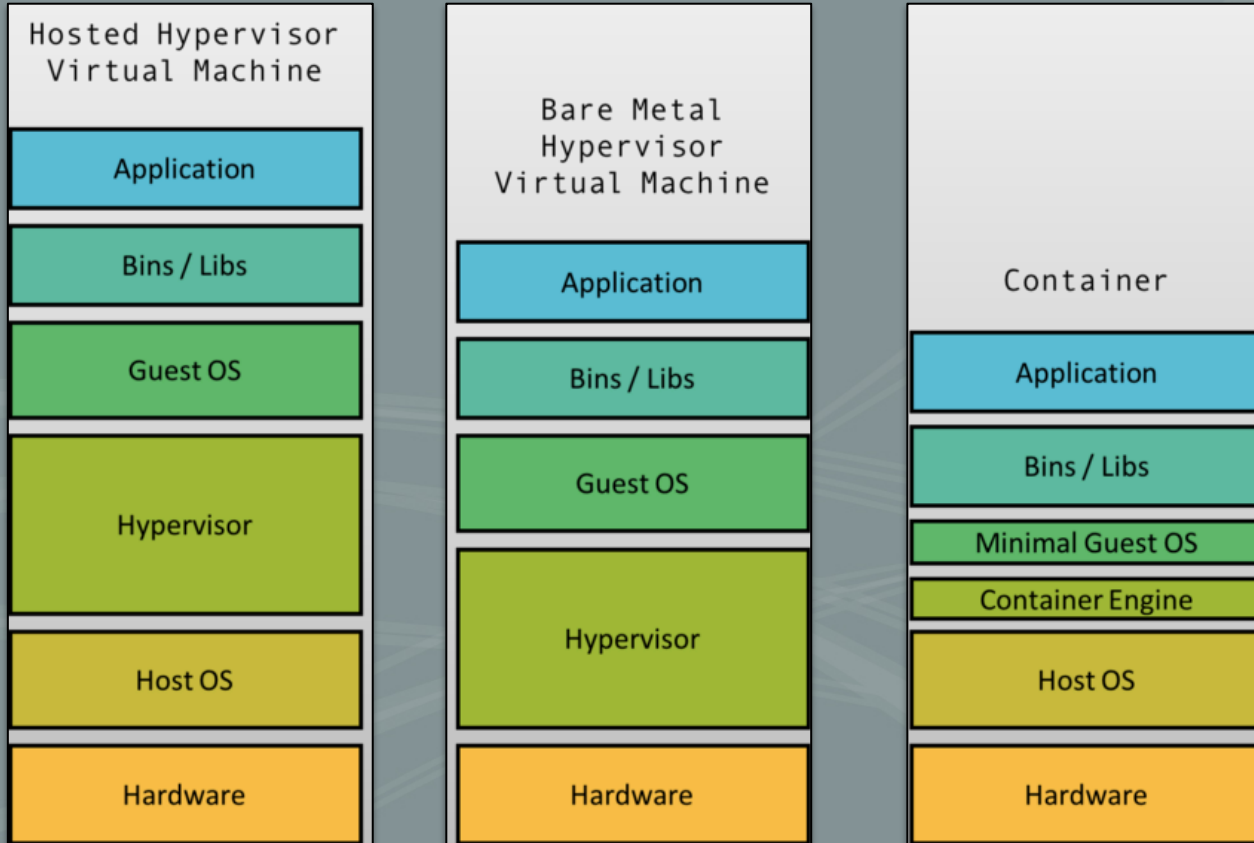
Monolithic: Entire Architecture of OS resides in Kernel Space (Linux and FreeBSD)

Microkernel: Processes are scattered across both Kernel and User Space (Mac OS X and Windows)

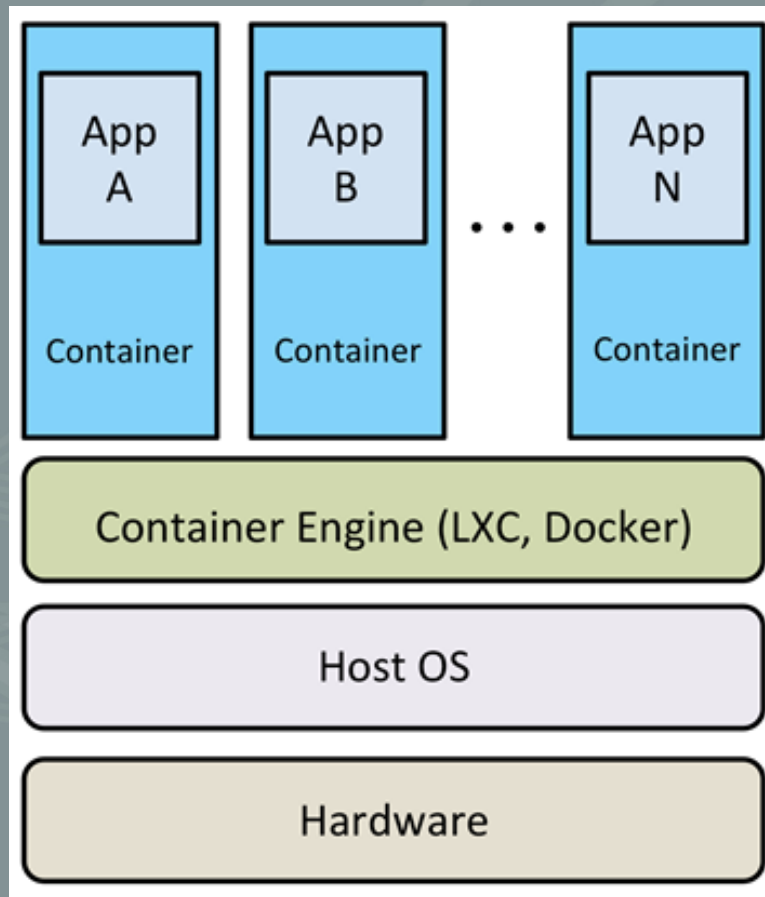
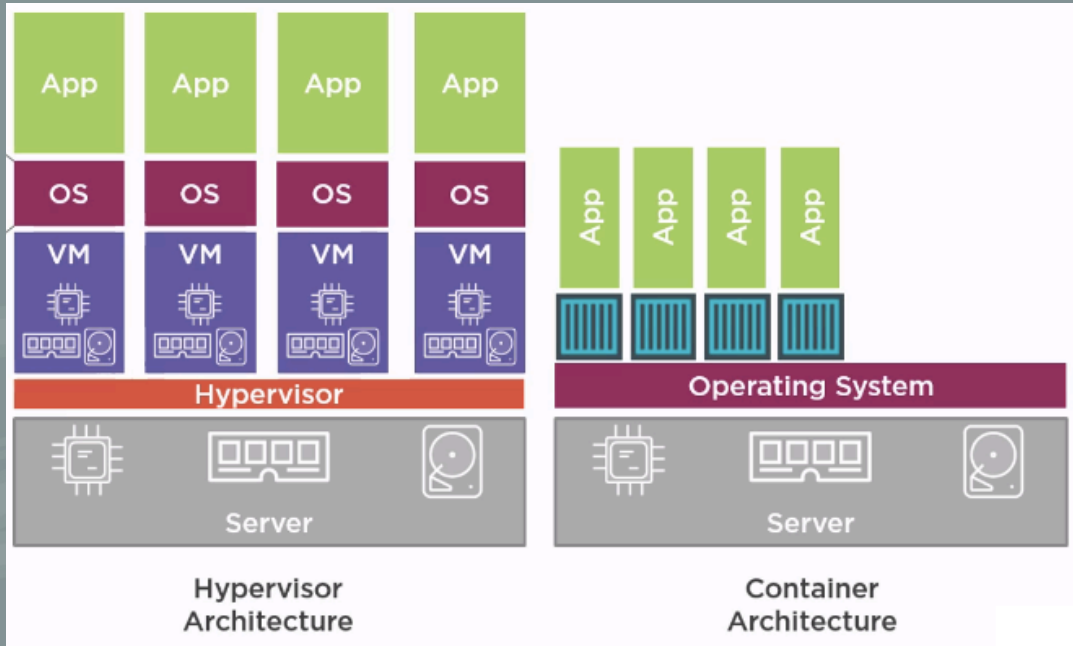
Server Virtualization



Introduction Containerization



Introduction Containerization



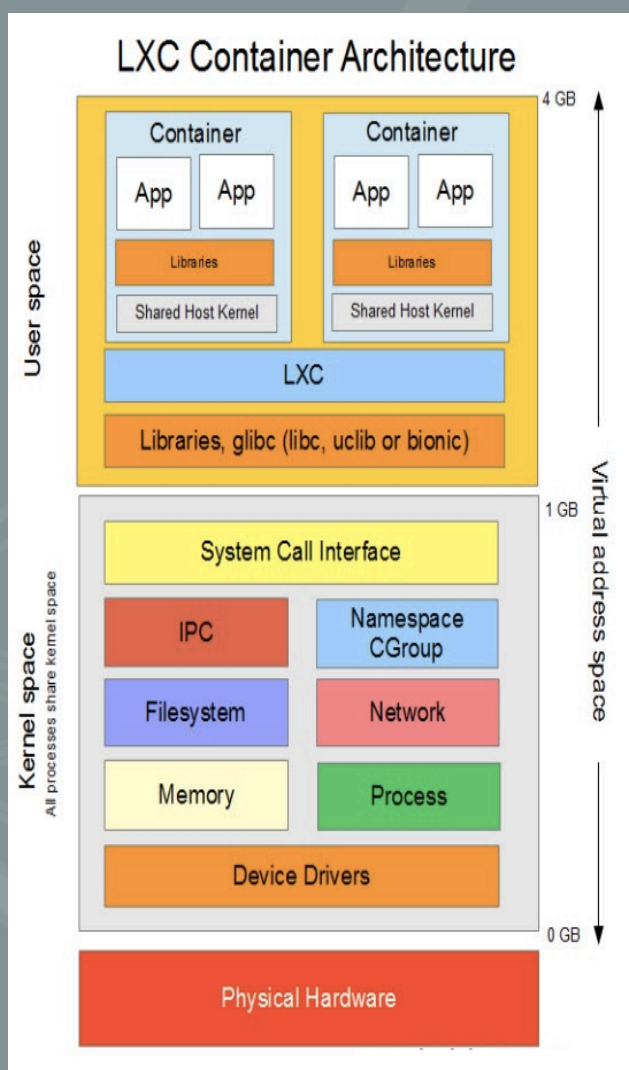
Linux Container (LXC)

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

The background features a dark grey-blue gradient. Overlaid on this are several thin, semi-transparent lines in shades of light green and grey. These lines are mostly curved and flow from the bottom left towards the top right, creating a sense of movement and depth. Some lines are straight, while others are wavy, and they appear to be layered, with some crossing over others.

Thank You

