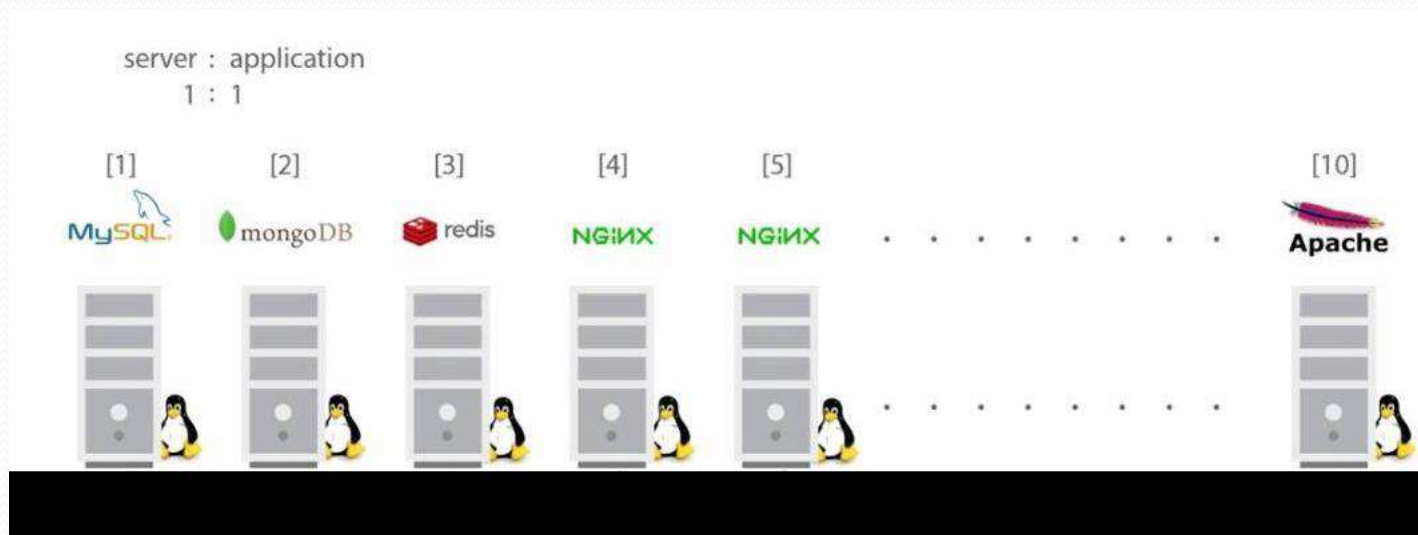


VIRTUALIZATION

ROADMAP

- What is virtualization?
- Virtualization and cloud computing
- Types of virtualization
- Hypervisor
- Benefits
- Vendors

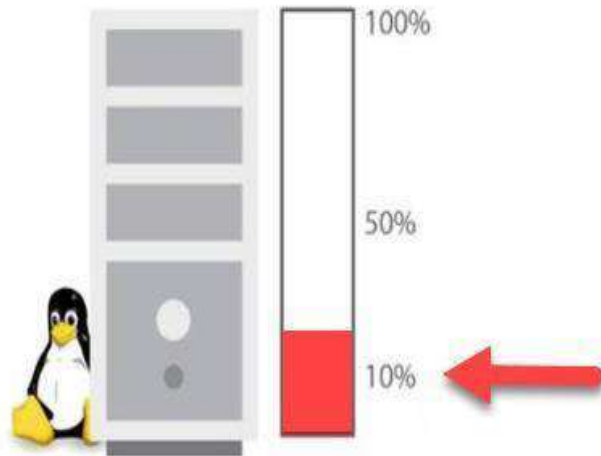
VIRTUALIZATION



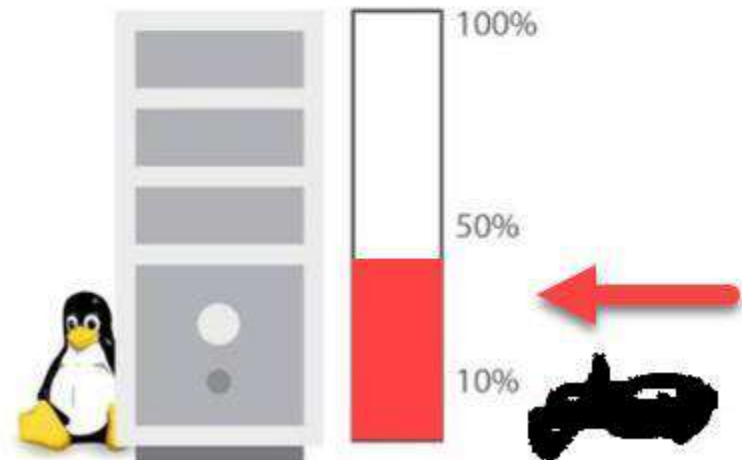
RESOURCE UTILIZATION

WASTING A LOT OF RESOURCES

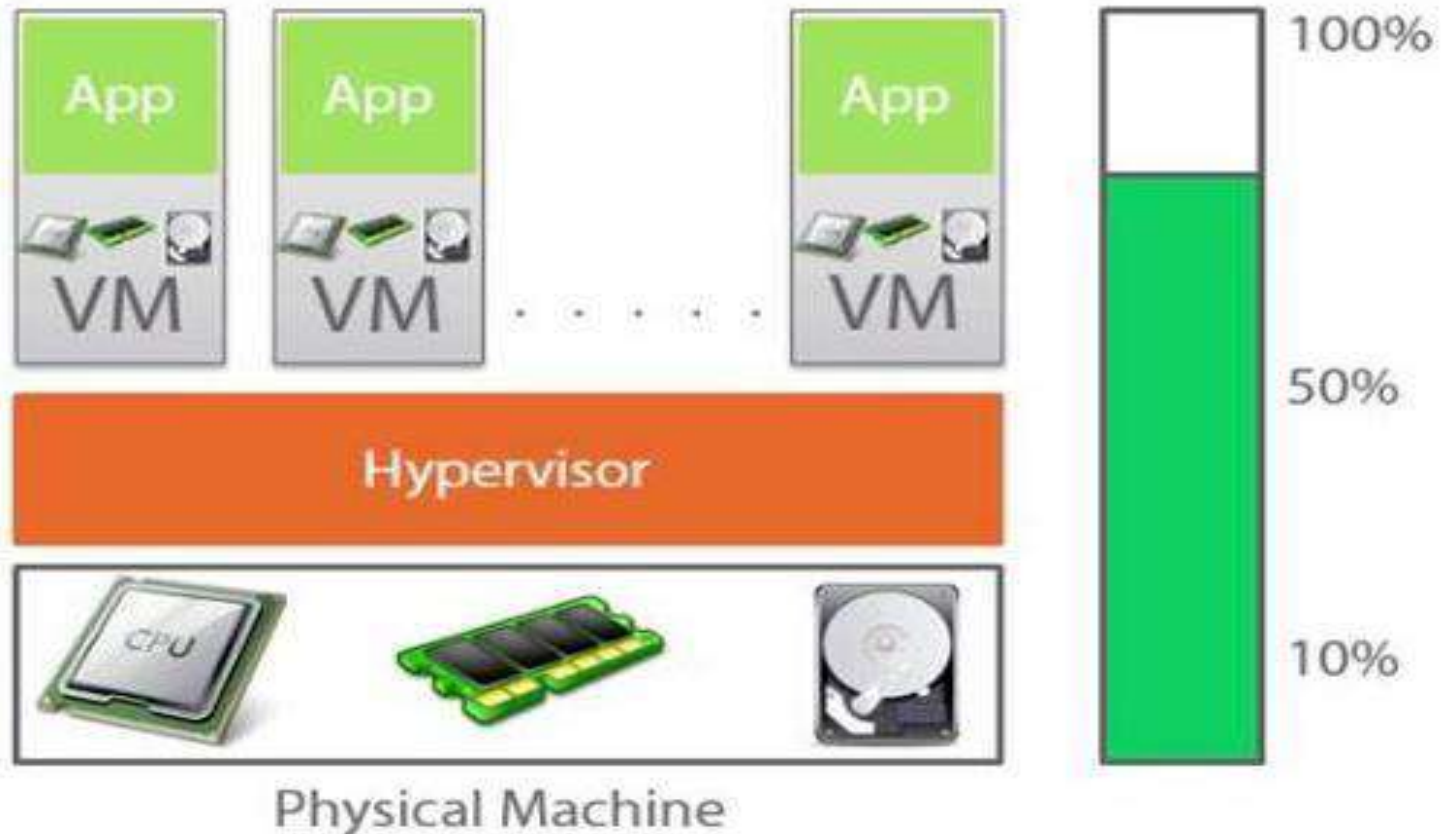
NGINX



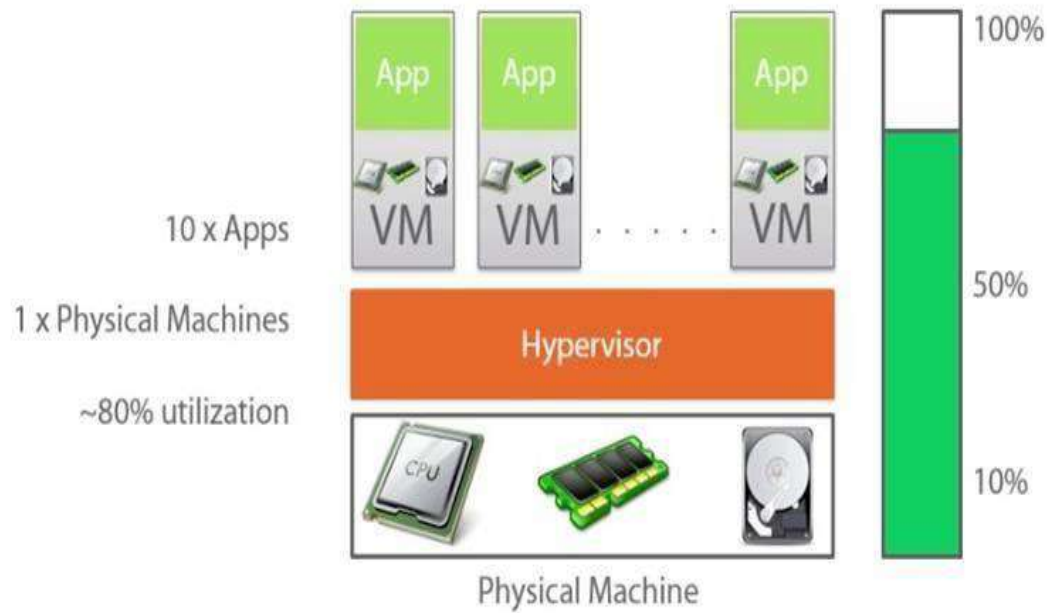
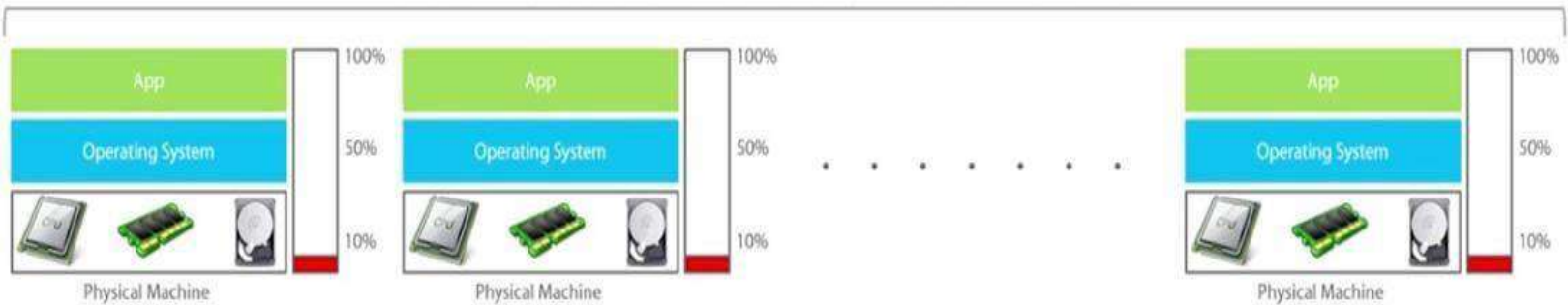
MySQL



SOLUTION - VIRTUALIZATION



10 x Apps | 10 x Physical Machines | Less than 10% utilization



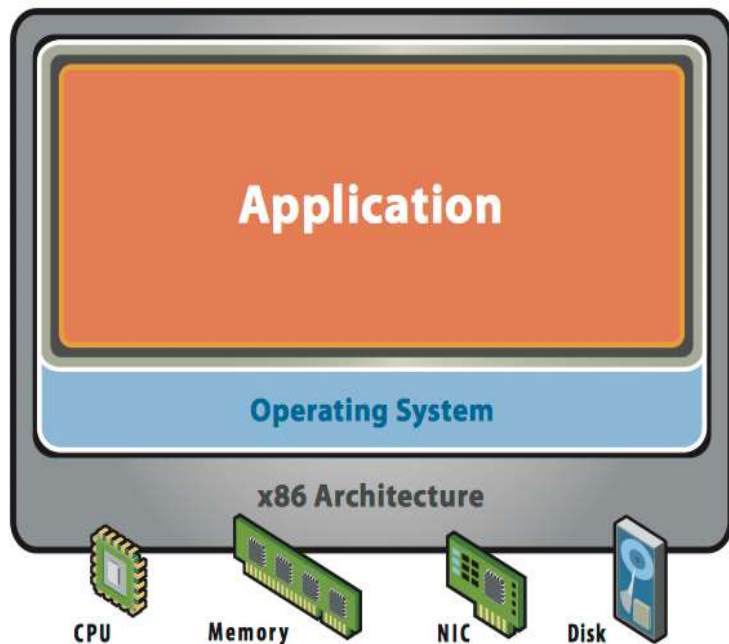
What is Virtualization?

- Virtualization is a technology to run multiple same or different operating systems which are completely isolated from each other on the same machine.
 - Ex: Run both Windows and Linux on the same machine



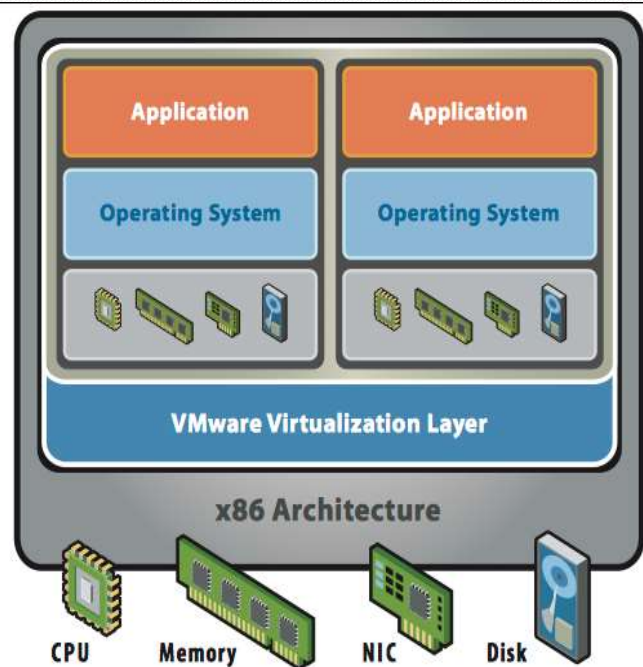
HOW IT IS DIFFERENT FROM DUAL BOOT?

- Both OSes run simultaneously



Before Virtualization:

- Single OS image per machine
- Software and hardware tightly coupled
- Running multiple applications on same machine often creates conflict
- Underutilized resources
- Inflexible and costly infrastructure



After Virtualization:

- Hardware-independence of operating system and applications
- Virtual machines can be provisioned to any system
- Can manage OS and application as a single unit by encapsulating them into virtual machines

Virtualization and Cloud Computing

- Virtualization is a technology whereas Cloud Computing is a service.
- Without virtualization, there is no Cloud Computing.
- Cloud Computing is built on top of Virtualization.

What IS Hypervisor?

- Hypervisor is a software layer that sits between Hardware and OS which will interact with hardware and resources and provide an interface to share the available resources to virtual containers.



Virtualization Benefits

- Virtualization offers major savings in data center operations.
- Virtualization makes possible significant reductions in the costs of managing data centers, with simplification of systems management tasks.
- Virtualization offers back-up and increased redundancy for delivery of high performance and high availability services.
- Virtualization is a step in the direction of “cloud computing”.
- Centralized management

Vendors

