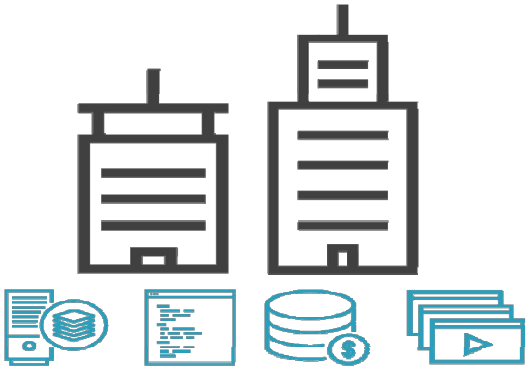
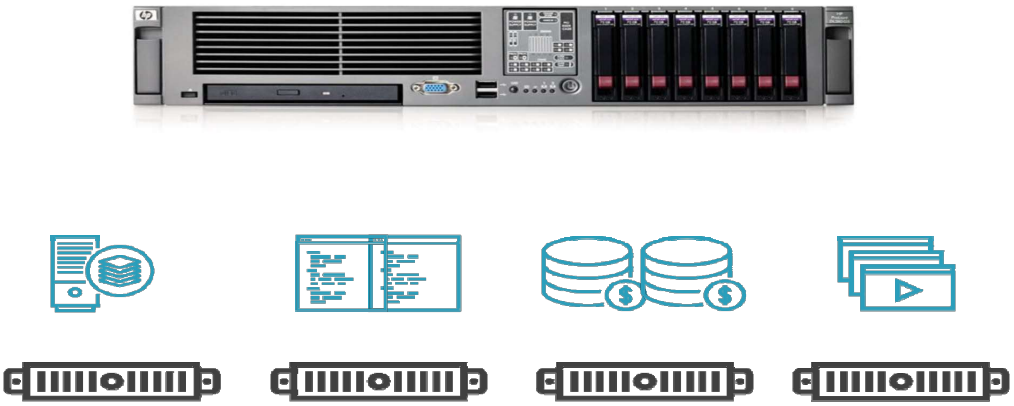
Containers: Primer

The Bad Old Days

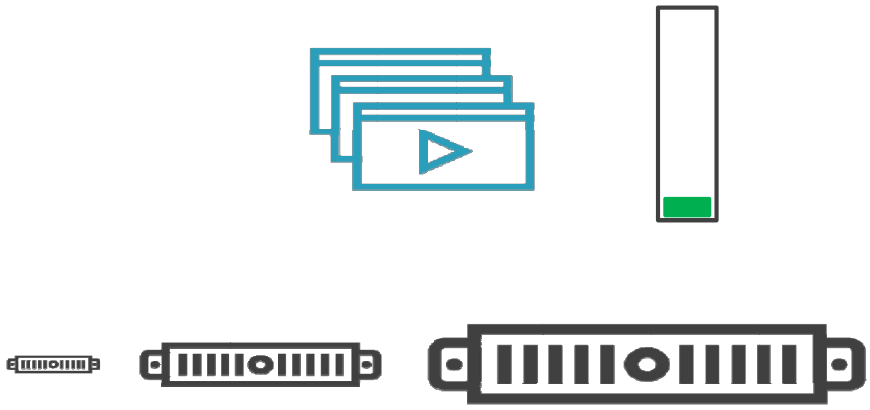
Application run Business



Application run on Servers



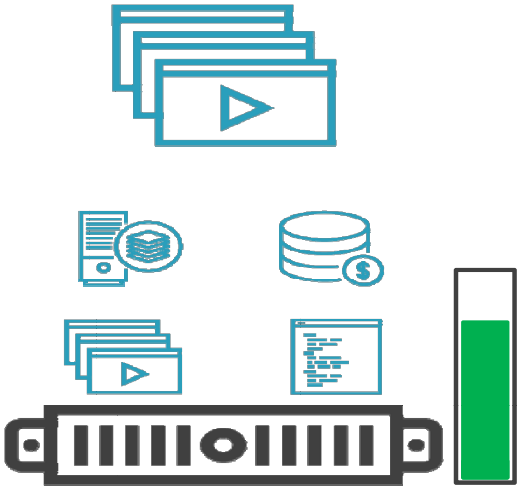
New Application need New Servers



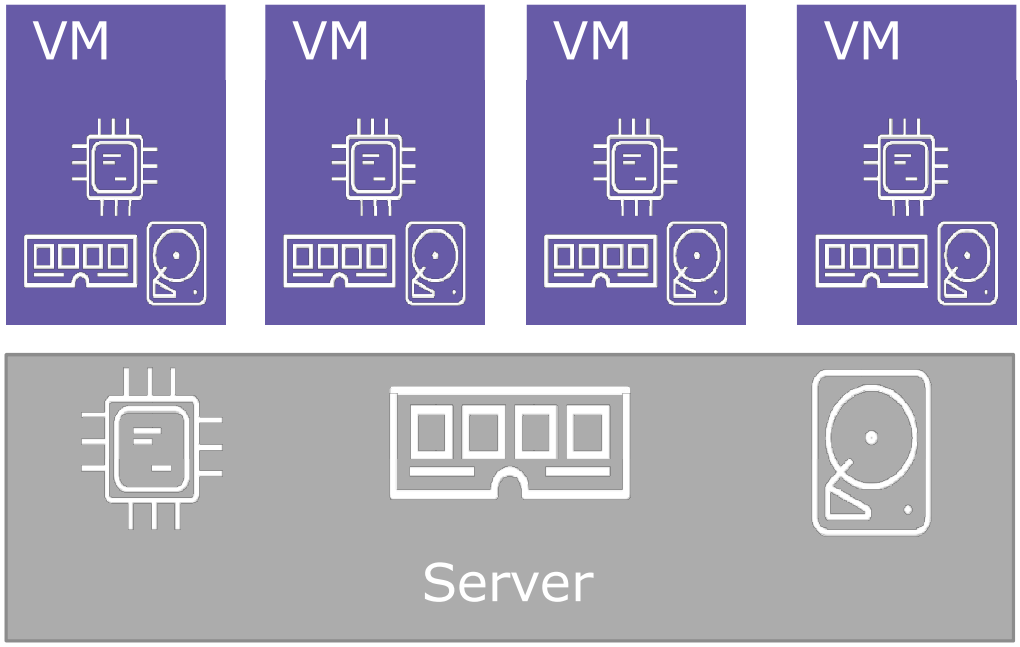
Hello Virtual Machine!

Old Days: One Server for One App

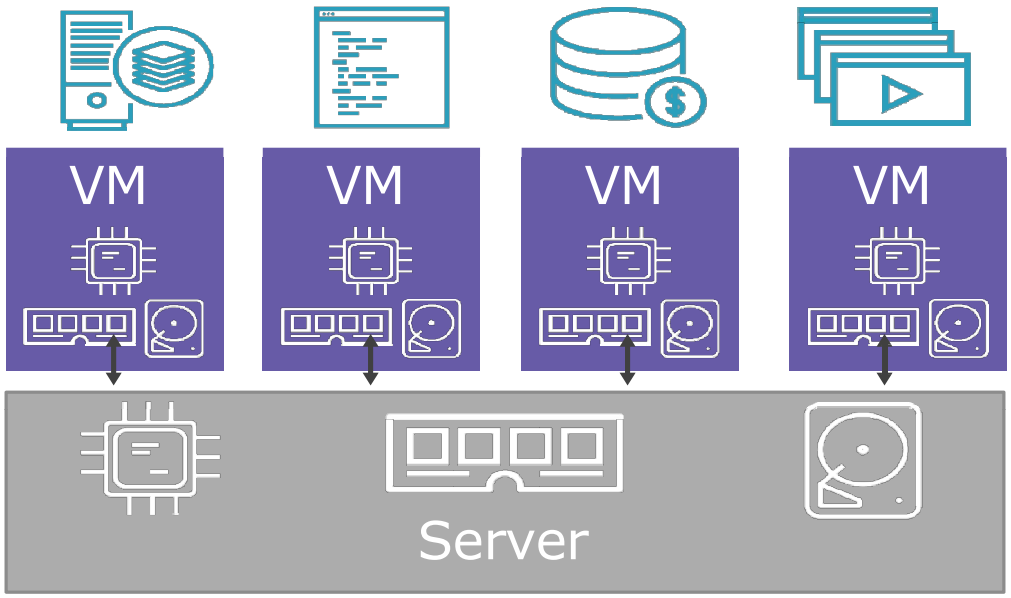
Many Apps on a single Physical Server



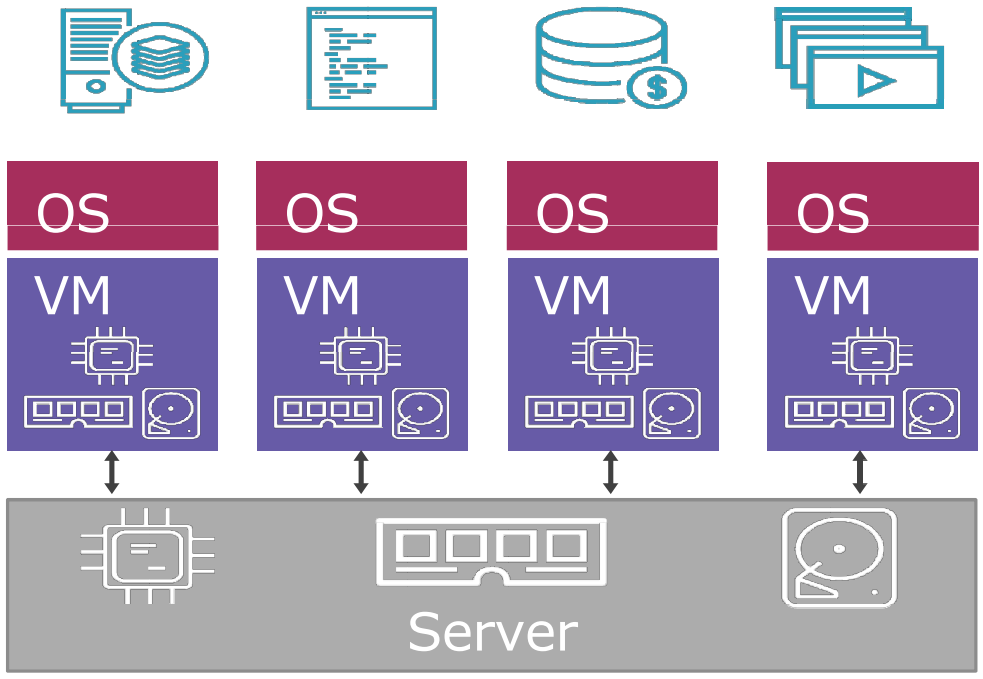
Virtual Machine on Physical Server



Application run on VM



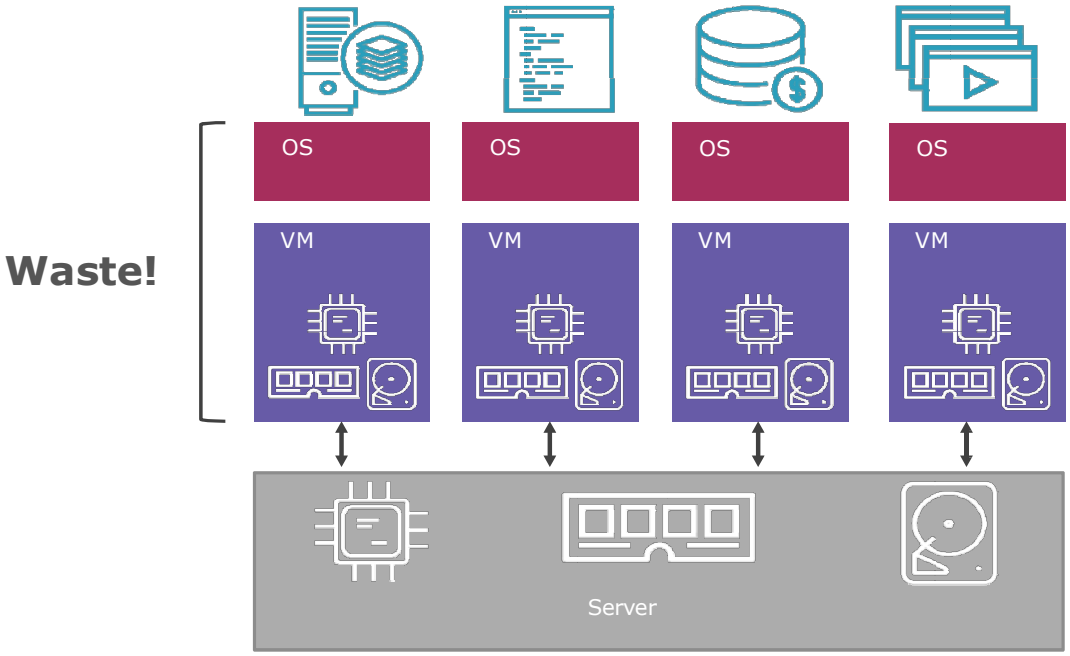
Application run on VM



Potential OS overheads

- License costs
- Admin
  - Patching
  - Updates
  - AV
  - More

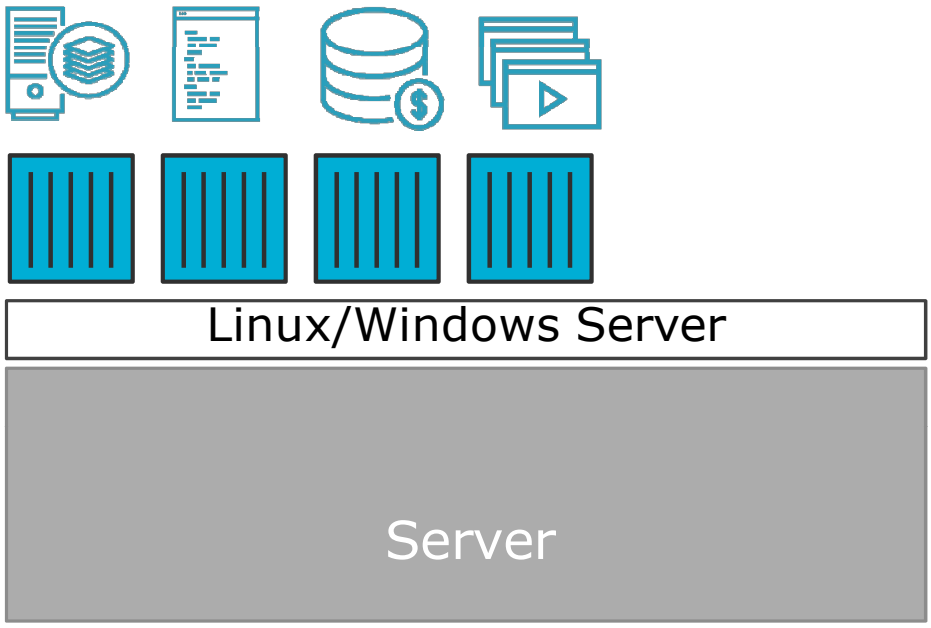
Potential OS overheads



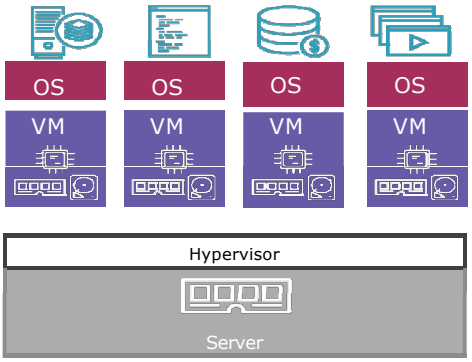
Containers

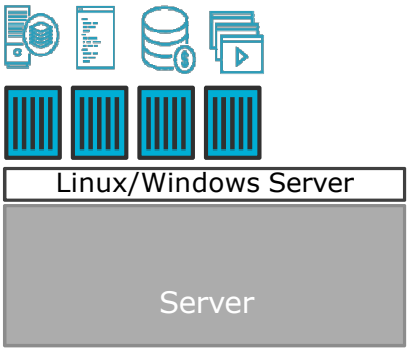
4 Apps with 1 Physical Server

One OS and 4 Containers



Virtual Machine vs Container

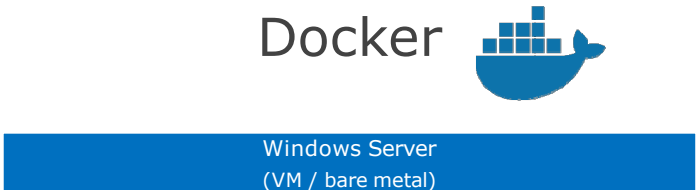


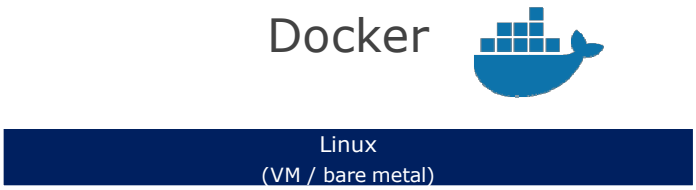


Container Example

List of Containers

- Docker
- Mesos Containerizer
- CoreOS rkt
- LXC Linux Containers
- OpenVZ
- containerd
- Windows Server Containers
- Linux VServer
- Hyper-V Containers
- Unikernels
- Java containers





Summary

Past
(physical servers)


Wasted!


Wasted!


Wasted!

Present
(Hypervisor virtualization)


More efficient than physical servers

Could be better!

Present/Future
(Containers)


More efficient than Hypervisor virtualization

Virtualization 2.0

Less mature than Hypervisor virtualization

Less mature than Hypervisor ecosystem