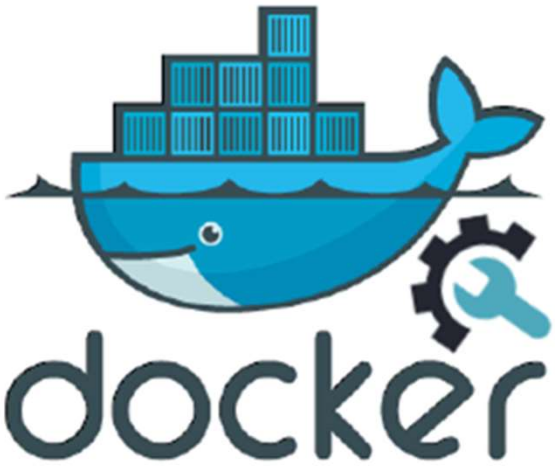
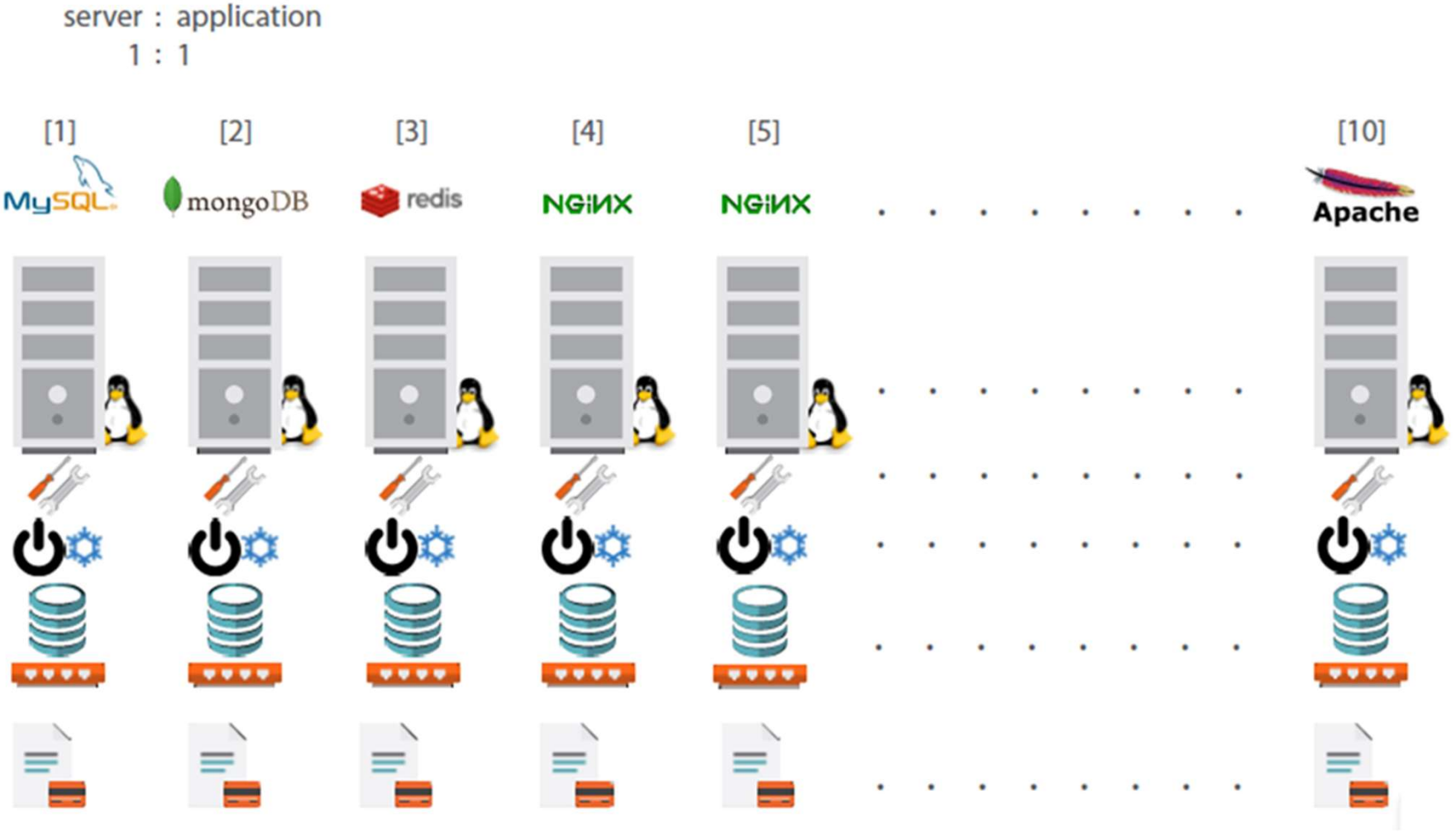
Docker Essentials

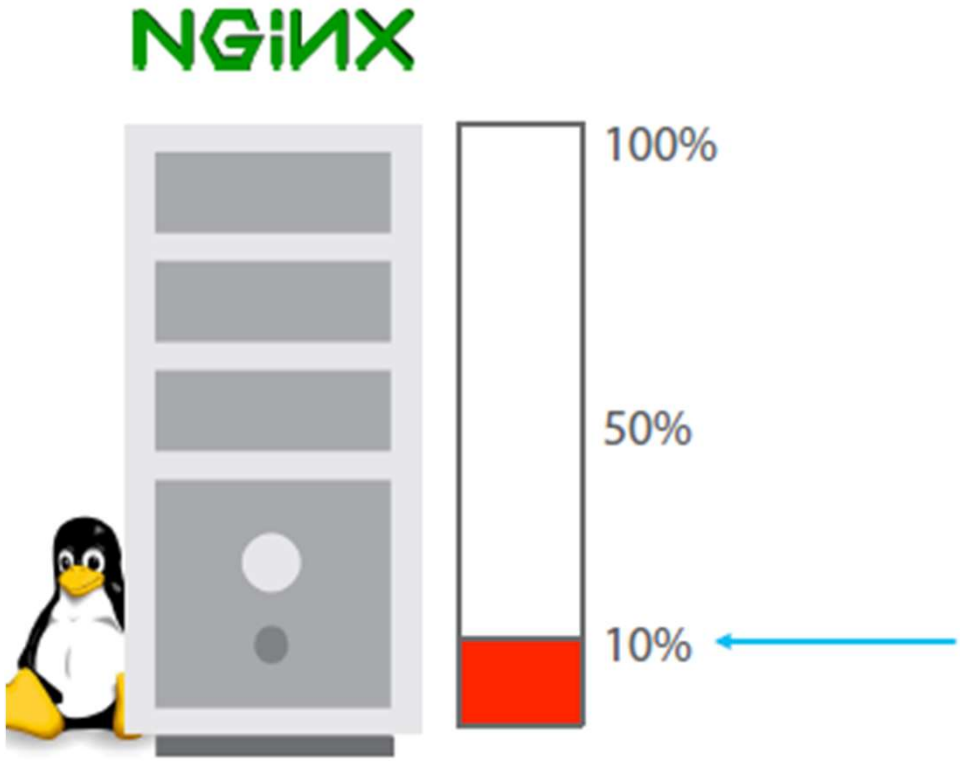
Docker



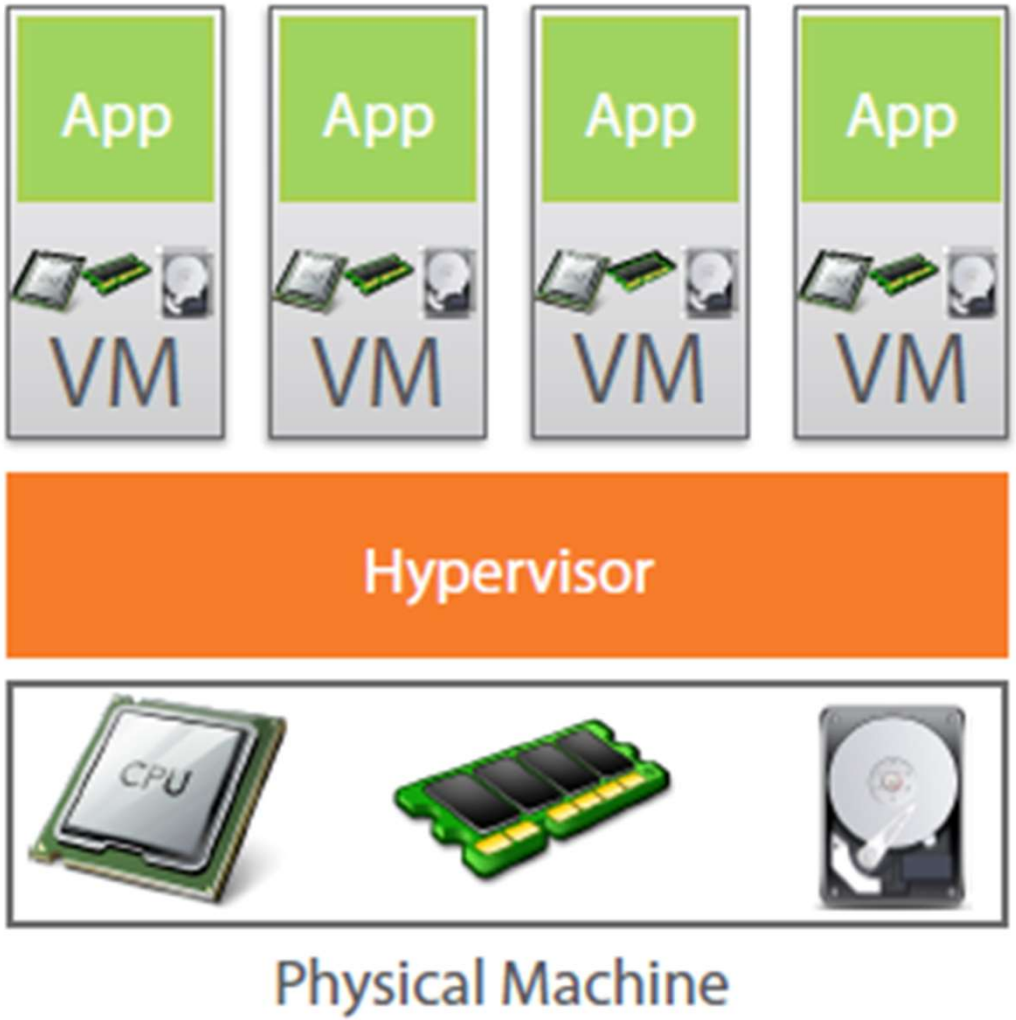
Traditional Deployment Architecture



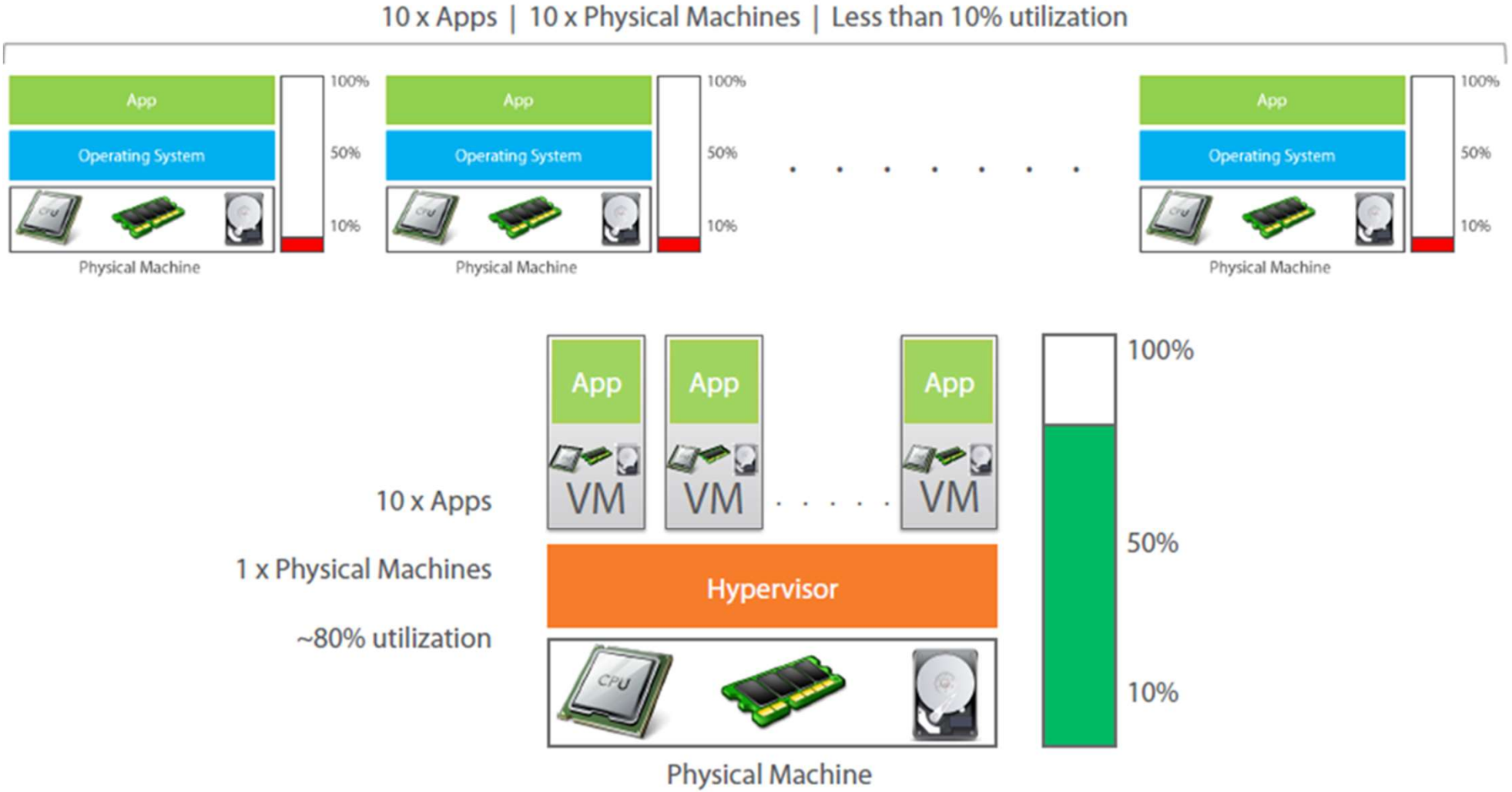
Less Utilization in Traditional Architecture



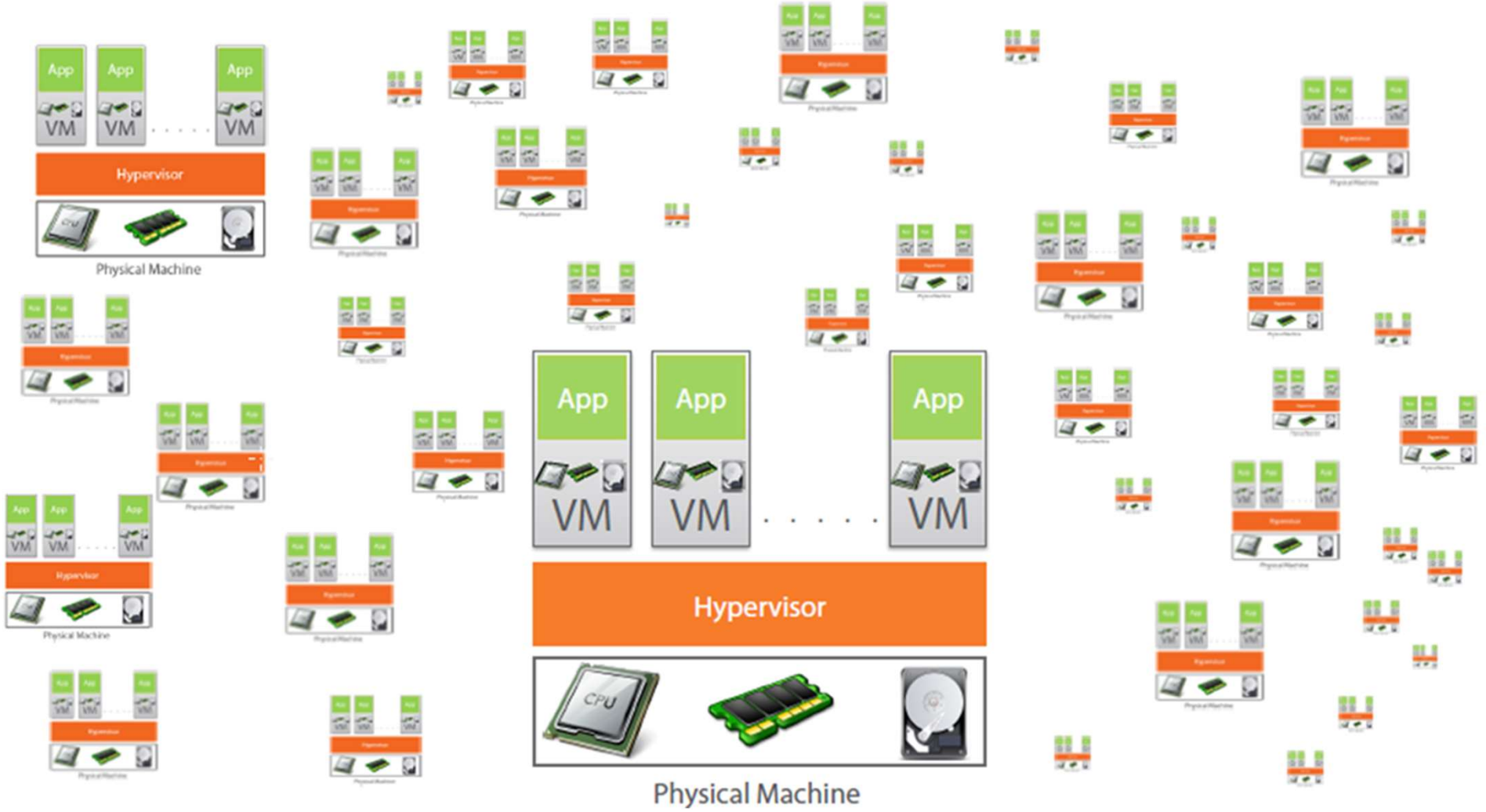
Virtual Machine to the Rescue



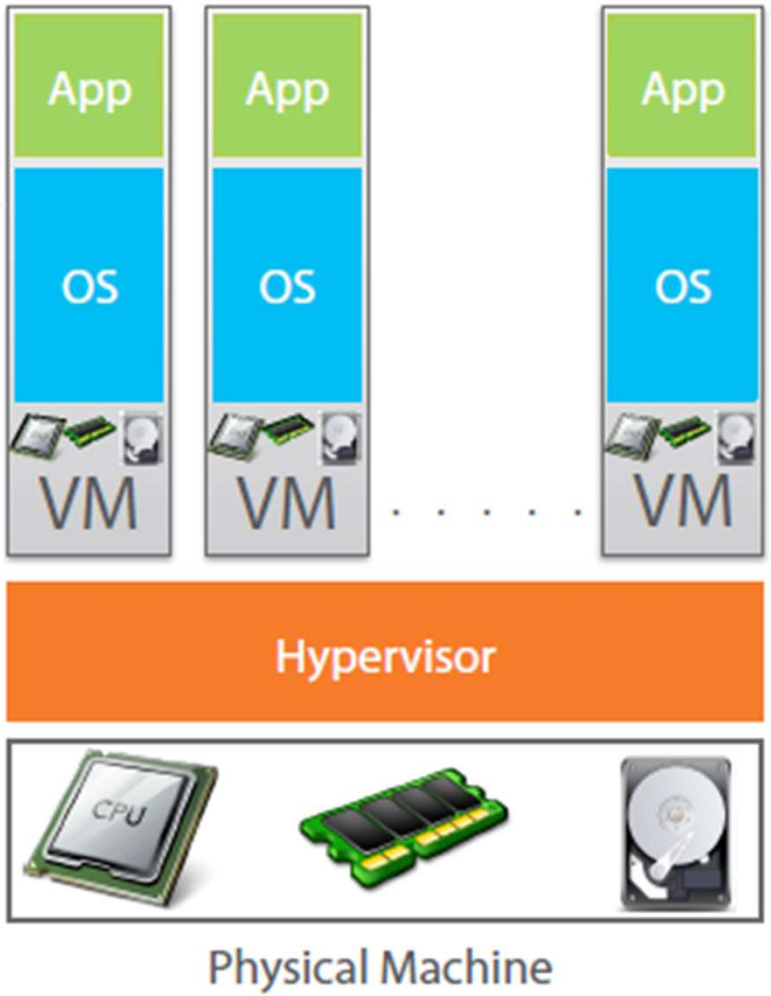
Virtual Machine provides better utilization



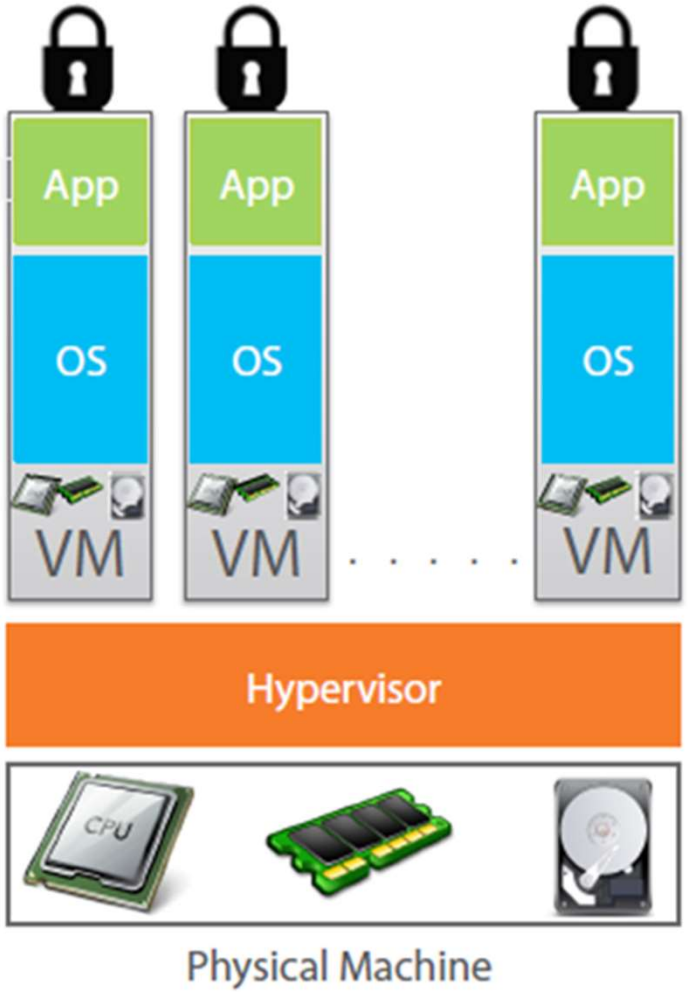
But Virtual Machine increases Licensing Cost



Each VM needs a separate OS

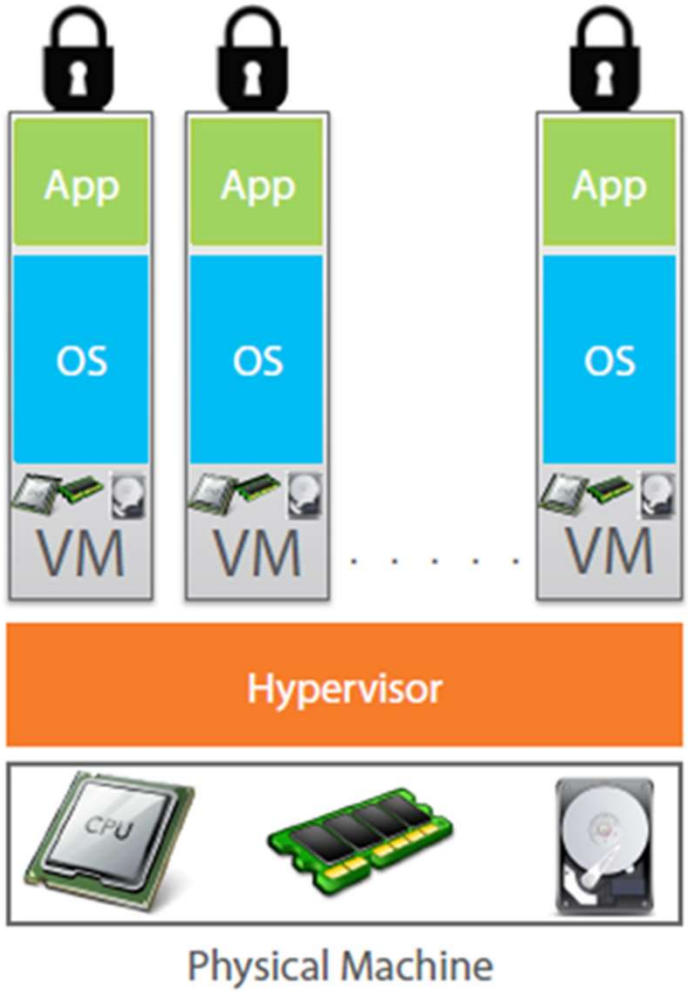


More OSes doesn’t increase Business Value



> OS != Business Value

OS takes most of the Resources

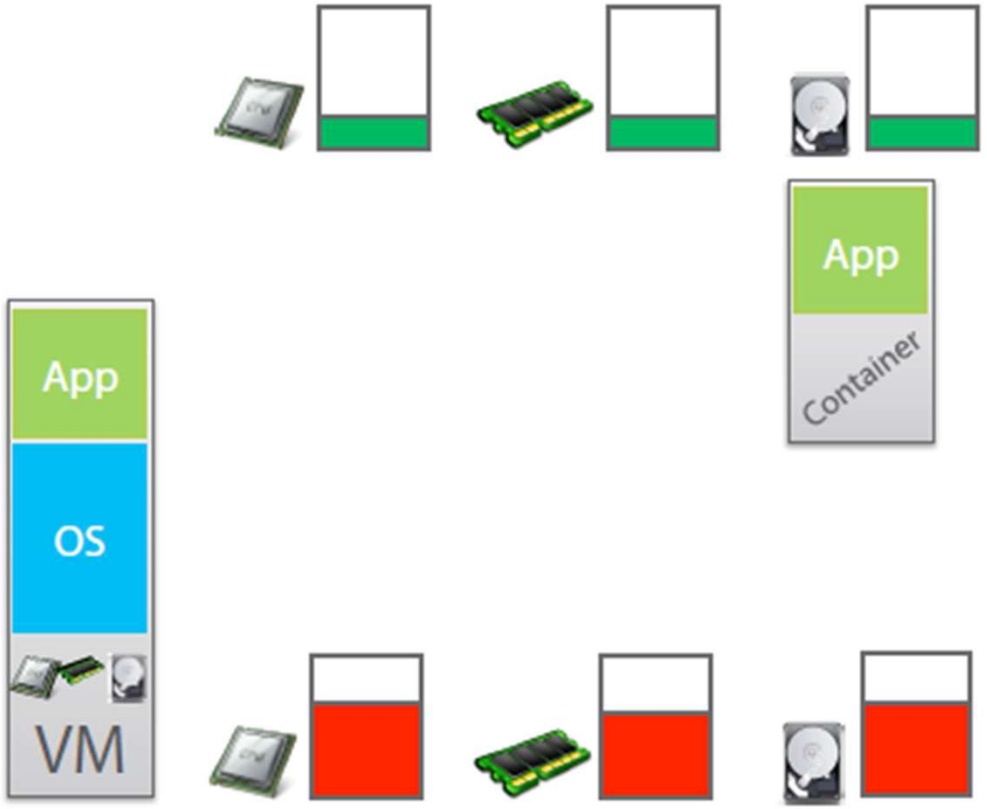


Why use separate OS for each App?

Containerization

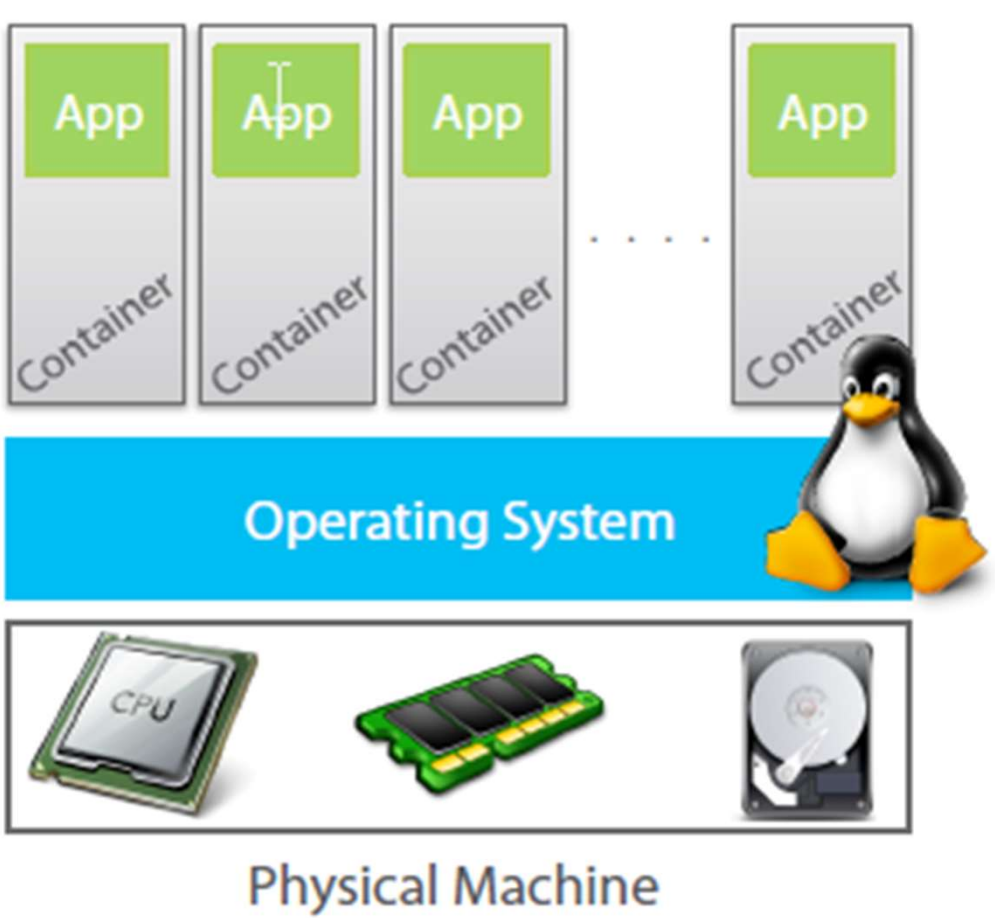
- Encapsulation of an application and its required environment.
- The process of packaging an application along with its required libraries, frameworks, and configuration files together so that it can be run in various computing environments efficiently.

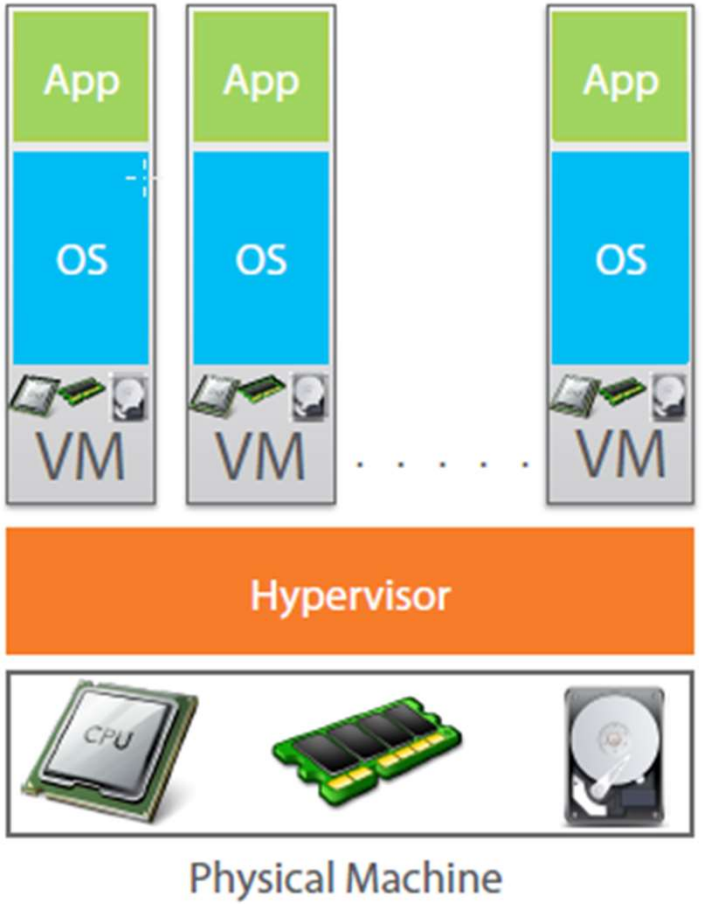
Containers to the Rescue



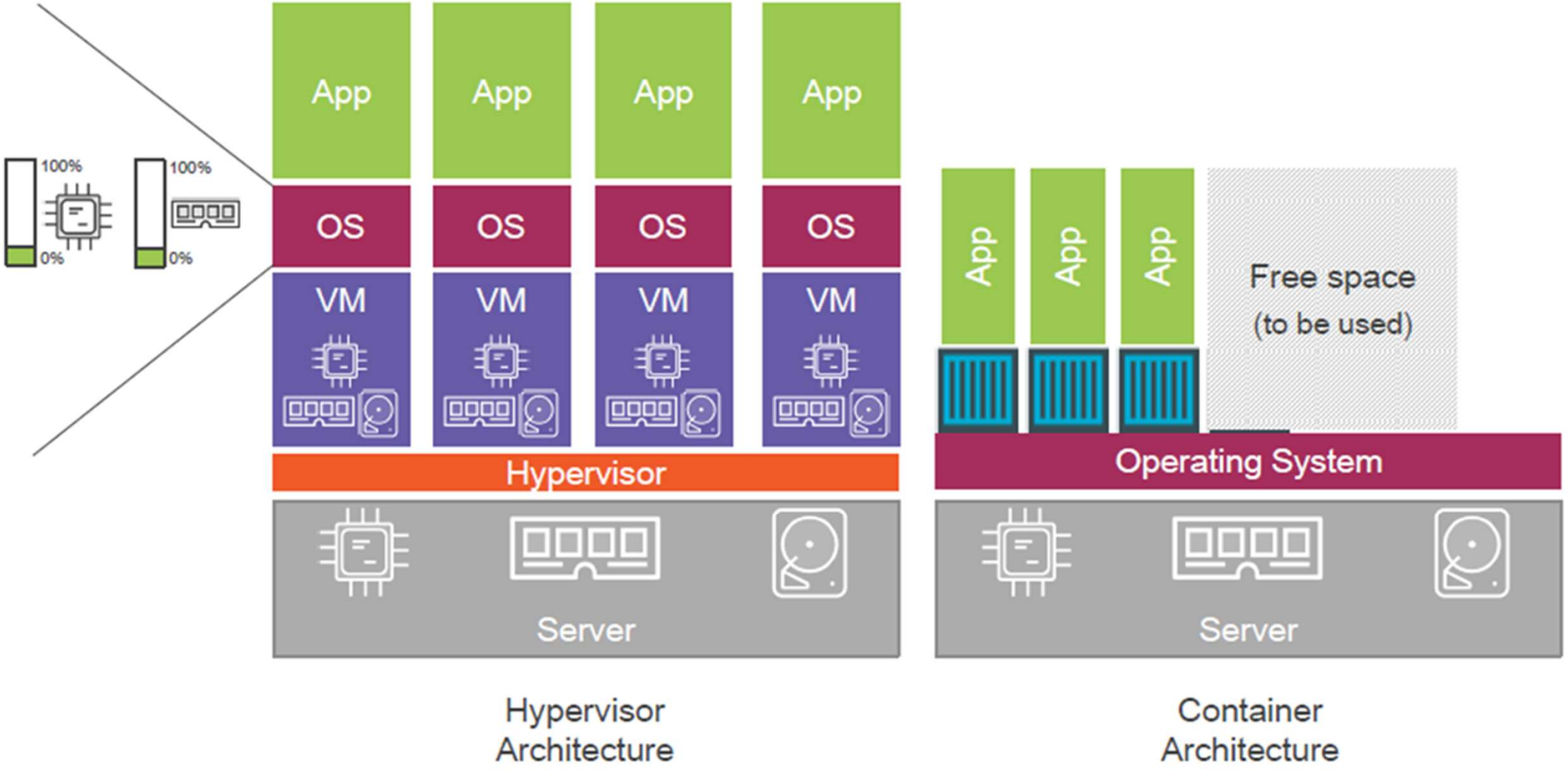
Containers are more lightweight than Virtual Machines

Containers vs VM

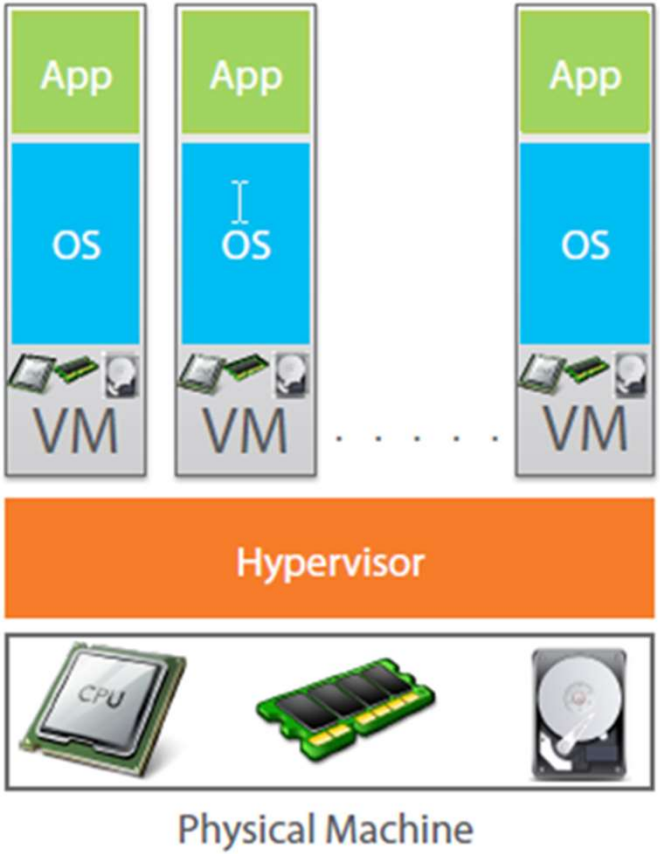


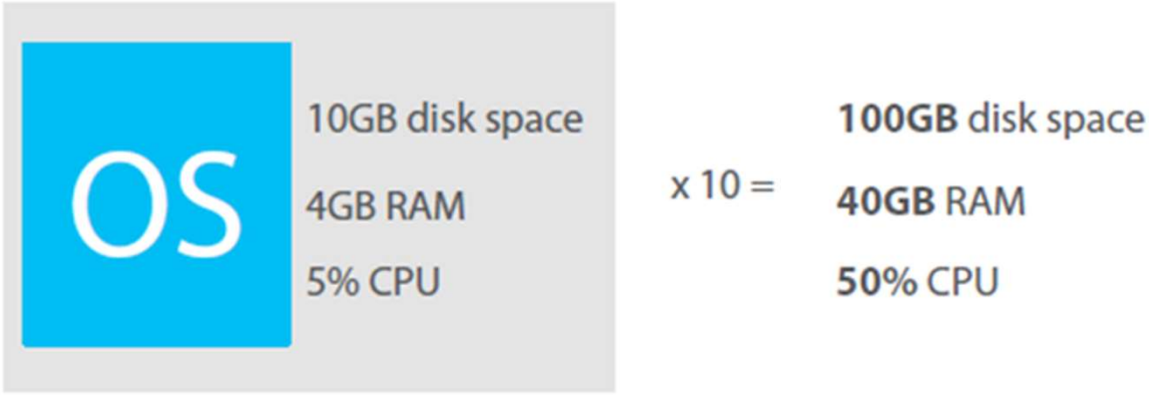


Containers vs VM

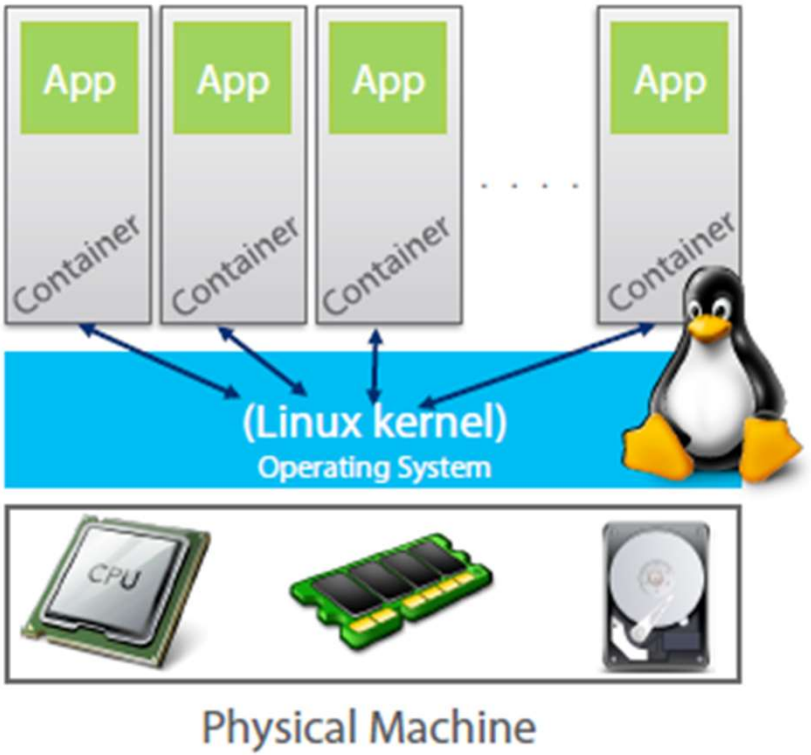


OS takes more resources and Licensing cost



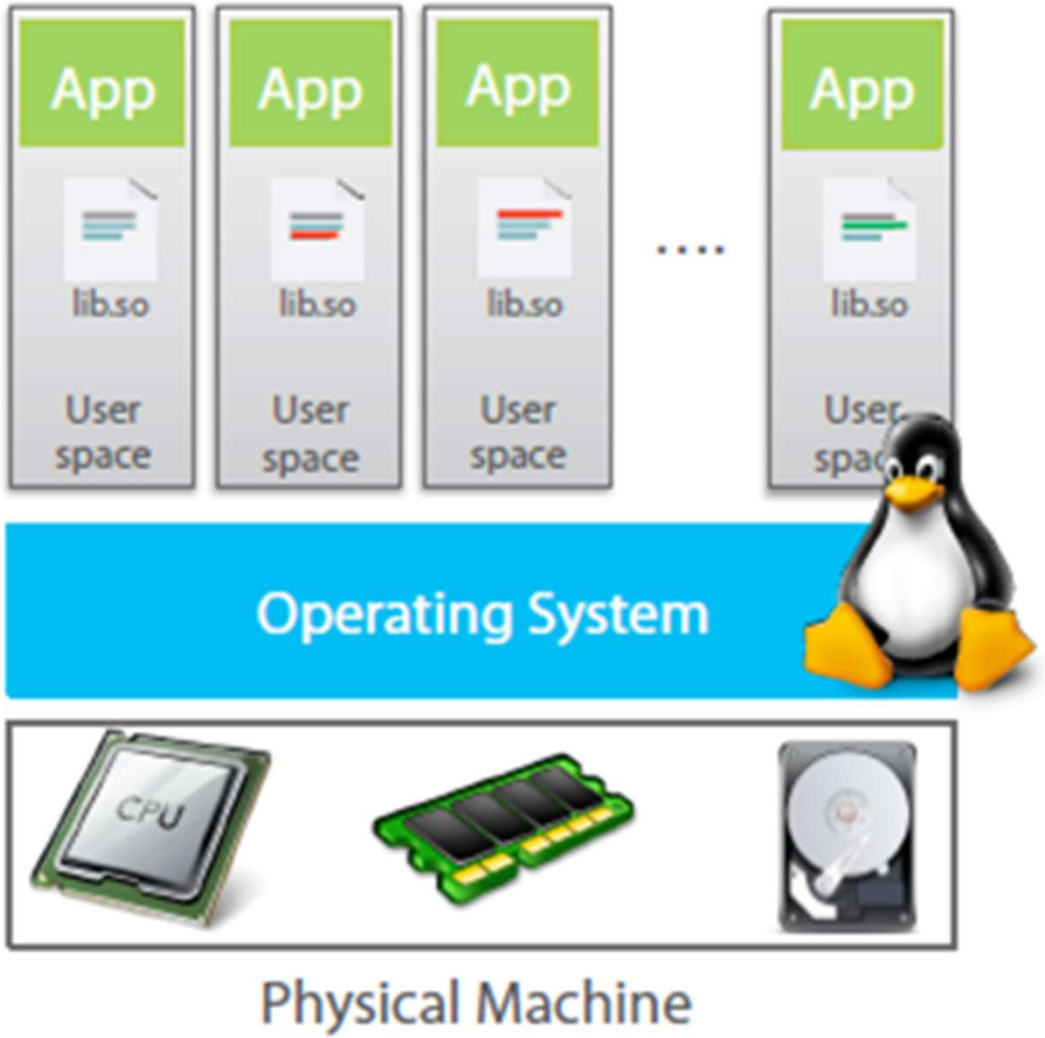


Containers takes less resources



Containers consume less CPU, RAM and disk resource than Virtual Machines

How containers work?

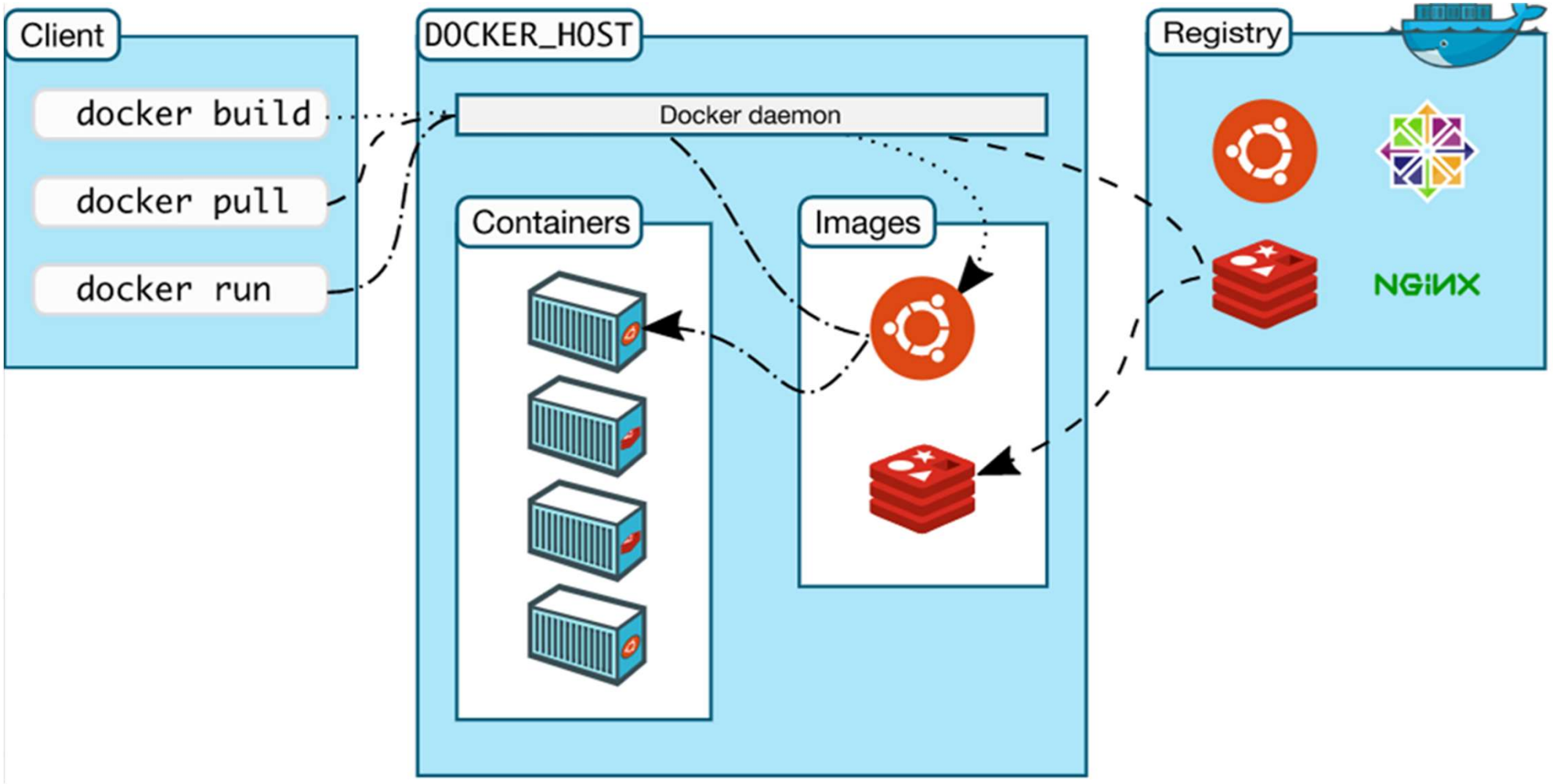


What is Docker?

- Docker is an open-source project
  - that automates the deployment of applications inside software containers,
  - by providing an additional layer of abstraction and
  - automation of operating system–level virtualization on Linux.

Practical

Docker Architecture



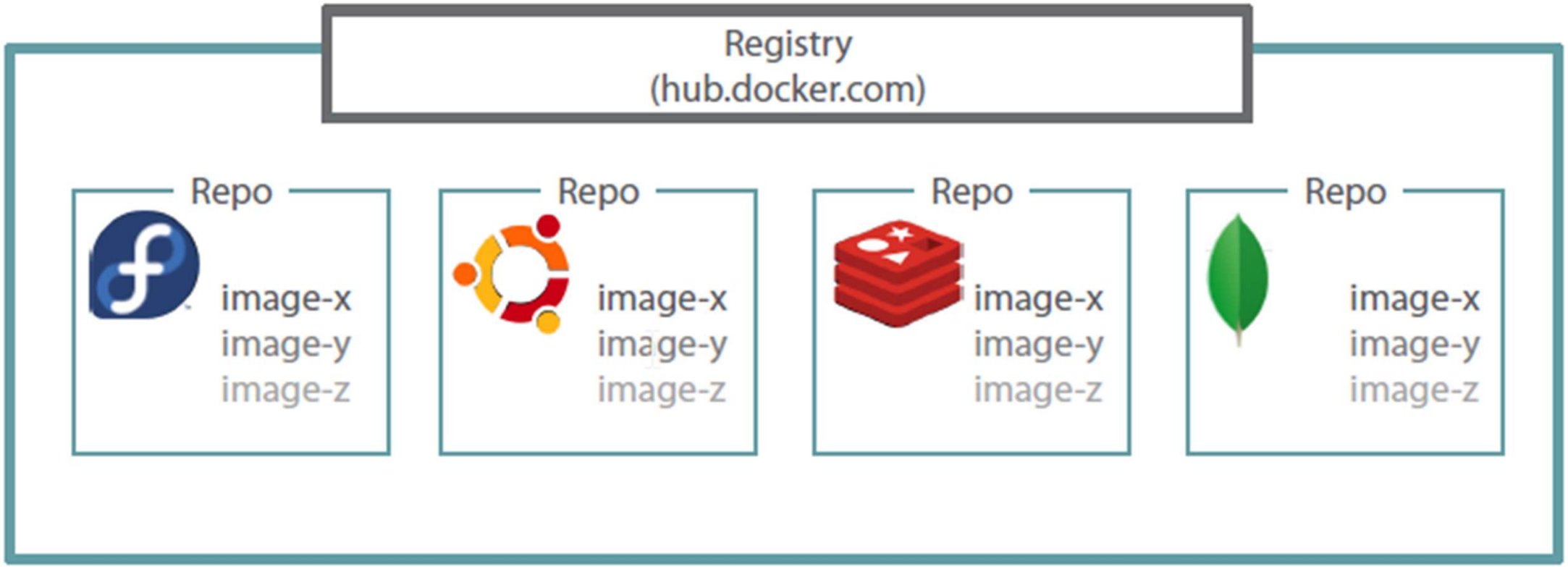
Image

- Persisted snapshot that can be run
- Common Docker Commands:
  - images: List all local images
  - run: Create a container from an image and execute a command in it
  - tag: Tag an image
  - pull: Download image from repository
  - rmi: Delete a local image

Container

- Runnable instance of an image
- Common Docker Commands
  - ps: List all running containers
  - ps –a: List all containers (incl. stopped)
  - top: Display processes of a container
  - start: Start a stopped container
  - stop: Stop a running container
  - pause: Pause all processes within a container
  - rm: Delete a container
  - commit: Create an image from a container

Docker Registry




thanks