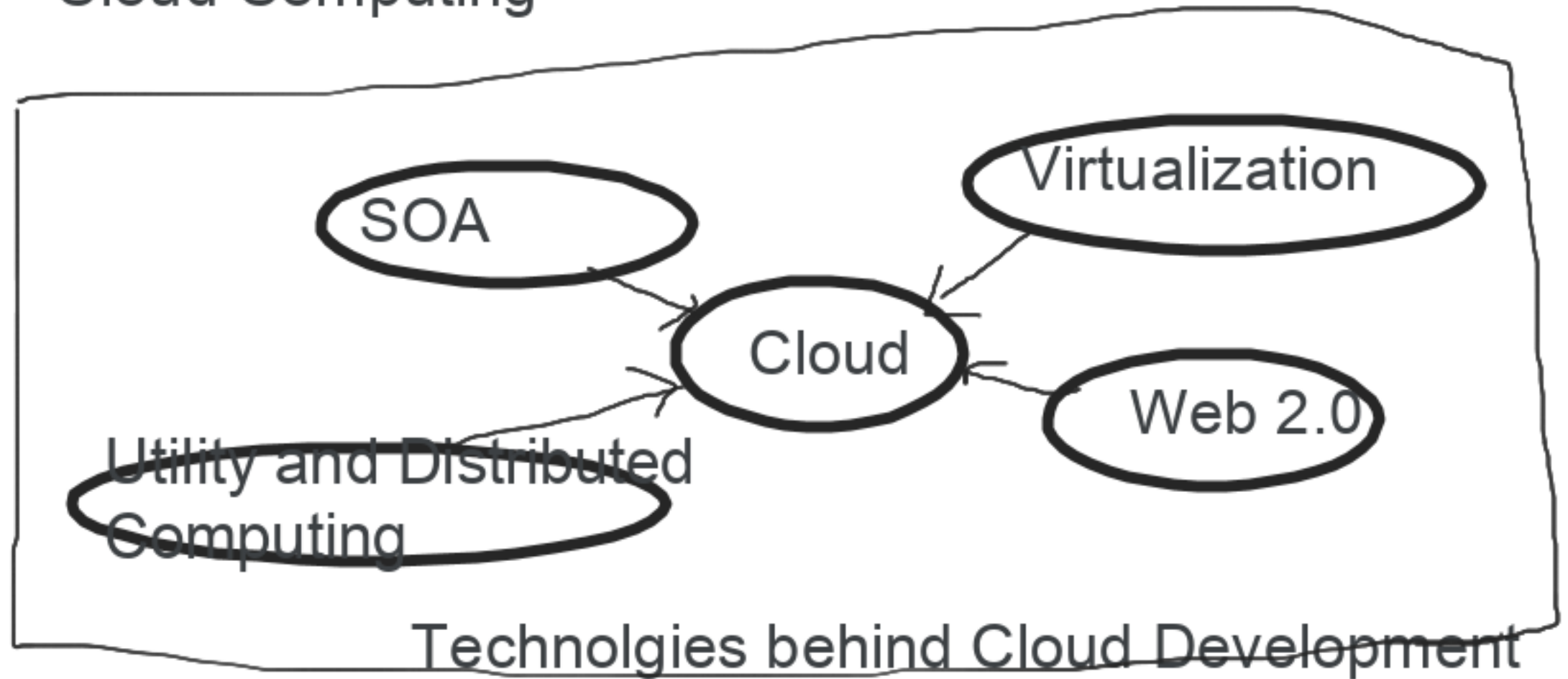


## Trends of computing Models

- \*Distributed computing
- \*Grid computing
- \*Cluster computing
- \*Utility computing
- \*Cloud computing

## Cloud Computing



## Cloud Service Model

SaaS: Google docs, CRM

PaaS: google app engine, Azure

IaaS: Amazon EC2(elastic  
comput cloud) ,AWS S3(simple  
storage service).

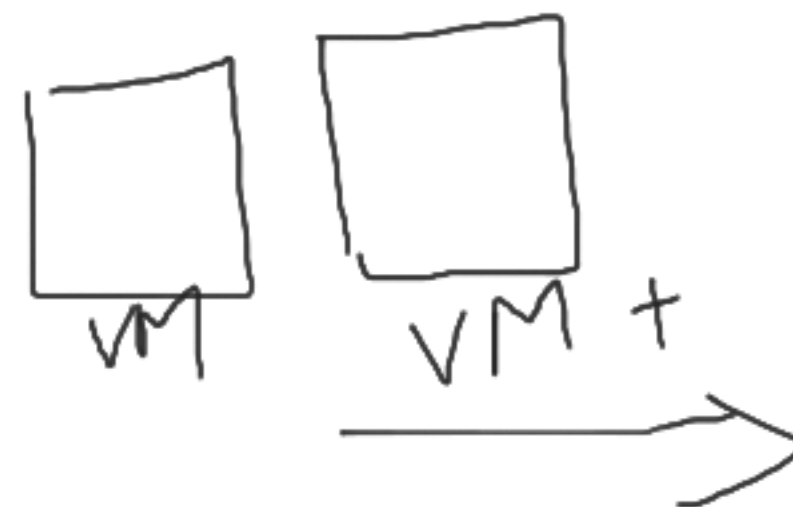
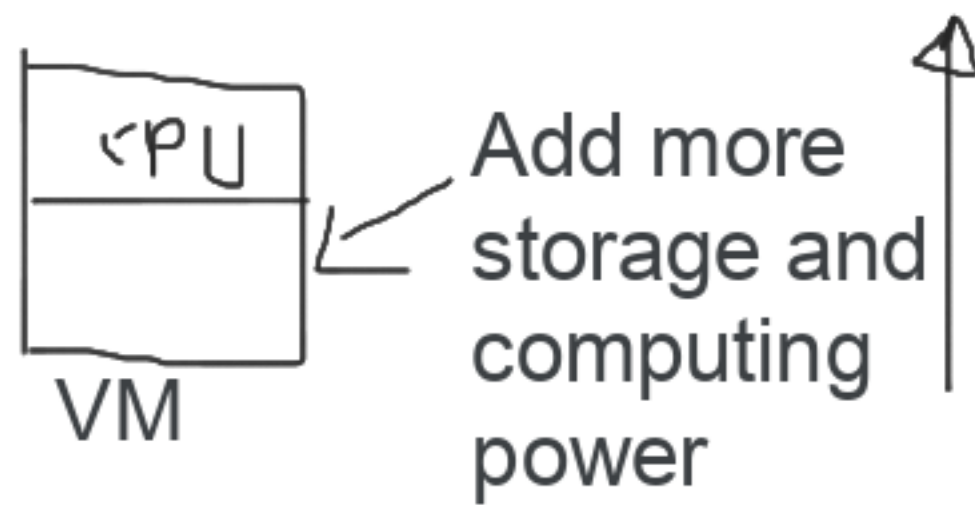
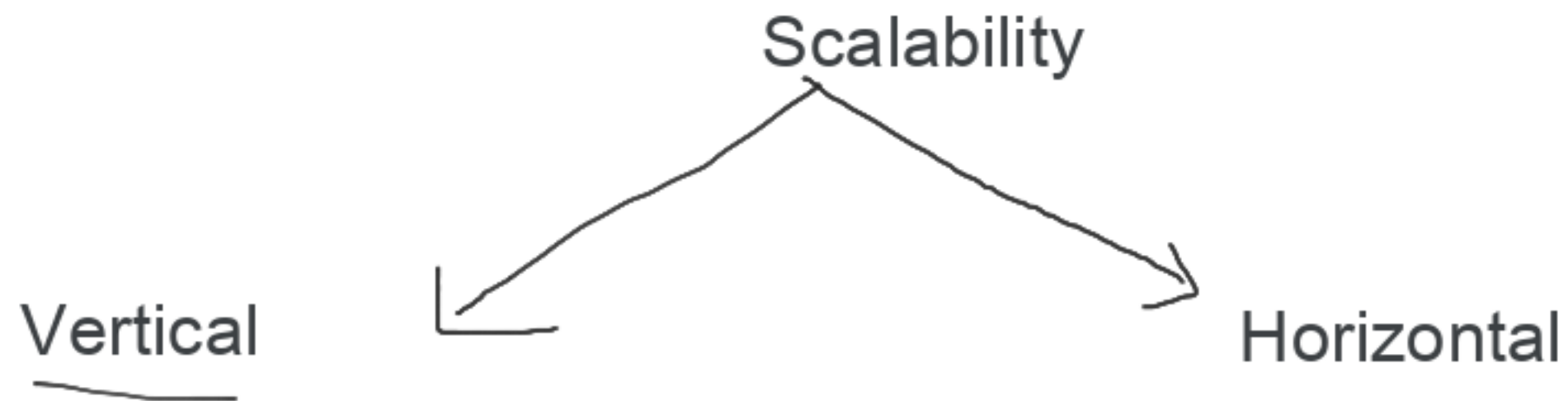
SaaS:Storage as a Service.

BaaS

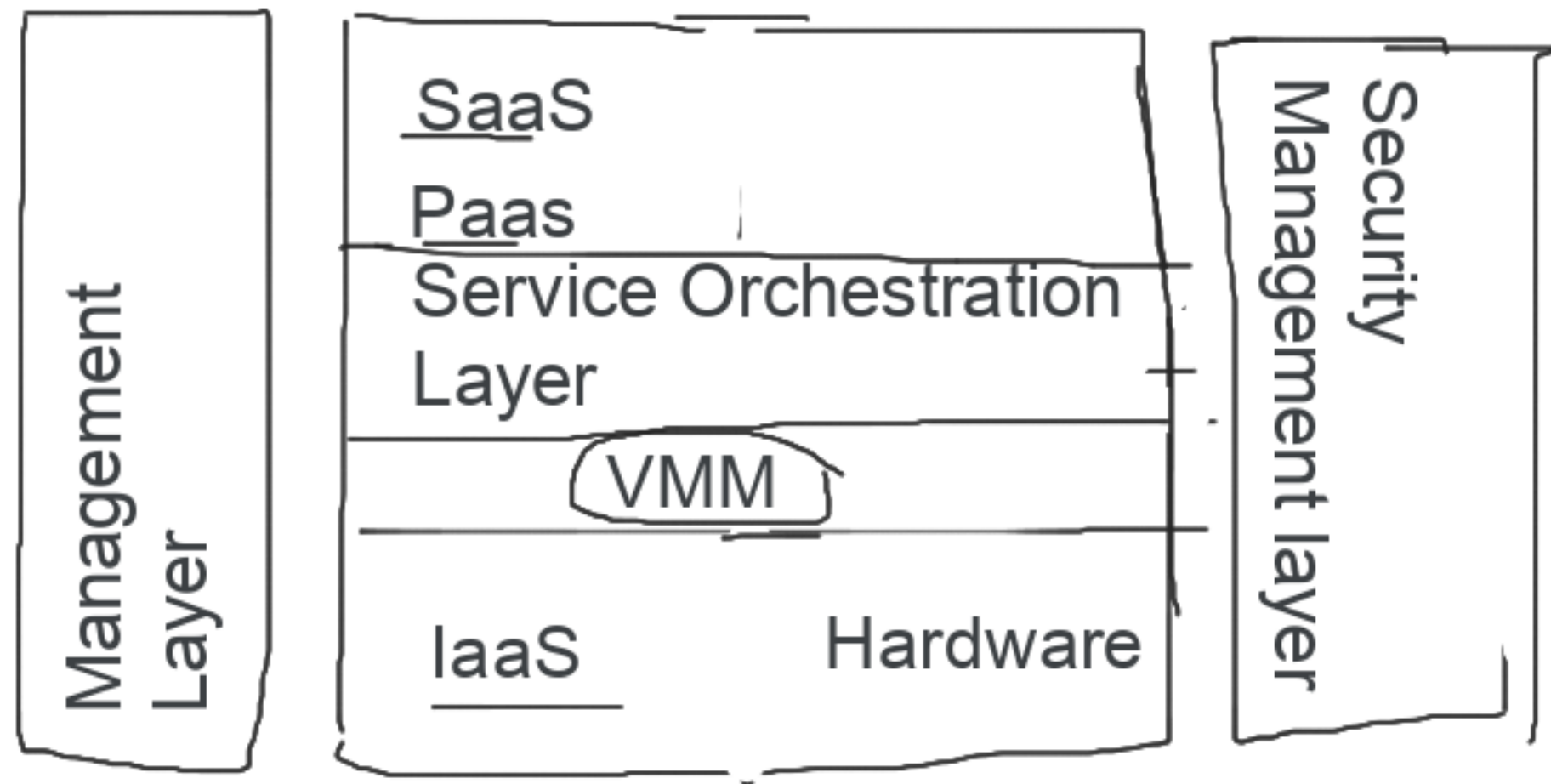
XaaS:Everything as a service

## Deployment model

- \*Public cloud
- \*Private cloud.
- \*Hybrid Cloud
- \*Community Cloud .



## Cloud reference Model



## Virtualization

### Types of Virtualization

- \*Desktop Virtualization
- \*Storage(SAN ,NAS)
- \*Server
- \*network (Virtual Switch,VLAN)
- \*execution \_\_\_\_\_

- \*fast Processing
- \*complex

Hypervisor(VMM)(Virtual Machine monitor)

Bare Metal  
(Type 1)

VM<sub>1</sub> VM<sub>2</sub>

VMM

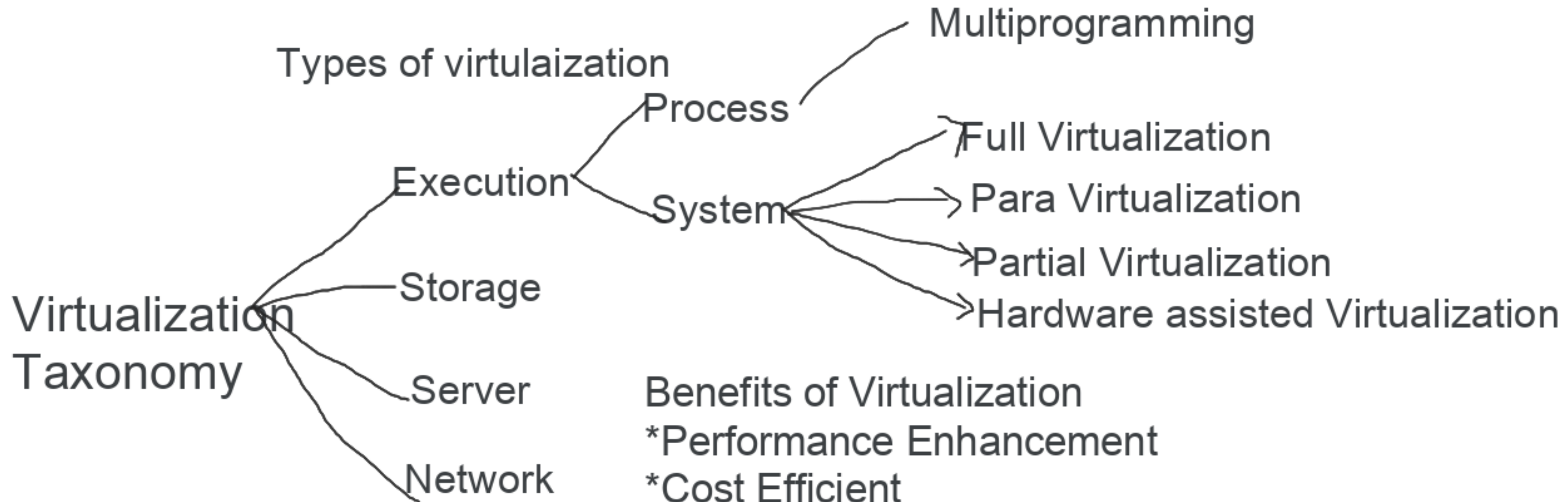
Hardware

Hosted  
(Type 2)

VM<sub>1</sub> VM<sub>2</sub>  
VMM

Host OS

hardware



### Benefits of Virtualization

- \*Performance Enhancement
- \*Cost Efficient
- \*Improve Flexibility& management
- \*Efficient Resource utilization
- \*Disaster recovery management
- \*Energy saving
- \*portabilty and testing

## Full virtualization

- \*Guest Operating System get Modified
- \*Run on raw hardware
- \*privilege instruction(system call) easily interpreted.
- \*Secure and complex
- \*Cost efficient

VMWARE ESXi

## Para Virtualization

- \*No modification of OS
- \*explicit system call are executed
- \*simple
- \* helpful in performance critical application

XEN



# Virtual Machine Migration



