

Virtualization

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The Information Security Triad

- The CIA Triad consists of the following components:
 - Confidentiality
 - Integrity
 - Availability



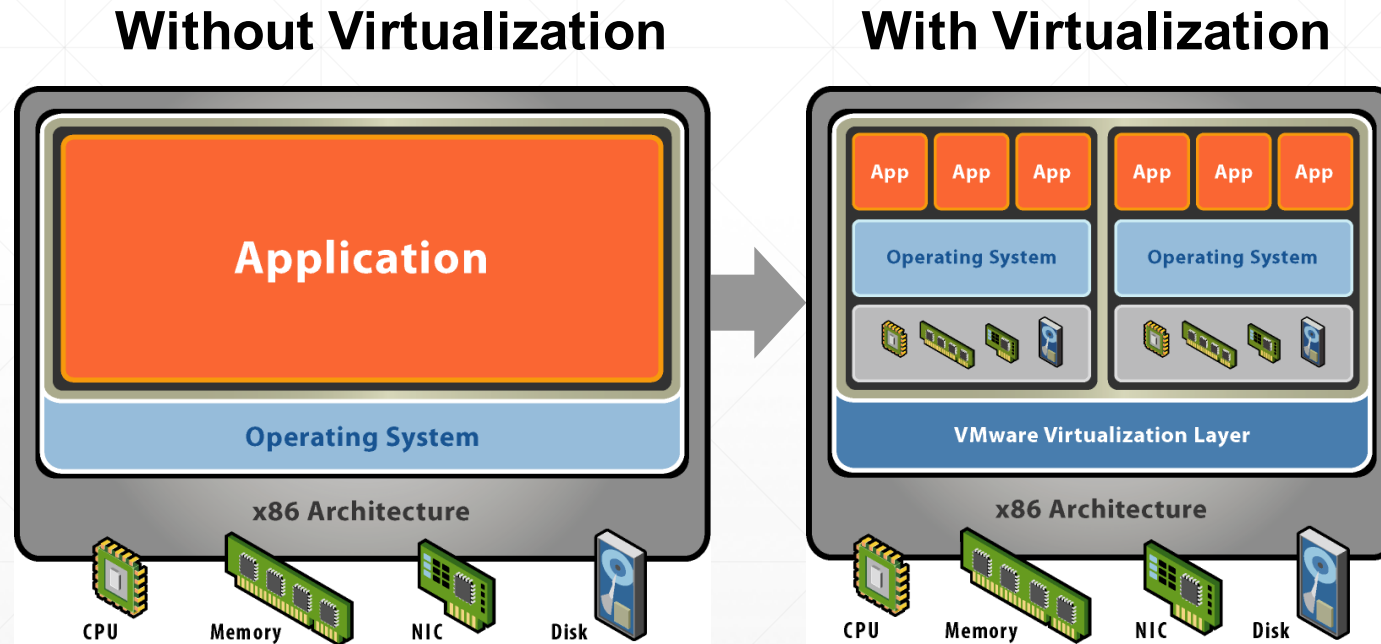
Physical System Layers

- **Physical System Layers:**
 - Hardware
 - Operation System
 - Application
 - Data

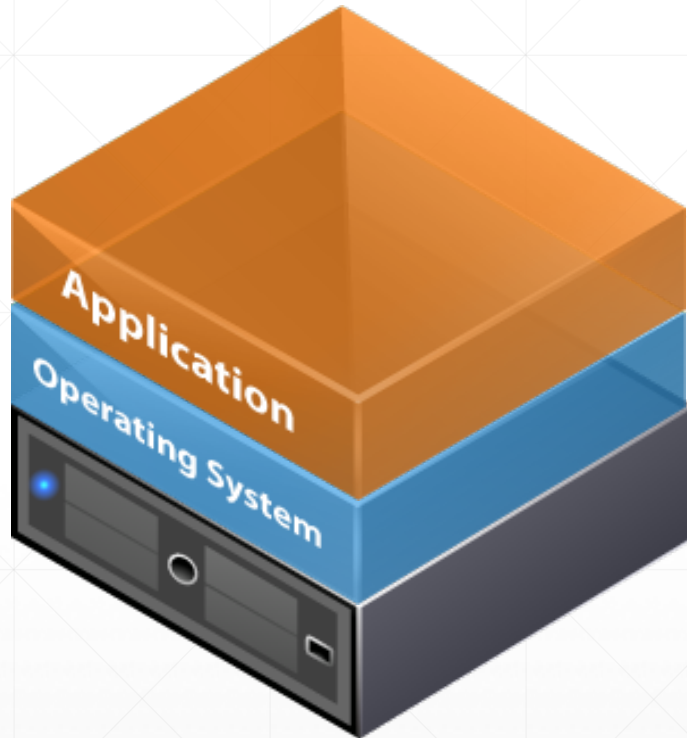


What is Virtualization?

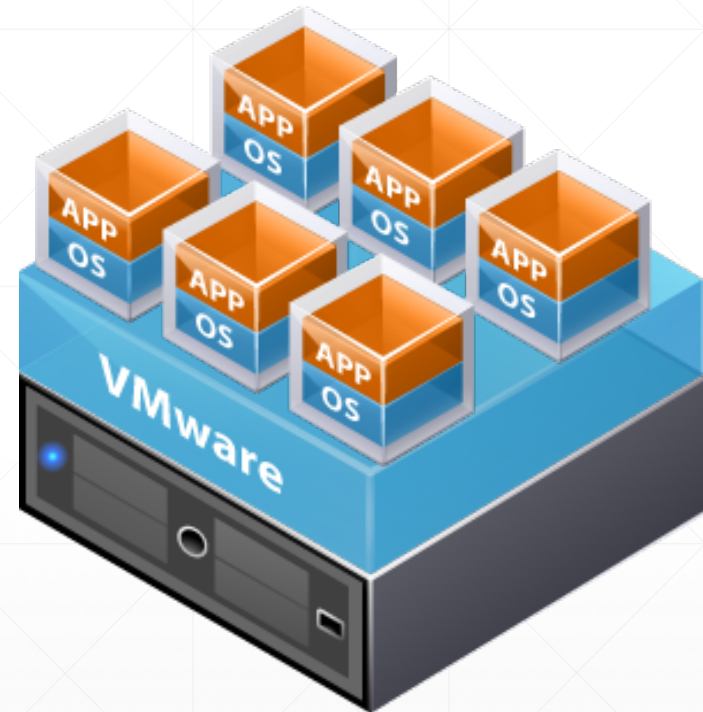
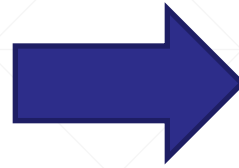
- Virtualization abstracts the underlying physical structure of various technologies



Traditional Vs Virtual Architecture

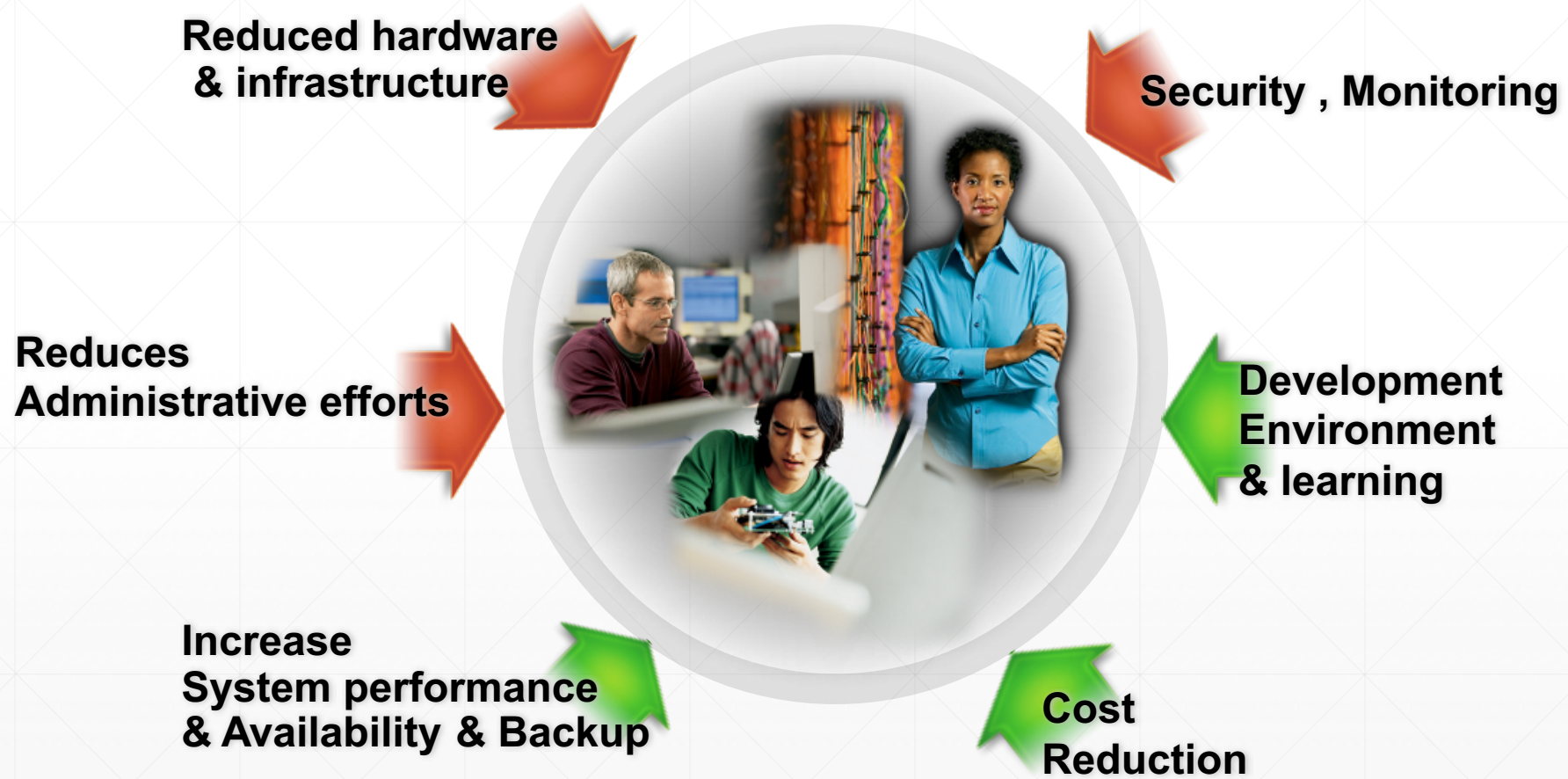


Traditional Architecture



Virtual Architecture

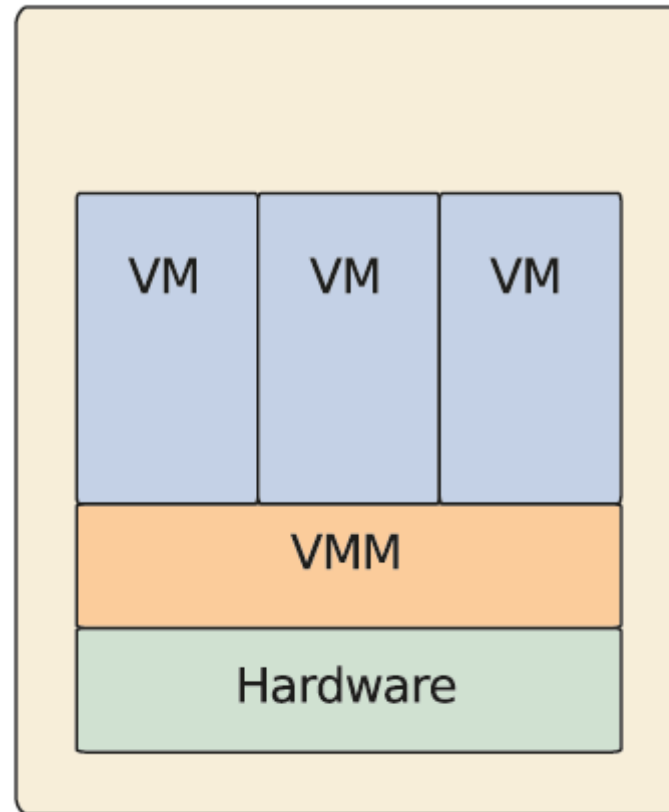
Virtualization Benefits



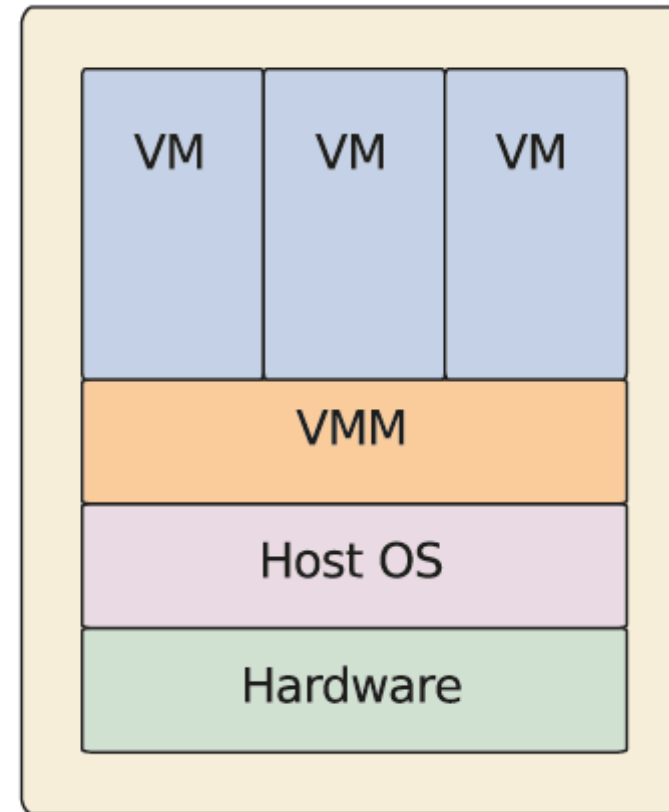
Types of Virtualization

- Server Virtualization
- Desktop Virtualization
- Network Virtualization
- Application Virtualization
- Storage Virtualization

Two Hypervisor (VMM) Types



Hypervisor Type I



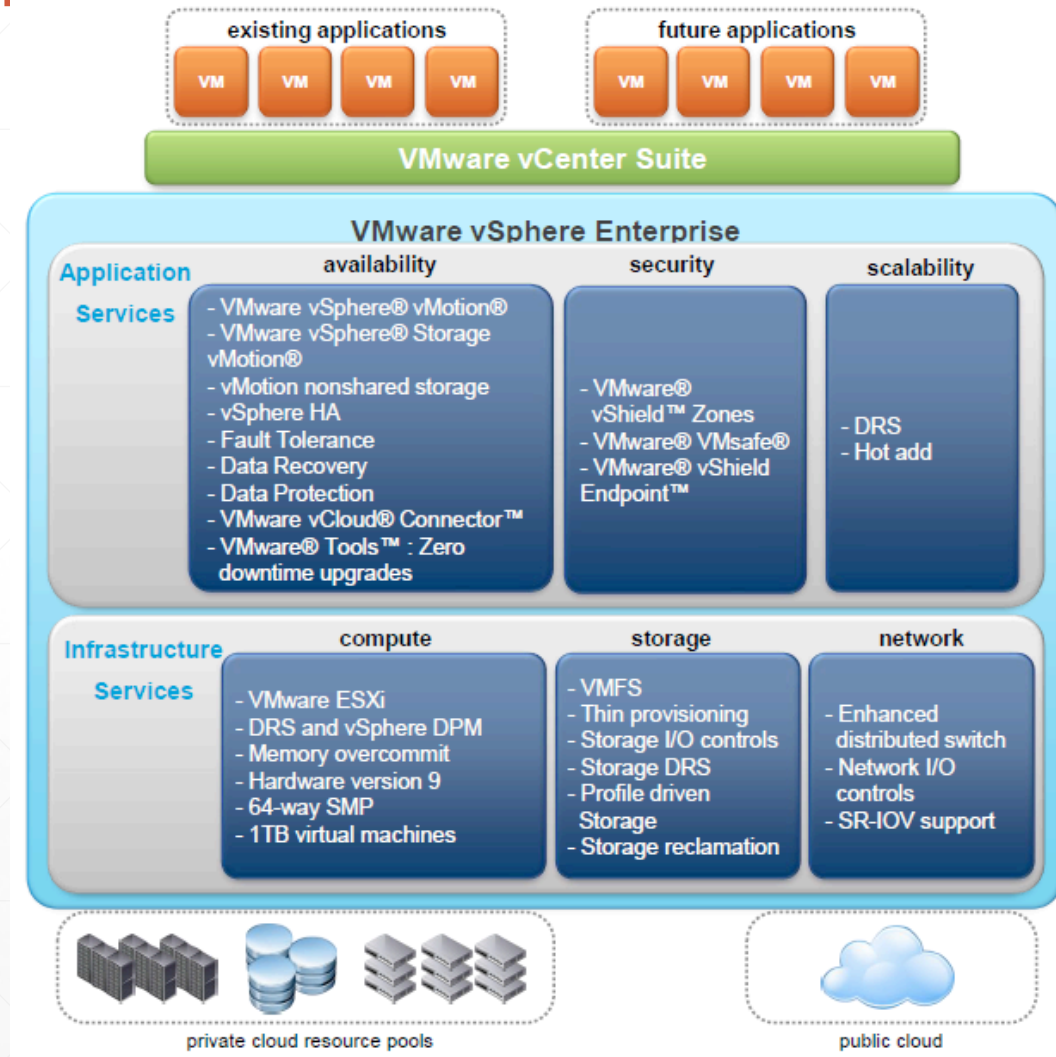
Hypervisor Type II

Gartner Magic Quadrant

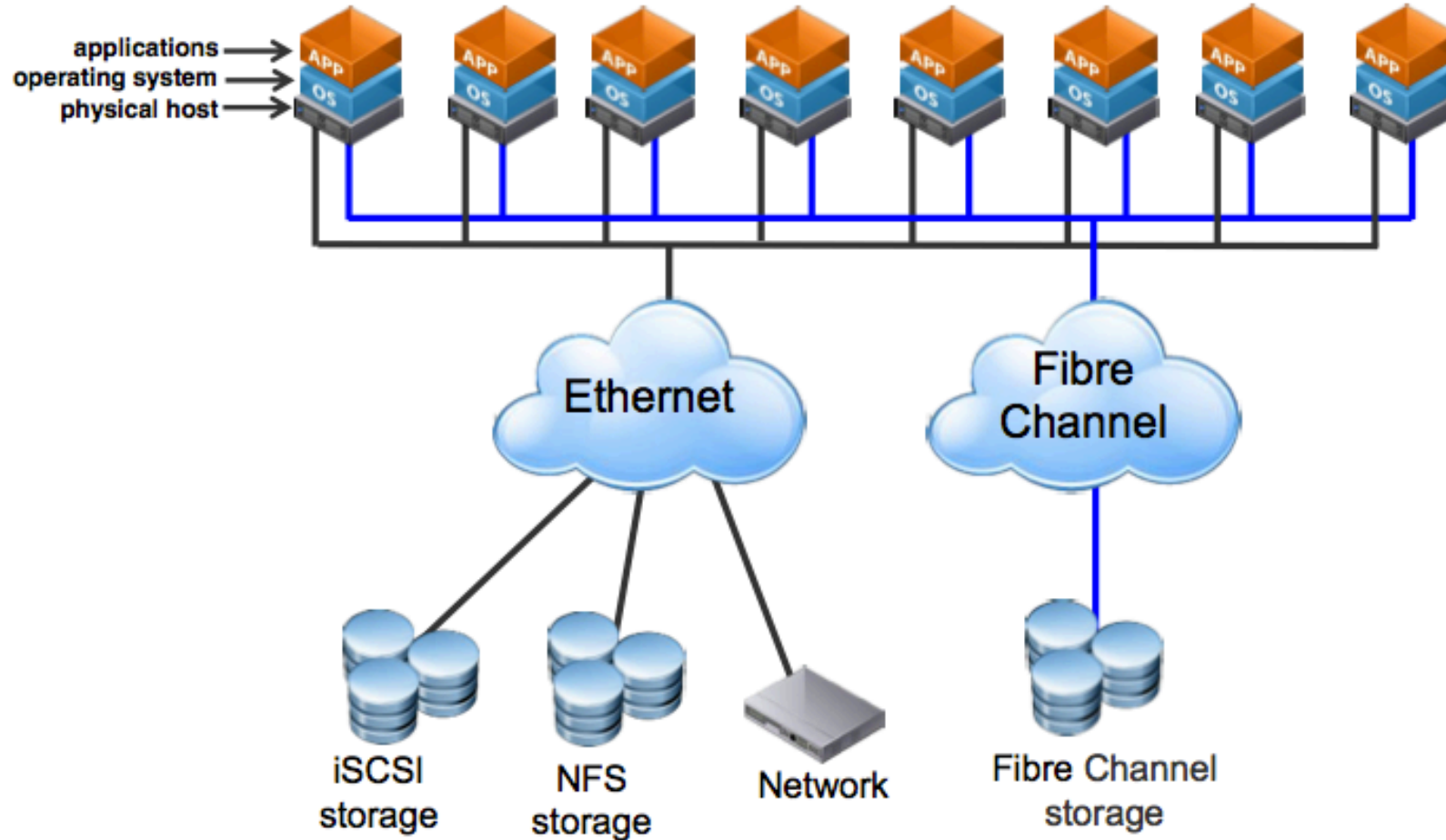


As of June 2013

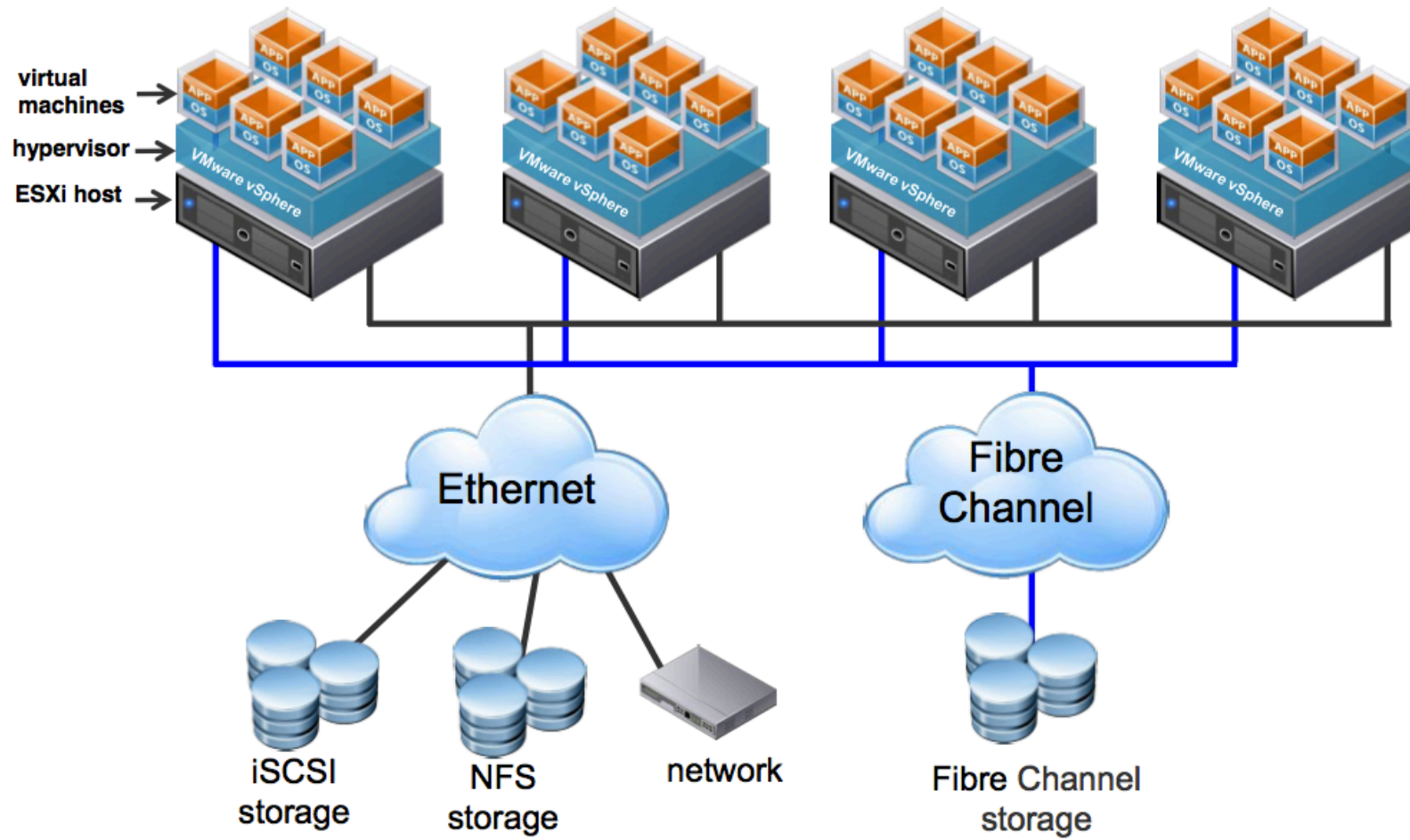
VMware Vsphere Components



Physical Infrastructures



Virtual Infrastructures

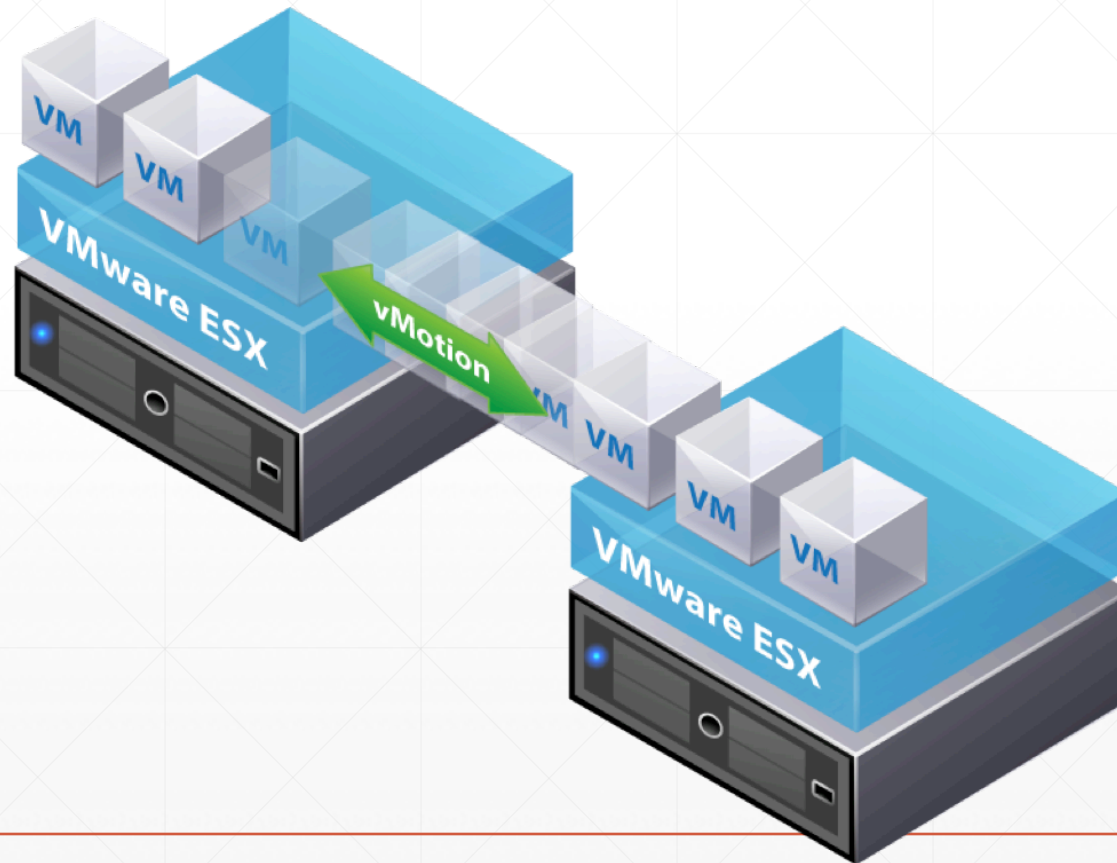


VMware Cluster

- What is a Cluster?
 - A cluster is a collection of ESXi hosts and associated Virtual Machines.
- Features Active whit a Cluster?
 - HA ,DRS, DPM, FT,..

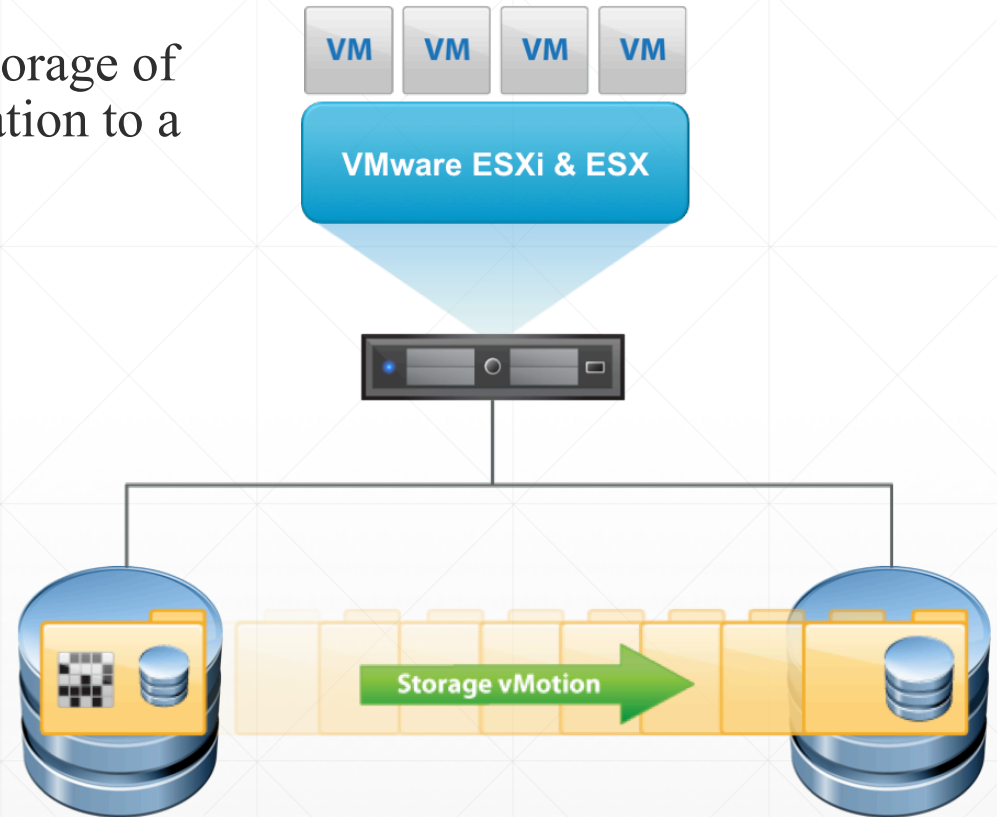
vMotion

- vMotion / Live Migration



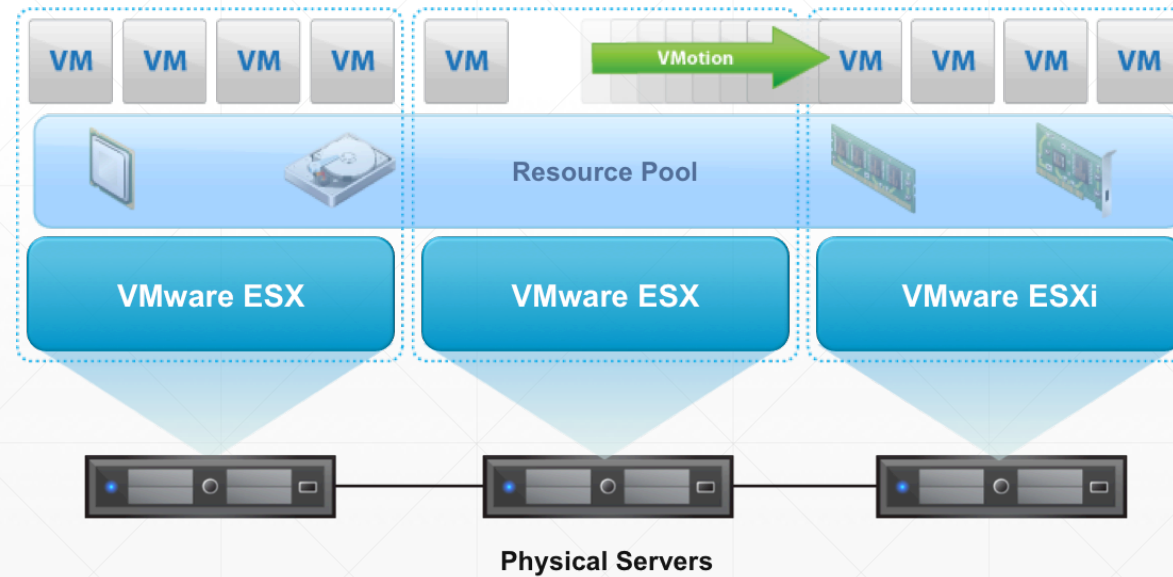
svMotion

- Storage vMotion:
 - is a technology that allows you to migrate the storage of a running virtual machine from one storage location to a second storage location



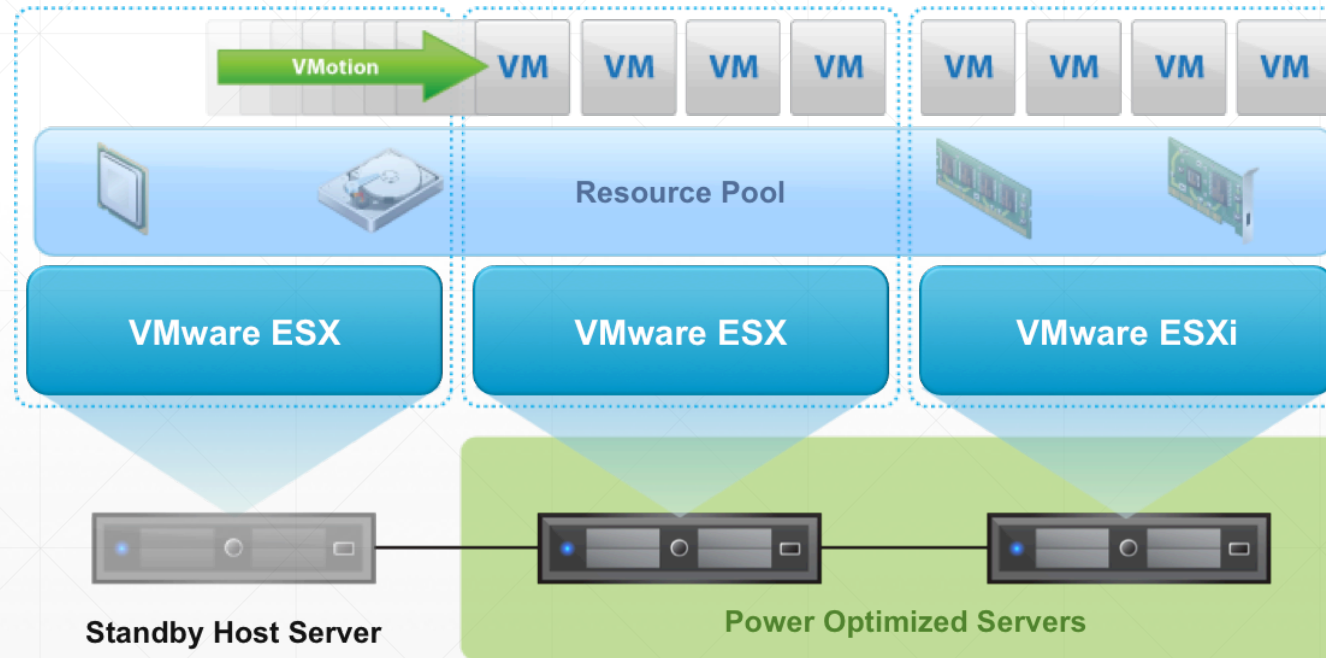
VMware DRS

- What is DRS?
 - intelligent placement
 - distribution resource (Balancing)



DPM

- Distributed Power Management (DPM)
 - is the ability of the system to identify when there is enough extra capacity to either automatically shut down hosts or make recommendations to reduce power consumption

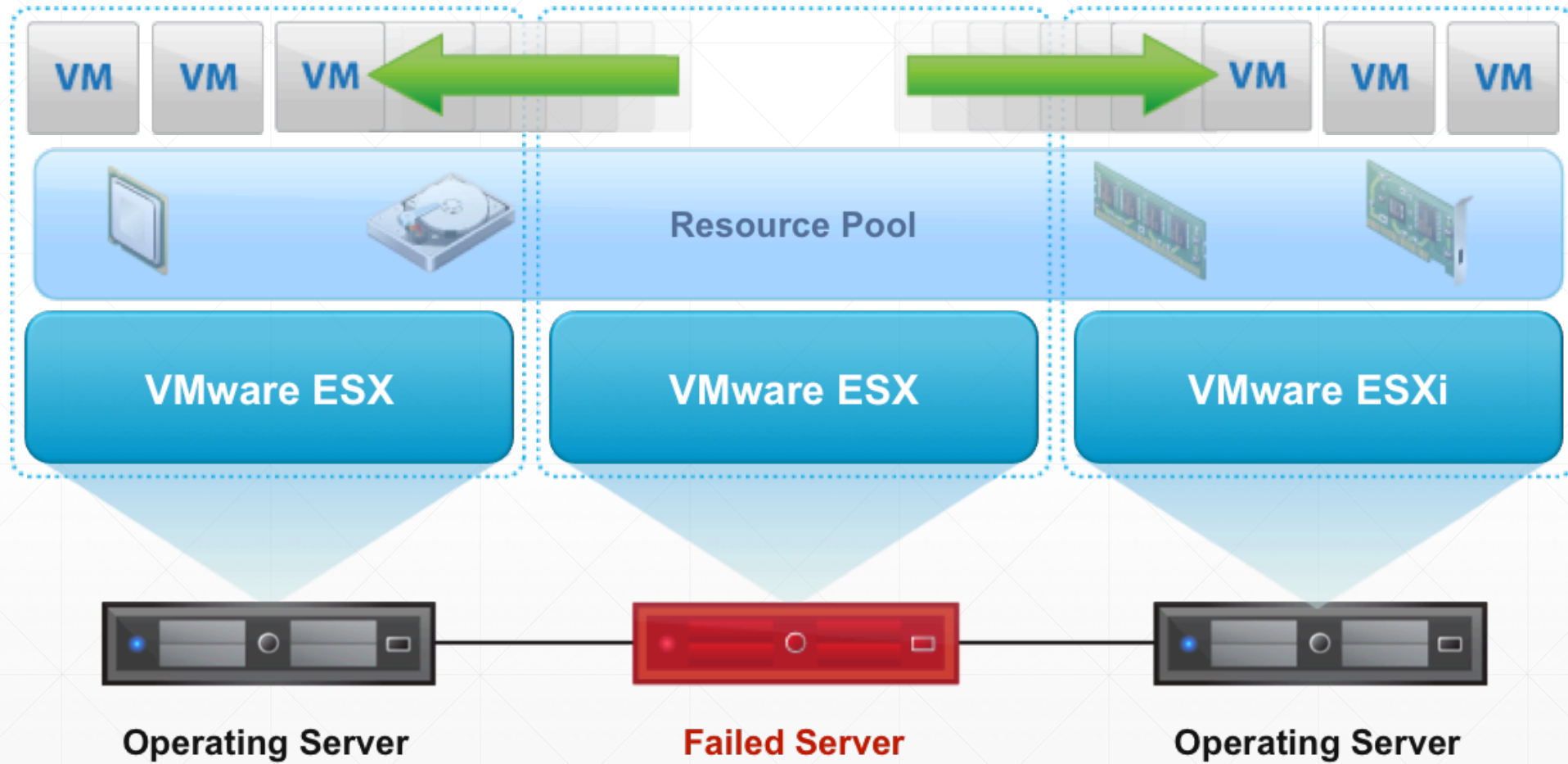


Level Of High Availability

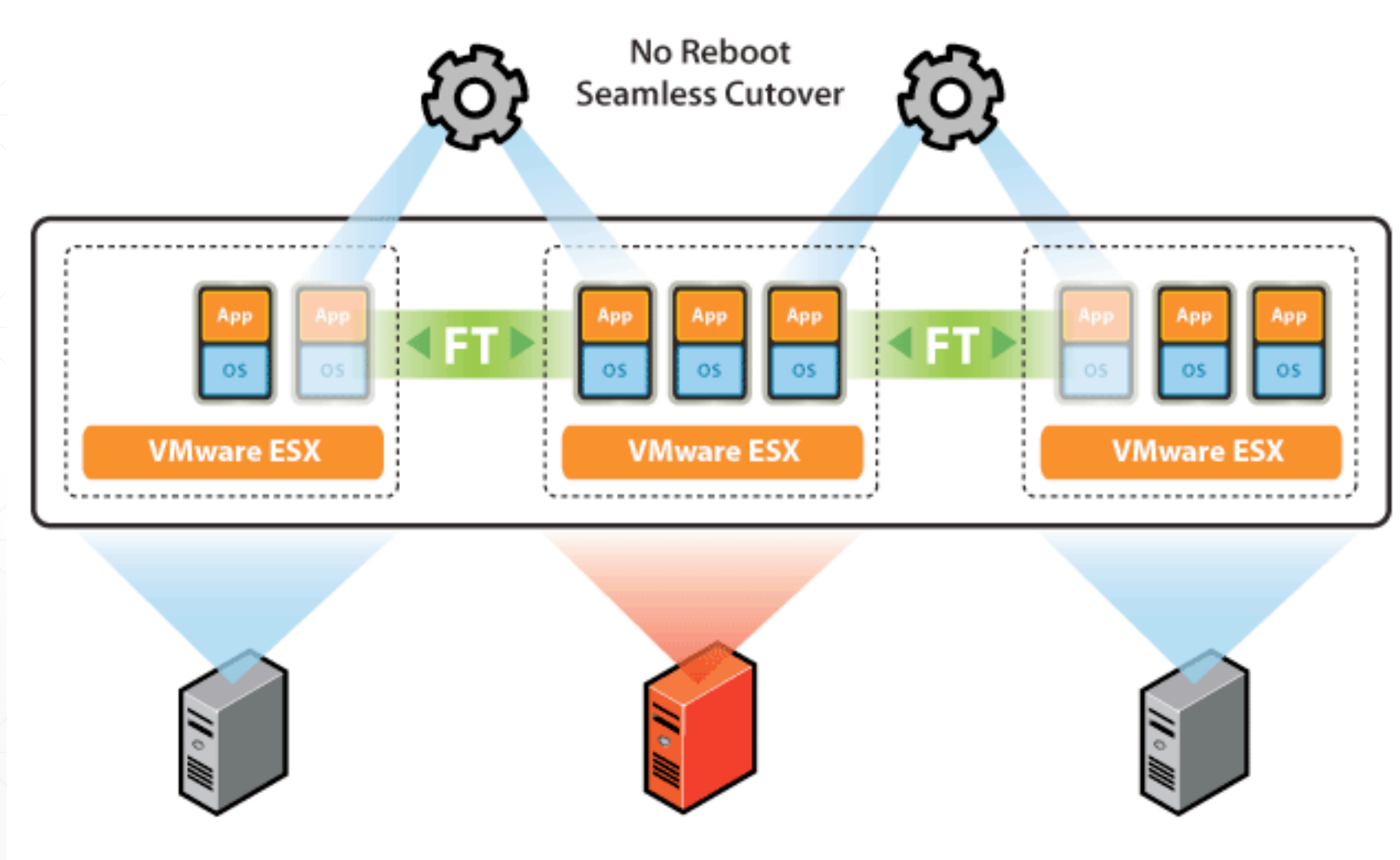
- Which Level of Virtual Machine (UP) availability is Important to you?

Level of Availability	Downtime Per Year
99%	87 h (3.5 D)
99.9%	8.76 H
99.99%	52 M
99.999%	5 M

High Availability



VMware FT



Questions ?

Thanks for your Attention