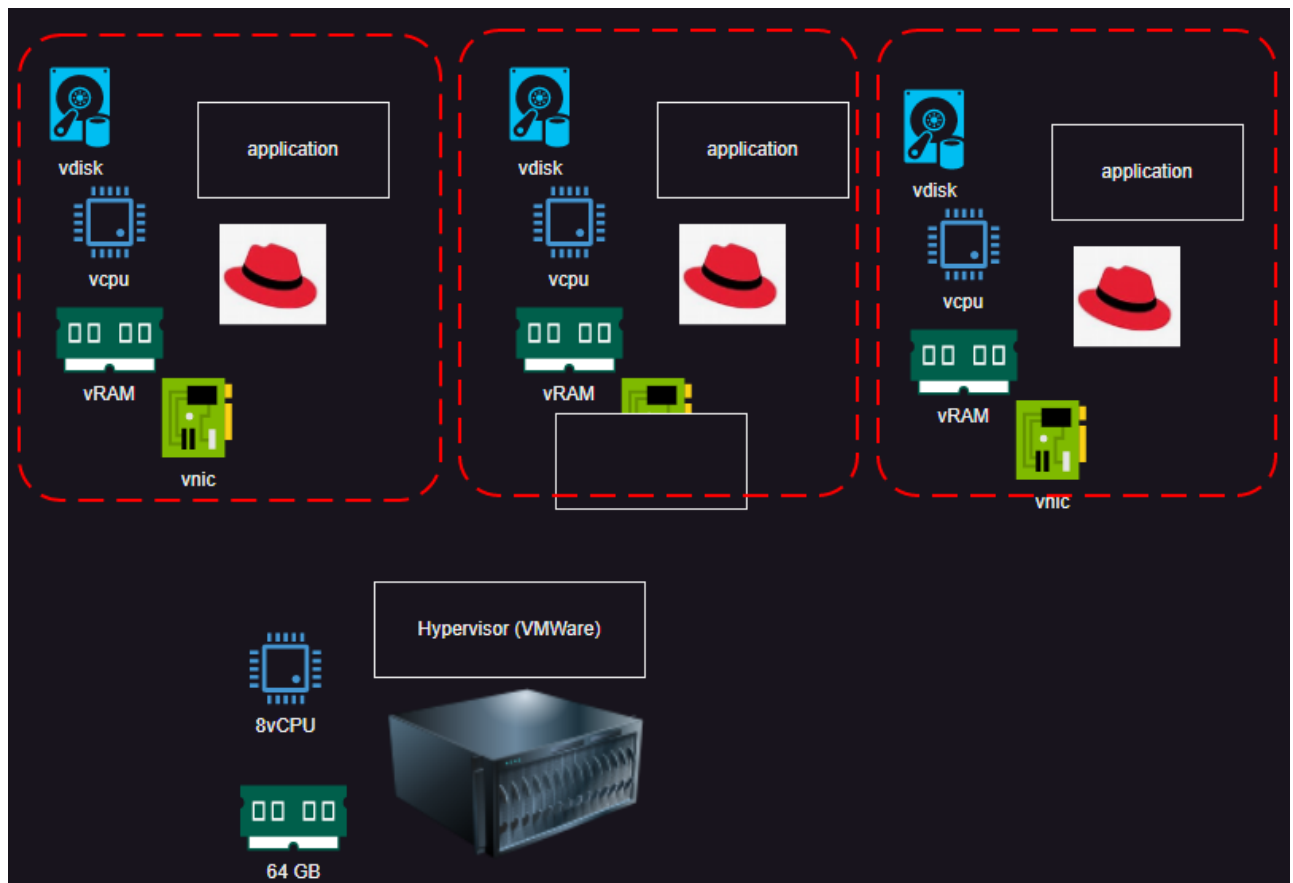# Servers

- Categorization:
    - Physical (Hardware):
        - Tower Servers
        - Blade Servers: Designed to run in Datacenters or server rooms
    - Software: Server software generally handle requests and will be running all the time on physical or virtual machines.
        - Database Server
        - Web Server
        - Application Server (Middleware)

Virtualization

- Overview

- We generally use Management softwares to manage virtual machines across data centers. (VSphere, Vcenter)
- Virtualization is of two types
    - Type I: Hypervisor acts as Operating system on Physical infra
    - Type II: Hypervisor acts as software on existing OS on physical infra

Datacenter Organization

- It is organized as Server Racks
- Each Rack gets parallel powersupply and network
- Each Rack has a switch (ToRS)

- Network Switch and Router
- Latency: Time taken by packet to travel
- Generally applications will be hosted on multiple data centers which are in different geographical locations for high availability
- For the HA purposes two types of approaches are possible
    - Active - Passive
    - Active - Active