**Virtualization**

**Continuity**

**Overview**

Vsphere HA leverages multiple ESXi hosts configured as a cluster to provide rapid recovery from outages and cost-effective high availability for applications running in virtual machines.

**Benefits of vSphere HA**

- Can restart vms on other hosts in the cluster
- Monitors vm and resets it in event of failure
- If datastore goes down, it can restart vm on other hosts that have access to datastores.
- It protects virtual machines against network isolation by restarting them if their host becomes isolated on the management or Virtual SAN network. This protection is provided even if the network has become partitioned.

**How HA works**

- Pools vms and hosts they are on into a cluster
- In a cluster there is a master host, this host:
  - Communicates with VCS
  - Monitors state of all vms and slave hosts
  - Has to distinguish between failure types and figure out what to do
  - Uses a network and datastore heartbeat to figure out what might have happened

**HA Admission controls**

vCenter Server uses admission control to ensure that sufficient resources are available in a cluster to provide failover protection and to ensure that virtual machine resource reservations are respected.

**Failover**

- After vms have been restarted by vSphere HA, the hosts they are on might be heavily loaded... can rebalance among hosts.