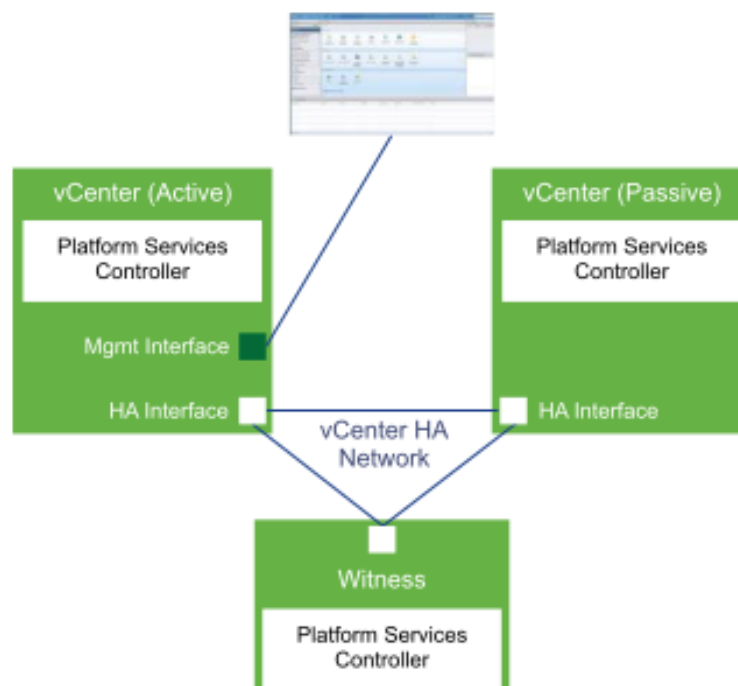# vCenter HA Architecture Overview

➤ A vCenter HA cluster consists of three vCenter Server Appliance instances. The first instance, initially used as the Active node, is cloned twice to a Passive node and to a Witness node. Together, the three nodes provide an active-passive failover solution.

➤ Deploying each of the nodes on a different ESXi instance protects against hardware failure. Adding the three ESXi hosts to a DRS cluster can further protect your environment.

➤ When vCenter HA configuration is complete, only the Active node has an active management interface (public IP). The three nodes communicate over a private network called vCenter HA network that is set up as part of configuration. The Active node and the Passive node are continuously replicating data

➤ vCenter Server 6.5 HA is only available with vCenter Server appliance not on windows based vCenter Server

➤ vCenter Three-Node Cluster vCenter (Active) HA Interface vCenter (Passive) Witness vCenter HA Network HA Interface Mgmt Interface All three nodes are necessary for the functioning of this feature

vCenter HA Hardware and Software Requirements

Components	Requirement
ESXi	• ESXi 5.5 or later is required. • Three hosts are strongly recommended. Each vCenter HA node can then run on a different host for better protection. • • Using VMware DRS to protect the set of hosts is recommended. In that case, a minimum of three ESXi hosts is required.
vCenter Server Appliance	• vCenter Server 6.5 is required. • Deployment size Small (4 CPU and 16GB RAM) or bigger is required to meet the RTO. Do not use Tiny in production environments. • vCenter HA is supported and tested with VMFS, NFS, and vSAN datastores. • Enough Compute and Storage Capacity on the cluster where existing vCenter Server appliance is running because when you configure vCenter Server 6.5 HA, It will Clone the existing vCenter Server appliance and Create additional 2 Virtual machines (Peer & Witness) named with vCenter_VM_Name-peer & vCenter_VM_NAme-Witness. These 2 VM's have the exact same configuration in terms of memory, CPU and Storage space as your existing vCenter server appliance.
Network connectivity	• vCenter HA network latency between Active, Passive, and Witness nodes must be less than 10 ms. • The vCenter HA network must be on a different subnet than the management network. • Create a Separate port group for the vCenter HA network. When you configure vCenter server 6.5 HA, the second vNIC will get added (eth1) during the configuration. This vCenter HA network is used for internal communication between the vCenter HA nodes. • The management network should be configured with a static IP address and reachable FQDN • SSH should be enabled on the VCSA
Licensing required for vCenter HA	• vCenter HA requires a single vCenter Server license. • vCenter HA requires a Standard license.

VCenter HA Installation Steps

> - Configure the Port Group with VLAN on Virtual Switch.
> - Deploy Centre HA with the embedded PSC
> - Assign the IP address, subnet mask for the Active node and the port group to connect to the vCenter HA network
> - Provide the vCenter HA network IP address and subnet mask for the Passive node and the Witness node
> - Configure Passive and Witness nodes in different host and datastore
> - Verify VCenter Active, Passive and Witness nodes Status