**Omar Abd El-Rahman Ali**

**20180180**

**Virtual Switch**

Just like the regular switch but is used to logically connect virtual devices to each other. And there are two types of virtual switches which are distributed switches and standard switches.

**Standard Switches**

* Can handle only one ESXI host and it does not require a license
* It’s created on the host level, so we can configure and manage each standard switch independently
* It does not have inbound traffic shipping or VM port blocking

**Distributed Switches**

* Can handle multiple ESXI host and it does require an enterprise license
* It can be handled from a centralized place with a control datacenter
* It does have inbound traffic shipping and VM port blocking
* It can provide a private VLANS (Promiscuous, Community, Isolator)
* Load based teaming and network VMOTION is used in distributed switch
* It enables NetFlow control, Port Monitoring and VNETWORKING switch API
* It uses templates to enable backup and restore for virtual machine configuration

Both Standard and Distributed switches enable Layer2 forwarding, VLAN segmentation, NIC teaming, and outbound traffic shipping

**What is DRS**

DRS’s main function is to ensure virtual machines and their applications getting the necessary computing resources to work efficiently, and it does that by monitoring the cluster every certain period and take appropriate actions to fix the problems if needed.

**How to create new DRS**

* First check the computing, storage, and network resources for ensuring their satisfaction, then you need to create a cluster and configure the ESXI hosts’ capabilities.
* GO to vCenter then Hosts and cluster
* Right-click on data center, then select “new cluster”
* Set a name for the cluster, mark the DRS icon then OK

**What is vSphere high availability**

It is a cluster feature that allows the virtual machine to restart itself on case of failure, so it can protect the cluster from failure in ESXI hosts

**What is DSR**

It is a cluster feature that balancing the overload between cluster hosts, when DSR detects an overload on any host, it migrates the VM to an existing host with enough hardware resources

**vSphere distributed power management**

It’s a feature that turns hosts on and off according to a power utilization method, that reduces power consumption cost and increase the efficiency of the virtual machine