Migration: It is the technique of moving a virtual machine from one host to another host or from one datastore to another datastore

Note : Datastore stores virtual machine files,log files,virtual disk and ISO images.Two Types : VMFS & NFS

Types of Migration : Cold Migration,Suspended Migration,Vmotion,Physical to Virtual(P2V),Virtual to Virtual(V2V)

Cold Migration :

• Movement of Virtual Machine to another host in powered-off state
• VM must be powered off during migration
• Cold migration are flexible than Vmotion
• Cold migrations can be used to move a virtual machine between data centre,as long as both data centres are on the same vcenter server instance
• Chances of failure is less in cold migration in comparison to hot migration

Suspended Migration :

• Migrating a Virtual Machine that is in susoended state
• Suspended state is like paused state in which we resume from same point on later stage
• Suspended and Vmotion migration are considered hot because in both cases the VM is running
• The primary reason to suspend a VM on an ESXI host is for troubleshooting

VMotion :

• Migrating a Virtual Machine that is in “Powered On” state.This is very useful as this does not cause any downtime for the VM
• In VMware Vmotion machine is migrated from one ESXI host to another in "Power On" state,whereas in storage Vmotion machine is migrated from one datastore to another datastore in "Powered On" state
• Vmotion moves a running VM to a different ESXI host in same cluster
• It is also known as live migration

Physical to Virtual Migration : Physical Computer to Virtual One

• Eg : We have a webserver running on physical hardware.We can run vmware vcenter converter,target the webserver and have a copy of the physical server created on an ESXI host

Virtual to Virtual Migration : These are exactly like P2V migration except that the source machine is already a VM
• Eg : Migrating from Hyper-V and VMware Workstation to ESXI would be considered a V2V Migration