

Practical session 3 (3H)

Around the storage system

In this practical session, we will install a NFS server then the VMWare VSAN distributed file system.

- 1) Download, start an install FreeNAS
 - a. <http://www.menaud.fr/Cours/Cloud/TP/FreeNas/>
 - b. There is a lot of tutorial on the Internet. You must use them
 - c. Configure FreeNas for a NFS server
- 2) Add a new datastore in your ESXi connected to the NFS FreeNas server
- 3) For a VSAN installation, you need to modify your ESXi configuration
 - a. ESXi need 6Gb of RAM
You can modify the ESXi VMX by
`memsize = "6144"`
 - b. ESXi need two others disk in your ESXi
 - i. 4Gb of SSD
 - ii. 16Gb of HDDFor emulate an HDD or SSD (depends of your laptop configuration)
Change in the VMX
`scsi0:X.virtualSSD = Y`
X is the Disk
Y = 1 pour emulate a SSD, 0 for HDD

4) Create the VMKernel interface :

- a. In order for vSAN to function you need to create a VMKernel Interface on each host, this requires other dependencies such as a vSwitch and a Port Group, so performing this on all three hosts is a must so lets do it in this order, firstly lets create our vSwitch, since vSwitch0 exists for the management network we'll create a vSwitch1

```
esxcli network vswitch standard add ????
```

- b. Once our vSwitch1 is created we then need to add the physical uplinks to our switch, to help identify which uplinks to use we run the following command

```
esxcli network nic list
```

- c. Add uplink :

```
esxcli network vswitch standard uplink add -v ???  
-u ???
```

- d. configure a portGroup for vSAN, for this I am calling my portGroup name "vSAN"

```
esxcli network vswitch standard portgroup add -s vSAN
```

- e. Now we need to create out VMKernel interface with an IP Address (192.168.100.1 for Host 1), Subnet Mask and assign it to the "vSAN" portGroup

```
esxcli network vmkernel add -i 192.168.100.1 -n 255.255.255.0  
-p vSAN
```

- f. We validate our VMKernel Interface by running the following command:

```
esxcli network vmkernel list
```

- g. In order to add the VMKernel interface to vSAN we need to run the following command:

```
esxcli vsan network ip add -i ???
```

5) Creating the cluster.

- a. For this operation, go to the web !

- b. More principals ommand line needed:

```
esxcli storage core device list
```

```
vdq -q
```

```
esxcli vsan storage add -s ??? -d ???
```

```
esxcli system uuid get
```

```
esxcli vsan cluster join -u ???
```

```
esxcli vsan cluster get
```

```
esxcli vsan cluster unicastagent list
```

```
esxcli vsan cluster unicastagent add -u ??? -a ???
```

```
-U 1 -t node
```