Deployment
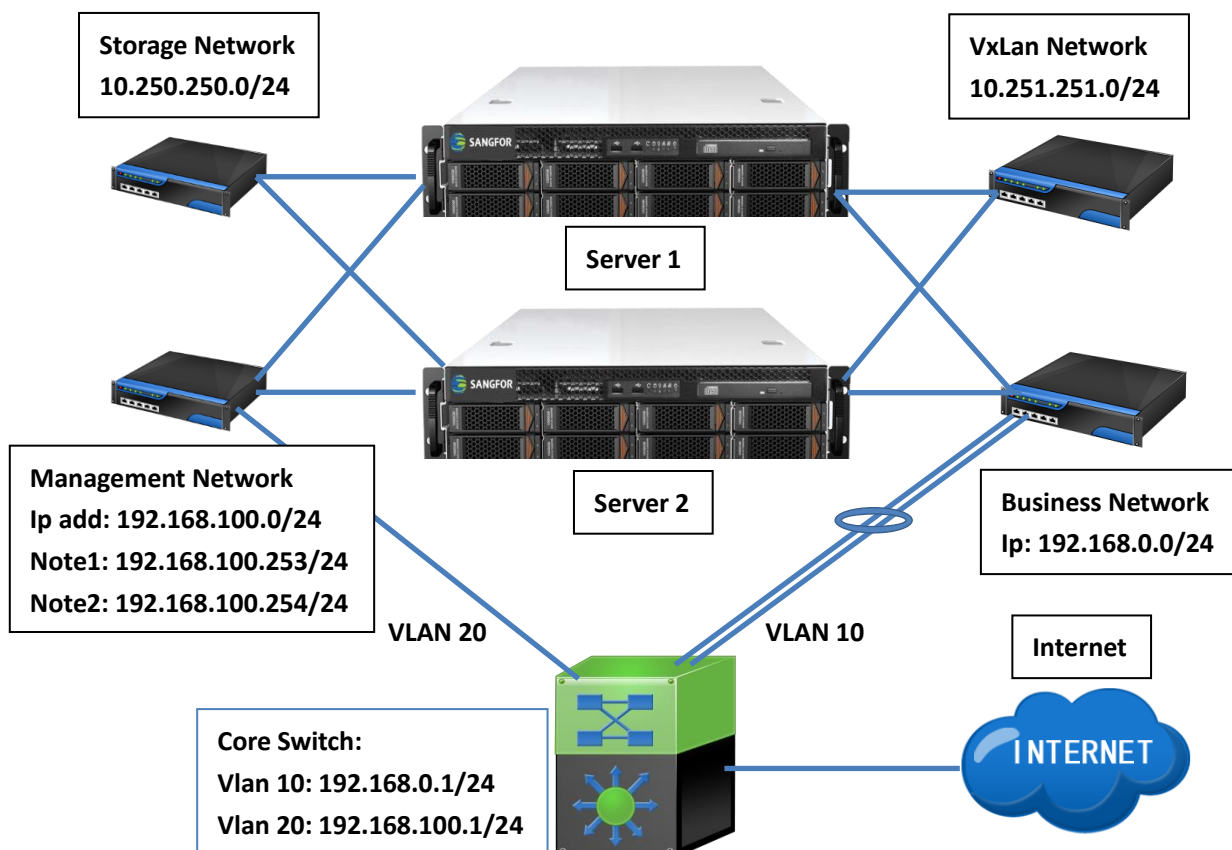
1, Target
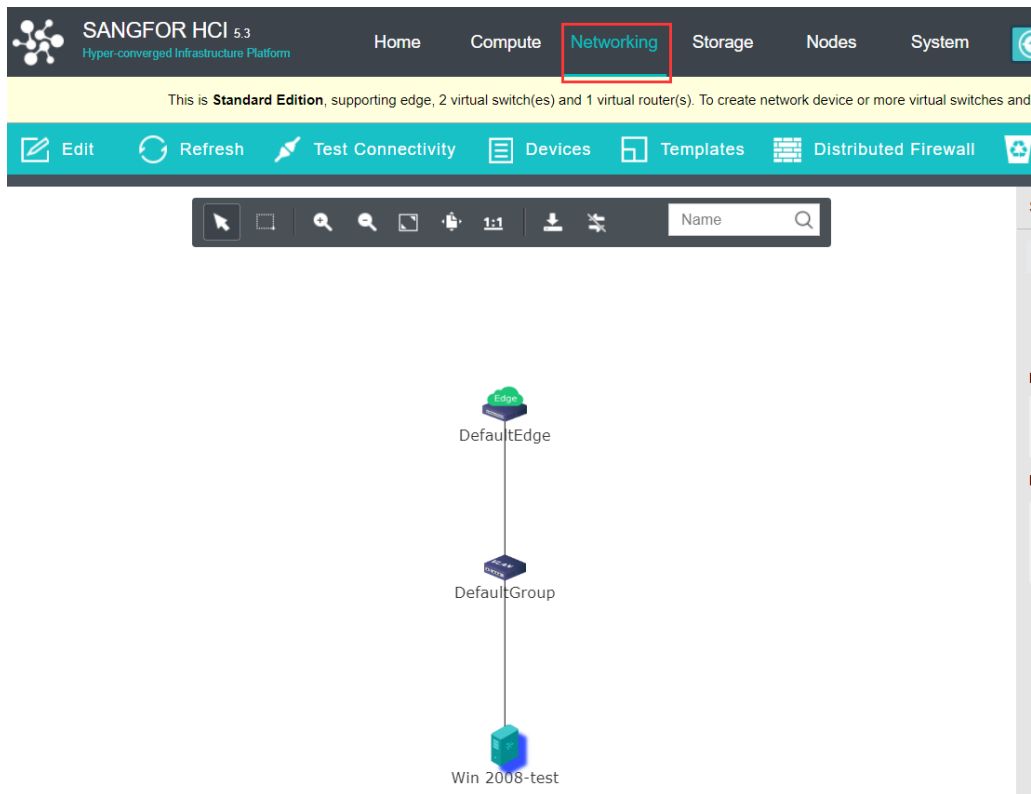
1) Deploy a poc environment.
2) Hot add CPU and memory to vM.
3) Backup vMs to a Windows system by files sharing
4) High availability

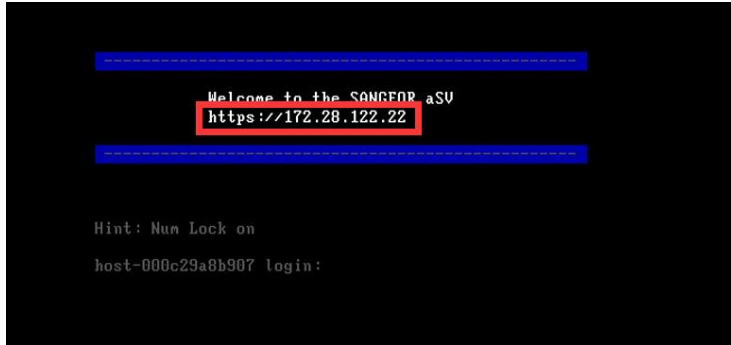## 2, Topology between 2 HCI servers

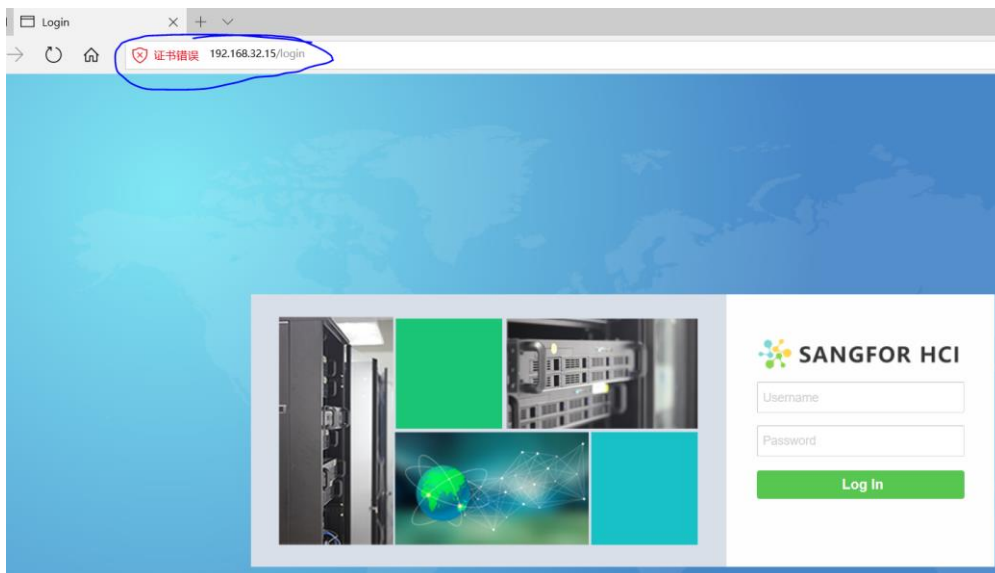1) Physical Topology

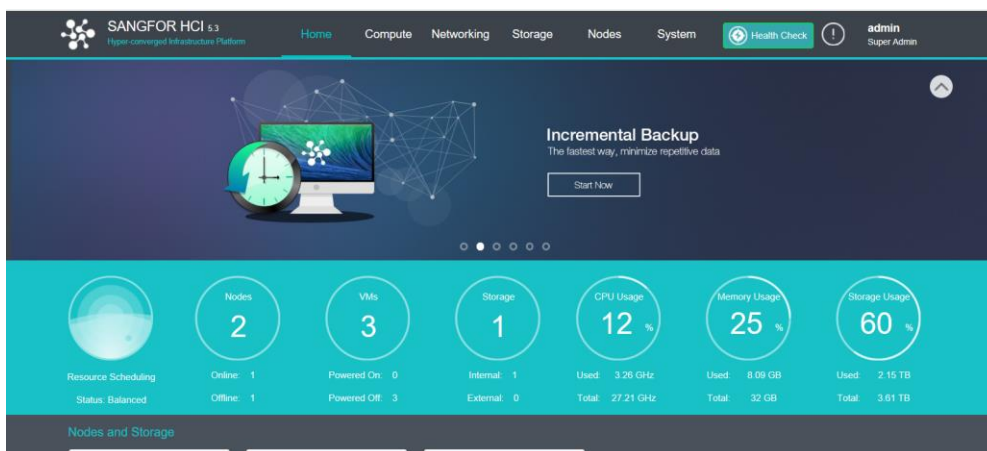2) Logic Topology For Business Network

3, Login to HCI

1) Connect a screen to HCI, then you can see HCI server ip address. This ip is for the first NIC port of HCI server.

2) Open a browser and input the ip with 'https://'. For example https://192.168.32.15

3) Input username and password. Default username and password are 'admin'.

4, Create a cluster

Before deployment:

Management Network: eth0. Ip address range:192.168.1.0/24

Business Network: eth1 and eth2, aggregate port. Ip address range:192.168.0.0/24

Storage Network: eth3, Ip address range: 10.250.250.0/24

VxLAN Network: eth4, Ip address range: 10.251.251.0/24

1) Connect 2 servers as physical topology.

2) Change eth0 ip address, server 1: 192.168.100.253/24, server 2: 192.168.1.54/24. And gateway is 192.168.100.1. Path: Nodes-> Click Details-> Network.
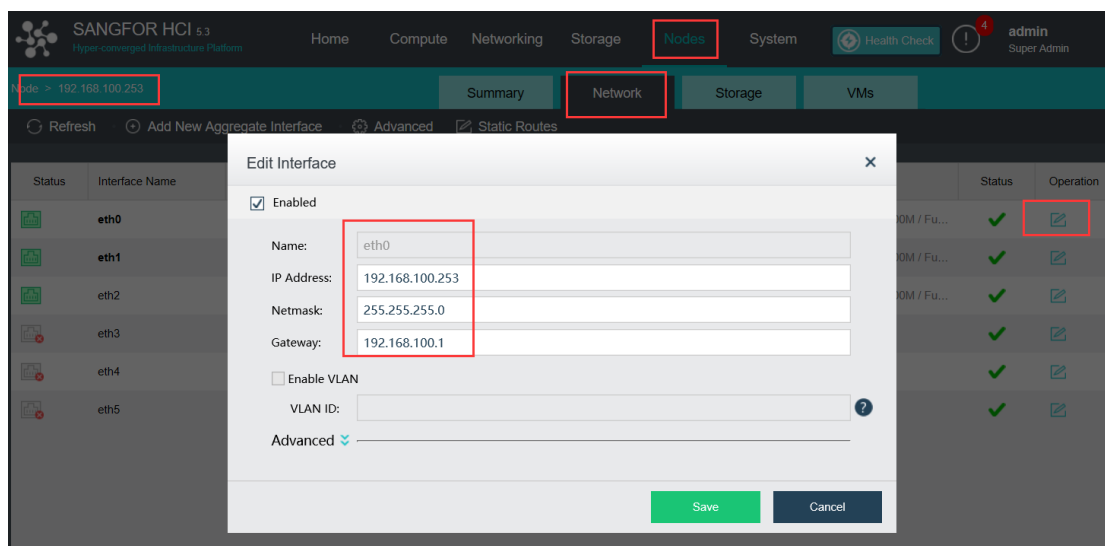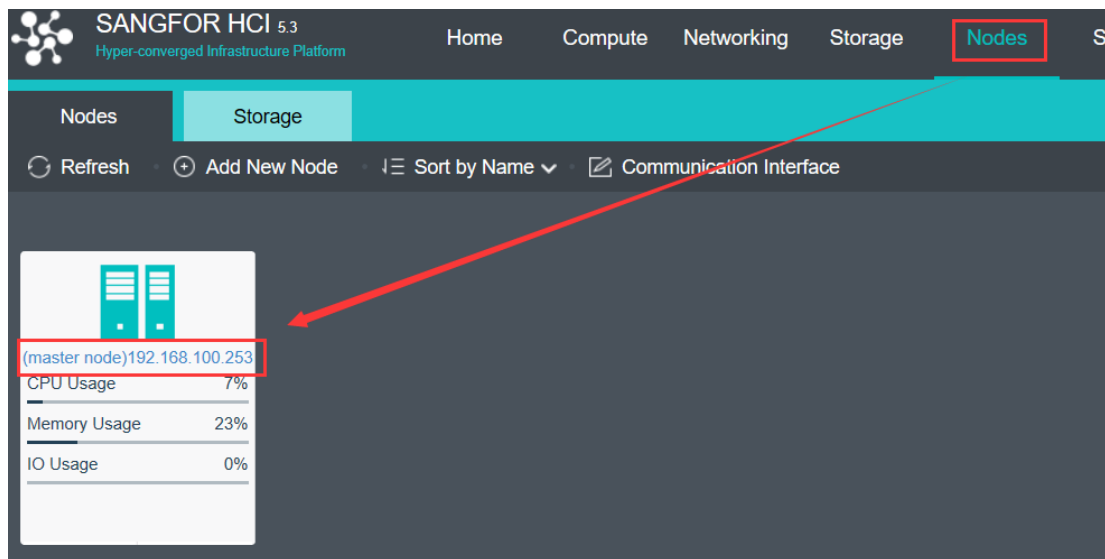
Same with another node
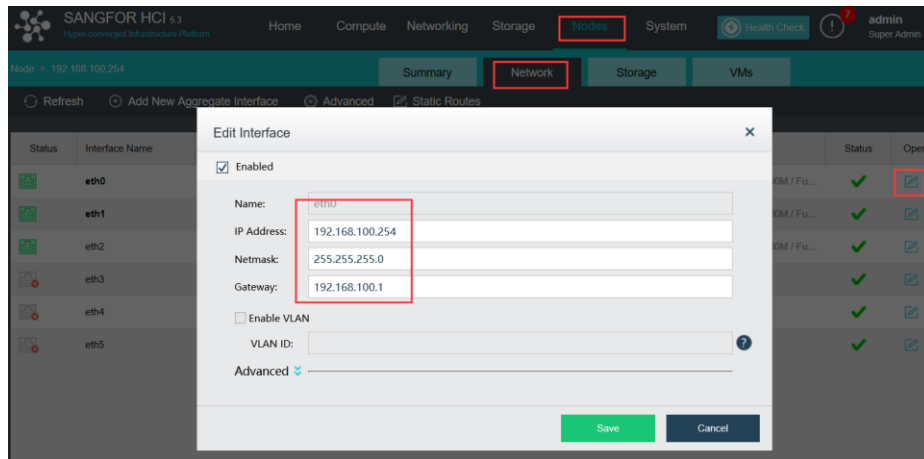
3)   Add Nodes from any node. Nodes->Add New Node.

Initial cluster IP address:IP Addr: 192.168.100.252;Mask: 255.255.255.0;Gateway: 192.168.100.1
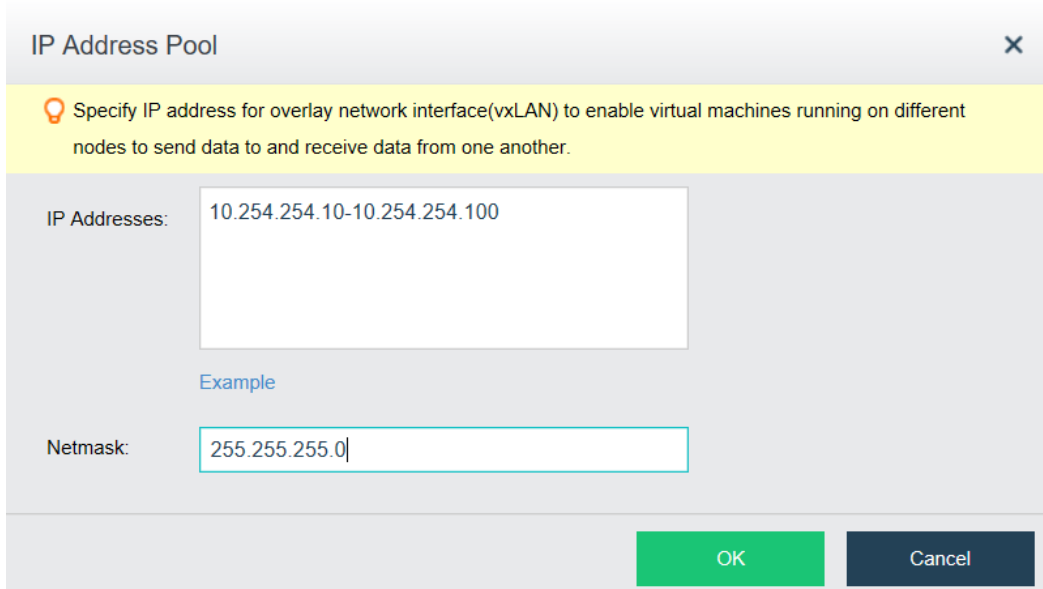
Then you can see the node, if same network have another HCI server.

New Node

Select and Connect to the Physical Machine   Download S:

Below are nodes having Sangfor HCI software installed. Default password: admin

Credentials

192.168.100.254

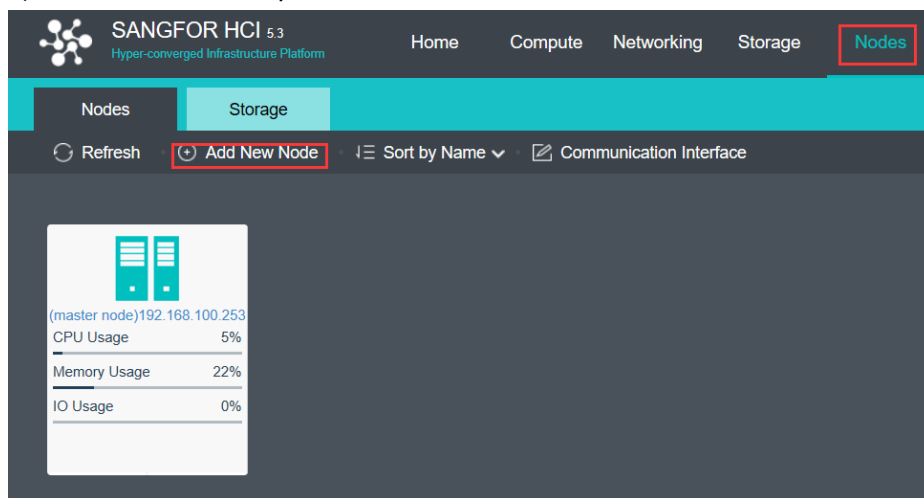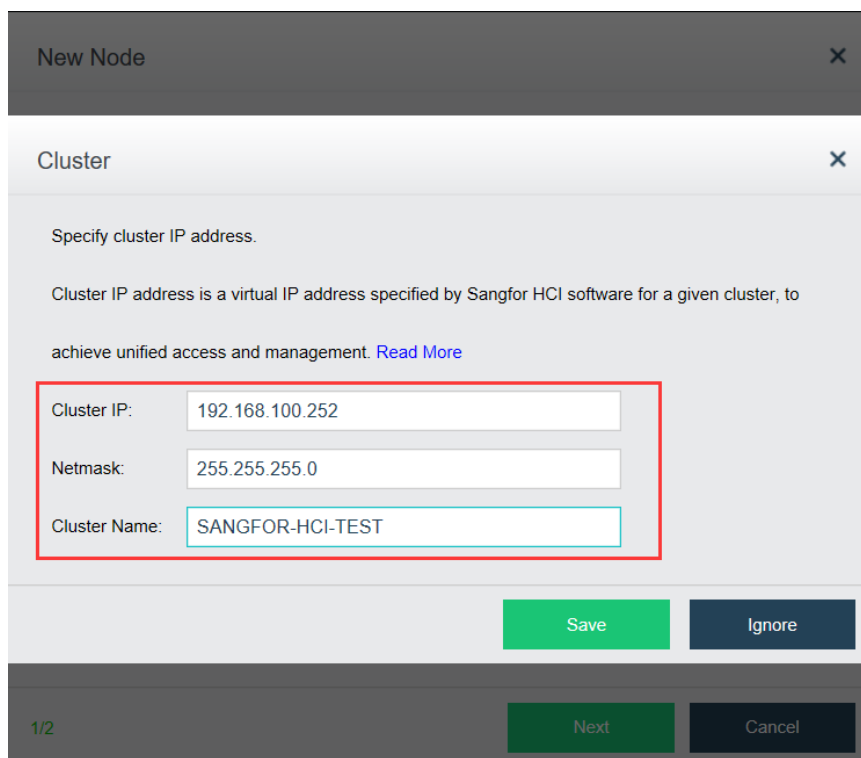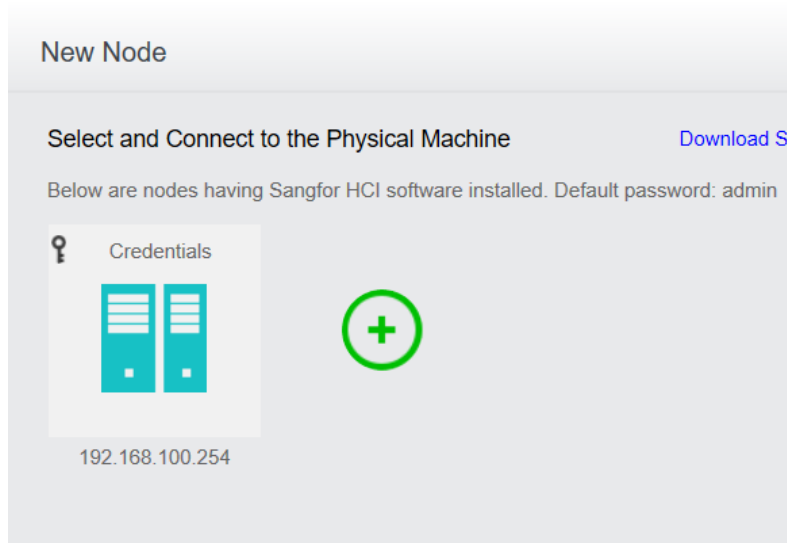Input the administrator password

New Node   ✕

Select and Connect to the Physical Machine   Download Sangfor HCI Installer

Below are nodes having Sangfor HCI software installed. Default password: admin

Credentials

Connect to Node

Username: admin

Password: ●●●●●●●●●

OK   Cancel

192.168.100.254

New Node   ✕

Select and Connect to the Physical Machine   Download Sangfor HCI Installer

Below are nodes having Sangfor HCI software installed. Default password: admin

192.168.100.254

Adding node(0/1)

2/2   Back   Finish   Cancel

4) Configure vxLAN.

Virtual Storage   ✕

✓ **Completed!**

Clustered Nodes:

Message   ✕

?   **Please configure IP address pool for Overlay Network interface.**
     Click the Settings button to configure it now. Otherwise, node communication
     across switches will fail and HA settings on the router will become invalid.

A
1.
P

2.
vi
Please set storage network interface and then Initialize
Virtual Storage.

3. Check if a node is connected   Test Connectivity

                                                              Finish

                    [Settings]   [Later]

IP Address Pool   ✕

💡 Specify IP address for overlay network interface(vxLAN) to enable virtual machines running on different
   nodes to send data to and receive data from one another.

IP Addresses: 10.254.254.10-10.254.254.100

                Example

Netmask: 255.255.255.0

                                                    [OK]   [Cancel]

5, initial Storage

1) Configure storage. Define storage interface.

Virtual Storage   ✕

✓ **Completed!**

Clustered Nodes:

Node Name	IP Address	Disk(s)	NICs
192.168.100.253	192.168.100.253	3	6
192.168.100.254	192.168.100.254	3	6

Additional Preparations:
1. Deploy storage area network to ensure storage stability
Please set storage network interface first.

2. Initialize virtual storage, format physical disk and add to virtual storage
Please set storage network interface and then Initialize Virtual Storage.

3. Check if a node is connected

[Settings]

[Initialize Virtual Storage]

[Test Connectivity]

---

① Storage Deployment ——— ② Select Storage Network Interface

Deployment Mode (for data communication between physical disks in the storage area network)

◉ Link aggregation disabled ○ Link aggregation with one switch**(Recommended)** ○ Link aggregation with two switches

Internet

SWITCH

Storage Area Network

SWITCH

Link aggregation disabled

Benefits
Independent storage area network is higher in stability.

Drawbacks
Storage on the node will be inaccessible if one link fails.

Notes:
Storage area network(SAN) is used for data transmission across nodes. Please connect the objects with cables according to the diagram.

The switch may be layer 2 switch, requiring no change be made.

If there are only two nodes, simply use a cable to connect one another, without using any switch.

1/2   [Next] [Cancel]

Use of Physical Interfaces

① Storage Deployment ——— ② Select Storage Network Interface

Storage Network Interface (Deployment)

Node Name	Physical Interface	Interface IP		Status
192.168.100.253	eth2 ▼	10.251.251.1	/ 24	✓ Normal
192.168.100.254	eth2 ▼	10.251.251.2	/ 24	✓ Normal

2) Initialize Virtual Storage

Virtual Storage ✕

✓ **Completed!**

Clustered Nodes:

Node Name	IP Address	Disk(s)	NICs
192.168.100.253	192.168.100.253	3	6
192.168.100.254	192.168.100.254	3	6

Additional Preparations:
1. Deploy storage area network to ensure storage stability
✓ **Selected: Link aggregation disabled**

2. Initialize virtual storage, format physical disk and add to virtual storage

3. Check if a node is connected

Change Network Settings

Initialize Virtual Storage

Test Connectivity

Finish

Initialize Virtual Storage ✕

① Data Copies —— ② Use of Disk —— ③ Details —— ④ Confirm

Data Copies

The number of copies that one piece of data is saved on the storage.

It is to reduce the risk of inaccessibility to data when disk failure occurs. The more copies, the easier to recover data from other disks in case failure occurs. But the more copies, the more physical disk space is required, thus less space is left.

⦿ 2_copy (2 copies)
  2 copies will be preserved. If there are more than one node, it can cope with failure of another node.

○ 3_copy (3 copies)
  3 copies will be preserved. It can cope with failure of two nodes, if there are at least 3 nodes.

💡 After initialization, number of copies cannot be changed any more.

1/4

Next

Cancel

3) For spare disk, depends on users requirement.

Initialize Virtual Storage ✕

① Data Copies —— ② Use of Disk —— ③ Details —— ④ Confirm

Use of Disk

Use of disks falls into there categories

Data disk: Used to store disk data files of virtual machine and create virtual disk.

Cache disk: Used for caching, to improve performance of virtual storage. SSD often works like cache disk.

Spare disk: Used as backup of data disk on virtual storage, and is always ready to replace the data disk when it fails. Once the failed disk recovers, it returns to spare disk.

☐ Spare disk

Number of recommended spare disks will be the same as copies. You may change the numbers respectively in the next step.

4) Select Cache disk and data disk. Only SSD can be Cache disk.

Initialize Virtual Storage   ✕

① Data Copies ——— ② Use of Disk ——— ③ Details ——— ④ Confirm

Use of New Disks (system disk is not listed below) Tips

💡 Disk for specific use will be **formatted** and emptied. If there are more than one nodes, number of nodes that use data disk **cannot be less than the number of copies.**

Disk	Type	Size	Use of Disk
WDC WD2004FBYZ-01YCBB1	HDD	1.82 TB	Data disk ▾
WDC WD2004FBYZ-01YCBB1	HDD	1.82 TB	Data disk ▾
INTEL SSDSC2BB240G7	SSD	223.57 GB	Cache disk ▾
◢ 192.168.100.254			**2** data disk, **1** cache disk, **0** spare disk
WDC WD2004FBYZ-01YCBB1	HDD	1.82 TB	Data disk ▾
WDC WD2004FBYZ-01YCBB1	HDD	1.82 TB	Data disk ▾

3/4   Back   Next   Cancel

Initialize Virtual Storage   ✕

① Data Copies ——— ② Use of Disk ——— ③ Details ——— ④ Confirm

Confirm

Available Space
3.57 TB

6 disks, total capacity: 7.71 TB

0 spare disk(s), total capacity: 0 B

2 cache disk(s), total capacity: 447.14 GB   Initializing... 90%

4 data disk(s), total capacity: 7.28 TB

2 copies, available disk space: 3.57 TB

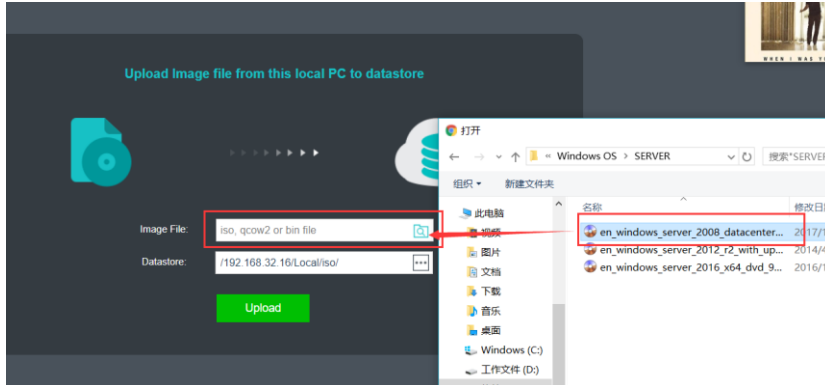Please type admin password to confirm operation, (data will be cleared upon completion of initialization)

••••••••••

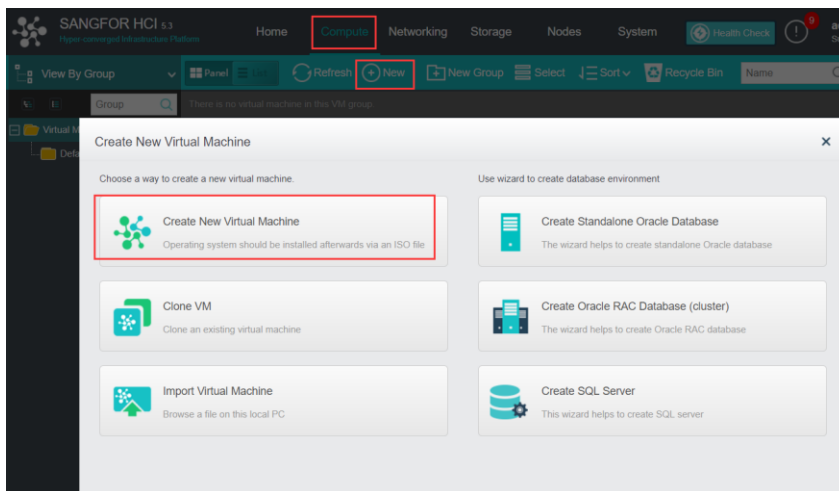4/4   Back   Finish   Cancel
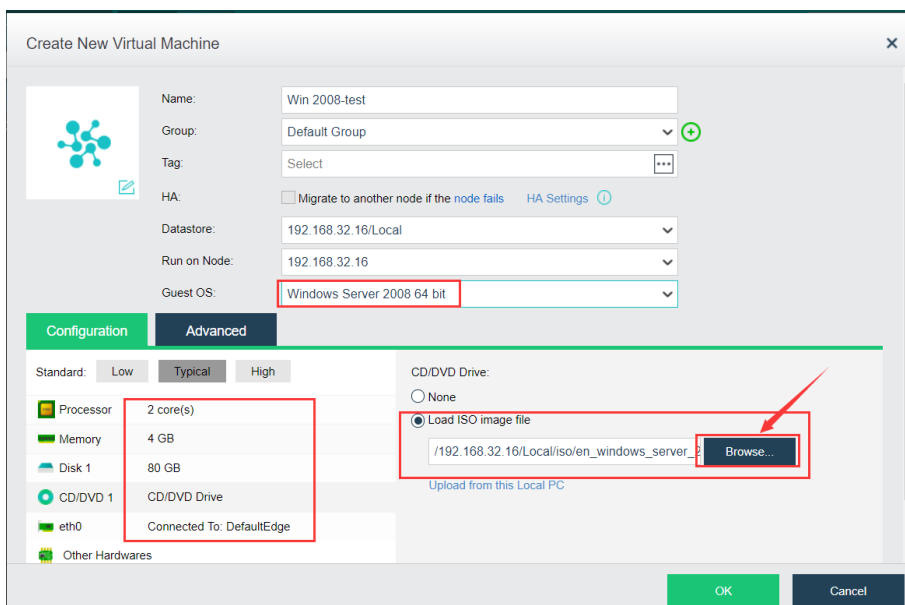
6, Create a virtual machine

1) Upload a system ISO file to the cluster. Path: Storage-> Manage -> upload. Then select local ISO files and upload it to HCI platform.
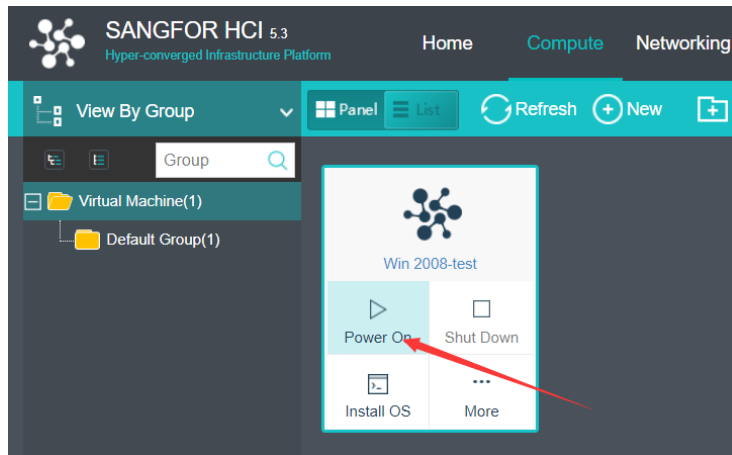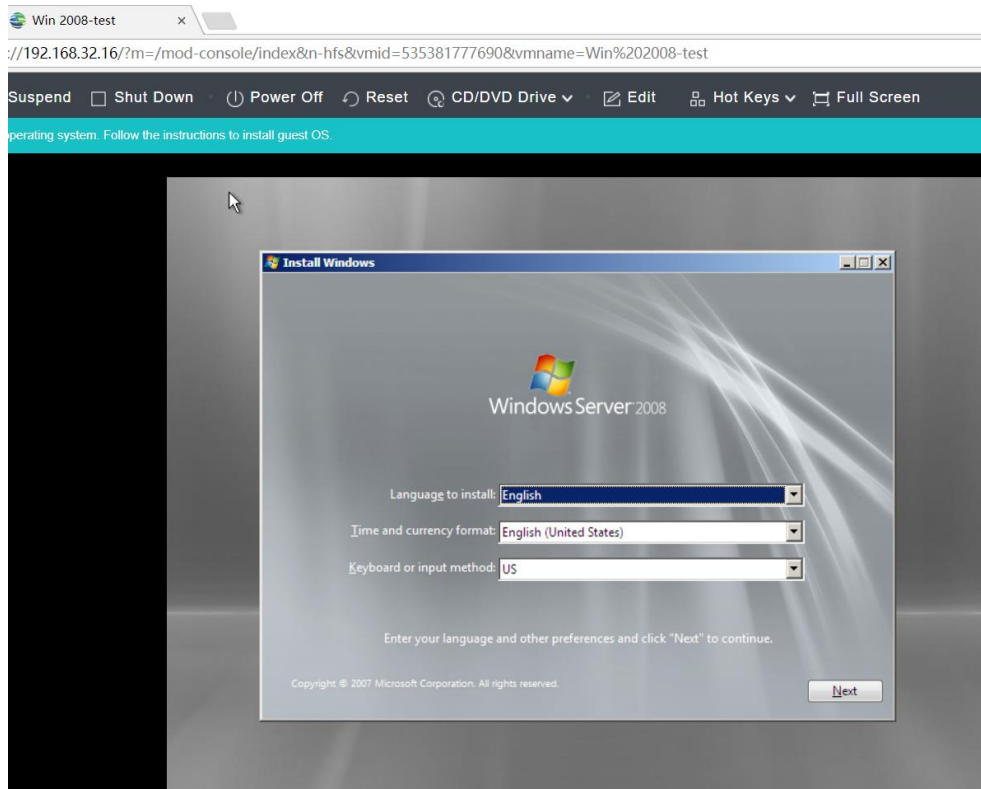
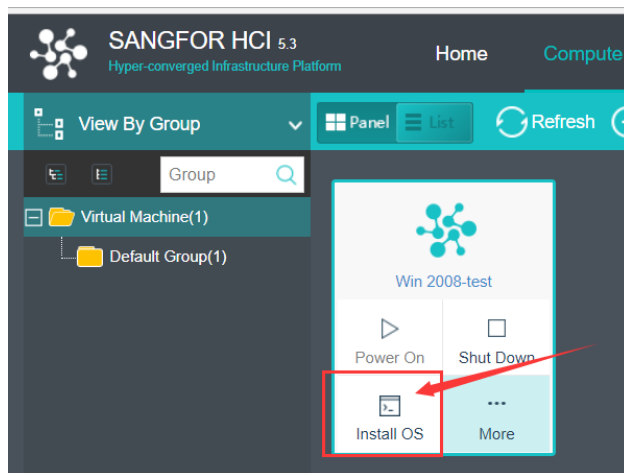

2) Go to Compute-> New-> Create New Virtual Machine.

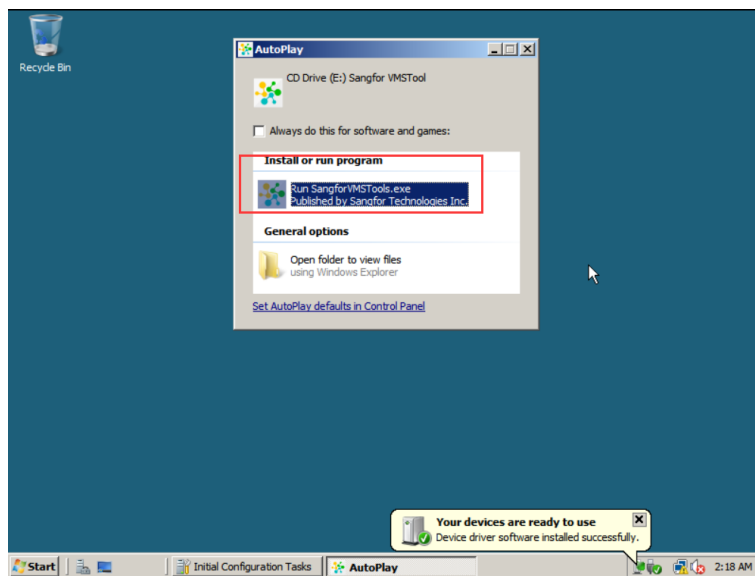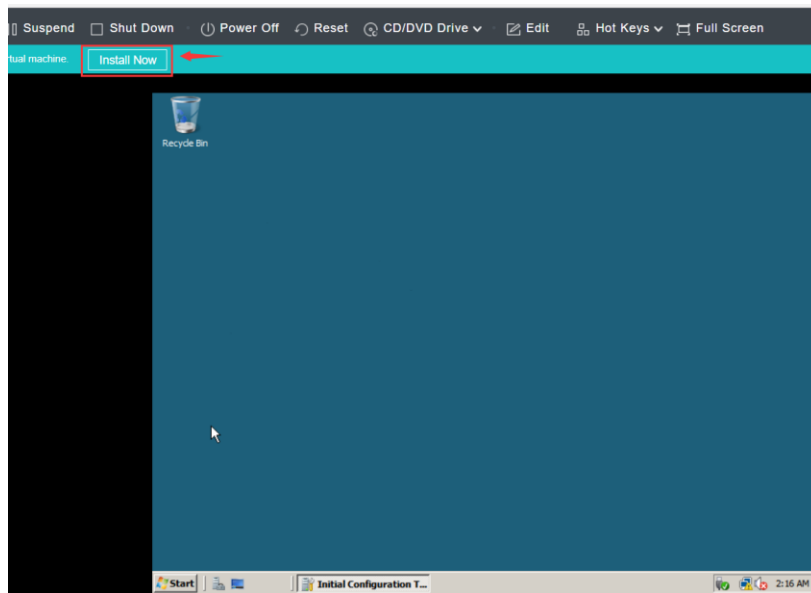3) Input the name and edit hardware spec, then select an operating system and an operating system ISO file.

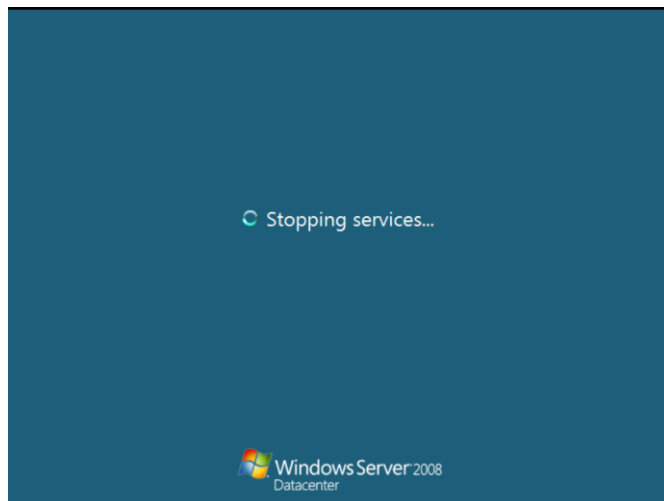4) Power on the virtual machine and install operating system.

5) Click Install OS and install system like a normal computer.

6) After install the system, we need install vmtools into VM. Then we can use it. Click "Install now".

Restart it then finish vmtools install.

7, Draw a Simple Topology