SANGFOR

aCloud

Virtual Storage Deployment Guides

Version 5.8.8R1

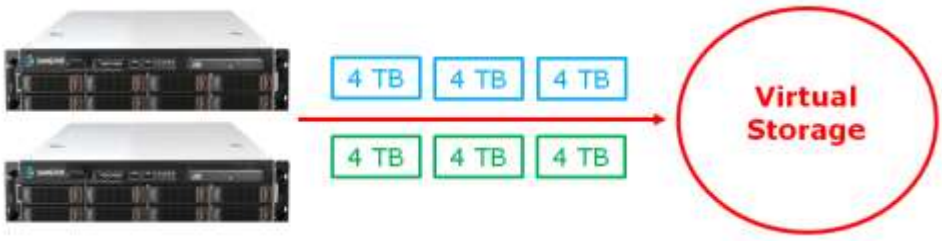
Change Log

Date	Change Description
Oct 25, 2019	Version 5.8.8R1 document release.

CONTENT

Chapter 1 Background

Sangfor aCloud virtual storage is the pooling of physical storage from multiple nodes into what appears to be a single storage device that is managed from a central console. It provided data copies across node as well as data tiering and caching technology to ensure high availability and performance on customer production.

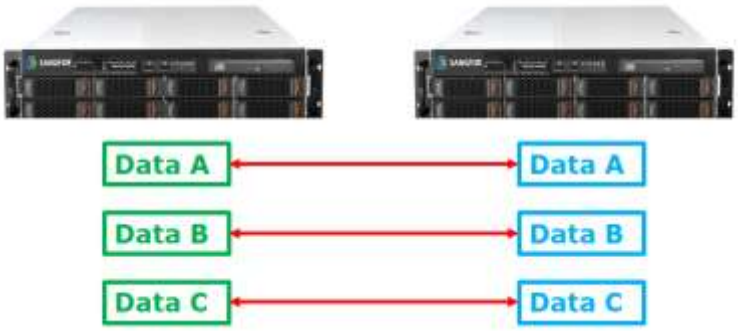


Definition of Virtual Storage

- Minimum 2 nodes to build Virtual Storage
- Integrate all the cluster nodes hard disks into one Virtual Storage
- Virtual Storage is based on Distributed File System
- Storage Virtualization requires aSAN license activated

Limitation of Virtual Storage

- Support 2 data copies only (aCloud 6.0.0)
- One virtual storage must have SSD cache disk (Not necessary for full SSD data disk deployment)
- Number of copies cannot be changed after initialization

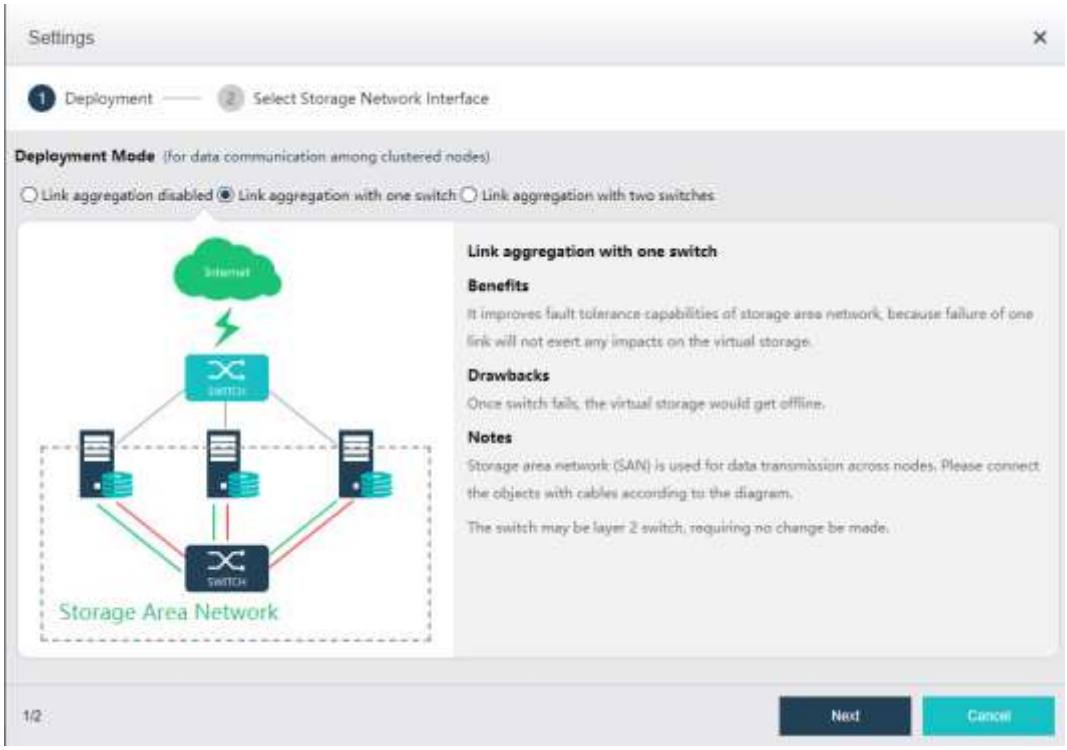


There are 3 deployment mode of the aSAN network configuration.

Storage Deployment – Link Aggregation Disabled

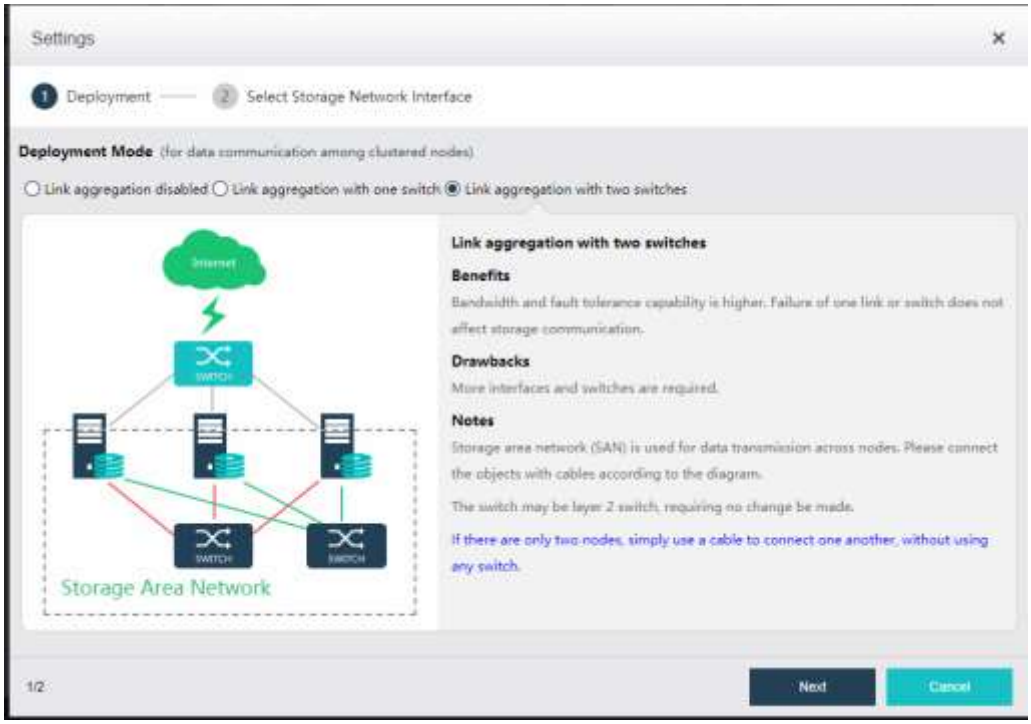
Storage Deployment – Link Aggregation with One Switch

- Increase high availability of the network condition, it does not affect when one of the interface failure



Storage Deployment – Link Aggregation with Two Switch

- Does not affect when switch or interface failure
- Recommend for 2 nodes interfaces direct connection



Types of disk usage in Sangfor Virtual Storage

Types of Disk – Cache Disk

- Must use SSD as Cache Disk
- Recommend SSD size with 256GB and above
- Recommend cache/data disk number ratio 1:3 (SSD: HDD)
- Recommend cache/data disk volume ratio 1:10 (Cannot lower than 1:20)
- Suggest to use 512GB SSD if each Data Disk is more than 2TB
- Used to speed up read and write data

Types of Disk – Data Disk

- Recommend to use HDD as Data Disk (Supports SSD, SAS & NVMe PCIe)
- HDD Enterprise Edition and >7200 RPM
- Form Virtual Storage with all Cluster Data Disks
- VM & Data will be stored in Virtual Storage

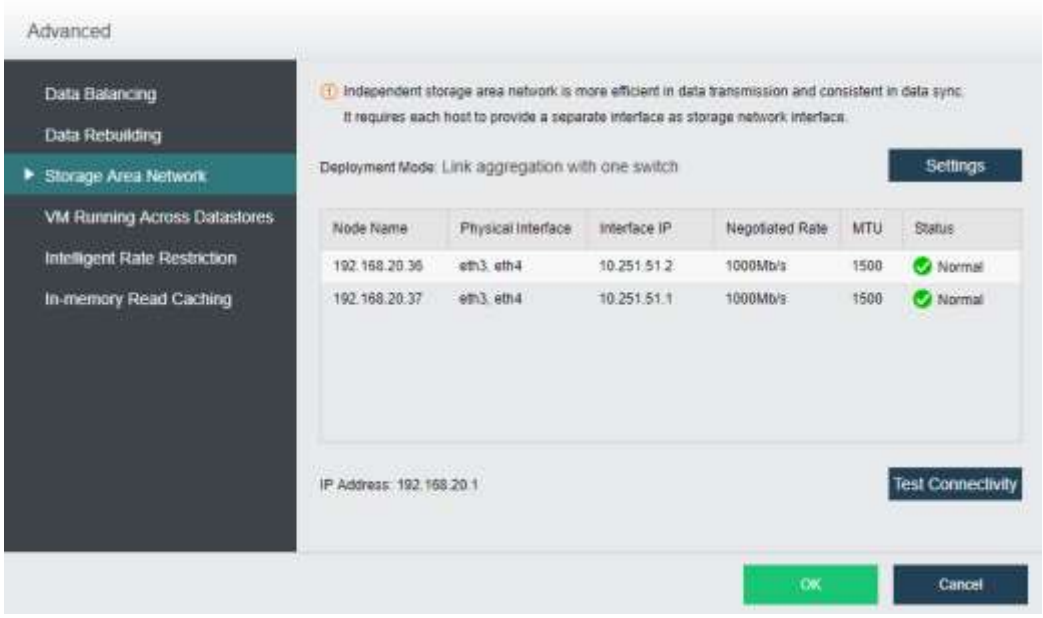
Types of Disk – Spare Disk

- A disk that are standby for use when a Data Disk fails

Chapter 2 Configuration guides

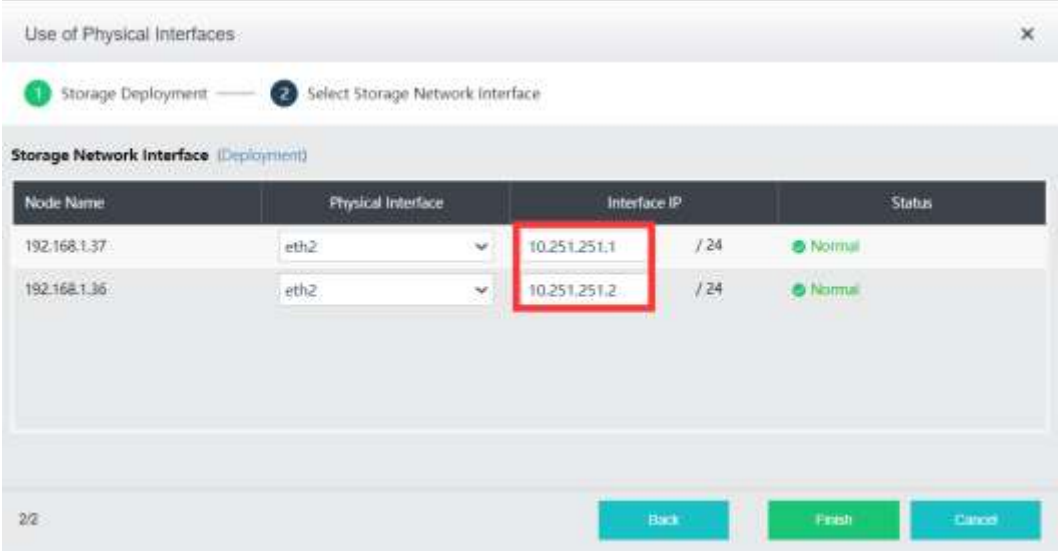
Setup Storage Network Interface

Go to Storage >Virtual storage >Advanced >Storage and click **Settings** to choose deployment.

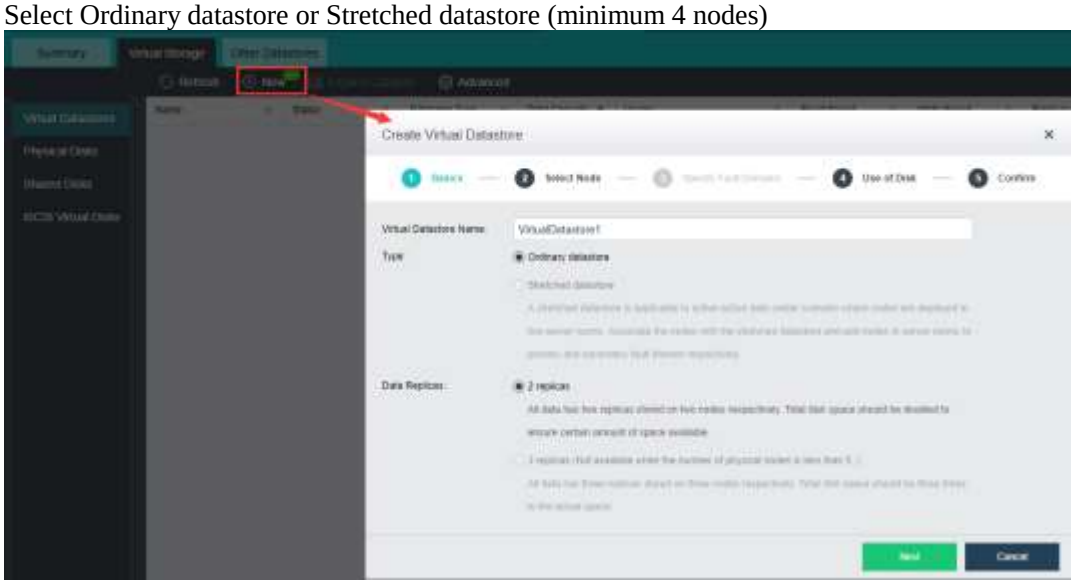


Select Storage Network Interface

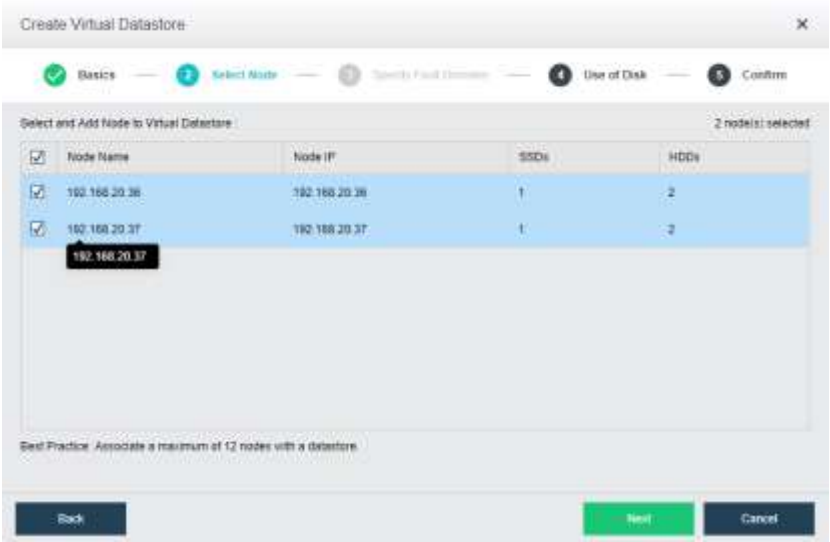
1. Choose Physical Interface and assign Interface IP for communication between nodes



2. Click "New > Create Virtual Datastore" after complete setup Storage Network Interface
3. Select Ordinary datastore or Stretched datastore (minimum 4 nodes)

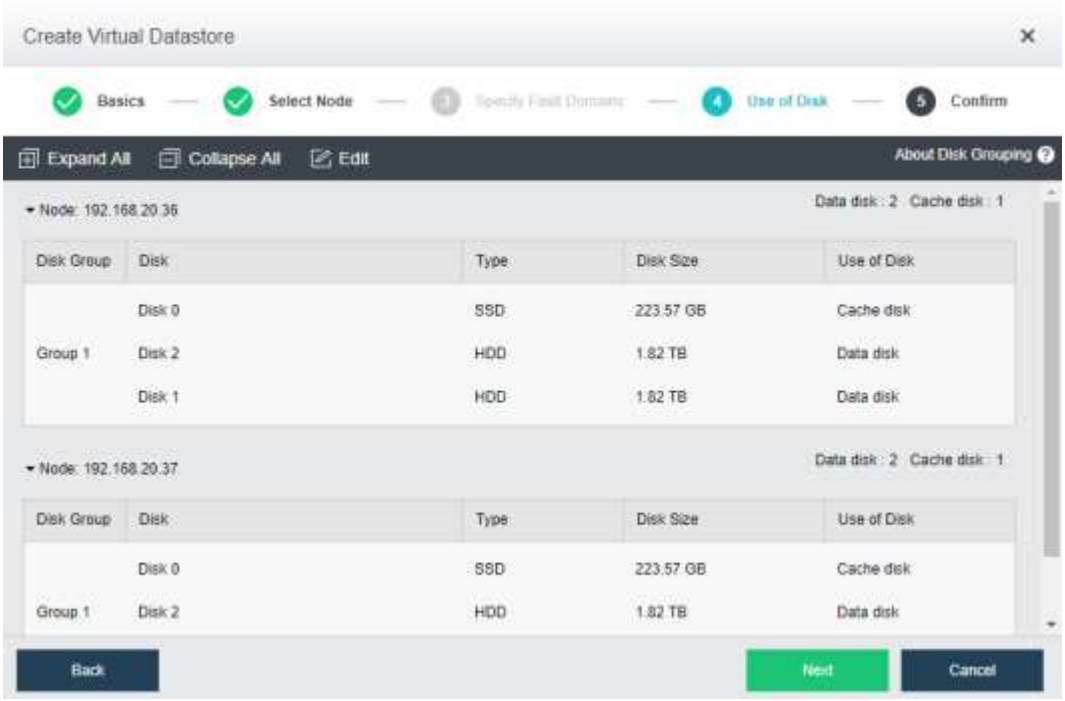


4. Select nodes to join Virtual Datastore



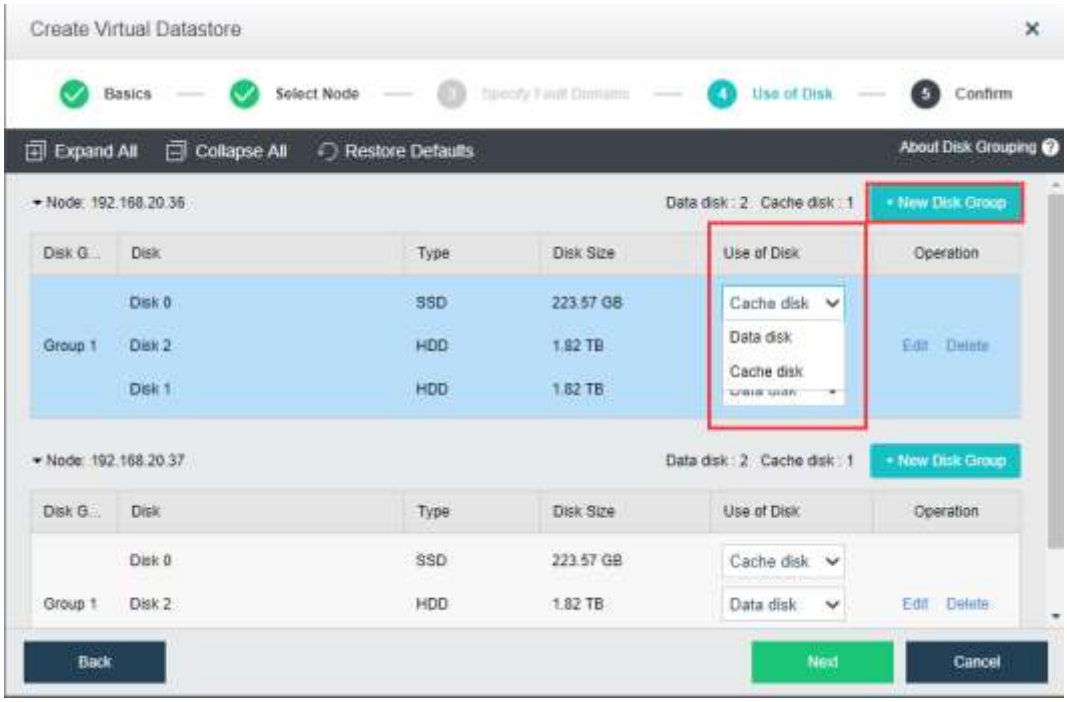
5. Configure disk usage

- SSD optimized to become Cache Disk
- HDD optimized become Data Disk or Spare Disk (If Spared Disk is enabled)

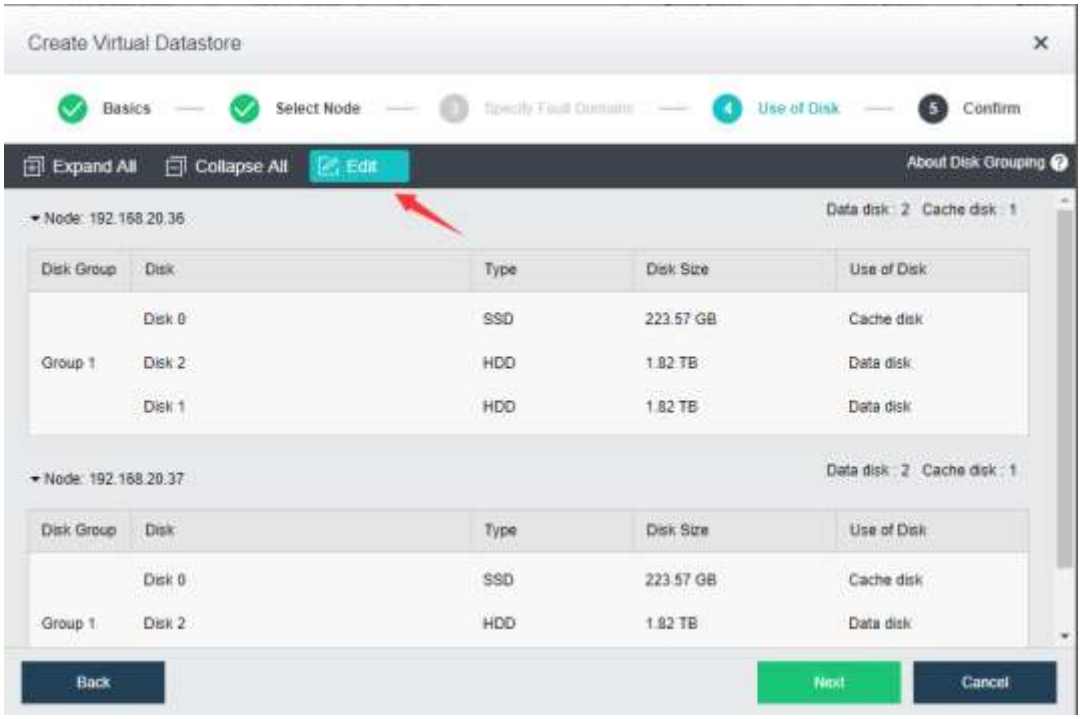


6. Modify optimized disk grouping (Optional)

Click on edit to modify system recommended disk grouping.



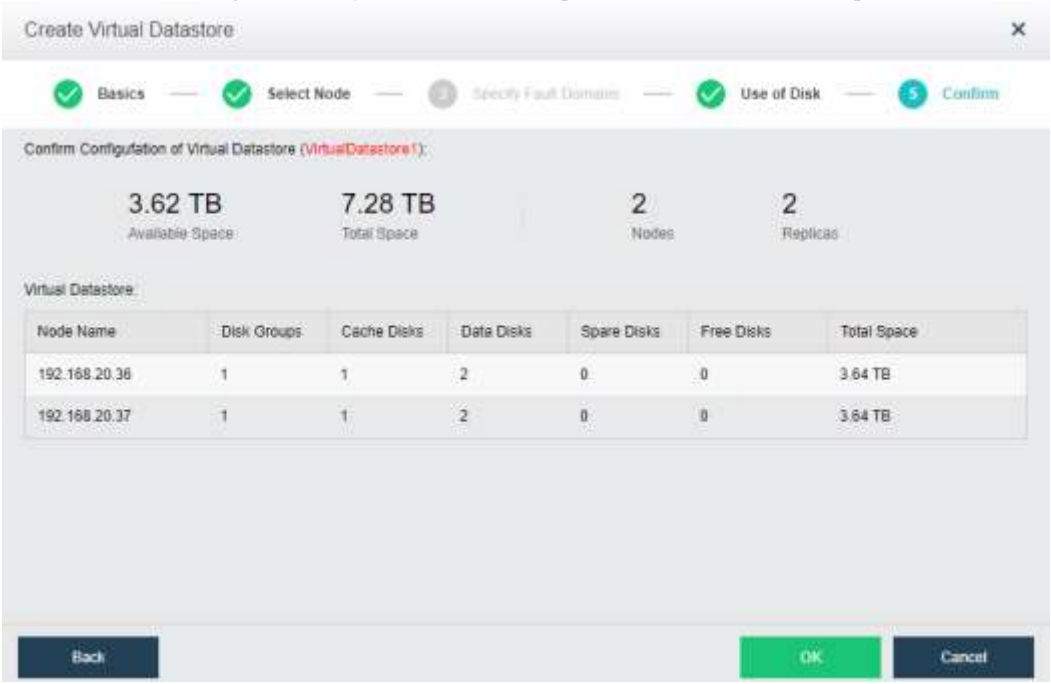
Select the use of disk based on available disk.

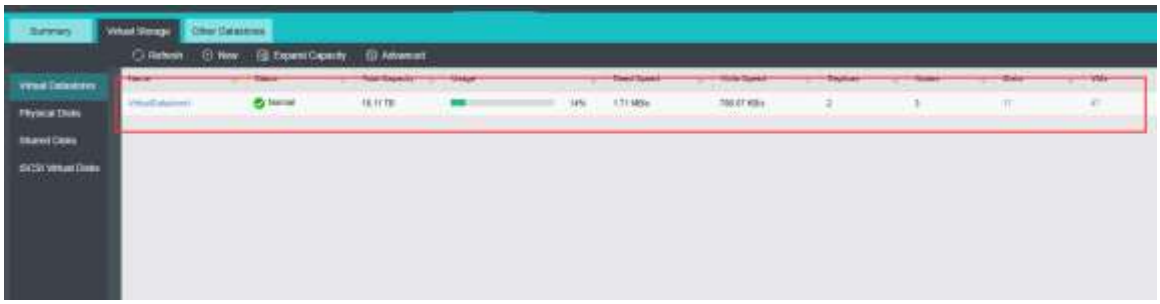


If the use of disk recognize as "free", precede delete disk group and add new disk group again

Note: A virtual storage can have one or more disk group, used to optimize cache disk and data disk ratio volume.

7. Review virtual storage summary and enter admin password to confirm the operation





Data Disk Available Storage Calculation

2 Copies Virtual Storage

Total Data Disk / 2 * 85% = Available Storage

24TB / 2 * 85% = Around 10.2TB

Successfully Initialized Virtual Storage

Chapter 3 Precaution

1. If aCloud host is aServer hardware, it must be use hard disk/SSD purchased from Sangfor representative. It is not allowed to add third party disks to form virtual storage.
2. Volume of cache disk cannot lower than 5% ratio of total volume data disk in a disk group