

# HyperManualCheckItems Help

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# Contents

**1 Networking Layout Analysis[t1]..... 1**

1.1 Standard Networking..... 1

1.1.1 Single-DC Deployment..... 1

1.1.2 Cross-DC Deployment..... 2

1.2 Non-Recommended Networking..... 3

1.2.1 Quorum Server Deployed in Either Active-Active DC..... 3

1.2.2 No Quorum Server..... 4

1.2.3 Both Storage Systems Deployed in the Same Equipment Room..... 5

1.3 Unsupported Networking..... 6

1.3.1 Port Sharing..... 6

1.3.2 Cloned VM as the Other Quorum Server..... 7

**2 Resources Used by a Quorum Server..... 9**

2.1 VMware ESX..... 9

2.2 FusionCompute..... 10

**3 Huawei UltraPath..... 12**

**4 Single-Side Network..... 13**

**5 Host type confirmation..... 14**

# 1 Networking Layout Analysis[t1]

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[1.1 Standard Networking](#)

[1.2 Non-Recommended Networking](#)

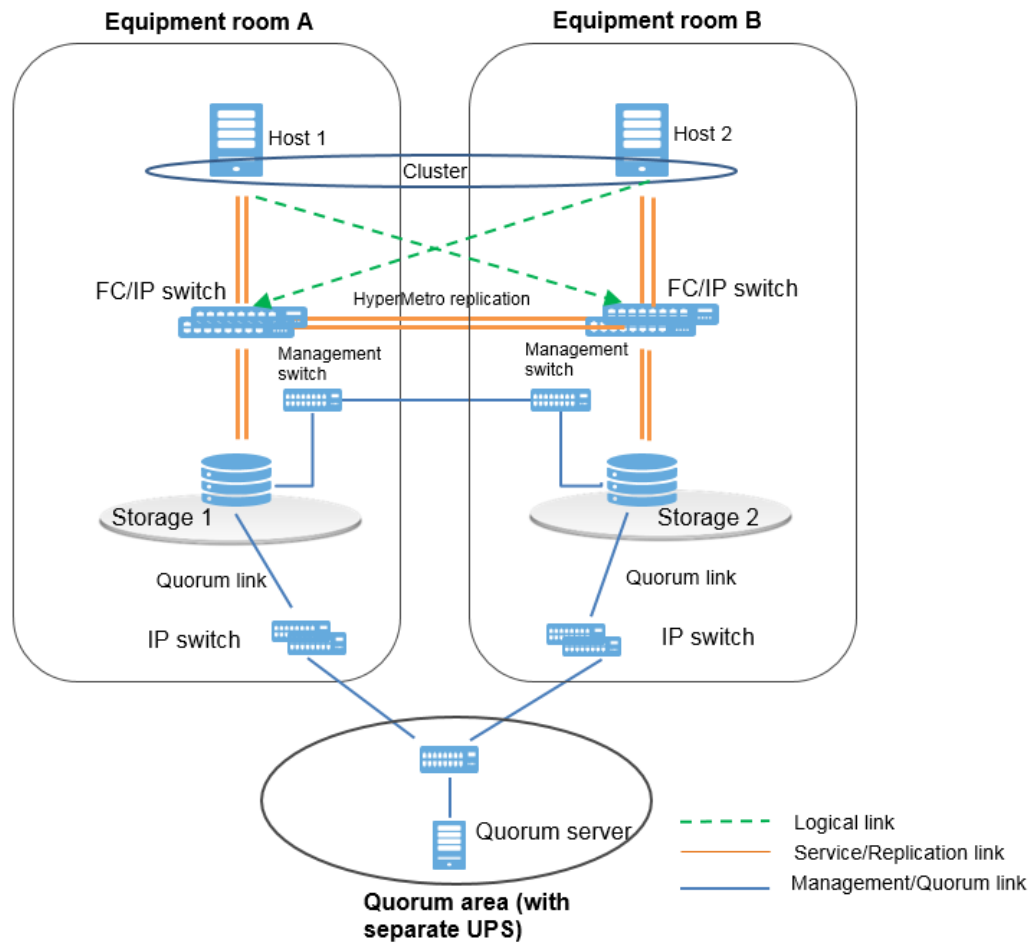
[1.3 Unsupported Networking](#)

## 1.1 Standard Networking

### 1.1.1 Single-DC Deployment

**Figure 1** illustrates the standard networking for single-DC deployment.

**Figure 1** Standard networking for single-DC deployment



- Scenario

The storage systems are deployed in two equipment rooms in the same campus.

- Networking principle
- The two equipment rooms are in different fault domains. Uninterruptible power supplies (UPSs) must be configured separately for the quorum server and network devices.
- Hosts are deployed in a cluster.
- Hosts are physically and logically connected to both storage systems.
- Each equipment room uses two switches for HyperMetro replication. The switches are connected in pairs.

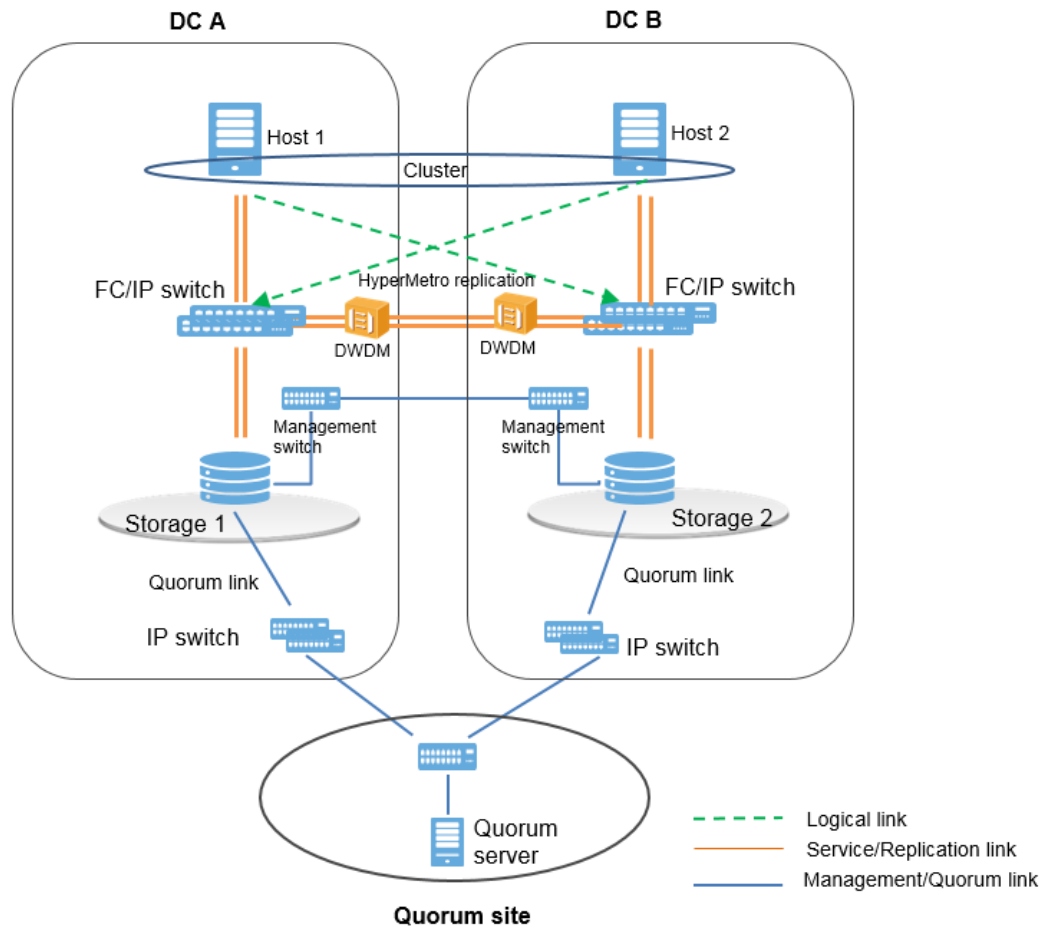
**NOTE**

If the storage systems are in the same equipment room, UPSs must be configured for the storage systems, quorum server, and quorum network devices separately.

## 1.1.2 Cross-DC Deployment

**Figure 2** illustrates the standard networking for cross-DC deployment.

**Figure 2** Standard networking for cross-DC deployment



- Scenario

The storage systems are deployed in two different DCs up to 300 km apart.

- Networking principle
- The two DCs and the quorum site must be in different fault domains.

**NOTE**

A fault domain is a set of devices that share a possible point of failure, such as the power system, cooling system, gateway, network, and impact from natural disasters.

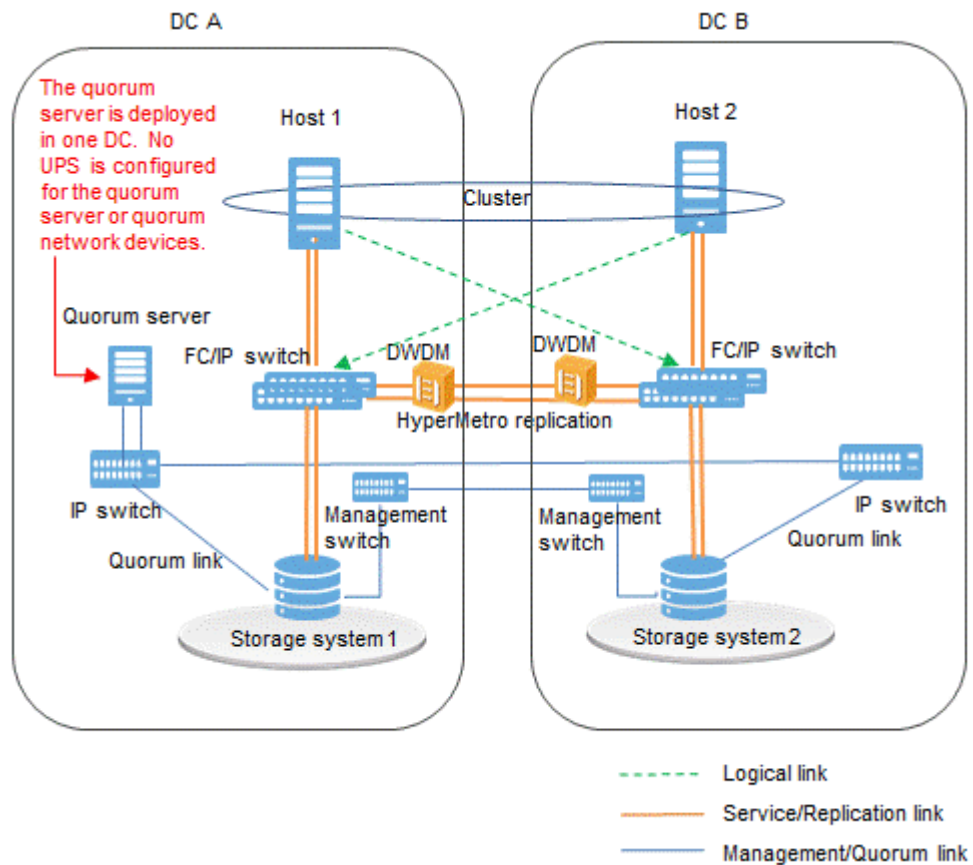
- Hosts are deployed in a cluster.
- Hosts are physically and logically connected to both storage systems.
- Each DC uses two switches for HyperMetro replication. The switches are connected in pairs.

## 1.2 Non-Recommended Networking

### 1.2.1 Quorum Server Deployed in Either Active-Active DC

The following example shows that the quorum server is deployed in DC A.

**Figure 1** Deployment example (quorum server deployed in DC A)



- Scenario

The quorum server is deployed in DC A or DC B. No UPS is configured for the quorum server and quorum network devices.

- Risk

Services will be interrupted if the DC where the quorum server is deployed goes down due to a power failure or disaster.

## 1.2.2 No Quorum Server

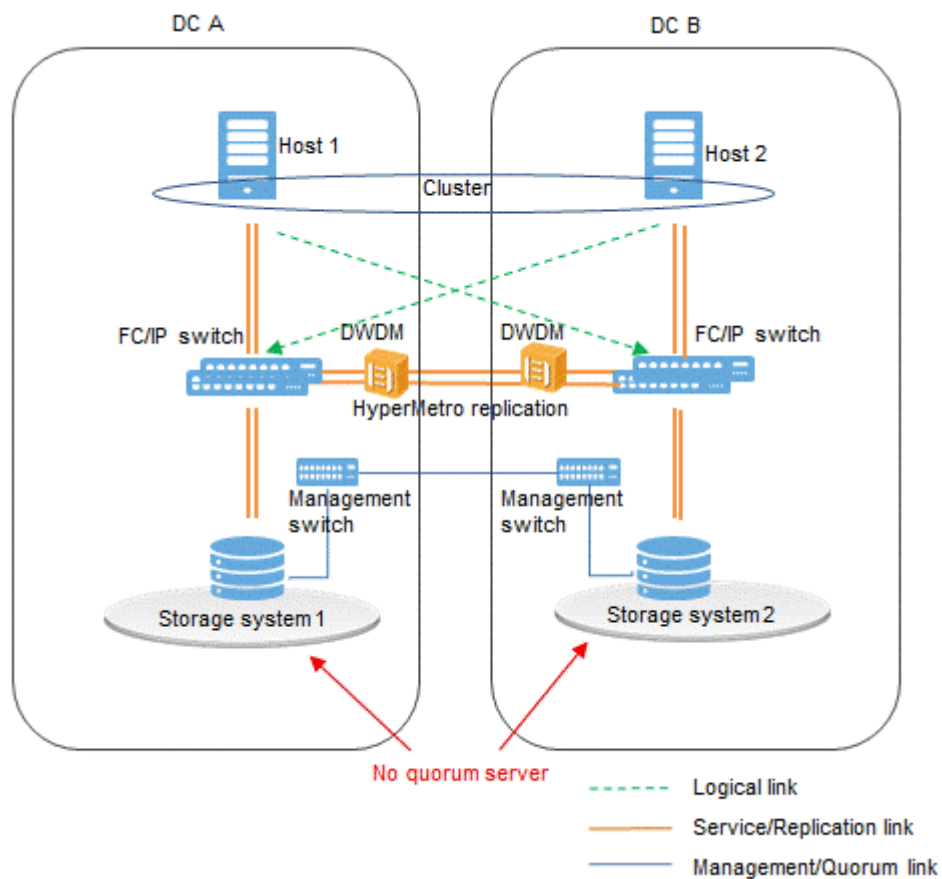
The following uses cross-DC deployment as an example. DC A is the preferred site and DC B is the non-preferred site. [Figure 2](#) shows a network on which no quorum server is deployed.

### NOTE

This example is also applicable to single-DC deployment.

**Figure 2** Deployment example (no quorum server)





- Scenario

No quorum server is deployed and the storage systems use static priorities.

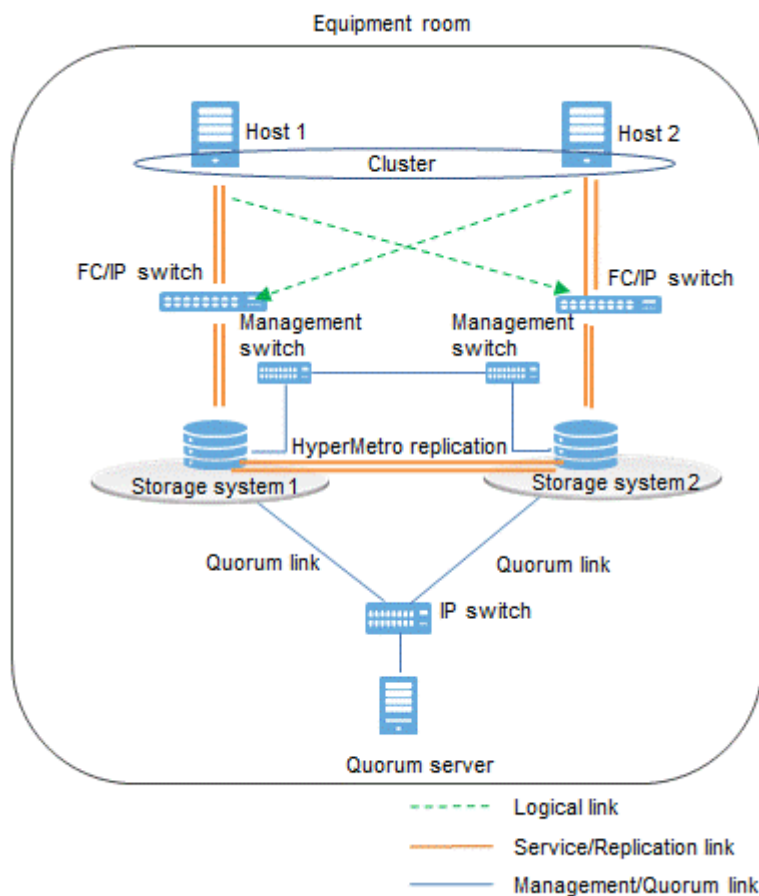
- Risk

Services will be interrupted if the preferred site fails.

### 1.2.3 Both Storage Systems Deployed in the Same Equipment Room

**Figure 3** shows a network on which both storage systems are deployed in the same equipment room.

**Figure 3** Deployment example (both storage systems in the same equipment room)



## 1.3 Unsupported Networking

This section describes the networking modes that are not supported by the active-active DC solution.

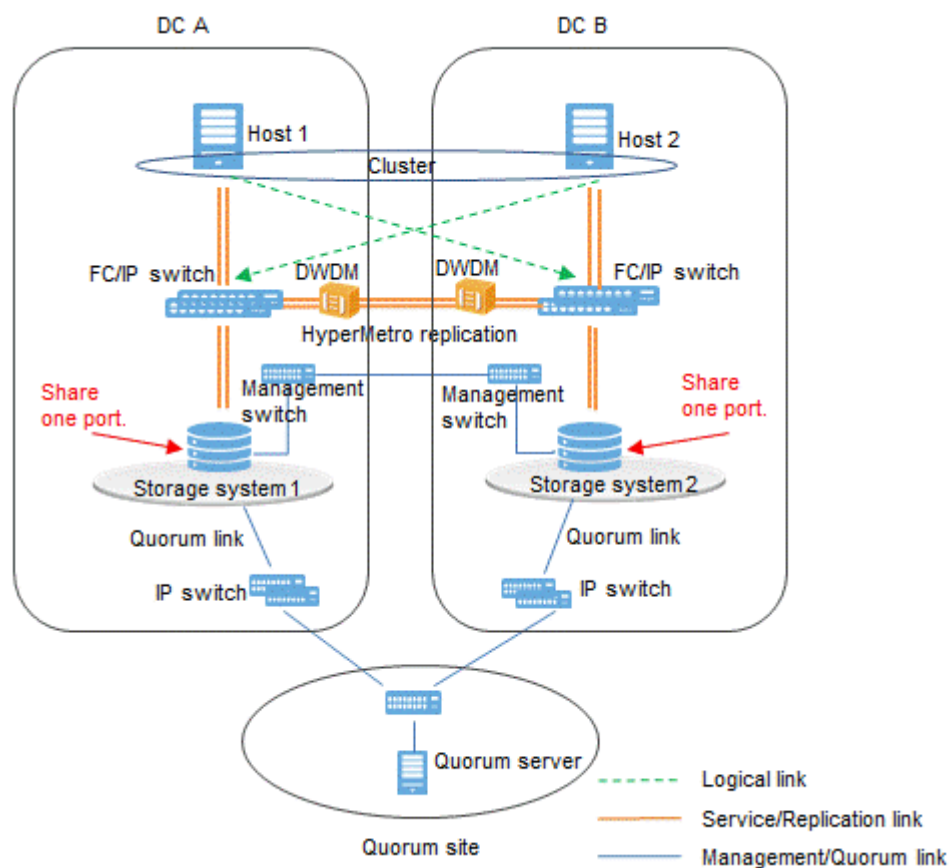
### 1.3.1 Port Sharing

The following uses cross-DC deployment as an example. [Figure 1](#) illustrates the networking mode.

#### NOTE

This example is also applicable to single-DC deployment.

**Figure 1** Port sharing



- Scenario

The host-to-storage service network, HyperMetro replication network between the DCs, and quorum network share ports on the storage systems.

- Risk
- If the service and replication networks share a port, both the service and replication links will be down if this port fails. Services may be interrupted.
- If the service and quorum networks share a port, the quorum link will be down if this port fails.
- If the replication and quorum networks share a port, both the replication and service links will be down if this port fails. Services may be interrupted.

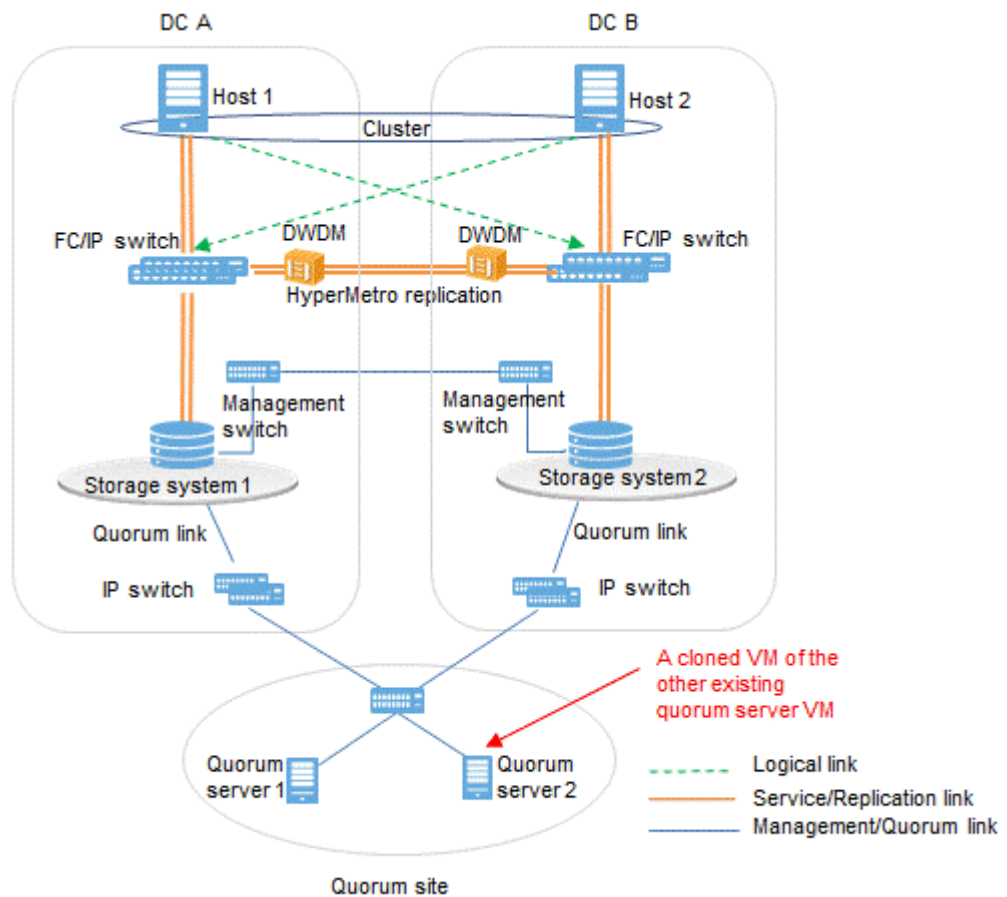
### 1.3.2 Cloned VM as the Other Quorum Server

In this networking mode, a VM is used as the quorum server and the VM is cloned as the other quorum server. [Figure 2](#) shows the networking mode.

#### NOTICE

When a VM is used as the quorum server, the VM's system and data disks cannot be created on the HyperMetro LUNs.

**Figure 2** Cloned VM as the other quorum server



- Scenario

The quorum server is a cloned VM of the other existing quorum server VM.

- Risk

The cloned VM has the same information as the source VM, which will cause a quorum server conflict.

# 2 Resources Used by a Quorum Server

The disk used by a quorum server cannot be a disk mapped from the storage array in a HyperMetro pair. Otherwise, the quorum server cannot work if the storage array becomes faulty.

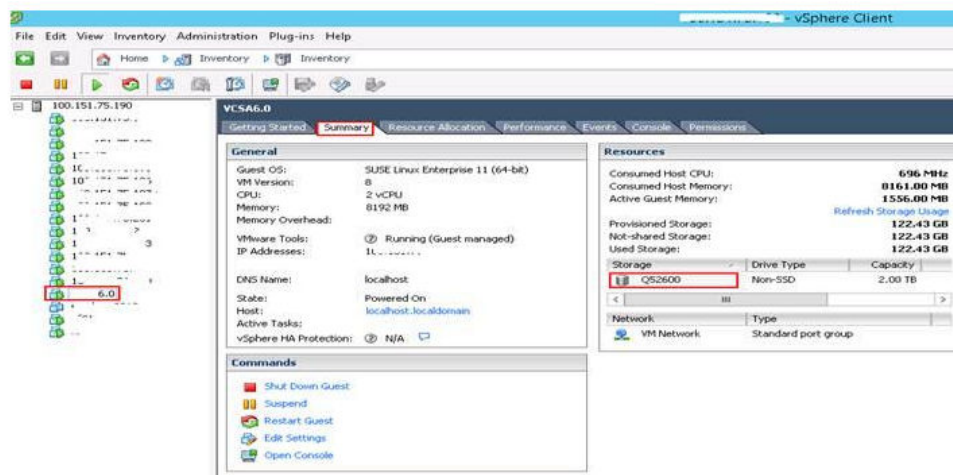
VMware and FusionSphere are used as examples.

## 2.1 VMware ESX

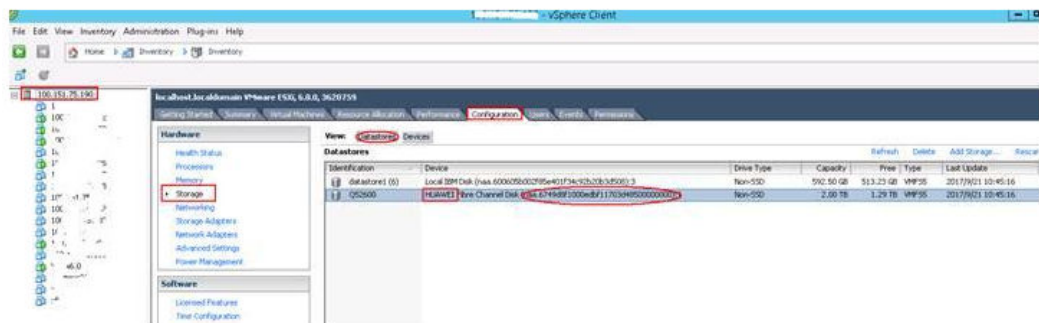
## 2.2 FusionCompute

## 2.1 VMware ESX

1. Log in to the VMware vSphere client, find the VM running the quorum server and confirm the datastore used by the VM.



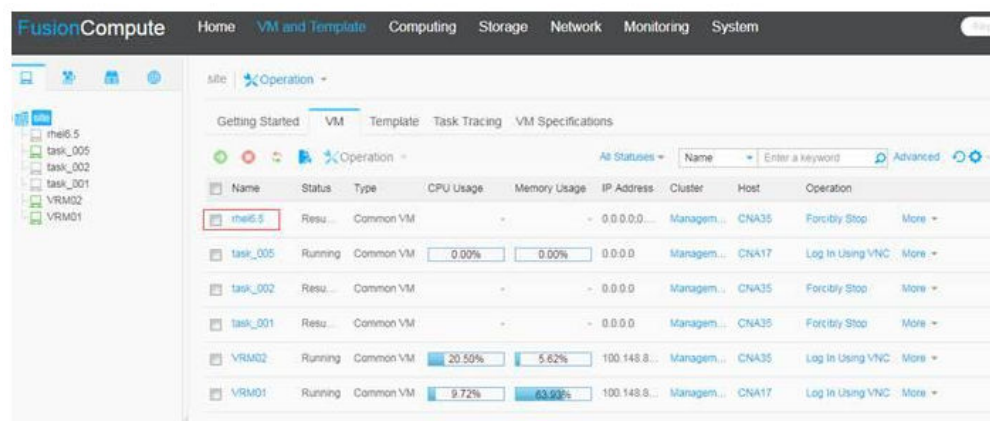
2. Choose **Configuration > Storage**, and then check the device information about the datastore.



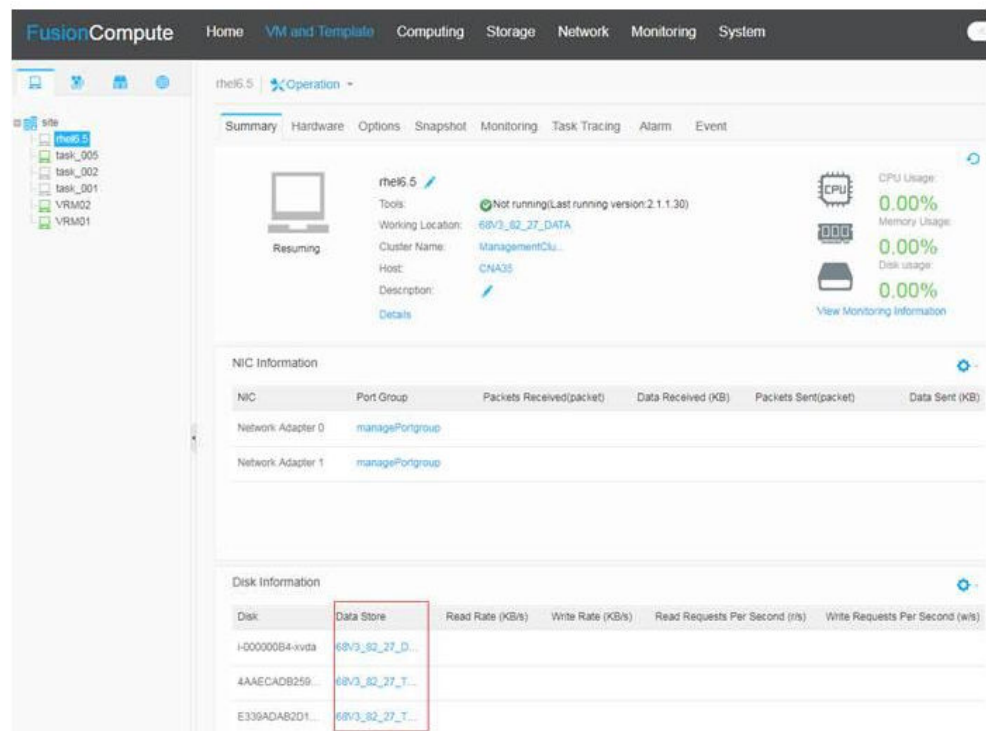
If the device information contains keyword "Huawei" and the WWN belongs to a storage array in a HyperMetro pair, the disk used by the quorum server is mapped from the storage array in a HyperMetro pair. The risk can be confirmed and the disk needs to be migrated to a local one.

## 2.2 FusionCompute

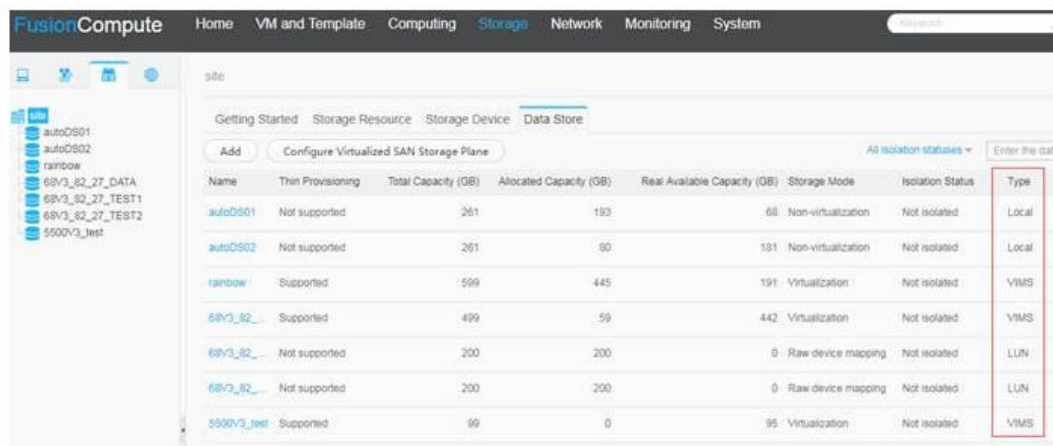
1. Log in to the FusionCompute home page, find the VM running the quorum server on the **VM and Template** page.



2. Click the VM name and check the datastore to which the server belongs.



3. Choose **Storage > Data Store** and check the type of the datastore.



If **Type** is **Local**, there is no risk. Otherwise, migrate the disk to a local one.

# 3 Huawei UltraPath

Check whether Huawei UltraPath is deployed on the host using HyperMetro LUNs and whether the version supports HyperMetro.

Log in to the host. Run the following commands to obtain the UltraPath version:

OS	命令
Windows/AIX/Solaris	upadm show version
Linux	upadmin show version
VMware	esxcli upadm show version

The command output is as follows:

```
linux:~ # upadmin show version
software version : 21.01.025
Driver Version : 21.01.025
```

If the version is 8.03.028 or later, the multipathing configuration passes the check. If the version is earlier than 8.03.028, you are advised to upgrade the UltraPath software to the recommended version as soon as possible.

<http://support.huawei.com/enterprise/en/cloud-storage/ultrapath-pid-8576127/software>

## NOTE

Huawei UltraPath V1R8C20 (8.03.028) and later versions support HyperMetro storage configuration. Earlier versions do not support HyperMetro and can deliver I/Os to only one storage system. If the storage system becomes faulty, services are interrupted.



# 4 Single-Side Network

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Redundant links exist between the hosts that use HyperMetro LUNs and the storage array at the two DR sites.

# 5 Host type confirmation

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Check whether the host type configured on the array is the same as the actual physical host type. If the host type is incorrect, the storage system may return an error code indicating that the host cannot be identified. As a result, host services are abnormal. Check whether the host type is correctly configured on the array.

**OceanStor:**

Oracle VM: Linux

XenServer: Linux

Linux: FusionSphere, Linux

Windows: Windows

Windows Server 2012: Windows

AIX: AIX

Solaris: Solaris

VMware ESX: VMware

HP-UX: HP-UX

**Dorado V6:**

Linux: FusionSphere, Linux

Windows: Windows

AIX: AIX

Solaris: Solaris

VMware ESX: VMware

HP-UX: HP-UX

XenServer: Linux