UIS SCP拷贝后磁盘文件变大

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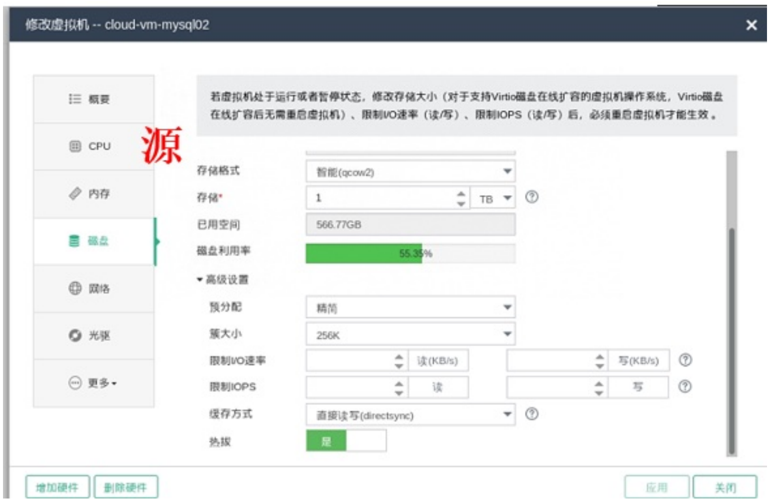
组网及说明

源平台版本 UIS 0715

目的平台版本 UIS 0750P08H01

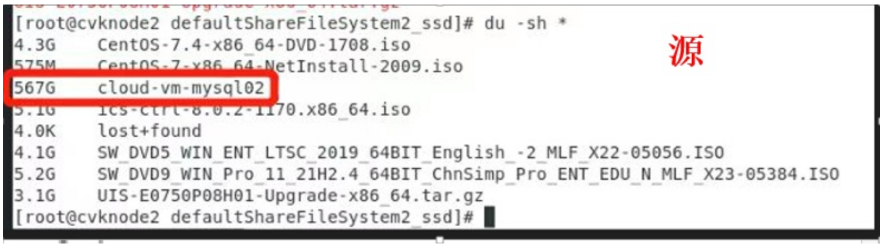
问题描述

E0715平台 scp 一个磁盘文件到 E0750P08H01平台，文件变大了。源硬盘为精简1t，虚机使用567G scp拷贝到新集群变成了912G

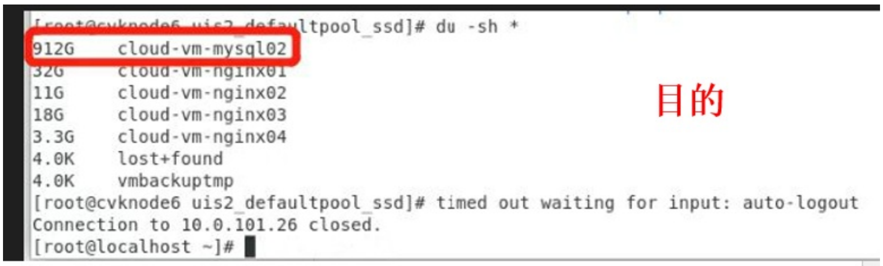


若虚拟机处于运行或者暂停状态，修改存储大小（对于支持Virtio磁盘在线扩容的虚拟机操作系统，Virtio磁盘在线扩容后无需重启虚拟机）、限制I/O速率（读/写）、限制IOPS（读/写）后，必须重启虚拟机才能生效。

存储格式：智能(qcow2)
存储*：1 TB
已用空间：566.77GB
磁盘利用率：55.35%
高级设置
预分配：精简
簇大小：256K
限制I/O速率：读(KB/s) 写(KB/s)
限制IOPS：读 写
缓存方式：直接读写(directsync)
热拔：是



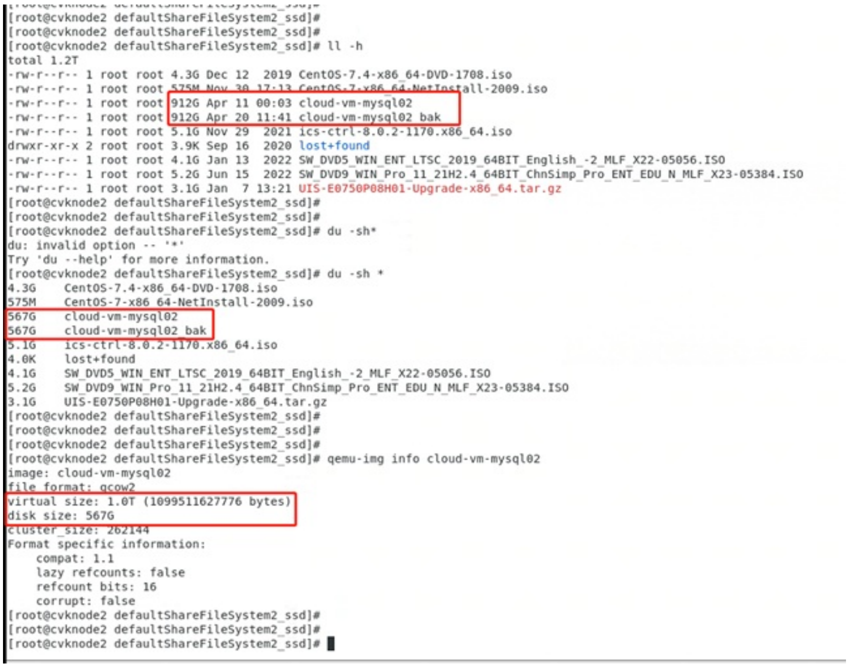
```
[root@cvknode2 defaultShareFileSystem2_ssd]# du -sh *
4.3G    CentOS-7.4-x86_64-DVD-1708.iso
575M    CentOS-7-x86_64-NetInstall-2009.iso
567G    cloud-vm-mysql02
5.1G    ics-ctrl-8.0.2-1170.x86_64.iso
4.0K    lost+found
4.1G    SW_DVD5_WIN_ENT_LTSC_2019_64BIT_English_-2_MLF_X22-05056.ISO
5.2G    SW_DVD9_WIN_Pro_11_21H2.4_64BIT_ChnSimp_Pro_ENT_EDU_N_MLF_X23-05384.ISO
3.1G    UIS-E0750P08H01-Upgrade-x86_64.tar.gz
[root@cvknode2 defaultShareFileSystem2_ssd]# 
```



```
[root@cvknode6 uis2_defaultpool_ssd]# du -sh *
912G    cloud-vm-mysql02
32G     cloud-vm-nginx01
11G     cloud-vm-nginx02
18G     cloud-vm-nginx03
3.3G    cloud-vm-nginx04
4.0K    lost+found
4.0K    vmbackuptmp
[root@cvknode6 uis2_defaultpool_ssd]# timed out waiting for input: auto-logout
Connection to 10.0.101.26 closed.
[root@localhost ~]# 
```

过程分析

虚拟机不存在多级镜像； 原平台磁盘ll查看的磁盘大小为912G， du -sh及qemu-img info查看大小为567G



```
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]# ll -h
total 1.2T
-rw-r--r-- 1 root root 4.3G Dec 12  2019 CentOS-7.4-x86_64-DVD-1708.iso
-rw-r--r-- 1 root root 575M Nov 30 17:13 CentOS-7-x86_64-NetInstall-2009.iso
-rw-r--r-- 1 root root 912G Apr 11 00:03 cloud-vm-mysql02
-rw-r--r-- 1 root root 912G Apr 20 11:41 cloud-vm-mysql02_bak
-rw-r--r-- 1 root root 5.1G Nov 29  2021 ics-ctrl-8.0.2-1170.x86_64.iso
drwxr-xr-x 2 root root 3.9K Sep 16  2020 lost+found
-rw-r--r-- 1 root root 4.1G Jan 13  2022 SW_DVD5_WIN_ENT_LTSC_2019_64BIT_English_-2_MLF_X22-05056.ISO
-rw-r--r-- 1 root root 5.2G Jun 15  2022 SW_DVD9_WIN_Pro_11_21H2.4_64BIT_ChnSimp_Pro_ENT_EDU_N_MLF_X23-05384.ISO
-rw-r--r-- 1 root root 3.1G Jan  7 13:21 UIS-E0750P08H01-Upgrade-x86_64.tar.gz
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]# du -sh*
du: invalid option -- '*'
Try 'du --help' for more information.
[root@cvknode2 defaultShareFileSystem2_ssd]# du -sh *
4.3G    CentOS-7.4-x86_64-DVD-1708.iso
575M    CentOS-7-x86_64-NetInstall-2009.iso
567G    cloud-vm-mysql02
567G    cloud-vm-mysql02_bak
5.1G    ics-ctrl-8.0.2-1170.x86_64.iso
4.0K    lost+found
4.1G    SW_DVD5_WIN_ENT_LTSC_2019_64BIT_English_-2_MLF_X22-05056.ISO
5.2G    SW_DVD9_WIN_Pro_11_21H2.4_64BIT_ChnSimp_Pro_ENT_EDU_N_MLF_X23-05384.ISO
3.1G    UIS-E0750P08H01-Upgrade-x86_64.tar.gz
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]# qemu-img info cloud-vm-mysql02
image: cloud-vm-mysql02
file format: qcow2
virtual size: 1.0T (1099511627776 bytes)
disk size: 567G
cluster_size: 262144
Format specific information:
    compat: 1.1
    lazy refcounts: false
    refcount bits: 16
    corrupt: false
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]#
[root@cvknode2 defaultShareFileSystem2_ssd]#
```

```
[root@cvknode2 defaultShareFileSystem2_ssd]# ls -ls
total 1211766788
  4415488 -rw-r--r-- 1 root root   4521459712 Dec 12  2019 CentOS-7.4-x86_64-DVD-1708.iso
   588800 -rw-r--r-- 1 root root    602931200 Nov 30 17:13 CentOS-7-x86_64-NetInstall-2009.iso
594293760 -rw-r--r-- 1 root root 978412896256 Apr 11 00:03 cloud-vm-mysql02
594293760 -rw-r--r-- 1 root root 978412896256 Apr 20 11:41 cloud-vm-mysql02_bak
```

du命令查看盘大小，确认是稀疏文件影响

```
[root@cvknode2 defaultShareFileSystem2_ssd]# du -b ./*
4521459712      ./CentOS-7.4-x86_64-DVD-1708.iso
602931200       ./CentOS-7-x86_64-NetInstall-2009.iso
978412896256    ./cloud-vm-mysql02
978412896256    ./cloud-vm-mysql02_bak
```

du -b 是文件实际的大小

```
[root@cvknode2 defaultShareFileSystem2_ssd]# du -B1 ./*
4521459712      ./CentOS-7.4-x86_64-DVD-1708.iso
602931200       ./CentOS-7-x86_64-NetInstall-2009.iso
608556810240    ./cloud-vm-mysql02
608556810240    ./cloud-vm-mysql02_bak
```

du -B 是使用字节数的块大小

解决方法

稀疏文件的影响，scp拷贝只要磁盘文件没有损坏就不影响使用
稀疏文件与其他普通文件基本相同，区别在于文件中的部分数据是全0，且这部分数据不占用磁盘空间

稀疏文件介绍 linux文件空洞与稀疏文件