

Test environment:

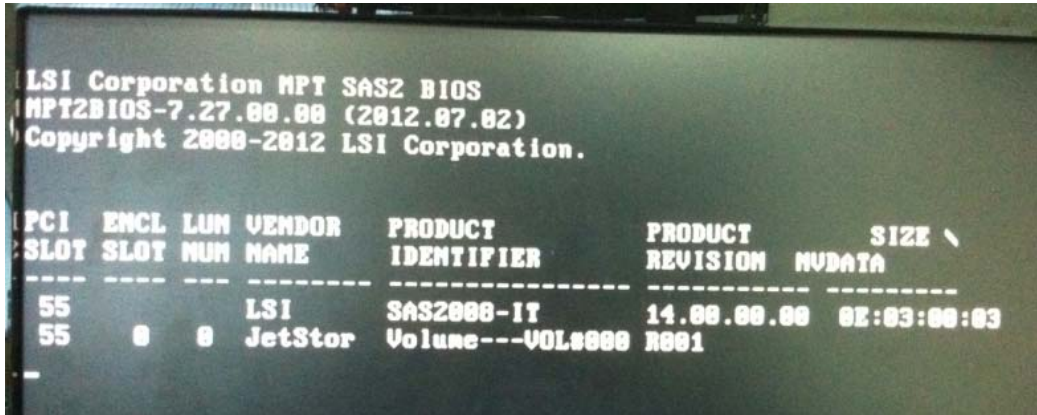
Server:

M/B: Tyan S7002

Cache memory: 8G

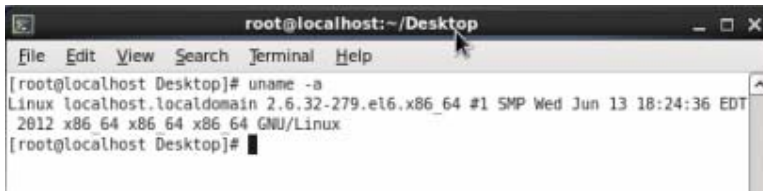
CPU: Intel Xeon E5504 2.0G

SAS HBA: LSI SAS9200-8E (MPT2BIOS-7.27.00.00, Reversion 14.00.00.00)



OS:

Red Hat Enterprise server 6.3: kernel version 2.6.32-279.el6.x86_64



JetStor SAS 724S:

Disk: HUC109090CSS600

<http://www.hgst.com/internal-drives/enterprise/ultrastar/ultrastar-c10k900>

■ Device Information	
Device Type	SAS(5000CCA01622184D)
Device Location	Enclosure#1 Slot#1
Model Name	HITACHI HUC109090CSS600
Serial Number	KPGLS8RF
Firmware Rev.	A2D0
Disk Capacity	900.2GB
Physical Block Size	512
Logical Block Size	512
Current SAS Mode	6G
Supported SAS Mode	6G
Device State	Normal
Timeout Count	0
Media Error Count	0
Rotation Speed	10020(RPM)
Device Temperature	36 °C
Read Errors Recovered W/O Delay	0x0000000000000000
Read Errors Recovered W Delay	0x00000000000007EEC
Read Errors Recovered W Retry	0x0000000000000000
Read Errors Recovered	0x00000000000007EEC
Read Total Bytes	0x000010F667A65800
Read Errors Unrecovered	0x0000000000000000
Write Errors Recovered W/O Delay	0x0000000000000000
Write Errors Recovered W Delay	0x0000000000006F8EC
Write Errors Recovered W Retry	0x0000000000000000

Controller firmware: V1.51

JetStor SAS 724S

■ Raid Subsystem Information	
Controller Name	
Firmware Version	V1.51 2012-11-12
BOOT ROM Version	V1.51 2012-07-04
PL Firmware Version	14.0.0.0
Serial Number	A145EHCFFR800011
Unit Serial #	
Main Processor	800MHz PPC440
CPU ICache Size	32KBytes
CPU DCache Size	32KBytes/Write Back
System Memory	1024MB/800MHz/ECC
Current IP Address	192.168.15.180

Raidset & Volumeset information: 15's disk be one Raid set, Raid level 5

■ RaidSet Hierarchy				
RAID Set	Devices	Volume Set(Port/Lun)	Volume State	Capacity
Raid Set # 000	E#1Slot#1	Volume---VOL#000(0&2/0)	Normal	12600.0GB
	E#1Slot#2			
	E#1Slot#3			
	E#1Slot#4			
	E#1Slot#5			
	E#1Slot#6			
	E#1Slot#7			
	E#1Slot#8			
	E#1Slot#9			
	E#1Slot#10			
	E#1Slot#11			
	E#1Slot#12			
	E#1Slot#13			
	E#1Slot#14			
	E#1Slot#15			

■ Raid Set Information	
Raid Set Name	Raid Set # 000
Member Disks	15
Total Raw Capacity	13500.0GB
Free Raw Capacity	0.0GB
Min Member Disk Size	900.0GB
Supported Volumes	128
Raid Set Power State	Operating
Raid Set State	Normal

■ Volume Set Information	
Volume Set Name	Volume---VOL#000
Raid Set Name	Raid Set # 000
Volume Capacity	12600.0GB
SAS Port/Lun	0&2/0
Raid Level	Raid 5
Stripe Size	64KBytes
Block Size	512Bytes
Member Disks	15
Cache Mode	Write Back
Write Protection	Disabled
Tagged Queuing	Enabled
Volume State	Normal

Red hat server 6.3 disk setup: GPT, ext4

```
root@localhost:~/Desktop/724S/testfolderA
File Edit View Search Terminal Help
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk id:ifrier: 0x00000000

```

Device	Boot	Start	End	Blocks	Id	System
/dev/sdal		1	267350	2147483647+	ee	GPT

```

Disk /dev/mapper/VolGroup-lv_root: 53.7 GB, 53687091200 bytes
255 heads, 63 sectors/track, 6527 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk id:ifrier: 0x00000000

Disk /dev/mapper/VolGroup-lv_swap: 8388 MB, 8388608000 bytes
255 heads, 63 sectors/track, 1019 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk id:ifrier: 0x00000000

Disk /dev/mapper/VolGroup-lv_home: 60.3 GB, 60339257344 bytes
255 heads, 63 sectors/track, 7335 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk id:ifrier: 0x00000000

[root@localhost testfolderA]# df -lhT
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
    ext4 50G 2.6G 45G 6% /
tmpfs tmpfs 3.9G 704K 3.9G 1% /dev/shm
/dev/sdb1 ext4 485M 37M 423M 8% /boot
/dev/mapper/VolGroup-lv_home
    ext4 56G 180M 53G 1% /home
/dev/sr0 iso9660 3.5G 3.5G 0 100% /media/RHEL_6_3_x86_64_Disc_1
/dev/sdal ext4 12T 156M 11T 1% /root/Desktop/724S
[root@localhost testfolderA]#
```

Test file: Using dd command to created thirty 1G size file:

```
[root@localhost testfolderA]# dd if=/dev/zero of=/root/Desktop/724S/testfolderA/1Gfile1 bs=1024 count=1000000
1000000+0 records in
1000000+0 records out
1024000000 bytes (1.0 GB) copied, 2.96025 s, 346 MB/s
[root@localhost testfolderA]#
```

Test method:

1. Create two share folder (“testfolderA” and “testfolderB”) under 724S volume.
2. Using “time cp” command to copy “testfolderA” thirty 1G file into “testfolderB”

```
root@localhost:~/Desktop/724S/testfolderA
File Edit View Search Terminal Help
[root@localhost testfolderA]# pwd
/root/Desktop/724S/testfolderA
[root@localhost testfolderA]# ls -lh
total 29G
-rw-r--r--. 1 root root 977M Dec  4 09:07 1Gfile1
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile10
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile11
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile12
-rw-r--r--. 1 root root 977M Dec  4 09:11 1Gfile13
-rw-r--r--. 1 root root 977M Dec  4 09:11 1Gfile14
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile15
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile16
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile17
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile18
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile19
-rw-r--r--. 1 root root 977M Dec  4 09:08 1Gfile2
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile20
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile21
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile22
-rw-r--r--. 1 root root 977M Dec  4 09:12 1Gfile23
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile24
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile25
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile26
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile27
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile28
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile29
-rw-r--r--. 1 root root 977M Dec  4 09:08 1Gfile3
-rw-r--r--. 1 root root 977M Dec  4 09:13 1Gfile30
-rw-r--r--. 1 root root 977M Dec  4 09:08 1Gfile4
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile5
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile6
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile7
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile8
-rw-r--r--. 1 root root 977M Dec  4 09:09 1Gfile9
[root@localhost testfolderA]#
```

Test result: 1 minute 27.510 second finish thirty 1G file copy to "testfolderB"

```
[root@localhost 724S]# time cp -r testfolderA/ testfolderB/
real    1m27.510s
user    0m0.307s
sys     0m45.491s
[root@localhost 724S]#
```