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- 3.646 PiB

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- bbfs
- fsb fs04 fs08 fs09 fs10 fs12 fs13 fs14
- fs00
- /archive

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<https://table.nju.edu.cn/dtable/view-external-links/custom/hpc-storage/>





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?????Tier 0?

/bbfs

NVMe SSD Burst Buffer

- bbfs

-  100%
-  117 TiB
- IO 4\*HPE ProLiant DL380 Gen10: bb01 bb02 bb03 bb04
- CPU: 2\*Intel Xeon Gold 5122 (2 Cores, 16.5MB Cache, 3.60 GHz)
- RAM: 192 GB (12x16GB), 6 Channels, DDR4-2666 ECC RDIMM
- Network: 2\*25 Gigabit Ethernet, 100 Gbit/s EDR InfiniBand, 100 Gbit/s Omni-Path
- SSD: 8\*Intel SSD DC P4510, 64-Layer TLC 3D NAND, 4TB 6.3PBW, 2.5in U.2 15mm, PCIe 3.1 x4 NVMe
- 

## /bbfs/fs\*/

Diagram illustrating the structure of a file system entry (inode) and its associated data blocks:

- The first row shows the inode structure: a 12-bit field (000000000000), followed by the text `/fs*/`, a 24-bit field (000000000000000000000000), followed by the text `/bbfs/fs*/`, a 1-bit field (0), followed by the text `/fs*/`, a 12-bit field (000000000000), followed by the text `/bbfs/fs*/`.
- The second row shows the data blocks: a 24-bit field (000000000000000000000000), followed by the text `/fs*/`, a 12-bit field (000000000000), followed by the text `/bbfs/fs*/`, a 12-bit field (000000000000), followed by the text `/fs*/`.
- The third row shows the data blocks: a 3-bit field (000).

☐ /fsb/home/yaoge/yaoge/in

[illegible]

```
/bbfs/fsb/home/yaoge/yaoge/in[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] SSD
```

/bbfs/fsb/home/yaoge/yaoge/out

SSD /fsb/home/yaoge/yaoge/out

```
/bdfs/scratch/
```

[illegible]

checkpoint  .tmp  .temp 

Check Point

/bbfs/scratch/yaoge

SSD

Tier 1?

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/snapshot

/fsb /fsb/.snapshots /fsb/.snapshots/20220804-1800 2022 8 4 18 0

/fsb

- 100%
- 1291.6 TiB
- 0 7 2
- Lenovo DSS-G 210
- 2\*Lenovo ThinkSystem SR655 V3: dss01 dss02
- 2\*25 Gigabit Ethernet, 200 Gbit/s HDR InfiniBand
- JBOD 1\*Lenovo D4390
- 88\*Western Digital Ultrastar DC HC570 22TB 3.5-inch 7.2Krpm 12Gb/s SAS  
2\*Samsung PM1655 800GB 3DWPD 2.5-inch 24Gb/s SAS 24Gb
- Reed-Solomon code 8+2p 3

/fs04

- 100%
- 13.1 TiB
- IO Dell PowerEdge 12G R720xd: io08
- 2\*10 Gigabit Ethernet
- RAID Dell PERC H710P Mini (LSI SAS2208 ROC), 1GB cache with Intelligent Battery Backup Unit
- 900GB 2.5-inch 10Krpm 6Gb/s SAS 5 RAID5 4 RAID5 2









## /fs08

- 100%
- 13.1 TiB
- IO 2\*Inspur NF5270M3: io10 io11
- 2\*1 Gigabit Ethernet, 40 Gbit/s QDR InfiniBand
- Inspur AS500H (NetApp E2600) 4GB Write caching with mirroring, High Performance Tier
- 900GB 2.5-inch 10Krpm 6Gb/s SAS 5 RAID5 4 RAID5 2












## /fs09

- 100%
- 23.5 TiB
- IO 2\*Inspur NF5270M3: io10 io11
- 2\*1 Gigabit Ethernet, 40 Gbit/s QDR InfiniBand
- Inspur AS500H (NetApp E2600) 4GB Write caching with mirroring, High Performance Tier
- 3TByte 3.5-inch 7.2Krpm 6Gb/s NL-SAS 12 Disk Pool 1 2 Virtual Disk












## /fs10

-  100%
-  9.8 TiB
- IO Inspur NF5270M3: io12
-  2\*1 Gigabit Ethernet, 40 Gbit/s QDR InfiniBand
- RAID LSI MegaRAID SAS 9271-8i (LSI SAS2208 ROC), 1GB
-  900GB 2.5-inch 10Krpm 6Gb/s SAS RAID5 RAID5




## /fs12

-  100%
-  13.1 TiB
- IO 2\*HP ProLiant DL380 Gen9: io01 io02
-  2\*10 Gigabit Ethernet, 56 Gbit/s FDR InfiniBand
-  HP MSA 2040 SAN 4GB
-  900GB 2.5-inch 10Krpm 6Gb/s SAS RAID5 RAID5

## /fs13

-  100%
-  29.1 TiB
- IO 2\*HP ProLiant DL380 Gen9: io01 io02
-  2\*10 Gigabit Ethernet, 56 Gbit/s FDR InfiniBand
-  HP MSA 2040 SAN 4GB
-  4TByte 3.5-inch 7.2Krpm 6Gb/s SAS RAID6 RAID6

## /fs14

-  100%
-  262 TiB
- IO Dell PowerEdge R730: io13

- 2\*10 Gigabit Ethernet
- RAID Dell PERC H730P Mini (LSI SAS3108 ROC), 2GB NV cache with Intelligent Battery Backup Unit
- 8TByte 3.5-inch 7.2Krpm 12Gb/s SAS 6 RAID6
- RAID Dell PERC H830 (LSI SAS3108 ROC), 2GB NV cache with Intelligent Battery Backup Unit
- JBOD 8TByte 3.5-inch 7.2Krpm 12Gb/s SAS 6 RAID6 8 RAID6

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/fs00

- 100%
- 3.3 TB
- 0 7 12
- IO HP ProLiant DL380 Gen9: io01 io02
- 2\*10 Gigabit Ethernet, 56 Gbit/s FDR InfiniBand
- HP MSA 2040 SAN 4GB
- 900GB 2.5-inch 10Krpm 6Gb/s SAS 2 RAID1 2 RAID1 1
- IO Inspur NF5270M3: io10 io11
- 2\*1 Gigabit Ethernet, 40 Gbit/s QDR InfiniBand
- Inspur AS500H (NetApp E2600) 4GB
- Write caching with mirroring, High Performance Tier
- 900GB 2.5-inch 10Krpm 6Gb/s SAS 2 RAID1 2
- IO Inspur NF5270M3: io12
- 2\*1 Gigabit Ethernet, 40 Gbit/s QDR InfiniBand
- RAID LSI MegaRAID SAS 9271-8i (LSI SAS2208 ROC), 1GB cache with Battery Backup Unit

- 900GB 2.5-inch 10Krpm 6Gb/s SAS 2 RAID1 1
- RAID1+

# Tier 2?

/archive

- 100%
- 1.913 PiB
- 0 7 4
- IO Dell PowerEdge R740xd: zfs
- 2\*25 Gigabit Ethernet
- RAID-Z 3
- /archive

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/.zfs/snapshot

/archive /archive/.zfs/snapshot /archive/.zfs/snapshot/20220904-0000 2022 9 4  
 0 0

# Tier 2?

s3.nju.edu.cn

- ☐ 100%
- ☐ 2.12 PB
- ☐ UniverStor P20000
- ☐ 12\*10 Gigabit Ethernet
- ☐ Large object: 15/4, Small object: 6/4
- ☐ S3
- Endpoint: http://s3.nju.edu.cn OR https://s3.nju.edu.cn
- Region: “ ” us-east-1
- ☐

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- ☐
- ☐ 24☐

/tmp/ /var/tmp/

☐

/dev/shm/

☐

/ssd/ /tmp/ssd

☐ SSD☐

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