



SNAPRAID AND MERGERFS

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WHAT IS MERGERFS

mergerfs is a union filesystem geared towards simplifying storage and management of files across numerous commodity storage device.

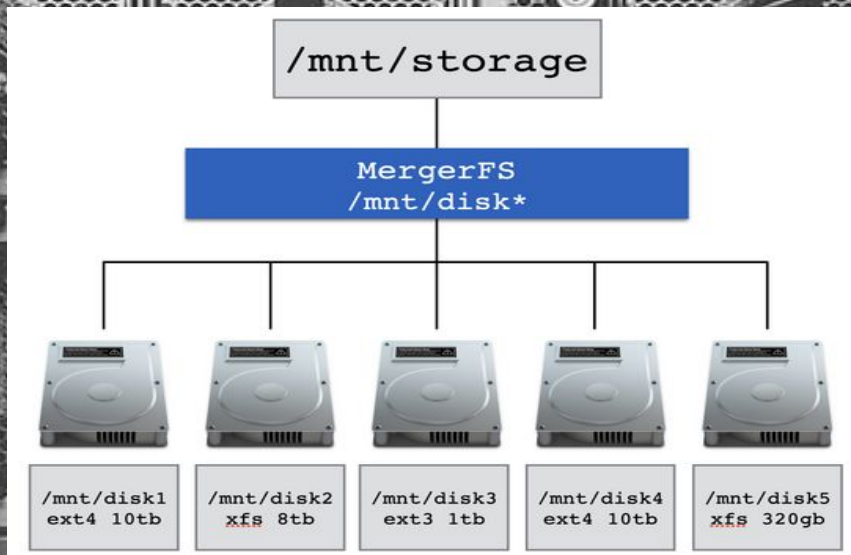
similar to mhdfs, unionfs, and aufs. FEATURES. Configurable behaviors / file placement. Ability to add or remove filesystems at will.

WHY MERGERFS

Here are the key features of MergerFS that make it perfect for Homelab Setups

- Pools multiple drives into one mountable volume
- Supports addition *and* removal of devices with no rebuild times
- Permits drives with mismatched sizes with no penalties
- Each drive has an individually readable filesystem (ext4, xfs, zfs, etc)
- Drives may contain data when mounted via Mergerfs

HOW TO USE



`/mnt/disk* /mnt/storage fuse.mergerfs`

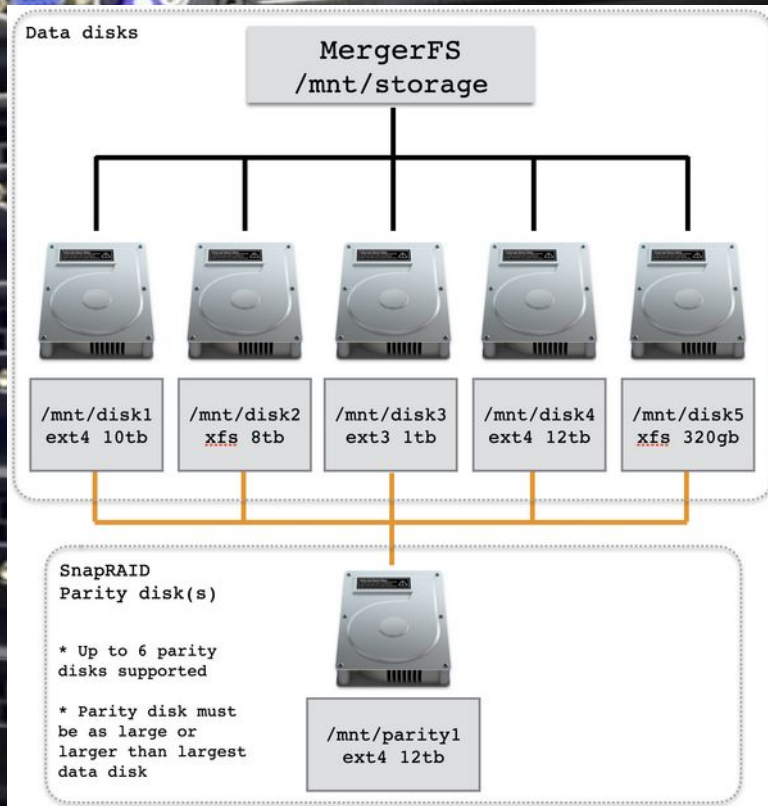
`defaults,nonempty,allow_other,use_ino,cache.files=off,moveonenospc=true,category.create=mfs,droptocacheonclose=true,minfreespace=250G,fsname=mergerfs 0 0`

WHY SNAPRAID



SnapRAID provides us some basic protection against drive failures and is the perfect pairing with [MergerFS](#). This diagram illustrates the relationship between MergerFS and SnapRAID - each is responsible for a different area and the two operate independently of each other.

HOW TO USE SNAPRAID



SNAPRAID TOOLS



Scruding

To periodically check the data and parity for errors, you can run the "scrub" command.

Status

Prints a summary of the state of the disk array.

Sync

Updates the parity information. All the modified files in the disk array are read, and the corresponding parity data is updated.

DUP

Lists all the duplicate files. Two files are assumed equal if their hashes are matching. The file data is not read, but only the pre-computed hashes are used.

EXTRA INFO

```
user@storage: ~  
user@storage:~$ df -h  
Filesystem      Size  Used Avail Use% Mounted on  
tmpfs           9.5G  7.8M  9.5G   1% /run  
/dev/sda2       117G  13G  98G  12% /  
tmpfs           48G   0  48G   0% /dev/shm  
tmpfs           5.0M   0  5.0M   0% /run/lock  
mergerfs        132T  7.4T  124T   6% /MediaFS  
/dev/sdd1       1.9T  40G  1.8T  3% /mnt/disk18  
/dev/sdq1       1.9T  40G  1.8T  3% /mnt/disk16  
/dev/sdk1       1.9T  46G  1.8T  3% /mnt/disk10  
/dev/sdr1       1.9T  40G  1.8T  3% /mnt/disk17  
/dev/sdm1       1.9T  46G  1.8T  3% /mnt/disk11  
/dev/sdd1       1.9T  48G  1.8T  3% /mnt/disk3  
/dev/sdw1       1.9T  48G  1.8T  3% /mnt/disk23  
/dev/sdt1       1.9T  46G  1.8T  3% /mnt/disk19  
/dev/sdo1       1.9T  35G  1.8T  2% /mnt/disk13  
/dev/sdl1       1.9T  44G  1.8T  3% /mnt/disk12  
/dev/sdn1       1.9T  39G  1.8T  3% /mnt/disk14  
/dev/sdf1       1.9T  46G  1.8T  3% /mnt/disk5  
/dev/sdb1       1.9T  46G  1.8T  3% /mnt/disk1  
/dev/sdc1       1.9T  47G  1.8T  3% /mnt/disk2  
/dev/sda1       5.5T  444G  5.1T  8% /mnt/disk36  
/dev/sdab1      1.9T  47G  1.8T  3% /mnt/disk28  
/dev/sdah1      5.5T  440G  5.1T  8% /mnt/disk34  
/dev/sdak1      5.5T  451G  5.1T  9% /mnt/disk37  
/dev/sdaq1      5.5T  440G  5.1T  8% /mnt/disk43  
/dev/sdao1      5.5T  439G  5.1T  8% /mnt/disk41  
/dev/sdaq1      5.5T  442G  5.1T  8% /mnt/disk33  
/dev/sdan1      5.5T  443G  5.1T  8% /mnt/disk40  
/dev/sdul       1.9T  42G  1.8T  3% /mnt/disk20  
/dev/sdar1      5.5T  445G  5.1T  8% /mnt/disk44  
/dev/sdy1       1.9T  44G  1.8T  3% /mnt/disk25  
/dev/sdj1       1.9T  40G  1.8T  3% /mnt/disk9  
/dev/sdail      5.5T  441G  5.1T  8% /mnt/disk35  
/dev/sdall      5.5T  440G  5.1T  8% /mnt/disk38  
/dev/sdap1      5.5T  443G  5.1T  8% /mnt/disk42  
/dev/sde1       1.9T  41G  1.8T  3% /mnt/disk4  
/dev/sdaa1      5.5T  441G  5.1T  8% /mnt/disk45  
/dev/sdpl       1.9T  41G  1.8T  3% /mnt/disk15  
/dev/sdgl       1.9T  46G  1.8T  3% /mnt/disk6  
/dev/sdvl       1.9T  40G  1.8T  3% /mnt/disk22  
/dev/sdam1      5.5T  441G  5.1T  8% /mnt/disk39  
/dev/sdil       1.9T  46G  1.8T  3% /mnt/disk8  
/dev/sdhl       1.9T  47G  1.8T  3% /mnt/disk7  
/dev/sdaa1      1.9T  46G  1.8T  3% /mnt/disk27  
/dev/sdat1      5.5T  39G  5.5T  1% /mnt/parity  
/dev/sdafl      5.5T  440G  5.1T  8% /mnt/disk32  
/dev/sdad1      1.9T  34G  1.8T  2% /mnt/disk30  
/dev/sddl       1.9T  42G  1.8T  3% /mnt/disk24  
/dev/sdel       1.9T  46G  1.8T  3% /mnt/disk26  
/dev/sdae1      1.9T  46G  1.8T  3% /mnt/disk28  
/dev/sdaul      1.9T  43G  1.8T  3% /mnt/disk21  
tmpfs           9.5G  4.0K  9.5G   1% /run/user/1000  
user@storage:~$
```

DF -H

A cmd used to list disks and space used on them



FSTAB LIST

FSTAD

Is used to mount your drives at boot.

```
user@storage: ~
GNU nano 6.2 /etc/fstab

#Data Drives
UUID=d1fb8e89-8a55-4d30-9a1f-98f18e88e2e8 /mnt/disk1 auto defaults 0 0
UUID=d2aae217-6407-4182-a5ab-68715946f34d /mnt/disk2 auto defaults 0 0
UUID=0e1e494b-9bb6-4c52-b89b-22d45fad0a8 /mnt/disk3 auto defaults 0 0
UUID=06d36af1-b4bc-4b3e-9ab2-90059cb8a084 /mnt/disk4 auto defaults 0 0
UUID=d3b986e2-0457-47d1-93bc-df5e597b2898 /mnt/disk5 auto defaults 0 0
UUID=7b3ee9de-15d1-4b02-bfe6-bd6ae4069d1 /mnt/disk6 auto defaults 0 0
UUID=fbcdb42b-f471-42a4-8fde-8de426a6cb89 /mnt/disk7 auto defaults 0 0
UUID=19936d48-0596-4695-97c6-63c72cf0b381 /mnt/disk8 auto defaults 0 0
UUID=77378503-c2a4-4afe-b144-d56ba15584ce /mnt/disk9 auto defaults 0 0
UUID=84630ab1-d02c-4433-8ac2-e619e9d44f5 /mnt/disk10 auto defaults 0 0
UUID=2a3067fc-bd88-4782-b7db-114085570462 /mnt/disk11 auto defaults 0 0
UUID=0f8d59e4-2f28-4012-99bd-555c2fc501e7 /mnt/disk12 auto defaults 0 0
UUID=935b9cac-c42e-43fb-85bc-76389b75b0e2 /mnt/disk13 auto defaults 0 0
UUID=54248f75-674b-42e8-864d-db7f458a3c0e /mnt/disk14 auto defaults 0 0
UUID=7162cecf-90fe-4f52-9ec8-90bf476ebc01 /mnt/disk15 auto defaults 0 0
UUID=c9a227b5-1444-494d-8724-b1a10ebbc01b /mnt/disk16 auto defaults 0 0
UUID=0e6697fc-6366-429c-b3d0-ff40ae49e6c3b /mnt/disk17 auto defaults 0 0
UUID=021248ce-2896-4c3c-bb39-d66df82f8ea2 /mnt/disk18 auto defaults 0 0
UUID=084822e4-c2aa-4cdd-4730-cf8a8b62e68e /mnt/disk19 auto defaults 0 0
UUID=e419f53f-389d-417e-85ad-6a20d7415008 /mnt/disk20 auto defaults 0 0
UUID=01850073-2fdb-479f-85ed-b17d3957868b /mnt/disk21 auto defaults 0 0
UUID=0c0d5ab5-02ab-4f52-9920-7b8b90cca978 /mnt/disk22 auto defaults 0 0
UUID=7db5ed77-2c08-43fe-b489-82d54000954c /mnt/disk23 auto defaults 0 0
UUID=2f411f9a-eeec-4b7d-b31e-fa17358e44d7 /mnt/disk24 auto defaults 0 0
UUID=1a161023-1f1e-424b-8194-a7c52bd1104d /mnt/disk25 auto defaults 0 0
UUID=1b5a9b92-d669-4cc9-be2c-9e164cf27f55 /mnt/disk26 auto defaults 0 0
UUID=e9393c1f-8444-418b-a3f9-a6a09879529f /mnt/disk27 auto defaults 0 0
UUID=7277ef43-2f29-42d3-bee4-f1941867e712 /mnt/disk28 auto defaults 0 0
UUID=0b3b605f-4703-44ab-918d-eea7a272599b /mnt/disk29 auto defaults 0 0
UUID=fad8ae24-caad-4c76-a097-3f91f66d7ba1 /mnt/disk30 auto defaults 0 0

#Parity Drives
UUID=c9e8882f-12da-49e2-9bab-742b54d30e45 /mnt/parity auto defaults 0 0

#MergerFS Pool
/mnt/disk* /MediaFS fuse.mergerfs defaults,nonempty,allow_other,use_ino,cache.files=off,mov

UUID=da777ff3-8bef-461e-be09-39d6cb2edccc /mnt/disk32 auto defaults 0 0
UUID=ea74ae93-24fe-4aa9-8e9a-1930b2edc938 /mnt/disk33 auto defaults 0 0
UUID=0a4e8db7-ecdb-4c9e-4d31-ef4778aae47 /mnt/disk34 auto defaults 0 0
UUID=8e50402b1-e943-40c9-bb07-f98d19a8b784 /mnt/disk35 auto defaults 0 0
UUID=274379e0-f07e-4386-a00c-85b294c04891 /mnt/disk36 auto defaults 0 0
UUID=63f43925-72bd-4483-bac3-4c6be01a5341 /mnt/disk37 auto defaults 0 0
UUID=21c2c7fc-d966-4592-950a-2bdcb95f8f2a /mnt/disk38 auto defaults 0 0
UUID=49aaab4e-63b5-41b5-8d40-d6707bd3b4db /mnt/disk39 auto defaults 0 0
UUID=52345b12-a39f-48d2-a488-1b745dec5112 /mnt/disk40 auto defaults 0 0
UUID=f8a95f96-1a4b-4frc6-8c09-32b9c076610c /mnt/disk41 auto defaults 0 0
UUID=6f82dc67-86e8-4324-90c3-08eba465b055 /mnt/disk42 auto defaults 0 0
UUID=16979c54-2dea-42c3-96a1-42a4ceb9ba26 /mnt/disk43 auto defaults 0 0
UUID=a09bd323-2774-4b12-bff6-8bcf95eb5d67 /mnt/disk44 auto defaults 0 0
UUID=0df8fb8f-649a-450a-a0ca-8cf85ba7bf6b /mnt/disk45 auto defaults 0 0

^G Help          ^O Write Out    ^W Where Is    ^K Cut          ^T Execute     ^C Location
^X Exit          ^R Read File    ^N Replace     ^U Paste       ^J Justify     ^_ Go To Line
```