



Storage and Filesystems

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Different storage types available at NAS

- Home Filesystem
- Software Build/Repo
- Scratch Filesystem
- Mass Storage (Tape Backup)



Home filesystems and software build

- Home Filesystem
 - */u/uname*
 - Used for a limited number of files
 - Small quota allocations
 - Backed up
- Software Build
 - */swbuild/uname*
 - You need to request space
 - Larger quota than your home directory
 - Use for software build and repository
 - SSD backend for speed
 - Backed up



Scratch filesystems

- Named /nobackuppXX
- Primary used for job output
- Lustre
- Automatic SSD Cache
 - Files <5GB (nbp17,18,27,28)
 - Files <1 GB (nbp19)
- Upcoming Retirements: nbp10,12,13,15
- /nobackupnfs1 is all SSD-based filesystem
 - Ideal for small files
 - AI or ML workloads

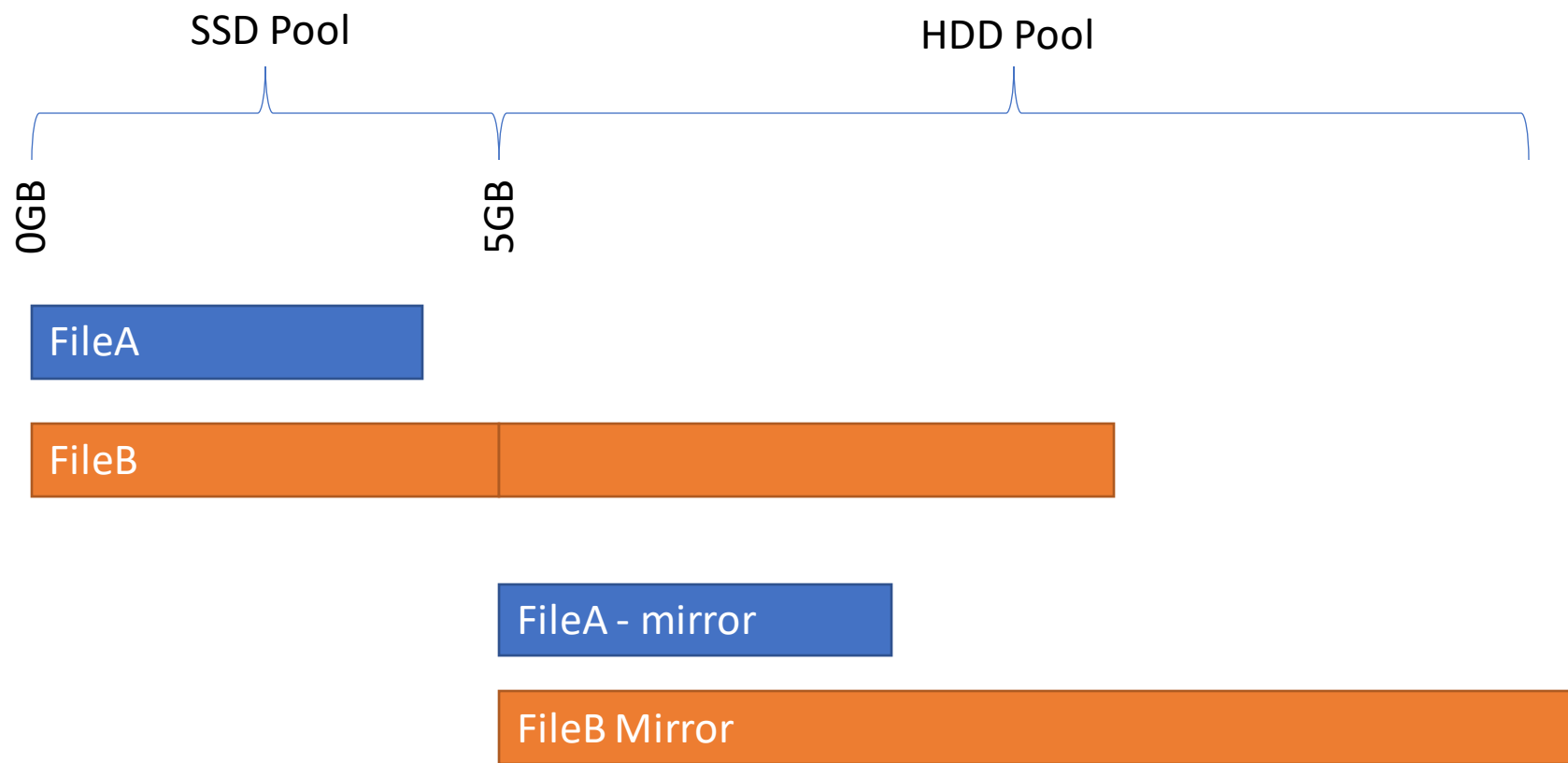
Name	HDD Size	SSD Size
Nobackupp17	18 PB	1 PB
Nobackupp18	18 PB	1 PB
Nobackupp27	18 PB	1 PB
Nobackupp28	18 PB	1 PB
Nobackupp19	9 PB	½ PB
Nobackupp29*	9 PB	½ PB
Nobackupnfs1	-	3 PB

* Dedicated to Viz Team



How do the filesystems SSD cache?

By making use of Lustre Progress File Layout and Lustre Pools:



HPE DMF HSM archive system (Lou)

- 238 petabytes (PB) of unique data stored
- Maximum capability of 1.5 exabytes
- 7.5 PB disk cache (not scratch storage)
- Files have two copies (housed in separate buildings)
- No space quota
- Tar up directories (use **shifc** tool)
- LFEs: Lou front-ends for interactive work using Lou
- LDANs: Lou data analysis nodes used for post-processing (access via PBS)



Looking forward

- HECC has been looking into Object Store Solutions
- Additional Lustre storage

Provide your input!

Email: support@nas.nasa.gov





Ideas? Questions? Suggestions?

We want to hear from you!
support@nas.nasa.gov
1 (800)-331-8737