

Genesis ZX

How is the usable space consumed on the Genesis ZX and NX2 since they are ZFS based?

1. User Data : this is obvious
2. RAID Parity data if raidz1, raidz2 or raidz3 is used. (single disk space for raidz1, 2 disks space for raidz2 and 3 disks space for raidz3) : This is mostly the reason for confusion, as in the case of mirrors the mirrored disks are NOT appearing as used-space. The problem come originally from zfs designers and we just follow this inconsequence.
3. About 3.5% for zfs-metadata : this is a surprise for the user as 3.5% on big pools can be a significant space already
4. Data locked by Snapshots. Deleted data are counted as used space as long as snapshot retention plan is defined. Even there are no deleted data and all snapshots are "empty" it still use some marginal space. 30 thousand "empty" snapshots take about 15 GB space
THIS is potentially a PROBLEM for the user. If significant data are deleted, the free space is NOT appearing as long as the oldest snapshot are not deleted.
5. 4GB is reserved for the system OS usage : this is very small space, so not important
6. Don't forget that storage devices are not actually 10TB for example of a manufacturer's 10TB drive and the actual usable space of a storage device is actually around 92% of the manufacturer's size.

Getting the log of the ZX and NX2 you can see more information about space utilization

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