OpenZFS

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Production Database Server

Oracle RMAN

Delphix Engine

OpenZFS

illumos

vmware

Fiber Channel

NFS

non-production Database servers for development, test, reporting
Delphix Engine

Oracle RMAN

Production Database Server

OpenZFS

illumos

EC2

EBS

NFS

non-production Database servers for development, test, reporting
Production MS SQL Server

Delphix Engine

OpenZFS

iSCSI

Fiber Channel

non-production Database servers for development, test, reporting

MS SQL backup

iSCSI
What’s unique about Delphix’s use of OpenZFS?

- Depend on lots of fast clones
- Run on “reliable” enterprise storage
- Run on vmware (adding AWS soon)
- 8k recordsize
- sha256 for nop-write; no dedup
How is Delphix involved in the community?

- Speaking at conferences
- Pushing code changes to illumos
  - 9 individuals have contributed
- Top contributor to ZFS
  - zfs bookmarks
  - readonly pool improvements (e.g. zfs send)
  - hole birth time & other zfs send improvements
  - write throttle & vdev_queue rewrite
  - feature flags
  - libzfs_core
  - TestRunner test suite
  - background destroy of filesystems
  - lots of performance improvements

Need to upstream:
- embedded blocks ("zero block compression")
- don’t evict when objset closed
- metadata_redundancy=most
- fragmentation histogram & metric
- ENOSPC fixes (for both file removal and /sbin/zfs)