The Role of SSDs in Software Defined Storage

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Agenda

- Only 15 minutes, so …
  - What is SDS?
  - Role of SSDs
  - SDS + SSD = ?
  - Optimize SDS + SSD

What is SDS?

- Neuralytix defines SDS as:

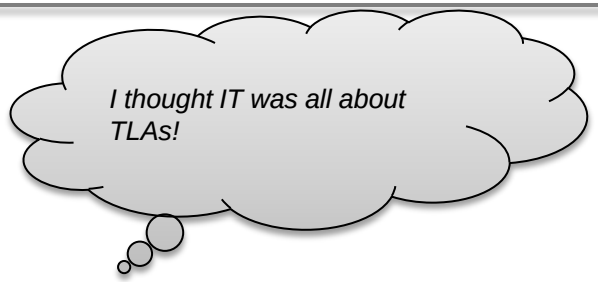
"A set of technologies that present a unified set of storage services across a federation of heterogeneous servers and storage capacity."

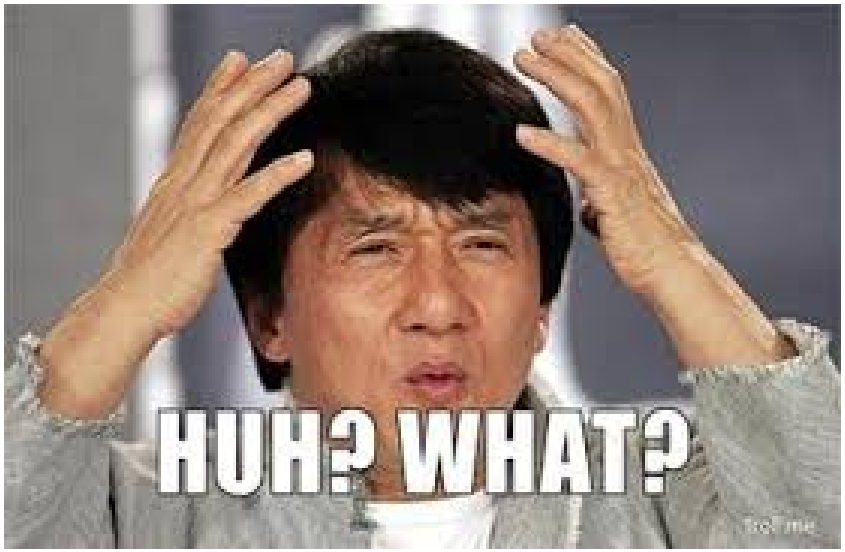
- Definition agreed to by:
  - Dell, EMC, HP, HDS, IBM, NetApp (roughly 70%+ of storage systems market)
- It does not define any particular storage media
  - This is **critical**

The Role of SSDs

- SSDs, like HDDs and tape, is a data storage medium
- SSDs are used to improve data transfer performance for IOP intensive applications
  - IOP intensive apps include:
    - Database *hot* files – indices, etc.
    - Logfiles
    - Active database tables
  - Also includes:
    - Metadatabases
    - FAT tables
    - inode pointer tables

So what does SDS + SSD = ?





- SDSSSD
- S_4D_2
- S^4D^2
- SDS_3D

~ OR ~

- **S**imply **D**on't **S**weat the **S**ordid **S**torage **D**etails!

Seriously ...

- SSDs are **managed** by SDS
  - As “just” another storage medium
  - To satisfy defined policy/policies → e.g. SLAs, tiering, etc.
- SSDs can be **used** by SDS
  - To optimize SDS
    - By storing metadatabases, tags, , reltationships between data objects
    - FAT, inode, object metadata
      - Esp. for dedicated metadatabase approach
- SSDs can be **leveraged** as cache
  - For applications, file systems, ETL, etc.

Bringing SDS + SSD

- SDS = Software
- SSD = Hardware
- They each play a different role
- They complement each other
- But there are no dependencies between each
  - i.e. you do **not** need SSDs when you implement SDS
  - i.e. you do **not** need SDS when you implement SSDs
- BUT ...
  - SSDs will improve SDS
  - SDSs will help optimize SSDs

Contact Us!

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