Etere
a consistent system

# Etere DiskLibrary

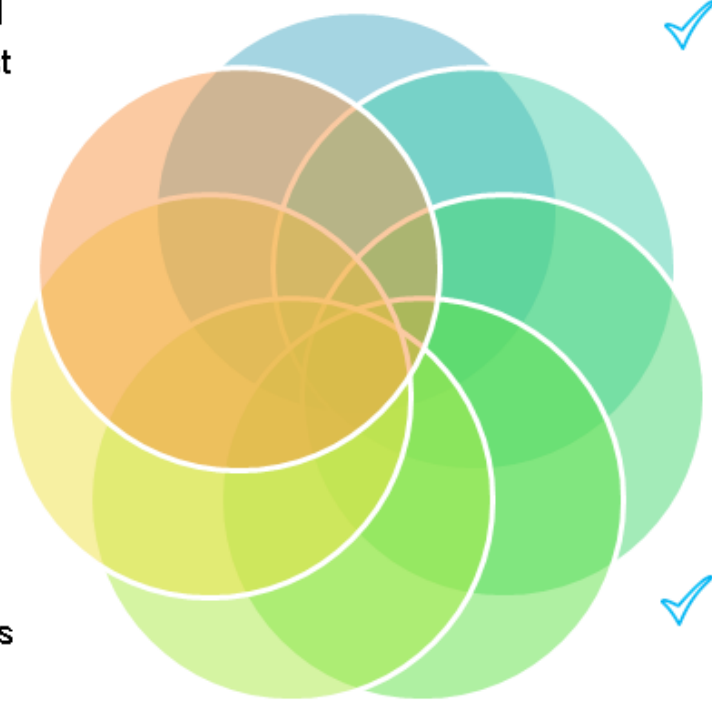
DISK
LIBRARY

# ETERE DiskLibrary

- Archive based on sleeping disks
- Allows the user to use any archive enclosure
- Cost-efficient alternative to LTO tapes
- Disk backup provides greater reliability, faster data retrieval and faster write speed
- LTO access is limited to number of files and linear access, while DiskLibrary allows unlimited  I/O

# DISK LIBRARY

- Compatible with any archive enclosure
- Disk-based backup and recovery protect against data loss or corruption
- Manage duplicate copies even within different libraries
- Faster replication, duplication and migration
- High redundancy and secured data protection
- Uses sleeping disks with lower cost of ownership
- Easy upgrades with very low maintenance costs
- Able to cluster multiple disk archives
- Supports partial restore
- Able to handle large data capacity



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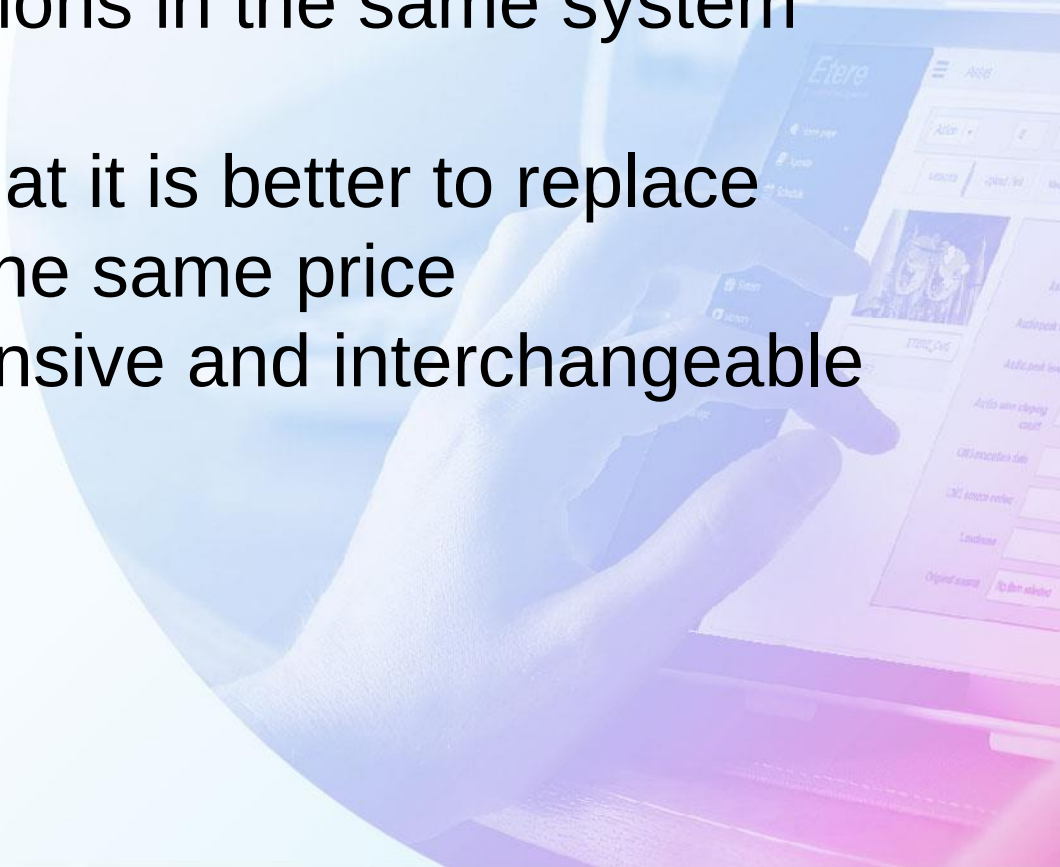
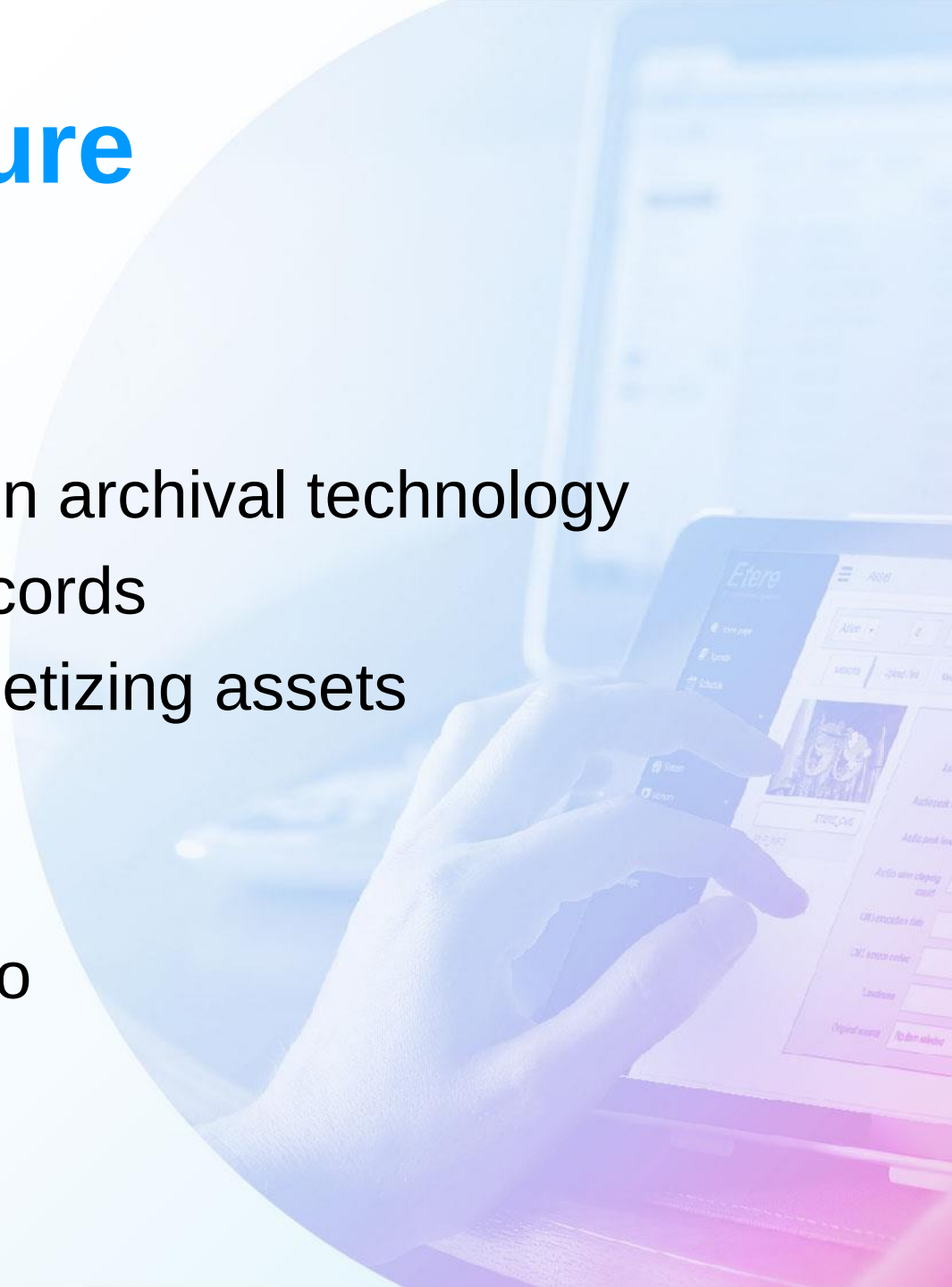
# Why DiskLibrary

- Low setup cost and power consumption compared to LTO
- With current technology cost is less than LTO for capacity up to 1.5 PB
- Easy to upgrade, mix of different generations in the same system
- Very low maintenance costs
- Disk drives have 5 year warranty, after that it is better to replace
- Disk capacity doubles over 1.5 years at the same price
- JBODS or MAIDS enclosures are inexpensive and interchangeable
- Unlimited bandwidth



# Architecture

- Highly scalable
- Fault tolerant and fault resilient
- Keeps the business ahead of trends in archival technology
- A centralized database of archival records
- A single location for sharing and monetizing assets
- Allows access on demand
- Less than 2 sec to access any data
- Able to access multiple data at one go

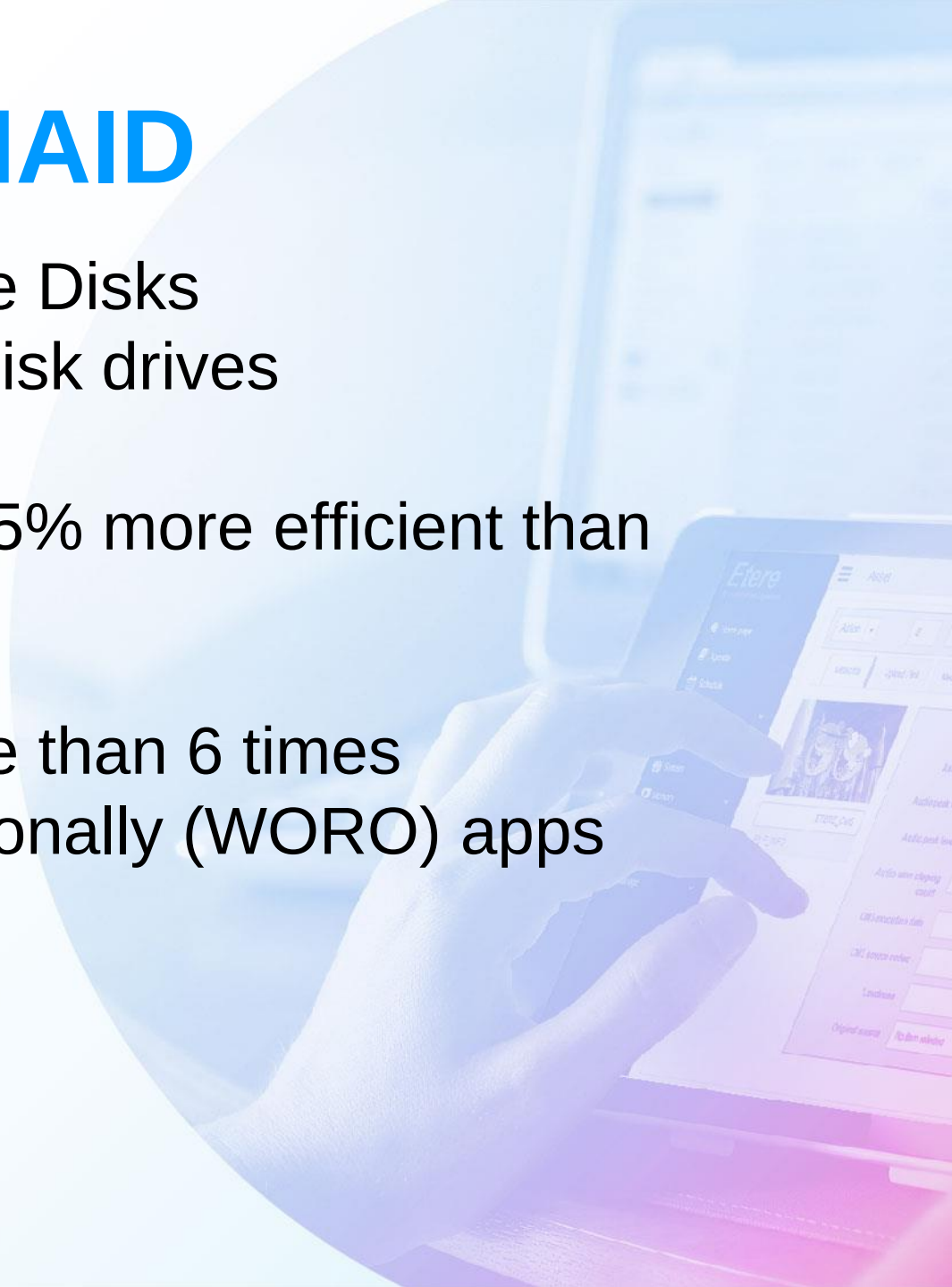


# Technology

- ETERE DiskLibrary manage each disk as independent entity
- Disk  spinning will be shut down after use to save energy and to increase disk life
- ETERE Headquarter intelligence generates the correct timing to minimize disk stress and increase disk life
- To avoid data loss in the sleep drives, headquarter periodically re-generate hard disks
- Able to maintain data integrity for more than 5 years
- ETERE data duplication avoids data loss from single failure
- Mixing of any disk technology is allowed: FC/SATA/SAS

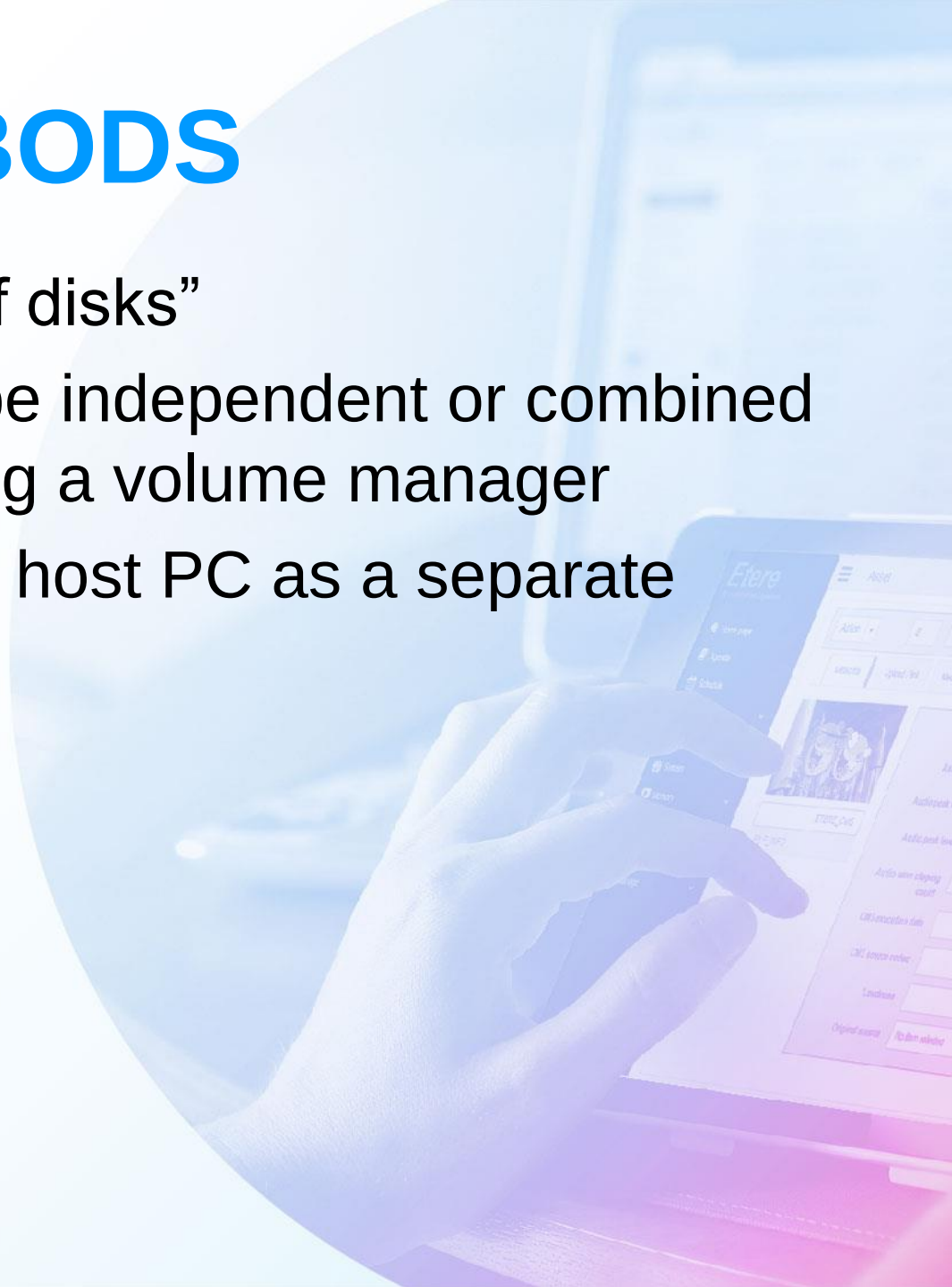
# What are MAID

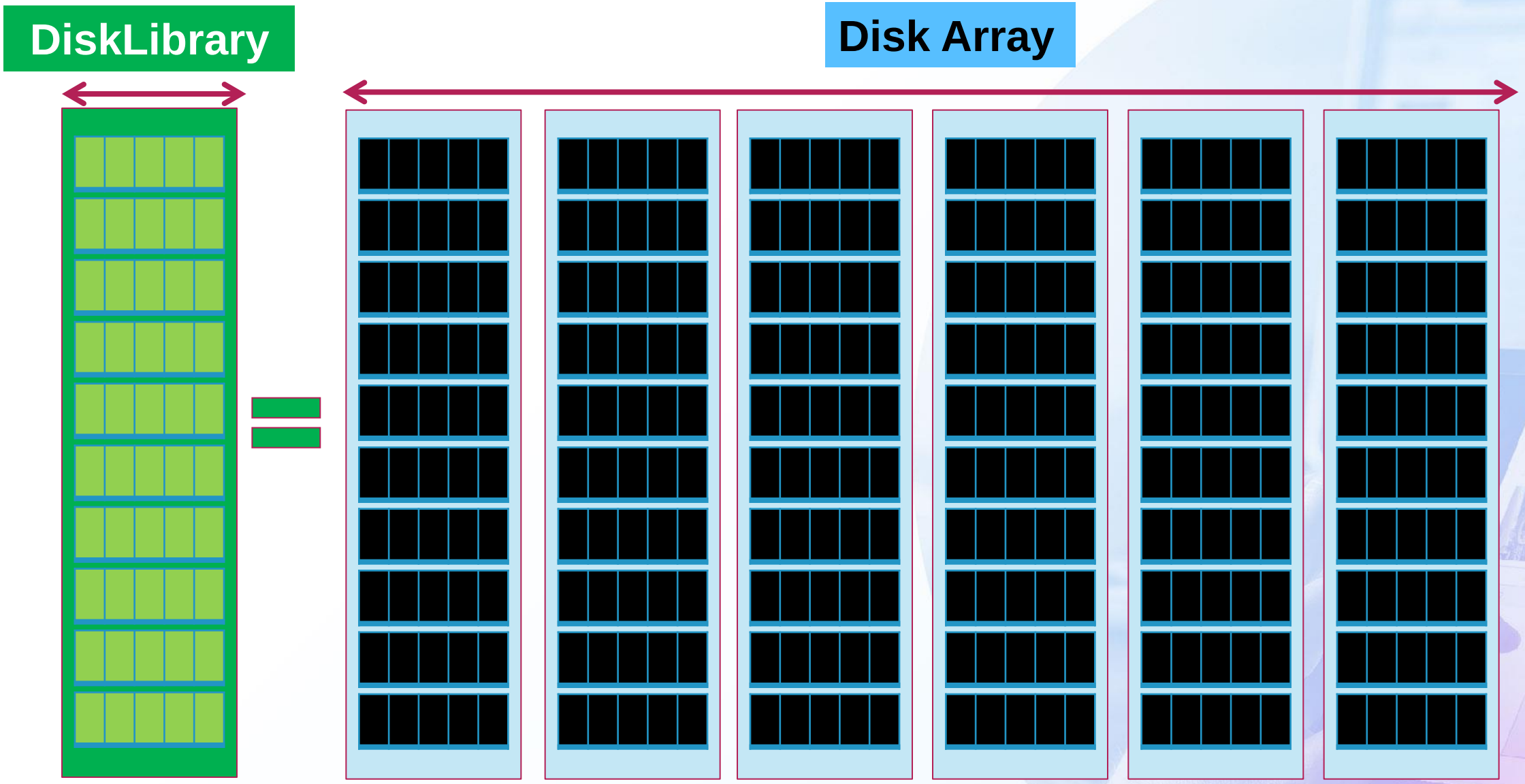
- MAID stands for Massive Array of Idle Disks
- Large number of densely packaged disk drives
- Only active drives are spinning
- Reduces power consumption-up to 85% more efficient than traditional disk solutions
- High performance- fast restores
- Prolongs the life of the drives by more than 6 times
- Suitable for Write Once Read Occasionally (WORO) apps

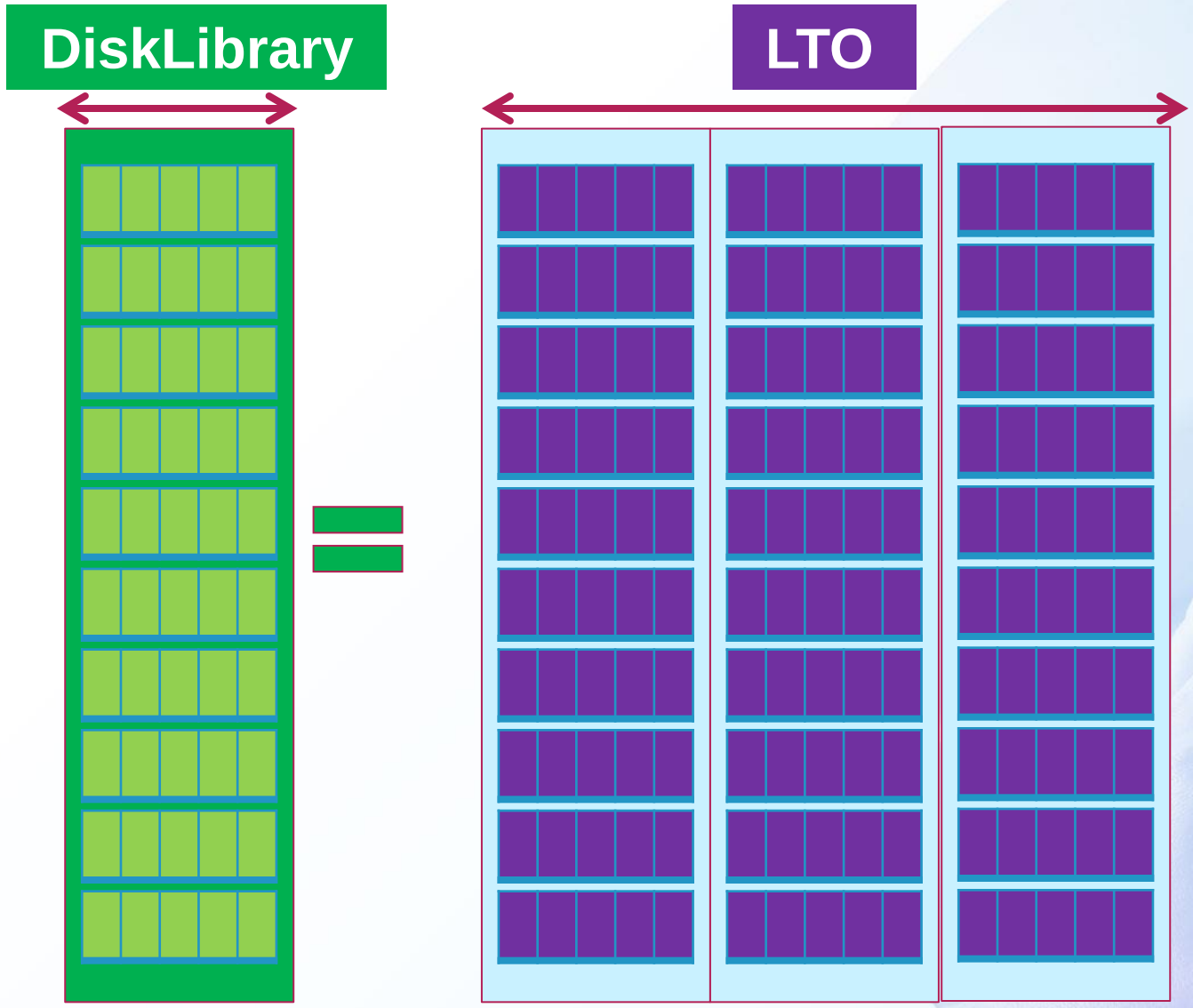


# What are JBODS

- JBODS-derived from  “just a bunch of disks”
- Multiple hard disk drives which may be independent or combined into one or more logical volumes using a volume manager
- Each drive can be accessed from the host PC as a separate drive
- Mix different disk sizes in JBODS




DiskLibrary
Disk Array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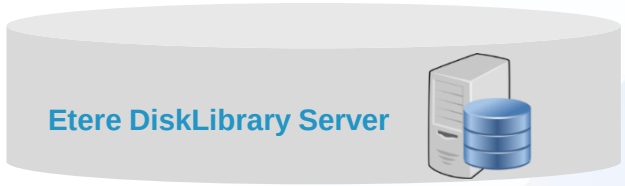
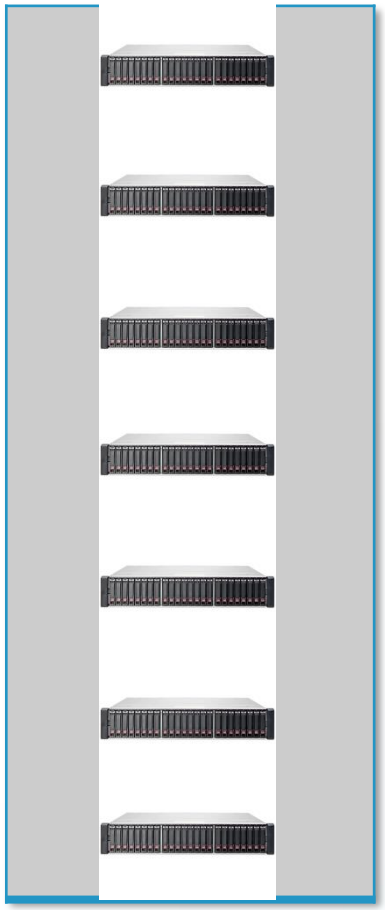
LTO

DISK LIBRARY




JBODS



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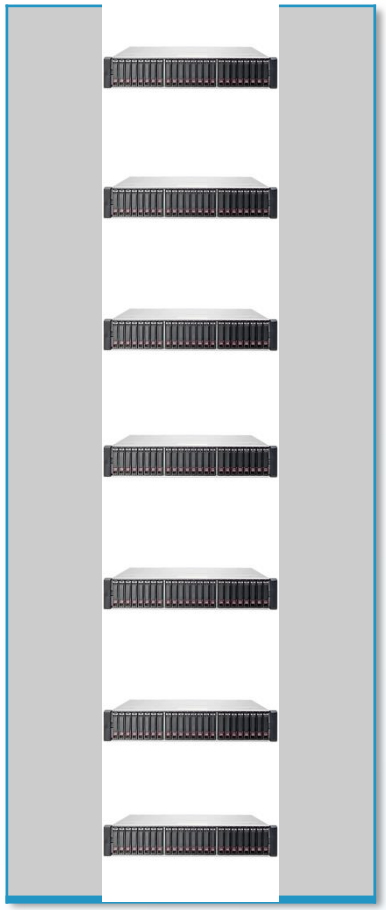

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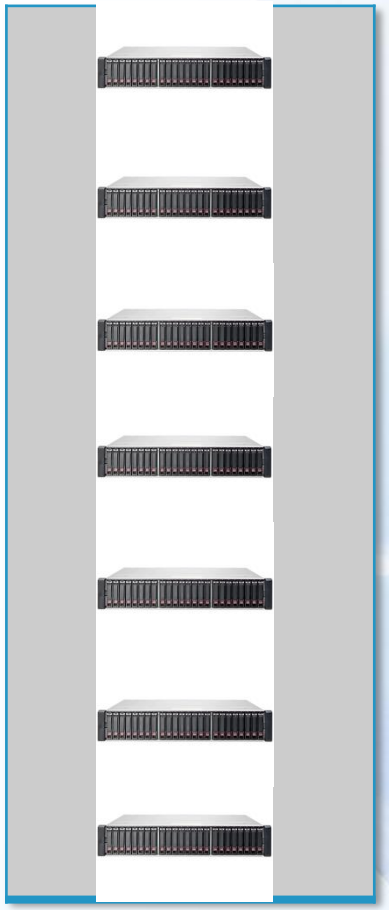
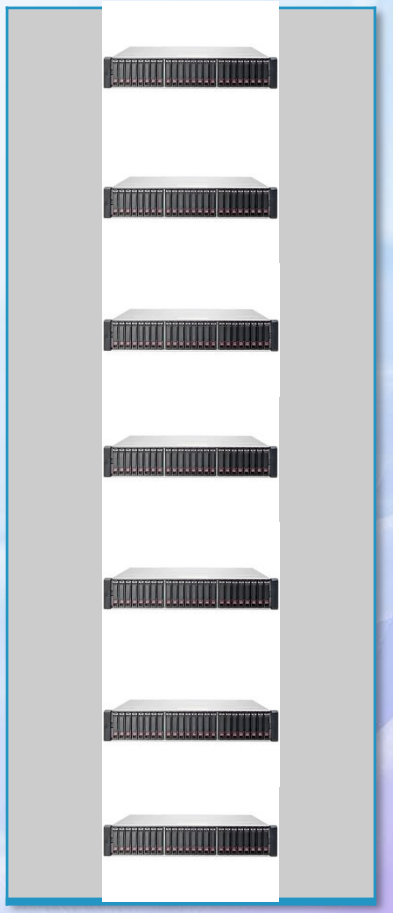


JBODS

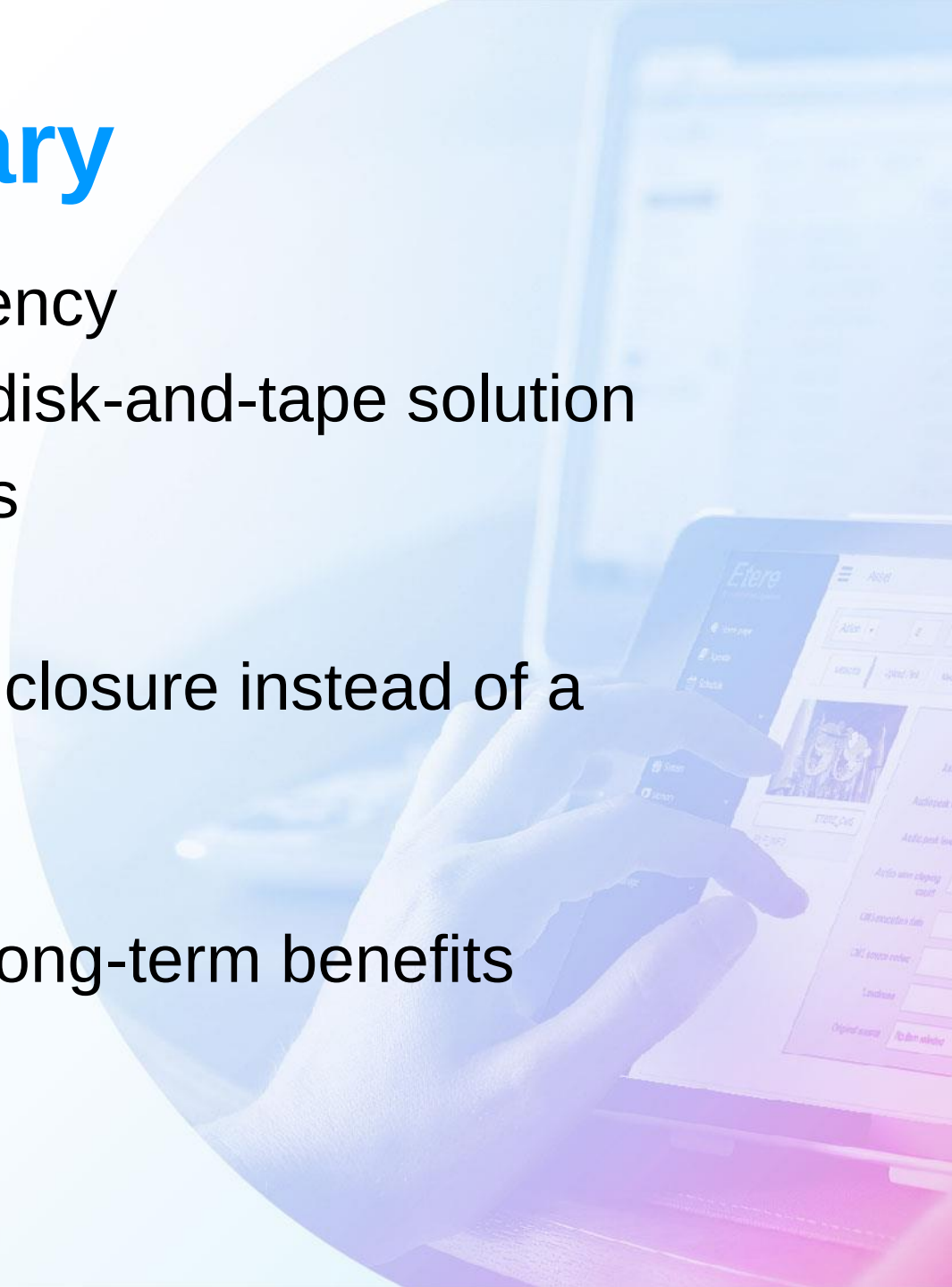


# Data Replication

- Enables data replication with minimal recovery time
- You can select how many copies of each file to be stored on different disks
- Disk can also be geographically distributed
- Protection levels can be customised
- ETERE DiskLibrary provides both logical and physical redundancies that protects your data even in the event of a site-wide disaster

# DiskLibrary

- Superior performance and cost-efficiency
- Works well on its own or as a hybrid disk-and-tape solution
- Cost-efficient alternative to LTO tapes
- Greater flexibility and interoperability
- Allows the user to use any archive enclosure instead of a dedicated type
- Easy upgrades and updates
- Future-proofs your investments with long-term benefits



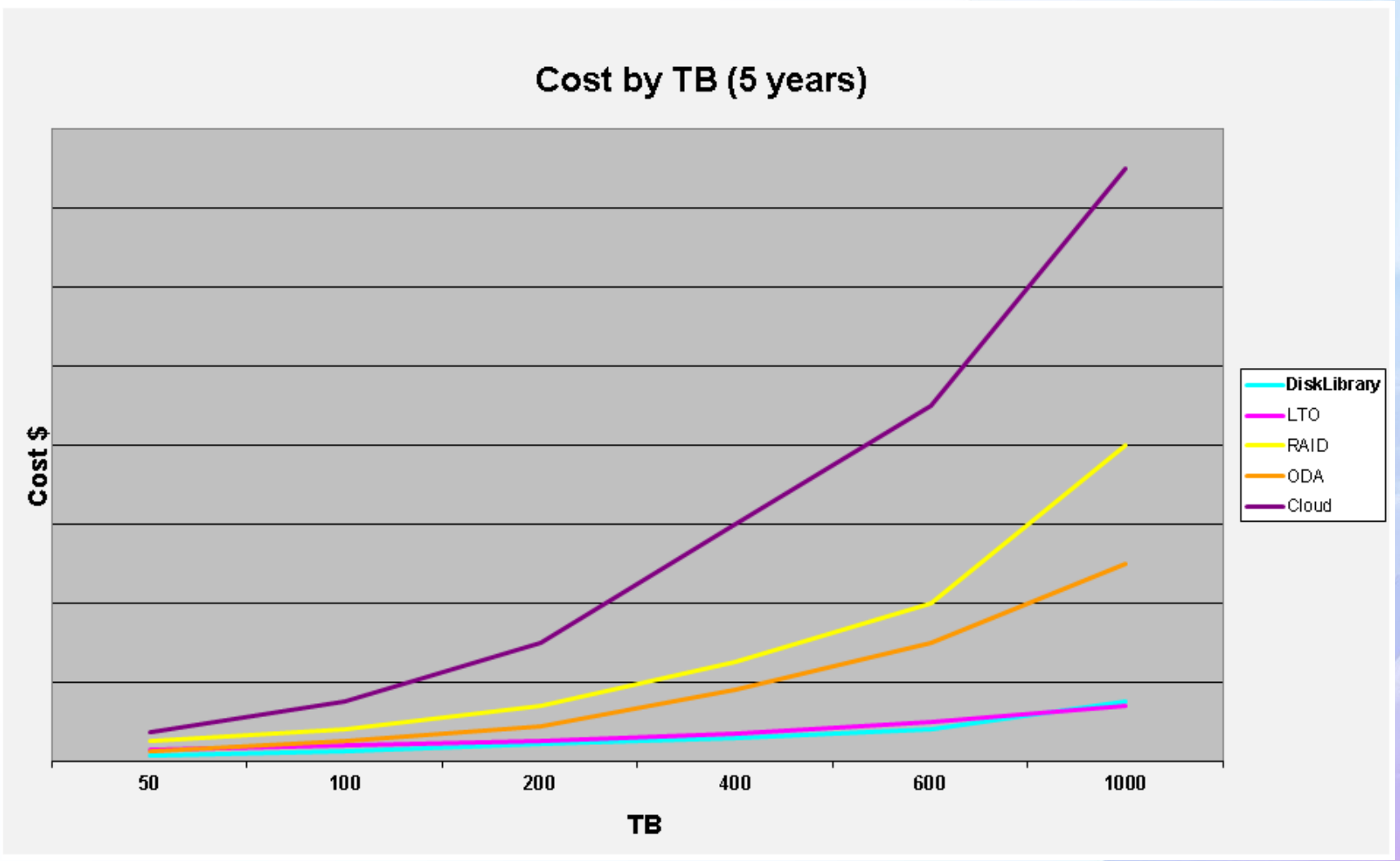
# Why Etere DiskLibrary

- Minimum setup costs
- No LTO drive/ODA drives/Library
- Low power consumption equivalent to LTO
- Easy to upgrade
- 100 times faster
- Similar Footprint
- Mix hardware from multiple vendors
- Good value of money until 1Pb

# Why Etere DiskLibrary

| | ETERE DiskLibrary | Tape LTO-7 | RAID System | Sony ODA | Cloud |
|---|---|---|---|---|---|
| **Cold Data Access Speed (ms)** | YES | No | YES | No | No |
| **Unlimited Bandwidth** | YES | No | No | No | No |
| **Ultra Low Electricity Consumption** | YES | YES | No | YES | NA |
| **Very Low Housing Costs** | YES | No | No | No | NA |
| **Very Low Maintenance** | YES | No | No | No | No |
| **100% Ownership Costs** | YES | YES | YES | YES | No |

# Why Etere DiskLibrary



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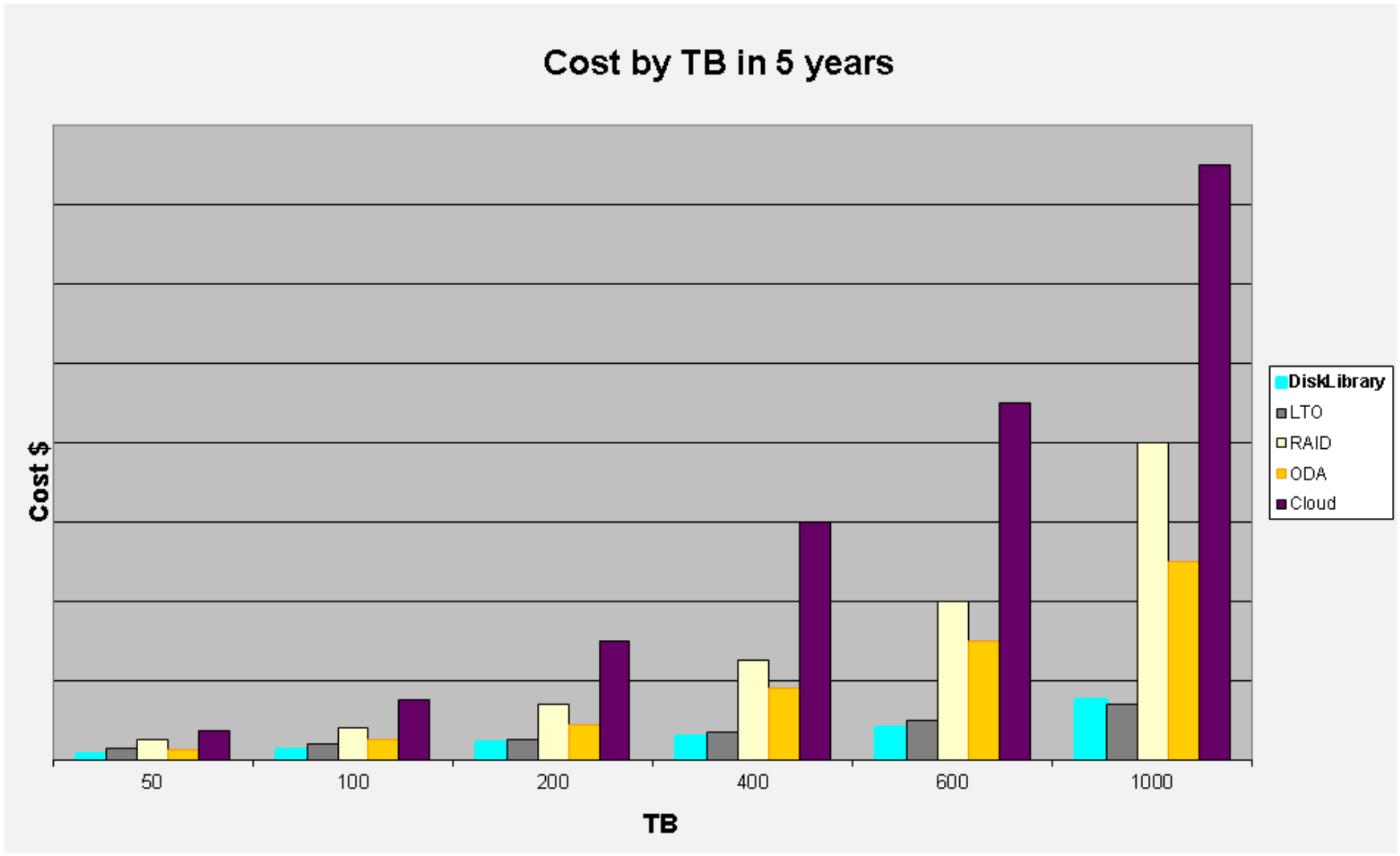

# An Archive for Future

- Standard NTFS file system
- SMPTE 2034 data format for better compatibility
- Mix disks of any size
- Easy to read any disk from any computer
- Mixing disk enclosures and disk driver from different vendors
- Disk encryption can be use to avoid unauthorized access

DISK LIBRARY