



# ALTO Big Data & Media Archive

Secure, high performance big data and media archive and content library with century data lifetime, 15x better total cost of ownership and ultra-low energy consumption.



Easy, secure & affordable storage for archive, data & media library, backup system or replacement of LTO tape archive



## Superior Performance Archive

ALTO is a Disk Archive system based on high capacity any size disks (including 6TB, 8TB, 10TB, 12TB\* and 16TB\*) from any manufacturer disks with superior performance and unmatched storage density of 500% over LTO7 libraries.



## 12x Better Cost of Ownership\*\*

ALTO Archives use sub-nearline disk drives which support spin-down operation. Any disk which is not reading or writing is switched off with significant power saving and greatly extended disk lifetime.



## Fast Access & More Users

ALTO is a purpose-designed solution with archive transfer data rates but much faster access compared to tape library, allowing for many more concurrent users and no mandatory planned off-time due to required and complex maintenance.



## Safer and Secure over RAID

ALTO content protection (URS) is based on user configurable replication, and offers higher security than RAID systems without the cost and complexity of clustered storage. Unbeatable by RAID, ALTO has the ability to remove disks for vault storage, or project transportation. Files can be read outside ALTO from any single disk with Windows, Mac or Linux computers.



## Integration without Hidden Costs

ALTO is easy to install and integrate with MAM & Archive Management system using ALTO Filer Virtual File System with automatic content Replication.

For even greater scalability and flexibility ALTO can be integrated using ALTO Connect Interface or Native ALTO API Prometheus.

\* Available 2017, resp. 2018, \*\* Ranging from 4x to 17x considering different LTO, RAID and cloud solutions

## Overcoming Legacy Limitations

It is time to explore the best technology. You may be stuck with data tape as a backup medium for data on HDD due to reasons true years ago, including low cost, high capacity and robustness. That time is gone for long.

Ultimately the performance of legacy solutions is limited by the complex mechanical systems for selecting and loading the data tapes, slowed by sequential access to the data and the need to share a limited number of decks. Major manufacturers have already departed tape by 2016.

Digital tapeless workflows are well established in business and media world, acquisition and production. ALTO provides the best of storage world and the same benefits for the archive, backup and content library.

## Superior to Tape

Hard disk drive (HDD) is inherently a self-contained reading and writing device with fast random-access rather than the slow sequential access of data tape.

ALTO smart middleware utilizes the modern design of HDD designed to be spun down and switched off when not reading or writing. That reduces by 99% power consumption and greatly extending disk life, but new techniques are needed to protect the media from disk failure.

## Best Archive Protection - Replication

ALTO uses Unlimited Replication Security (URS) techniques to provide user selectable and definable protection, minimal recovery time, and disaster recovery configurations.

ALTO managed disks can be removed for vault storage, or project transport. Each individual disk contains full file system and whole unchunked data files, so data can be accessed on any computer outside of ALTO with the right security access.

ALTO is not RAID based, as it uses the URS technique, and therefore is not vulnerable to the lengthy rebuild time of any RAID, that puts the system to danger for many days due to massive size of recent disks. ALTO URS recovers the system in speed of 10 minutes per TB in case of a disk failure even for geographically distant copies.



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## ALTO System Brain Chassis

- up to 960TB capacity per chassis\*
- 60/36/30/24/16 media slots\*
- 4U/3U/2U size\*
- 16TB/12TB/10TB/8TB/6TB/5TB standard SAS disks\*
- 270W electricity consumption
- Up to 7 expansion chassis\*\*
- 100GbE/40GbE/10GbE/1GbE network\*
- 64 bit OS
- 4x power supply
- Hot swappable disk, fans and power supplies
- Tool less construction
- Screw less disk enclosures

## ALTO Secret Sauce

- Secure Content Replication
- User Selectable Protection
- Distributed Systems - local or global
- Any disk size in any slot
- Removable media
- Encryption
- Random Access
- Powerful Internal Database and Disk Management
- Plug and Play Connectivity
- Hybrid solutions with Tape & Cloud
- Military grade robustness

## Features Avoided by ALTO

- RAID Rebuilds
- Migration due tech generation
- Robotics
- Heavy AirCon need
- Tape Repack
- Wasted media space
- Time loss @ rewind
- 5 years life-time
- Repeated slot license fees
- Expensive service visits

## ALTO Expansion Chassis

- up to 960TB / 1280TB capacity per chassis\*
- 60/80 media slots\*
- 4U size
- 16TB/12TB/10TB/8TB/6TB/5TB standard SAS disks\*
- 220W/250W and lower electricity consumption
- 4x power supply
- Hot swappable disk, fans and power supplies
- Tool less construction
- Screw less disk enclosures

\*some options available @2017 and @2018  
\*\*scalability is defined by specific performance parameters



## More Features

- Fast Find and Load
- Partial File Restore
- Environment friendly
- Data mining (constant)
- Extendable 25 years warranty and maintenance
- Lowest TCO - 4x to 17x over competition
- Shelf and Safe storage
- Easy transition from legacy systems
- Easy to expand and interface
- Jungle-proven, desert-proven
- Siberia-proven, war-zone-proven

## CONTACTS

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