FUJIFILM
Value from Innovation

Powerful New Software Archives Massive Amounts of Data in This Era of Object Storage.

FUJIFILM's Object Archive is a tape storage system for long-term archiving or back-up of object data.

Leverage the latest advantages of tape technology for long-term data storage and cost savings.

Data is quickly becoming a critical asset to more and more companies, and now those companies are looking for ways to store massive amounts of data for long periods of time at a low cost. With those needs in mind, FUJIFILM has developed a solution that allows object storage to be written and read to and from data tape instead of mainstream HDDs, thereby significantly reducing costs.

The Challenge of Reducing Storage Cost in an Era of Exponential Data Growth.

Object storage evolved out of the need to optimize storage performance and scaling capabilities of large volumes of unstructured data for long periods of time at high levels of resiliency. Object storage is the same technology that enables the public cloud. Object stores can scale to hundreds of petabytes in a single namespace without any performance degradation. Object storage is highly compatible with today's newest technologies and can be leveraged to analyze large amounts of data from AI to IoT. As such, object storage has begun to surpass the growth of conventional file storage, and that trend looks to continue.

Object storage's most significant feature is that it can quickly and easily expand storage capacity, almost limitlessly, to store files and content. Originally object storage began with the Amazon S3 cloud service and grew to become the norm. Now, many on-premise products also use the S3-compatible API meaning private clouds can easily be made so that they are not much different than a publicly-accessible cloud. This allows for seamless integration between cloud and on premises data storage solutions.

That being said, many companies face exorbitant storage costs as data volumes increase. Most object storage currently uses general-purpose servers with HDDs as storage media. This is more cost-effective than conventional hardware storage, but as data capacity grows, so does the cost of additional servers. It's no secret HDD storage generates a lot of heat, which means that a large portion of a data center's expenditures come from power and cooling. Storing, moving, processing, and analyzing data all require vast amounts of energy, which can no longer be ignored due to its associated energy cost and environmental impact.

In addition, another issue associated with large volumes of data is maintaining infrequently accessed "cold data," which can account for up to 60% of a company's data. This enormous amount of data is still consuming energy and space on expensive hardware. Modern tape storage is effective for long-term storage due to its favorable total cost of ownership, performance, capacity, and reliability. Although most hyprscale data centers are already leveraging tape, many others have not taken sufficient steps to combat the increasing operational costs of their cold storage.

Leveraging Tape for Object Storage is Rapidly Attracting Attention.

Recently a storage medium was introduced to radically solve today's cost problem with on-premise object storage. That storage medium is modern tape with significantly higher storage capacities, lower cost and uses less electricity than conventional HDD storage.

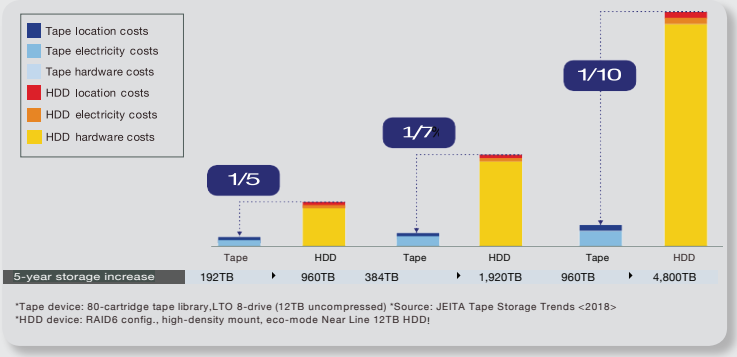
Since the release of the first LTO drive (LTO-1) in 2001, with a native capacity of 100 GB, LTO generations have typically doubled with every new generation release. Today's latest 8th generation offers a compressed storage capacity of 30TB (12TB native) using a 2.5:1 ratio and is predicted to continue to double every generation after that until it reaches 192TB in the 12th generation. By operating a tape library device capable of multi-petabyte scale storage, data can be stored at a very low cost that is unobtainable with conventional HDDs. In addition, tape maintains data integrity with four orders of magnitude better reliability than HDD.

Despite these benefits, there are few tape storage devices in existence that can work seamlessly with object storage and the cloud. Fujifilm, the world's largest manufacturer of data tape, has developed a new tape format for object storage called OTFormat. OTFormat allows for objects and metadata to be efficiently written and read to and from tape in native form.

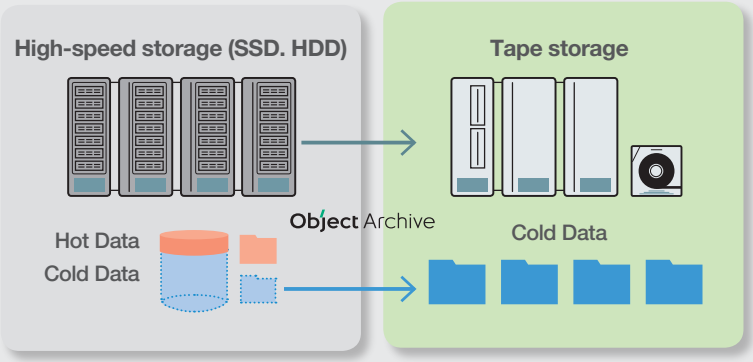
*Linear Tape-Open, LTO, the LTO logo, Ultrium, and the Ultrium logo are all registered trademarks of Hewlett Packard Enterprise, IBM, and Quantum in the United States and in other countries

Optimize Object Storage for Long-Term Needs.

To combat today's storage challenges, Fujifilm has launched the FUJIFILM Object Archive, which uses OTFormat to leverage object storage and modern tape. This object storage uses an industry-standard S3-compatible API so that on-premises object storage can be used at a lower cost, but with the same operability as cloud storage. Specific usage and benefits are as follows:



Tape has excellent capacity for the price. When including the cost of rack space, power, cooling, etc., tape's cost is significantly lower than HDDs in a massive data storage environment.



A typical use for tape storage is cold data archiving. Low-cost operations like cloud object storage can be done without depending on the cloud.

1. Protect Information Against Cyber Attacks

Files are automatically versioned when data is edited, increasing the likelihood of file recovery in the event of a cyber-attack. For example, when a file is infected with malware, it is possible to restore it to the previous version stored on the tape. Additionally, by creating off-line/off-site copies of your data, it can no longer be hacked because it is inaccessible to unauthorized access when protected by an air gap.

2. Hybrid Cloud Storage

Tape storage is effective for storing mission-critical data that cannot be stored in a cloud environment, and for storing large amounts of data that would be more expensive to store in the cloud. Keeping an onsite copy can prevent high egress fees and avoid scaling complications.

3. A Measure Against Cloud Lock-In

"What if I need to change cloud providers or get all my data back?" By keeping a copy of your data, you can avoid expensive egress fees. Additionally, many cloud vendors will store your data in proprietary formats; avoid the complicated transformation process by keeping a copy of your data. Maintaining a complete copy of your data on tape provides a countermeasure against high egress fees and cloud lock-in.

4. Cold Data Archiving

FUJIFILM Object Archive allows you to create an archive so that you can free up valuable space on expensive primary storage - while still storing all of your organization's data online. Save storage space for hot data by migrating infrequently accessed cold data to tape. Moving cold data to an archive allows you to balance the speed of data access with the cost of storage.

FUJIFILM Data Management Solutions
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