OTT Online Video Storage with SoftIron HyperDrive

Use HyperDrive's effortlessly scalable object storage to maximise your operational efficiency.

Demand for online video streaming, recording and storage services is growing exponentially

The complexity - and expense - of delivering these services has grown along with it. Even before the COVID-19 pandemic, CISCO predicted that video would account for 82% of all internet traffic by the end of 2022[1]. Since that prediction, with the pandemic pushing both business and entertainment activities increasingly online, we're well on the way to reaching that target.

Meeting the demand for the 'TV everywhere' experience requires easily scalable storage capacity, high availability, and performant low latency. But all this comes at a cost.

Infrastructural challenges facing OTT (Over the Top) media services

Storage capacity

Predicting and scaling storage flexibly in response to subscriber and service growth, while ensuring data durability.

Latency

Achieving sufficient bandwidth to provide video during periods of high demand, high volume unique media requests without impacting the subscriber's viewing experience.

Availability

Whether your deployment is Origin Storage or a CDN (content delivery network) all storage must be resilient with zero impact to service.

[1] https://www.cisco.com/c/en/us/solutions/collateral/executive-perspectives/annual-internet-report/white-paper-c11-741490.html

To maintain a competitive edge in the media and entertainment industry, these infrastructural challenges must be met. Your approach to media storage is a critical element of your online video content operations, whether your focus is on live streaming or Cloud DVR OTT services.

Dense, performant software-defined object storage is key for delivering an optimised, operationally efficient storage platform

Software-defined storage is the best choice for online video, well suited to storing media ready for delivery via common adaptive streaming protocols such as DASH and HLS. Object storage is ideal for video content, able to store unstructured data at scale, unencumbered by the overhead of traditional file system architecture.

Storing OTT video assets as a collection of objects media, pre-transcoded at different profiles, bitrates of qualities to be stored in the most effective and economical way. This is essential for Cloud DVR, allowing providers to offer catch-up, time-shifted and subscriber copy services.

Software-defined object storage is perfectly suited to the 'just in time' packaging approach, where only one master copy of any given asset is stored, then tailored to the subscriber device on demand.

Software-defined object storage is the best choice for long term content library growth, allowing for agile responses to new opportunities and changing subscriber demands.

But don't make the mistake of assuming that 'software-defined' means your choice of hardware is irrelevant. To deliver efficient, economical video services that make the most of what object storage has to offer, your infrastructure must be reliable, adaptable, and easy to manage.

HyperDrive offers task-specific, scalable object storage that is ideal for storing massive content libraries.

HyperDrive's scalable performance and configuration options between both solid-state and spinning disk make it a great target for Cloud DVR use cases:

- Meet all copyright scenarios your service offers, whether private or shared copy recordings.

- Offer subscribers unlimited storage whilst deploying a solution to meet the simultaneous recording capability of private copy and comprehensive restart services.

- Provide scalable and future proof storage with zero downtime.

- Deploy all-NVMe arrays to provide a mid-cache tier of popular content to your edge CDNs.

- Provide time shift services, including:

    - **Restart** - starting a programme from the beginning whilst it is still part of a live schedule.

    - **Catch Up** - to replay a programme which has aired but is still offered to the subscriber for a defined amount of time.

- Utilise subscriber copy retention (the ability to record programmes from a live schedule and retain them for a period of time).

- Store and backup your full VoD (Video on Demand) catalogue.

> **Running open source SDS Ceph, SoftIron's HyperDrive range of data centre infrastructure appliances have been purpose-built for unparalleled density and efficient scalability.**

HyperDrive is the perfect storage platform to use with the Origin Storage approach to video streaming services. HyperDrive enables unparalleled freedom, flexibility and reliability when it comes to deploying performant and agile software defined storage for online media operations.

Select the media types best suited to your requirements

Lower your TCO by using one storage platform for performance and density. Deploy different performance tiers to effectively manage your performance and density requirements all within the same architecture:

- Choose high performance, all-flash storage tiers to allow for multi concurrent operations such as private copy recording and restart catch-up/time-shifted services.

- Demote long tail recordings to HDD pools, while deploying NVMe pools to accommodate multiple concurrent writes and reads.

Seamlessly expand storage from terabytes to exabytes for the ultimate in operational agility

With SoftIron HyperDrive it is possible to independently scale all components to grow as your needs require. This inherent scalability aligns well with a horizontal approach, so you can stage your expansion by adding HyperDrive nodes as demand dictates.

Achieve secure resilience and availability

HyperDrive is designed to tolerate network, disk, server, rack, or data center failure, and automatically corrects bit-rot and network errors. Configure stretch clusters or replication between clusters to further ensure data availability.

Achieve optimal storage density, with a minimal power draw

SoftIron's unique, task-specific approach delivers a high-performance, ultra-efficient storage solution. HyperDrive runs low-power and cool, between 80 and 120W depending on the task. This means that single racks can be densely provisioned while remaining within power limits. Filling racks in this manner, and distributing data evenly thanks to Ceph's powerful replication methods, can offer dramatic cost savings compared to traditional enterprise solutions

The benefits of open source, without the complexity

HyperDrive Storage Manager provides a simple, easy-to-understand dashboard for managing day to day storage operations, supported by our patented Ceph Button that makes replacing drives or entire caddies a straightforward process.

Reduce bottlenecks

Efficient use of metadata reduces IOP transactions to a minimum. Choose to write large or small objects, where large objects group all the ABR renditions into one write, then only extract what is needed on read.

> **HyperDrive is built for efficiency in every way. All storage drives are housed in easy-to-remove caddies, for quick and easy maintenance.**

Support fan-out recording

Instantiate multiple concurrent recordings while keeping requests to a minimum. Offload to HDD pools for long term retention.

Economical storage, with no vendor lock-in

Minimise the total cost of ownership with a solution that can meet your requirements now and in the years to come. HyperDrive makes incremental growth with no downtime an achievable reality - and this flexibility extends beyond just the capacity for rapid scale. If you decide to swap out your infrastructure and choose alternative hardware for running Ceph, there are no hidden expatriation costs - change your hardware as your need demands.

HyperDrive can also be flexibly deployed in mixed-hardware Ceph clusters, allowing for smoother transitions between solutions. With a pay-as-you-go model available, HyperDrive provides the expenditure efficiency of a public cloud storage provider, while affording the transparency and control of running your own solution.
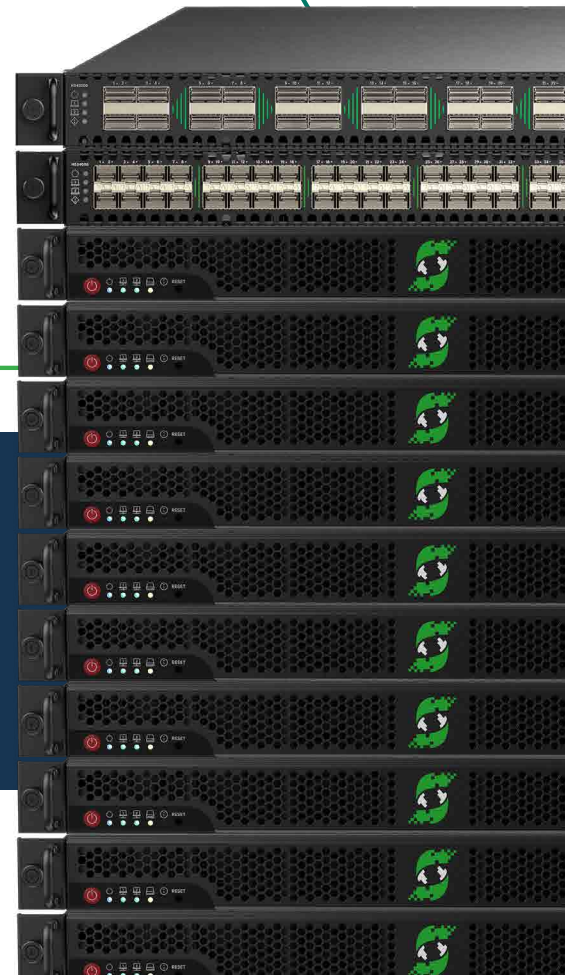
Take HyperDrive for a test drive

If you're interested in what a secure, task-specific storage solution can do for your online video content delivery, why not take one of our pre-configured HyperDrive storage clusters for a test drive? Visit softiron.com for more information.

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