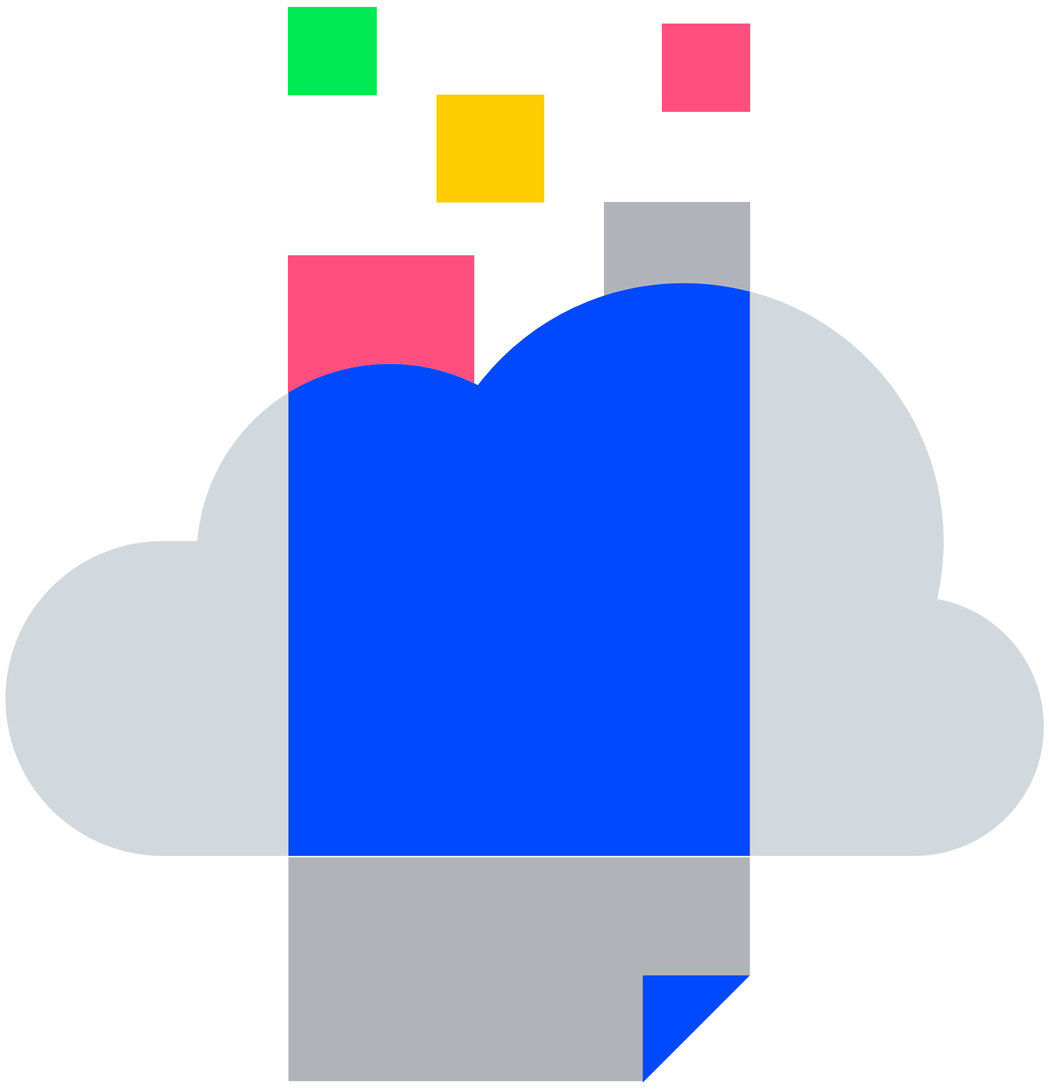
STORJ | DCS

Video Storage & Streaming



A Case for Decentralized Cloud Storage

How and where multimedia content is stored can have a major impact on the successful operations of any business focused on video hosting, production, distribution, streaming and/or other related services. Leveraging the next-generation of object storage technology—decentralization—can give you a significant advantage over your competitors who use traditional centralized storage. As you evaluate video storage options, consider the differences between how decentralized object storage and centralized object storage can address your biggest challenges, including:

- Operational budget overruns from video consumption cost.
- Engineering complexity and competitive strain.
- Securing video content.

Video storage challenges

High centralized cloud storage costs due to large file sizes, redundancy requirements, multi-region distribution expenses, and high consumption fees.

Engineering complexity of centralized cloud storage hinders competitive capacity in terms of global distribution and performance, scalability, and security.

Central repositories and single points of failure inherent to centralized cloud storage can make video content more susceptible to security threats.

Solution

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Outcomes

Lowers storage costs by up to 80% and eliminates vendor lock in with no complex cost structures or added costs for multi-region distribution and no exorbitant egress fees.

Reduces time to market by minimizing engineering complexity through built-in global distribution, redundancy, high performance, automated data orchestration, encryption, and more.

Fortifies overall security with a trustless infrastructure, no single point of failure, no central repository to hack, an edge-based security and distribution model, non-fungible tokens, plus ransomware and bitrot protection.

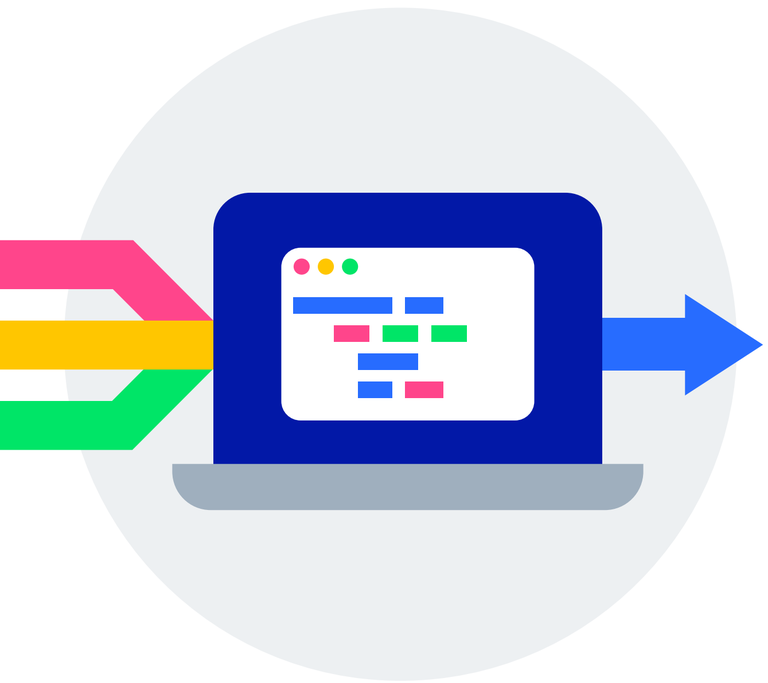
Video storage economics

In most applications, a single video comprises an index file (m3u) and hundreds, if not thousands, of transcoded segments that exact extensive storage space and associated costs. In addition, multiple different video file versions exist for each video transcoded for different file formats, bit rates, and frame sizes. Add to that increasing file sizes based on higher resolutions from 720p to 1080, 4k, 8k and beyond. And if you're trying to reach a global market, you'll likely have duplicates of video files stored on edge servers and content delivery networks (CDNs) distributed in different regions of the world, which can further add to your storage costs. You may have different revisions of that single video as you move from creation to editing and throughout other post-production processes to your final cut.

Unfortunately, while the per-gigabyte price of hard drive storage has decreased by half over the past five years, object storage prices among leading traditional centralized cloud storage providers haven't decreased at the same rate. A few smaller centralized cloud storage providers offer cost breaks, but they're typically limited in their effective global distribution with only a few data centers in NA and EMEA.

Storj DCS takes an innovatively different approach to object storage for video applications that delivers significant economic advantages. Because of its globally distributed network of independent node operators, Storj doesn't have the cost of building and operating its own centralized data centers. As a result, significant savings are passed onto customers.

For example, for less than half the price of a single availability zone from a centralized hyperscale cloud storage vendor, Storj DCS delivers multi-region distributed cloud storage with ultra-high availability through more than 11,000 diverse Nodes and ISPs spread across more than 85 countries. And, Storj DCS gives you predictable pricing with flat fees for capacity and bandwidth.



Solving complexity & competitive strain

Integrating services offered by traditional cloud storage providers requires a lot of engineering time and expense in order to maintain strong security and redundancy. It often means hiring additional experienced engineers to simply make sure you can configure everything correctly. On top of that, the engineering effort with centralized cloud storage grows in complexity and expense as you try to expand your audience with global distribution. As a result, the high complexity and effort required hinders your agility and competitive edge.

Storj DCS helps you level the playing field by dramatically simplifying object storage with built-in security, global distribution, and redundancy. Additionally, Storj DCS employs Reed Solomon erasure coding to deliver eleven 9s of durability, and, as all network components are multi-region by default, we provide an enterprise-grade SLA of 99.95% availability.. And if you need to scale up your performance and streaming capabilities even higher, we offer native integration with the Fastly edge cloud platform as an origin server.

fastly

Discover how Storj DCS works with Fastly

Learn More

Video security

Different types of video applications have different levels of security requirements. To protect customers and their own reputation, video distribution services need to ensure files don’t get compromised with malware. Video production businesses need to secure the chain of custody of video files from initial production through post-production until a video is released for distribution. And all content needs to be protected against bitrot, which is the slow deterioration and loss of data integrity of stored video files over time.

Storj DCS inherently has no single point of failure or central repository that can be threatened, which dramatically heightens all aspects of its ability to protect and secure video files stored on its network. When a video file is uploaded to Storj DCS, it is split up into 80 or more encrypted pieces and distributed over a range of diverse Nodes worldwide. In addition, only any 29 of the 80 distributed pieces are needed to reconstitute and retrieve a file. Over time, if enough Storj Nodes were to fail or leave the network, it’s possible that a file would eventually be lost or degraded. To mitigate this risk, Storj DCS has a built-in file repair function to rebuild missing pieces and then distribute those new pieces for storage on healthy Storj Nodes.

When uploading objects via CLI, Storj DCS employs trustless end-to-end encryption that it combines with an edge-based security model that provides flexible and secure capabilities for access management.

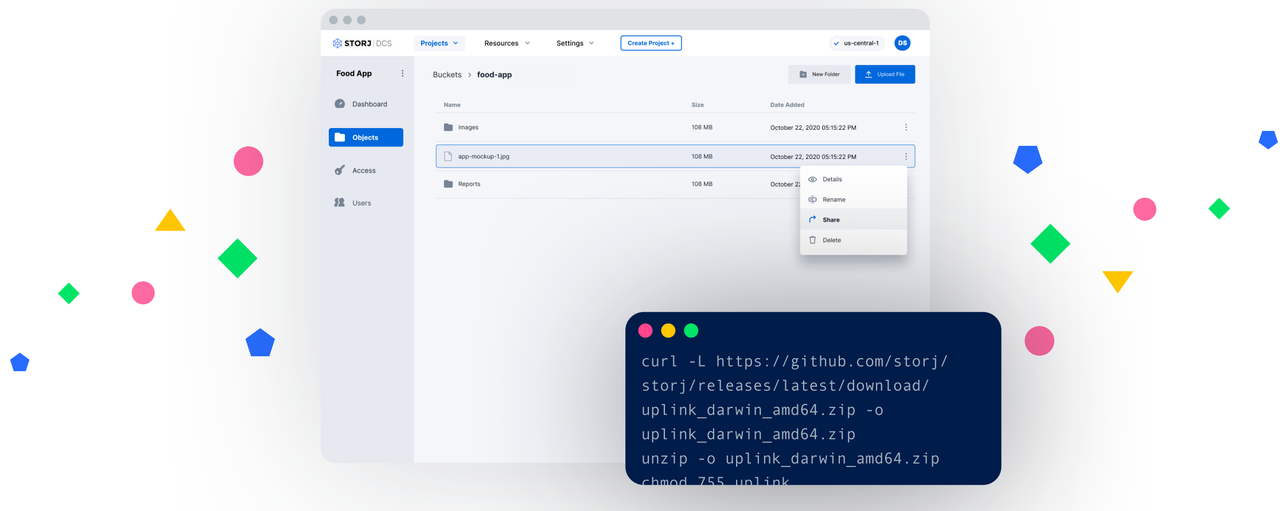
To secure your chain of custody and fortify your access controls we embed a macaroon inside each video stream's URL as part of our native link sharing mechanism, which means data access resides only with its owner and who they designate, while giving you granularly more restrictive grants. And since we separate the encryption function from our macaroon-based access management capabilities, you can manage both 100% from the client-side.

Additionally, managed read-only credentials and the use of non-fungible tokens add to the immutability and highly tamper-resistant nature of files stored on Storj DCS. Rather than simply defending the perimeter through ownership of network infrastructure, firewalls, NICs, and so on, security models have shifted to an identity-based approach to control access to systems and resources. This practice has become known as Identity and Access Management (IAM), and defines the way users authenticate, access data, and authorize operations in a public cloud environment.

When it comes to authorization and authentication on the web, the standard public cloud approach is through Access Control Lists (ACLs). However, the capability-based approach leveraged by Storj DCS provides indisputably stronger security. And to further ensure immutability and protect your files against data degradation (bitrot), as well as reliably delivering long-term durability, Storj DCS continuously performs cryptographic audits of your data.

Experience Storj DCS today.

For more information on how Storj DCS can help secure your video data, minimize costs, and gain a competitive advantage with reduced engineering complexity and higher global performance, visit www.storj.io



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Start building on the decentralized cloud.

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