CLOUDIAN®

Insider's Guide to
Secure & Cost-Effective Storage Solutions
for Financial Services

Meet compliance mandates and maintain a competitive edge

Digital transformation is enabling organizations to leverage data in ways that provide customers with more personalized experiences that engage and delight. Leaders in the financial services industry, in particular, are using data analysis, artificial intelligence, and machine learning to reimagine ways to detect fraud, predict customer behavior, and improve operational decision making.

While rich data is invaluable when it comes to maintaining a competitive edge, the massive increases in the amount and complexity of data being generated present challenges when it comes to cost-effectively meeting compliance mandates around its storage and protection. Because the volume of sensitive data that financial services organizations must store electronically has risen exponentially, IT decision makers are wrestling with how to meet these demands while adhering to budget limitations and enabling the access that enterprise users require.

Regulations dictate that the petabytes of sensitive and personally identifiable information (PII) data that financial services organizations collect must be located in their data centers, be secure, encrypted and optionally masked or anonymized. It is also important to ensure that data is protected from ransomware threats.

Additionally, financial services organizations are required to retain and index electronic correspondences, including email, with immediate accessibility for a period of two years and with non-immediate access for at least six years. Failure to comply can result in severe penalties, ranging from fines to the possibility of jail time.

What's needed to satisfy these diverse needs is a cost-effective, scalable storage solution that can provide end-to-end data protection to meet compliance requirements, while also enabling fast and easy data access to meet business needs. Fortunately, object storage solutions can help.

How Object Storage Solutions Help

Object storage is not an architectural enhancement, but rather a fundamentally different approach to storage with benefits tailored for large-capacity financial services needs. Unlike traditional enterprise storage, object storage consolidates massive data sets into a single, easily-managed environment.

While widespread adoption of object storage first occurred in the cloud, modern object storage solutions such as those from Cloudian put the same technology in your data center and behind the firewall. Designed to start small and grow without disruption, the Cloudian® Hyperstore® object storage solution supports the management of up to an exabyte of data in a single storage environment at 70% less cost than traditional SAN and NAS systems. And it is certified compliant with the stringent SEC, FNRA, and CFTC requirements for data retention.

Cloudian HyperStore Object Storage Delivers:

- **Savings:** Reduce cost by 70% vs. traditional enterprise storage
- **Scalability:** Buy only what you need; start small and grow without disruption
- **Protection:** Up to 14 nines data durability
- **Compliance:** Meets SEC, FNRA, and CFTC regulations
- **Compatibility:** Interoperable with S3-compatible applications
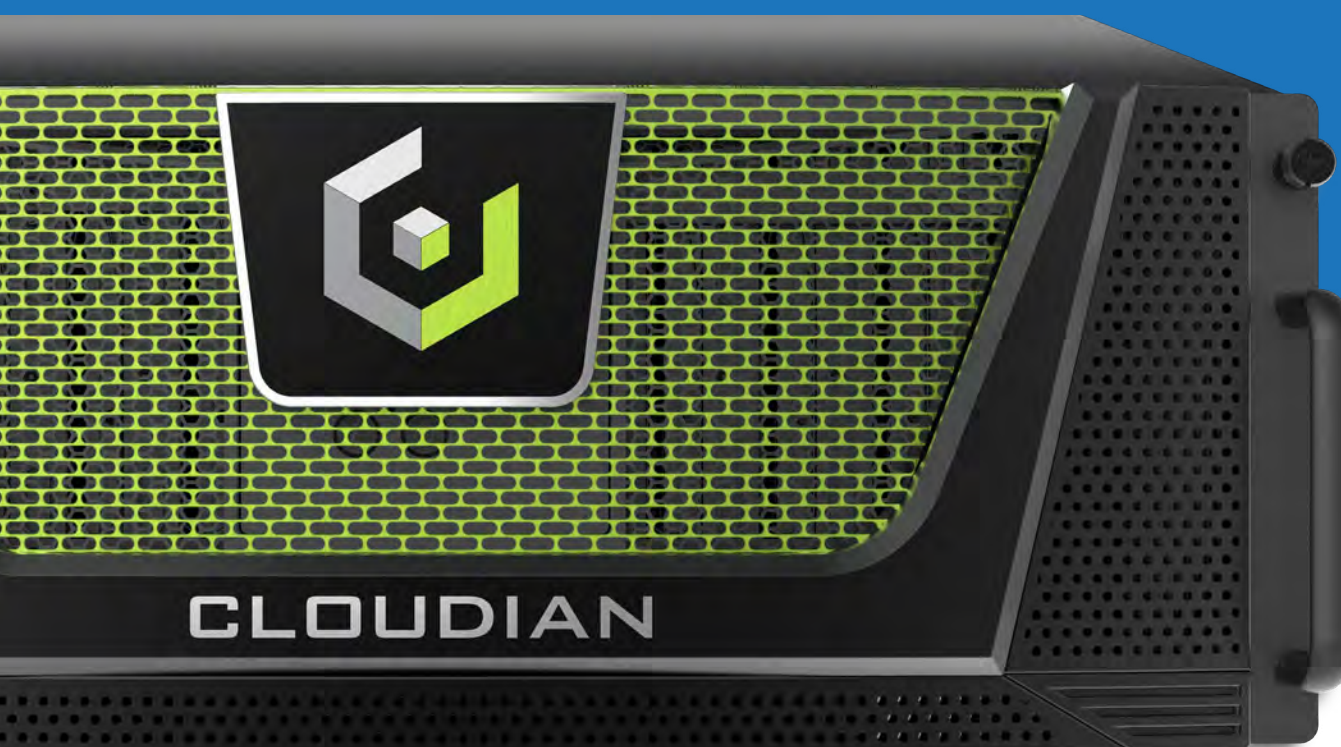
How Financial Services Organizations Leverage Cloudian

Backup Data to a Secure, Scalable Target

Data protection is a critical function in financial institutions. Whether you are backing up servers, VMs, or Microsoft 365, data resilience and the performance to meet RTO/RPO objectives are essential. The backup target is the core of this function. The question is what type of backup target will simultaneously achieve your cost, scale and performance objectives.
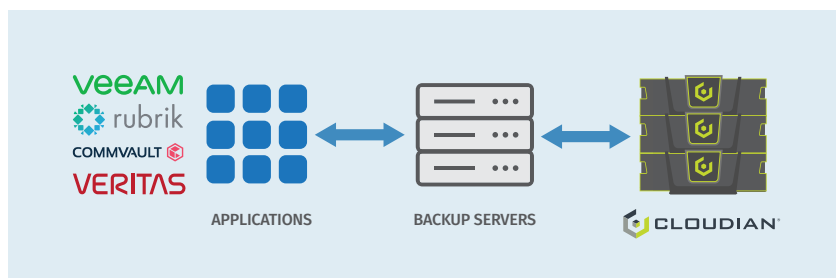
Backup and Archive

Cloudian HyperStore is a disk-based backup target that is both fast and highly available. A fault-tolerant architecture protects you from device failure, with data durability configurable up to 14 nines. For extra protection, backup data can be replicated to a second site, or to the public cloud using Cloudian's integrated data management tools. And it's continuously scalable to meet your growing backup needs without interruption.
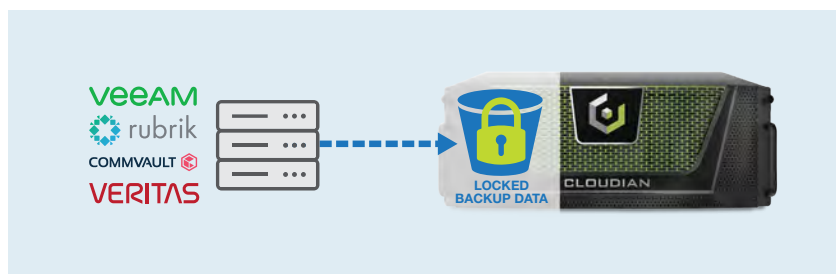
Built on highly-efficient industry-standard hardware platforms, Cloudian is 70% less costly than other disk-based targets. All major backup solutions—including Rubrik, Veeam, Commvault, and Veritas—now support Cloudian with S3 API connectivity.

Protect Against Ransomware

Ransomware attacks can strike even the best-prepared companies, making it essential to mitigate the effects of a successful breach. Here, the best line of defense is at the storage layer, where the data is written.

Object Lock Target Bucket in Cloudian

Ransomware works by encrypting and then overwriting data in your storage environment. Any data type is subject to attack, but backup data is among the most vulnerable because hackers often choose to target that data first. Cloudian offers WORM technology that can help protect that data by making it non-rewriteable for a user-defined time period. When the data cannot be overwritten, it is immune to a ransomware attack. This technology can be integrated as part of a standard backup workflow, making it easy to protect your data without adding management steps.

Meet Regulatory Compliance Requirements with WORM Storage

In the financial services industry, regulatory authorities (Securities and Exchanges Committee, Financial Industry Regulatory Authority) specify how highly sensitive data such as account information, cardholder records, bank records, and transaction records are stored. Compliance requirements extend to financial records, email records, and even social media posts.
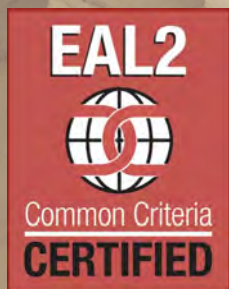
The Security and Exchange Commission (SEC) Rule 17a-4 specifies that all electronic correspondence must be retained and indexed with immediate accessibility for a period of two years and with non-immediate access for at least six years. Furthermore, if electronic storage media is used, it must preserve the records exclusively in a non-rewriteable, non-erasable format.

Cloudian helps meet these requirements with storage that is certified compliant with SEC Rule 17-a4(f), FINRA Rule 4511(c) and CFTC Rule 1.31(b). It also meets the requirements of German regulations (IDW PS 880).

Furthermore, because Cloudian is a distributed storage infrastructure, data can be distributed across multiple sites, thus protecting the data from a site failure for both compliance and resilience.

Provide the Business with a Scalable, Fully Integrated Data Lake

Big Data enables organizations to transform themselves with the power of advanced analytics. Whether its applying machine learning on Cloudera's Hadoop platform or collecting and analyzing machine logs from across the enterprise with Splunk, the goal is to discover the kind of insights that can help create a competitive advantage.

Data lakes provide a highly scalable environment to support large amounts and varied types of data from multiple sources. Along with a data warehouse, they provide the framework for machine learning and real-time advance analytics in a collaborative environment.

Cloudian fully supports and integrates with big data platforms such as Splunk and Cloudera. Cloudian and Splunk SmartStore reduce big data storage costs by 60%+ while increasing storage scalability. Together they provide an exabyte-scalable storage pool that is separate from your Splunk indexers. With SmartStore, Splunk Indexers retain data only in hot buckets that contain newly indexed data. Older data resides in the warm buckets and is stored within the scalable and highly cost-effective Cloudian cluster.

Cloudera's support for the S3 API allows integration with Cloudian as a big data backup target or as an active archive tier for analytics workloads.

Secure Collaboration and Document Management with PII Detection

When employees want the flexibility and access offered by cloud services like Dropbox, Google Drive and others, it may come at the cost of allowing data outside your firewall and security domain.

Through its integration with Storage Made Easy (SME), Cloudian gives financial organizations the capability to offer a secure file sharing and collaboration solution. Deployed on-premises, Cloudian HyperStore and SME offer a Dropbox-like experience similar to popular public cloud-based sync-share offerings. Built-in governance policies like access controls and usage monitoring let administrators maintain full control over both storage locations and points of access.

The PII scanning and detection feature helps manage personal information by automatically detecting PII in documents and alerting the organization's information security specialists to its presence. With configurable rules, PII monitoring can scan shared documents for multiple types of personal information, such as credit card or account numbers.

Cloudian HyperStore with SME:

- Resides inside the firewall, thereby reducing the risk of a cloud breach.

- Ensures full control over storage locations and access via built-in governance policies and hardened access controls.

- Restricts external access to only specific geo locations, and control data synchronization rules.

- Detects presence of PII such as credit card numbers, driver's license numbers, and social security numbers.

- Includes audit tools for monitoring data access and configuring email alerts of prohibited activity.

SME

CUSTOMER CASE STUDY

A Storage Solution that Saved Dollars and Made Sense for a Financial Services Leader

Entrusted with storing and securing protected data for millions of consumer customers, this leading financial platform had a need for a limitlessly scalable, secure and multi-tenant storage-as-a-service (STaaS) solution. The desire was to deploy storage as a service for improved security and cost savings versus public cloud alternatives. In this environment, the ability to meet both stringent security requirements and aggressive scalability demands was a business necessity.

After competing against numerous top-tier vendors in a rigorous RFP process, a Cloudian HyperStore software-defined solution was selected — not only for its limitless linear scalability, airtight security measures and array of integrations, but because it was less costly, by an order of magnitude, than other vendors. Moreover, with Cloudian Hyperstore's flexibility and ease of integration, the client was able to quickly expand its number of Cloudian use cases, from one to nearly ten.

Challenges

- Provide a scalable, secure and long-term object storage solution on bespoke hardware in a mixed environment, encompassing Splunk, Oracle backup, Hadoop and more.

- Reduce TCO over existing storage solution, while increasing security and simplifying management

Solution

Deployed a multi-petabyte solution based on Cloudian HyperStore.

Benefits

- Secure, scalable, long-term Splunk archive for petabytes of data

- Compatible with Oracle backup

- Secure archive for document management system

- Multi-tenant, with self-provisioning portal

- Significantly reduced TCO and eliminated downtime, while simplifying management

Gartner **peer**insights
customers' choice
2020 ™

"Exceptional, high-performance, resilient S3 architecture at a great price"

About Cloudian HyperStore Object Storage

Cloudian HyperStore is an on-premises, scale-out object storage system. Available as appliances or as software defined-storage, it's designed for storing and managing large volumes of unstructured data, securely.

Span the enterprise

HyperStore can be geographically-distributed across multiple locations for local data access with central management and a single namespace. As an on-premises platform, data resides within your network, behind your firewall.

File and object storage: Multi-use for cost savings and simple management

Cloudian is suited to any capacity-storage challenge, with proven compatibility across a wide-range of applications. As an object and file solution, Cloudian features the industry's most interoperable S3 API, and an SMB/NFS file connector. To enable secure resource sharing, Cloudian features multi-tenancy, quality of services controls, and billing. Start small with one application, then grow on demand to meet changing needs.

Hybrid-cloud and multi-cloud ready, with cloud-native data format

If you wish to integrate the public cloud in your storage strategy, you can connect Cloudian to your preferred public cloud provider. Integrated data management tools include tiering and data replication to the cloud. Furthermore, all data stored to the cloud is stored in that cloud's native data format, thus making it accessible to cloud-native applications. Whether on Amazon Web Services (AWS), Google Cloud Platform, or Microsoft Azure, Cloudian provides a simple way to leverage the cloud.

Data resiliency and protection

Cloudian HyperStore provides up to 14 nines of data durability. Protect information using replication or erasure coding. Erasure coding distributes data across multiple devices, allowing data to be reconstructed in the case of a device or site failure. Storage policies also offer fine grain control of data placement across sites, whether at corporate HQ buildings, data centers, or other sites.
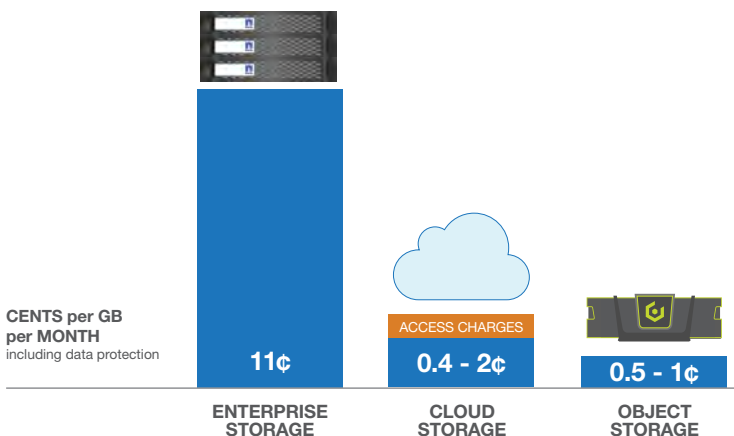
See your storage with HyperIQ

Cloudian's observability and analytics tool, Cloudian HyperIQ, lets you view operational data from across your Cloudian storage landscape on a single screen. Interactive dashboards give you complete observability into Cloudian infrastructure. View current and historical data to identify trends and monitor system health. Predict capacity usage, troubleshoot performance issues, and monitor usage patterns. Filter data for specific users or resources to pinpoint potential challenges. Set thresholds and alerts to highlight potential issues and identify corrective action. Within a single site or across multiple locations, HyperIQ gives you real-time insights.

68% SAVINGS WITH CLOUDIAN SOLUTION

CENTS per GB per MONTH
including data protection

	ACCESS CHARGES	
11¢	0.4 - 2¢	0.5 - 1¢
ENTERPRISE STORAGE	CLOUD STORAGE	OBJECT STORAGE

68% less cost than public cloud, with appliance and software-defined storage options

Built on industry-standard hardware, Cloudian is the industry's most cost-effective enterprise storage. Cloudian appliances employ storage-efficient platforms that deliver up to 4X the storage density of other designs. If you prefer to employ your own servers or VMs, Cloudian is also available as software-defined-storage.

- 1/3 the cost of private cloud, with no monthly usage fees to forecast and budget

- 70% less expensive than the traditional enterprise storage

Take the Next Step

Technology is transforming the financial services industry, as organizations race to provide exceptional consumer experiences, while managing and securing exponentially growing troves of data. IT decision makers are faced with the challenge of providing sufficient storage capacity to meet the wide-ranging security, scalability and compliance requirements of this data, while remaining within budget and managing workload.

Cloudian solves these challenges with innovative solutions that put cloud technology in your data center. To learn more, visit Cloudian.com.

Free Trial

Experience Cloudian HyperStore software in your data center, free, for 45 days.

Cloudian.com/free-trial/

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