# STONEFLY VS CLOUDIAN VS HPE VS DELL ECS

Comparing on-premises S3 object storage appliances and their built-in data security, performance, retention, and optimization capabilities

## Scope of the Document

This document provides a comparison of the ransomware protection, storage, archiving, performance, and optimization capabilities of on-premises S3 object storage appliances. It will evaluate the features and functionality of different products to help users make informed decisions when selecting a solution for their organization.

The scope of the document will include lists of ransomware protection, storage and archiving, performance and optimization features, and a summary of the pros and cons of each product.

The document is aimed at IT professionals and decision-makers in organizations of all sizes and different industries.

## Data Security and Ransomware Protection Features

Ransomware attacks have become a major concern for businesses of all sizes, as they can result in the loss of sensitive information and the inability to access critical systems. It's crucial for organizations to have the necessary measures in place to protect against such attacks and secure their data.

Businesses should focus on these features when evaluating and selecting an on-premises S3 object storage appliance as it can help them protect their sensitive data and prevent costly downtime.

| | StoneFly | Cloudian HyperStore | HPE | Dell ECS |
|---|---|---|---|---|
| Integrated Harden Veeam Engine (optional) | ✔ | ✘ | ✘ | ✘ |
| Software Defined Network Isolation Zone | ✔ | ✘ | ✘ | ✘ |
| Immutable S3 ObjectLock | ✔ | ✔ | ✔ | ✔ |
| Immutable Delta-Based Snapshots | ✔ | ✔ | ✔ | ✔ |
| Air-Gapped & Immutable Elastic ObjectLock | ✔ | ✘ | ✘ | ✘ |
| Air-Gapped & Immutable User Defined (WORM) | ✔ | ✘ | ✘ | ✘ |

| | StoneFly | Cloudian HyperStore | HPE | Dell ECS |
|---|---|---|---|---|
| Air-Gapped & Immutable Controller(s) | ✔ | ✘ | ✘ | ✘ |
| Self-Healing from Data Corruption | ✔ | ✔ | ✔ | ✔ |
| End-to-End Encryption – Transit/Rest | ✔ | ✔ | ✔ | ✔ |
| Hardware-Based Encryption Engine | ✔ | ✘ | ✘ | ✘ |
| Recycle Bin Programmable | ✔ | ✘ | ✘ | ✘ |
| Chain of Command Security in Multi-Controller | ✔ | ✘ | ✘ | ✘ |
| Anti-Ransomware/ Malware/Virus Scanner | ✔ | ✘ | ✘ | ✘ |
| Automated Failover/Failback | ✔ | ✔ | ✔ | ✔ |
| Cloud Connect to Public/ Private (for 3-2-1-1 strategy) | ✔ | ✔ | ✔ | ✔ |
| Multi-Factor Authentication (MFA) | ✔ | ✔ | ✔ | ✔ |

## Storage Optimization Features

When evaluating and selecting on-premises S3 object storage appliances, businesses must give significant consideration to the storage optimization features offered by the products. These features are important because they help reduce storage costs, improve data management, and also improve the overall performance and efficiency of the storage system.

Here's a list of storage optimization features businesses should look for in S3 object storage appliances, and which vendors offer them:

| | StoneFly | Cloudian HyperStore | HPE | Dell ECS |
|---|---|---|---|---|
| Multi-Controller(s) Support – Up to 4 Per Node | ✔ | ✔ | ✔ | ✔ |
| Scale Out to 128 Nodes | ✔ | ✘ | ✘ | ✘ |
| Single Namespace Scale Out Support | ✔ | ✔ | ✔ | ✔ |
| Expansion – Scale Up Support | ✔ | ✔ (Limited) | ✔ (Limited) | ✔ (Limited) |
| Expansion – Scale Out Support | ✔ | ✘ | ✘ | ✘ |
| Cloud Connector to Azure/ AWS/Other S3 Cloud | ✔ | ✔ | ✔ | ✔ |
| Hot/Cold Storage Tiering Support NVMe/SSD/Cloud | ✔ | ✔ | ✔ | ✔ |
| Frontend SSD Caching | ✔ | ✔ | ✔ | ✔ |
| Load Balancing | ✔ | ✔ | ✔ | ✔ |

## Storage Management Features

Storage management is a critical aspect for businesses when it comes to maintaining on-premises S3 object storage appliances. These appliances are used to store large amounts of data, and without proper management, the storage can become disorganized, inefficient, and costly. It is essential for businesses to have the necessary tools to manage, monitor and optimize their storage effectively.

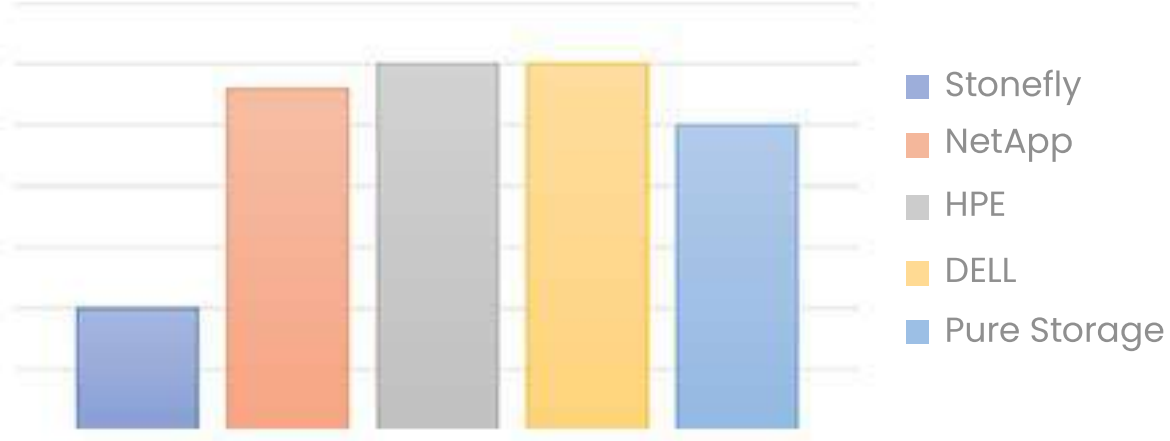
Here's a list of storage management features businesses should look for in S3 object storage appliances

| | StoneFly | Cloudian HyperStore | HPE | Dell ECS |
|---|---|---|---|---|
| Single Pane of Management | ✔ | ✔ | ✔ | ✘ |
| Ease-of-Deployment | ✔ | ✔ | ✘ | ✔ |
| Ease-of-Use | ✔ | ✘ | ✘ | ✘ |
| Real-Time Monitoring and Reporting | ✔ | ✔ | ✔ | ✔ |

## Pricing Comparison: StoneFly vs Cloudian vs HPE vs Dell ECS

It is not possible to provide an exact cost for an S3 object storage appliance as it varies depending on various factors such as hardware specifications, software features, and licenses.

To provide a clear understanding of the cost differences between different vendors and their S3 object storage products, a graph is provided below that illustrates the average cost per terabyte (TB). This will allow you to compare the pricing of different products and vendors, making it easier to make a decision on which one is the best fit for your organization.




Note: The graph is for illustrative purposes only.

## Pros and Cons of Cloudian vs HPE vs Dell ECS

The following information is a summary of authenticated user reviews from various tech forums and websites.

## Pros and Cons of Cloudian HyperStore

| Pros | Cons |
|---|---|
| Integrates with S3-compatible applications, and services. | No built-in ransomware protection using automated air-gapping, immutable S3 object lock-down, or anti-ransomware/malware scanner. |
| Offers data management, archiving, retention, and data migration. | Higher per TB costs than other solutions with the same storage, and compute capabilities, features, and warranty. |
| Supports hardware-based encryption and can be integrated with hardware security modules (HSMs) for additional security. | Requires additional hardware, software, and licenses to deploy which increases the overall cost. |
| Automated tiering helps reduce cost and effectively leverage hot/cold storage tiers. | Management is complex and the learning curve is steep especially for first time users. |
| | Storage administrators have observed a decline in performance when the system is utilized by a substantial number of users. |

## Pros and Cons of HPE S3 Object Storage (HPE Solutions for Scality)

| Pros | Cons |
|---|---|
| Integrate with cloud – easier archiving and retention. | No built-in ransomware protection using automated air-gapping, immutable S3 object lock-down, or anti-ransomware/malware scanner. |
| Includes retention, archiving, and migration. | Higher per TB costs than other solutions with the same storage, and compute capabilities, features, and warranty. |
| Supports advanced encryption capabilities including hardware-based encryption. | System upgrade is time consuming and complex. |
| | The ability to scale is limited. |
| | Initial setup is difficult. Multiple customers have shared their dissatisfaction with the vendor's support for initial setup. |

## Pros and Cons of Dell ECS

| Pros | Cons |
|---|---|
| Purpose-built for large-scale data sets. It's also easy to scale. | No built-in ransomware protection using automated air-gapping, immutable S3 object lock-down, or anti-ransomware/malware scanner. |
| Capacity-based payment structure makes it useful for organizations looking to lease their object storage infrastructure. | Higher per TB costs than other solutions with the same storage, and compute capabilities, features, and warranty. |
| Initial setup is easy and user-friendly. | Users looking for data recovery capabilities need to add external third-party tools – which adds to the cost. |
| | Lack of role-based access controls and a single pane of management makes data management complex and time consuming. |
| | Limited integration with mainstream products and applications from other vendors (vendor lock-in). |

# Custom-Build Your S3 Object Storage Infrastructure

Available as 4, 8, 12, 16, 24, 36-bay physical appliances, and as a virtual appliance that supports most mainstream hypervisors including VMware, Hyper-V, KVM, Citrix, and StoneFly Persepolis, StoneFly offers enterprise-grade secure, scalable, and affordable S3 object storage solutions.

StoneFly's S3 object storage solution comes with built-in ransomware protection, security, optimization, and management features that ensure secure and compliant long-term data retention of critical digital assets.

## Ransomware Protection Features in StoneFly S3 Object Storage Solution

- Automated air-gapped controller, and repositories locally and in the cloud.
- Immutable file and S3 object storage lockdown – on-premises and in the cloud.
- End-to-end encryption at rest and transit.
- Anti-ransomware/malware/virus scanner with automated threat scan for dormant malware.
- Multi-factor authentication for the controller(s), repositories, and HCI appliance nodes.
- Optional integrated hardened Veeam engine.

## Storage Optimization Features in StoneFly S3 Object Storage Solution

- Deduplication with high compression ratio.
- Thin provisioning with idle space reclamation and repurposing technology.
- Automated hot/cold storage tiering.
- FlashCache™ frontend SSD caching for frequently accessed data.
- Automated load balancing to prevent bottlenecks.

**Disclaimer:** The information contained in this document is collected from publicly available sources. StoneFly, Inc. shall not be liable for any outdated information, or errors contained herein or for consequential damages in connection with the furnishing, performance, or use of this material.

**GOT QUESTIONS? CONTACT US**

**Phone:** +1 510 265-1616
**Email:** sales@stonefly.com

© 2023 StoneFly | All Rights Reserved