

## SOLUTION GUIDE

# Implementing Multi-Tenanted Storage for Service Providers with Clouidian HyperStore®

COST EFFECTIVE SCALABLE STORAGE PLATFORM  
FOR CLOUD STORAGE SERVICES

## The Challenge

Service providers (MSPs/ISPs/ASPs) are increasingly offering data storage such as Storage as a Service (STaaS) to their customers to complement the traditional compute and application service offerings. With the availability of off-the-shelf cloud storage platforms, Service Providers of all sizes can now build cloud storage services with very little risk. New services can be easily added to a Service Provider's offerings with minimal cost, little deployment time, and significant ROI.

As these services become more complex and increasingly adopted by end users, Service Providers are looking at innovative ways to provide storage services that are secure to the end customer, but leverages the investment in a multi-tenant shared platform that is vital to drive down costs of the offered services in order to stay competitive in an extremely price sensitive market place.



## Business Requirements

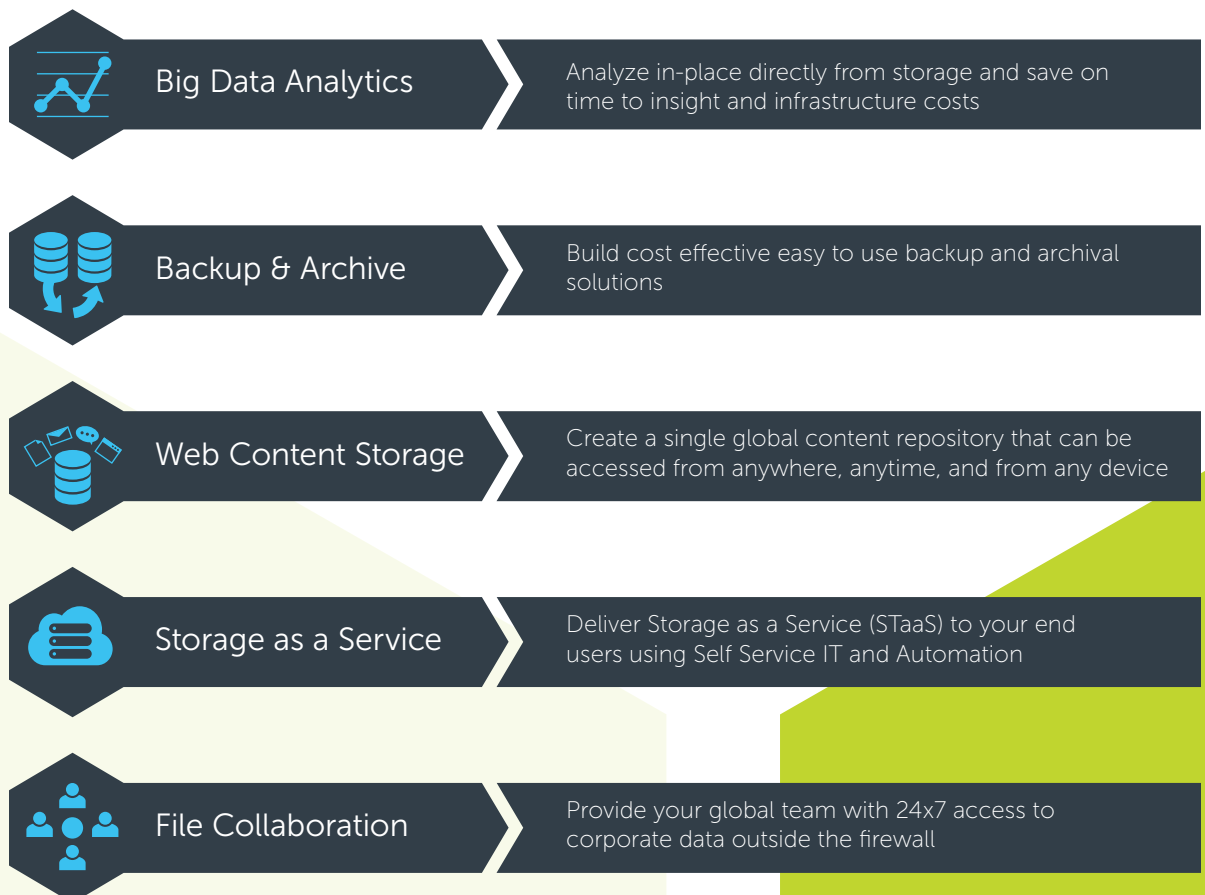
Some key requirements for a successful multi-tenant hosting solution are:

- Use of shared IT resources to minimize capital and operational costs
- Provide secure access to data for multiple end-users/customers using the same system
- Data access permission management
- Quality of Service (QoS) ensures customer Service Level Agreements (SLAs) can be met
- Isolation of workloads so that a tenant workload is not affected by other tenants
- Flexible capabilities from a single platform (performance, capacity, data protection, disaster recovery, etc.)

Cloudian Software Defined Storage (SDS) solutions enable hosting organizations to deliver storage services with enterprise class storage provisioning and management capabilities with the freedom of choice of using best of breed hardware platforms whether the storage service is sensitive to cost, performance, capacity scalability or security needs.

## Grow Your Business with New Service Offerings

Service Providers can now look at delivering valuable storage service offerings to their client base with confidence that they can compete at a price level, not only with traditional storage platforms but also with the large public cloud players as well. Use cases for cloud storage include:

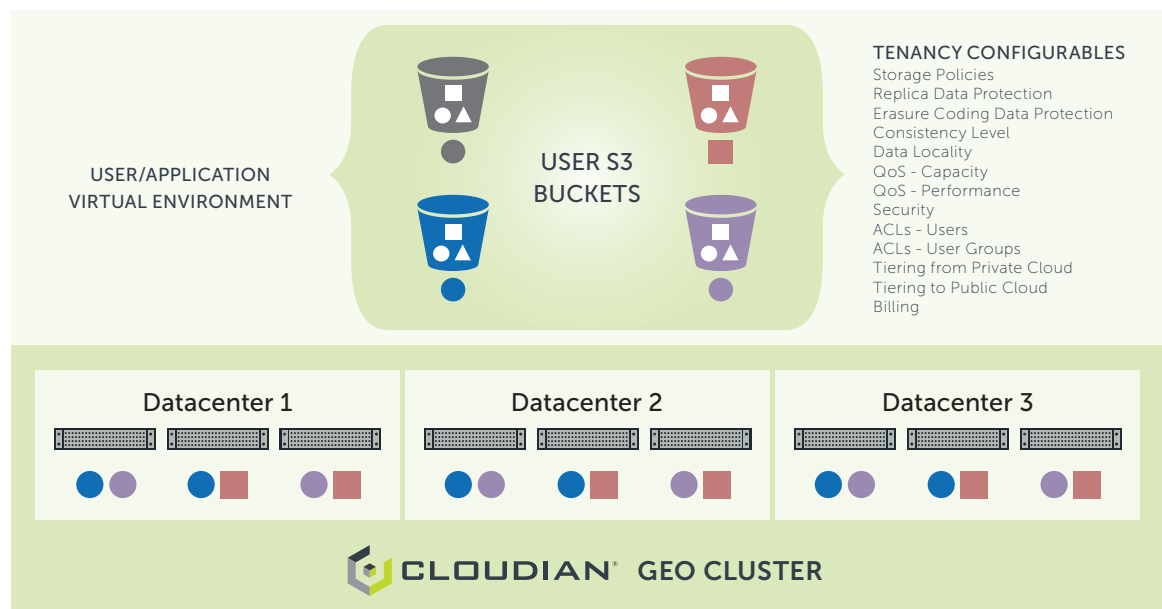




## Cloudian HyperStore Overview

Cloudian HyperStore provides a pure Software Defined Storage platform that delivers industry leading data integrity and protection with massive storage capacity scalability from 1 to 1,000 of nodes growing to support 100s of petabytes (PBs) with flexibility on storage access via the Amazon S3 Restful API.

It provides a multi-tenanted storage platform that segregates customers/users/applications from each other while using the same physical platform. The control of data is managed by buckets, where access control and storage policies are applied. The following diagram shows how this can be deployed on a single platform.



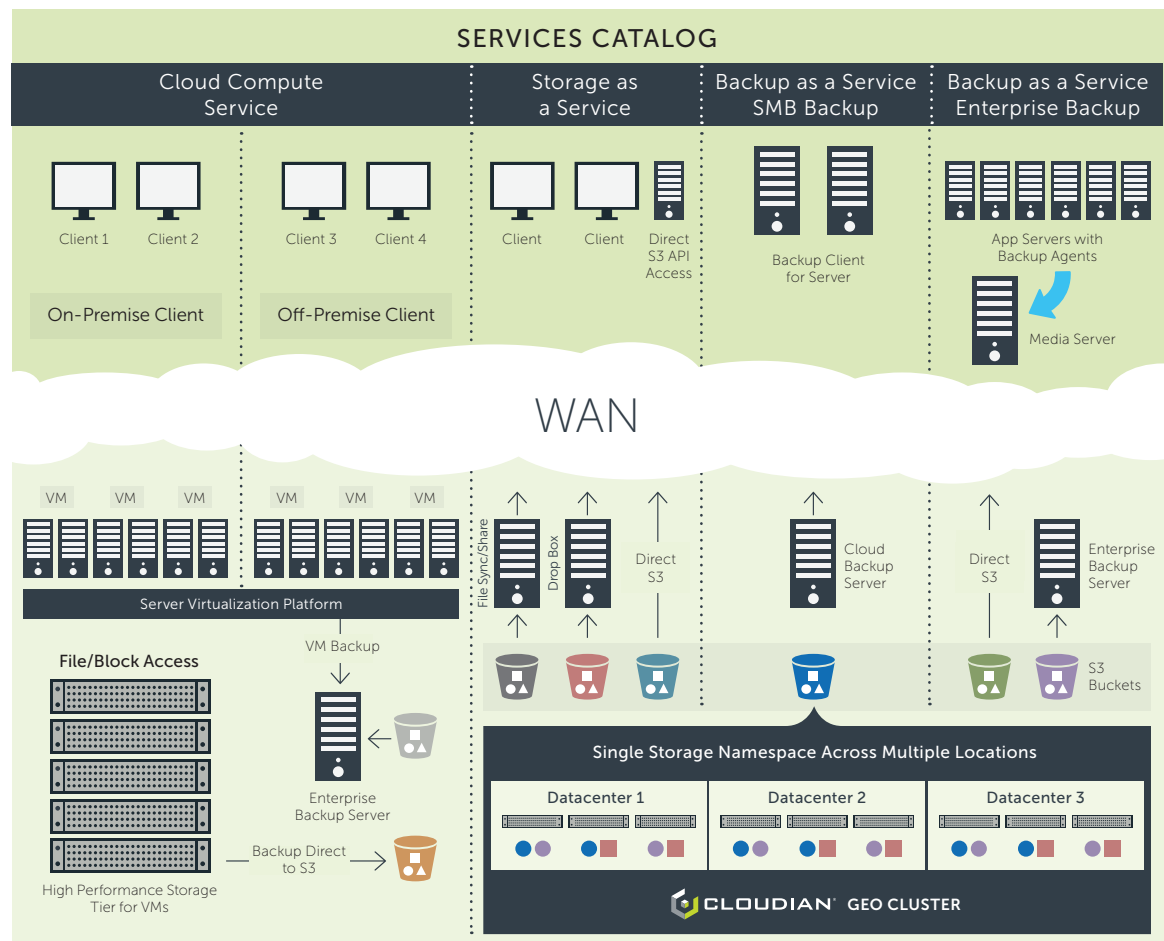
## Key Benefits of Cloudian Hyperstore for Service Providers

- Each S3 bucket would provide a unique, dedicated and secure storage environment for each customer/user/application – no concerns about access to incorrect data sets.
- Each S3 bucket is configurable with a number of parameters to deliver multiple service levels for different use cases.
- Customers can manage their own access permissions for their own buckets
- Any industry standard server hardware can be used - offering greater freedom of choice for Service Providers.
- Billing can be tied to capacity and/or performance usage.
- Multiple data protection policies can be configured according to customer needs. Billing is tied to storage consumed, which takes data protection copies into account.
- QoS can be applied to eliminate the noisy neighbor issue, whereby one user or groups of users can negatively impact the resources available for another customer.
- Short term "burst" capability, when customers demand more storage they are not immediately limited by restrictions.



## Hyperstore Architecture

The Cloudian HyperStore platform provides the perfect storage solution for those workloads and users that require to store large amounts of data at a low cost. The solution fits perfectly with a Service Provider's model to deliver compute services. Typically the compute platform would utilize high performance storage to deliver the best return on investment for performance metrics. High performance storage platforms do not provide the best cost model for storing large data capacities, therefore implementing a two tier storage strategy provides the ability to offer services to cater for both requirements.





## S3 Ready Storage – The New Storage Protocol for Cloud Services

The S3 API connectivity is key to providing cloud based storage services, it can be viewed as a modern storage protocol combining

- Connectivity
- Access control
- Data management
- Reporting & Notifications
- Advanced Functionality
- Tiering
- Encryption
- Billing
- Monitoring
- Notifications
- Replication
- Time limited access

.... that can be used across the internet. The S3 API offers so much more capability for managing your data over traditional storage protocols such as Fibre Channel (FB), iSCSI, CIFS or NFS.



Traditional storage protocols only offer Read/Write functionality.



The S3 API delivers advanced data management functionality such as billing, replication, versioning, tiering alongside the basic read and writes data operations.

Cloudian HyperStore is the only platform on the market that offers 100% compatibility with AWS S3 implementation, providing support for over 4,000 applications.

## Multi-tenancy and Chargeback

Providing the perfect technology is only part of the solution for Service Provider's to deliver the best offerings at the right price. Due to the unique nature of the Service Provider's business model, services must be monitored, audited, provide detailed usage accounting and chargeback per tenant. Cloudian HyperStore was built with Service Providers and multi-tenancy in mind. Service Providers can now quickly implement customer ready services that include:

- Multi-tenant pooled managed infrastructure
- Offer multiple service level options to their customers
- Pay-As-You-Consume pricing model (with complete per tenant auditing)
- Self-service administration for customers
- Pay monthly on consumption of services with chargeback services



## Hyperstore Deployment Options

Cloudian provides Service Providers with a number of purchasing options so they can choose the most suitable for their business. With our Service Provider customers we strive to find the optimal model for your business environment. Our licensing choices include:

### Software Subscription License

This is an annual software license which includes software and support for the period of time. It is flexible and Service Providers can adjust their usage annually to reflect their changing business needs.

### Software Perpetual License

Traditional software license which allows for perpetual use of the software. There's an annual support fee required yearly.

### HyperStore Appliances

HyperStore Appliances are storage servers designed for petabyte scale. They are highly resilient storage systems with extreme data resiliency and no single point of failure. Built on commodity server designs they dramatically lower the cost of data storage to a fraction of traditional storage systems.

### HyperStore-Ready Partner Appliances

We have worked with a number of leading server manufacturers to provide validated designs which have been qualified to run optimally with our software. These vendors include Lenovo, Quanta, SuperMicro and Cisco.





## Conclusion

Cloudian HyperStore provides Service Providers with a storage platform that delivers the same functionality and more compared to the leading cloud storage vendors in the market place today at a lower price point (including software and hardware).

Service Providers can take advantage of the growing customer demand for cloud storage services to augment their traditional lines of business with a profitable and growing use case. Get started today and receive 10TB for free with our Community Edition: <http://www.cloudian.com/free-trial/>

## About Cloudian

Cloudian is a Silicon Valley-based software company specializing in enterprise-grade storage. Its flagship product, Cloudian HyperStore®, is an S3-compatible storage platform that enables service providers and enterprises to build reliable, affordable and scalable hybrid cloud storage solutions.

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