

Introduction to RStor

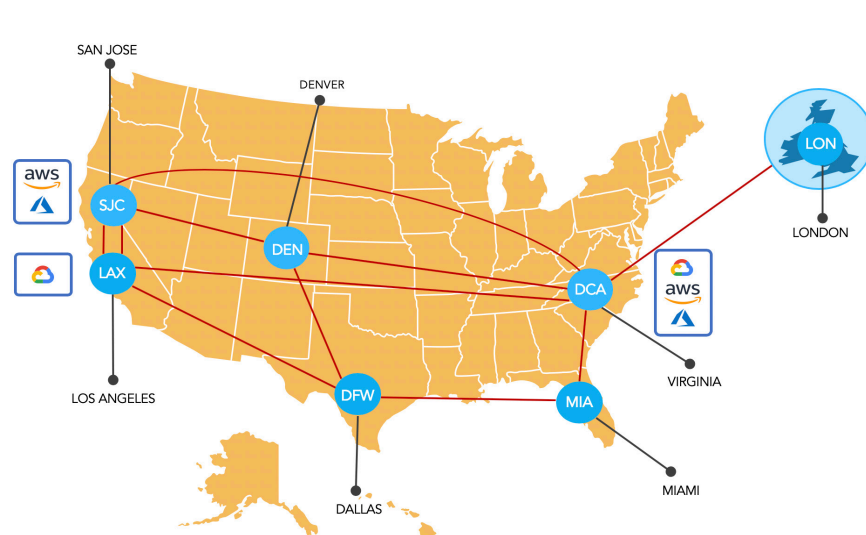
Today, customers running cloud workloads are frustrated by the difficult to predict, variable expenses associated with cloud storage. Cloud Service Providers (CSPs) charge not just for data at rest, but for every action and operation having to do with that data. Puts, gets, network transfer, egress, etc, as well as regional replication incur additional fees. We believe this cloud service model is broken, so RStor created a new way to utilize the cloud with new business model.

RStor S3 services offer Object Storage as a Service - a fast, fixed-cost per GB per month, Cloud agnostic next generation data solution for data storage.

RStorage

RStorage is object storage at the cloud edge, managed and controlled by its own data routing and management solution. Customers can upload and consume data using a variety of native protocols. Data is replicated multiples times in different locations to ensure reduced latency and provide quicker access. Replicated copies provide natural backup and archiving capabilities for disaster recovery and business continuity.

We believe that access to your data is paramount, and to that end data is physically stored at our sites, then natively replicated to other sites of your choosing. Resilience is achieved by local data center erasure coding and replication between sites.



- 6 accelerated, connected sites with 100Gbps provisioned
- 6 storage sites (SJC, LAX, DCA, DEN, DFW, MIA)
 - SJC, DEN, DCA – core sites
 - LAX, DFW, MIA – warm sites
 - Immutable option available later in 2020
- S3, NFS, and SMB protocols supported
- Direct connect to major CSPs –East and West regions
 - 10Gb/s capacity
- Modularly designed for EB scale
- Data ingest capable at all PoPs.
- Data replication enabled between all PoPs and configurable

Customer Use Cases

RStor improves customers' experience interacting with public clouds, and customers who are seeking to move to the cloud. Our innovative technology enables customers to eliminate both Cloud Service Provider (CSP) regionality, and locked-in, unpredictable costs. RStorage safely transports and stores data at flat rates with geographically distributed replication.

Cloud Native Applications

AirBnB, Netflix Streaming Service, Facebook, Twitter, and Microsoft Office 365 are all examples of applications that are made for the cloud (cloud native), utilizing cloud services through one or more of the major CSPs. We are the agnostic middle between the CSPs, allowing customers to have a repository for their data that is easy to use with high performance and uncontended guaranteed throughput connectivity.

Our service provides flexibility and performance that is unequaled by the CSPs, and can address a wider variety of requirements such as extremely small, or extremely large file size. Customers choose RStor for predictability, governance, control, price savings, and performance that can scale and adapt to their needs.

Cloud Backup and Archive Target

RStorage is usable as a backup and archive target through backup applications that have the capability of using an S3 compatible cloud target. Multiple copies of your data can be stored automatically in different regions, providing data resiliency and disaster recovery. Customers can pick the number of copies as well as the region where each copy will reside, allowing for faster

recovery due to data locality in the event of a disaster.

Disaster recovery becomes possible with significantly faster restore times by data availability at multiple sites that are geographically dispersed. RStorage is currently qualified as an S3 target with Cohesity, Rubrik, and Veeam backup applications, with more in process.

Data Access from Anywhere

RStorage provides data access from anywhere with high transaction throughput. Traditionally CSPs are not capable of this due to latency overhead. TCP was not designed to support high volume data distribution. RStor has developed a

volume data distribution. RStor has developed a method of supporting this large data movement that allows for faster access due to data locality via multi-site geographically dispersed replication.

How do I get started now?

It's easy to get started with RStorage. As an S3 compatible cloud target there are several ways to use our service. An HTTPS GUI, NFS, SMB, HDFS and VTL are all supported, as well as a target for backup and archive. Contact us at sales@rstor.io to get started, and see exactly how easy it is.

We also provide an HTTP Proxy to provide a low-risk method of moving data from an existing CSP seamlessly over time, or reduce cost by storing a copy on RStorage and eliminating all of the usage fees charged by the CSPs. RStor will accommodate a customer's data storage strategy to facilitate total transition, transition-over-time and static back up strategies.

Features

Platform

- Common management UI
- LDAP and AD integration (IAM)
- Multi-factor authentication
- SOClI compliance (+HIPPA +TPM)
- Secure internet transit (SSL)
- Full audit logging and history
- Dedicated direct connects to CSPs

RStorage

- Ingest and deliver assets via the internet and private networks
- Support for files and objects (standard industry formats)
- Support for any file/object size (>5TB)
- Object/File versioning support
- Extended object level attribute support
- Optional DARE (AES 256)
- Data durability in excess of 99.99999999999999%
- Immutable layer (Optical)
- Erasure protection (8+3)
- Geo distributed replication
- Object health monitoring (bitrot analysis and reporting)
- Data Transporter (side-loading) support

RStor S3 HTTP End Point

RStor S3 HTTP End Point provides access over the public internet to RStor's Simple Storage Service/ S3 cloud. The S3 protocol is used in a URL that specifies the location of the bucket and a prefix to use for reading, writing, deleting or listing files/objects in a bucket. The endpoint accepts HTML requests compatible with the S3 REST specification converting the data back to files.

Bucket Characteristics

- RStor S3 End Point utilizes buckets at the root level as a container for objects / files
- Supporting both private and public buckets
- New buckets by default are private, and made public with a policy change
- Range-Requests are fully supported

Attributes

- Max Number of Parts Per Upload: 10,000 **
- Max Object Size: 10,000 x 200MB = 2TB **
- Max Object name length: 1024 bytes
- Bucket Name length: >= 3 characters, <=63 characters
- Unauthorized Bucket Names: IP Addresses, anything non-conforming to DNS standards for Naming

Supports all de-facto standard S3 API calls

- GET – retrieves metadata + list Bucket or Object
- HEAD Bucket – retrieves metadata about bucket / object
- HEAD Object – retrieves metadata with empty body
- DELETE – deletes multiple objects or multi-part uploads
- GET –HEAD – retrieves metadata with empty body
- PUT Object – sets contents of object to be same as request
- PUT Bucket Policy - Sets the access policy for a given bucket
- POST – initiate or complete a multi-part Upload

* Please contact us for detailed API documentation.

RStor HTTP Proxy

Instant-On

Provides users immediate access to RStor without completing a full data migration or abandoning current S3 provider

Instant-on Workflow

Writing data – Two options:

- Delete after import = ON
S3 HTTP Proxy uploads a copy of the data to RStor only
- Delete after import = OFF
S3 HTTP proxy uploads a copy of the data to both CSP & RStor
- Ingress Fees will be charged from the CSP

On-Ramp

Provides a process to import data with priority queueing, and without manual intervention from existing CSP.

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Deleting Data

Delete occurs in RStorage and DELETE is proxied to the CSP

On-Ramp Workflow

- Build a list of objects available on the CSP
- Remove from the list the objects already available in RStorage
- Iterate over the list and simulate a client request for that object
- Similar to Instant-On S3 HTTP proxy will obtain a copy of the object from CSP and store a copy in RStorage.