Clumio Backup as a Service for Amazon RDS

Clumio Provides an Authentic SaaS Eperience for Backup

- **Always-on Security**
  - Robust protection with inherent data immutability. Rolling backups to rapidly recover at original or alternate AWS accounts in the event of compromised accounts.

- **Simplified Policy Management**
  - Unified policy framework to easily and consistently apply protection across multiple AWS accounts and services.

- **Cost Effective Compliance**
  - Reduce the costs of extended retention to help you comply with regulatory requirements by eliminating the use of snapshots for data retention.

- **Rapid Data Retrieval**
  - Quickly recover database instances to a previous point in time, or search and retrieve records directly from backups to help meet compliance needs.

RDS DATA PROTECTION CHALLENGES

Amazon RDS liberates organizations from setting up and managing what is arguably the most complex and difficult to manage layer of enterprise applications – the database. Instead of worrying about provisioning, scaling, monitoring, and managing databases manually, now organizations focus on building line-of-business applications with agility and efficiency of a fully managed database service.

Snapshots are often used to protect data in Amazon RDS. However, in this era of data breaches and ransomware attacks, organizations worry that snapshots are often lost along with production databases, should an account be compromised by external or internal actors.

As RDS instances are spun up and down to meet the needs of business applications, it is challenging to apply data protection policies consistently across all instances and accounts. The complexity is exacerbated by the need to carefully manage the number of snapshots so as to keep the costs down and not exceed AWS enforced limits. Protecting data and maintaining its retrievability is the customer's responsibility. Following the shared responsibility model for enterprises in AWS, organizations must maintain robust protection of data on RDS databases to meet compliance and data retrieval requirements on their own.

Data from business applications outlive the infrastructure where they currently reside. Enterprises want to make sure that the data is always in their control and is retrievable even when the infrastructure where it originated is no longer available. This is one of the key inhibitors in embracing RDS for business-critical applications. RDS snapshots are tied to both the RDS platform and the backend database engine. That means you need to rely on RDS' support for today's engine and version when you need to retrieve data to prove compliance seven years from now.

HOW CLUMIO WORKS

Built as a cloud-native SaaS solution, Clumio requires zero deployment of software components in order to begin protecting Amazon RDS data. Customers securely connect their AWS account to the Clumio service, and an Amazon CloudFormation stack is deployed in the account. It prepares the account for data protection, and the whole process completes in a matter of minutes!

Clumio's unified policy framework lets you easily and consistently apply protection across multiple AWS services and accounts. For example, you can protect both backend RDS databases and frontend EBS data volumes of a distributed application from a single policy. Global policy compliance status and actionable alerts can be monitored from a single dashboard for all service and accounts.

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Compliance Dashboard
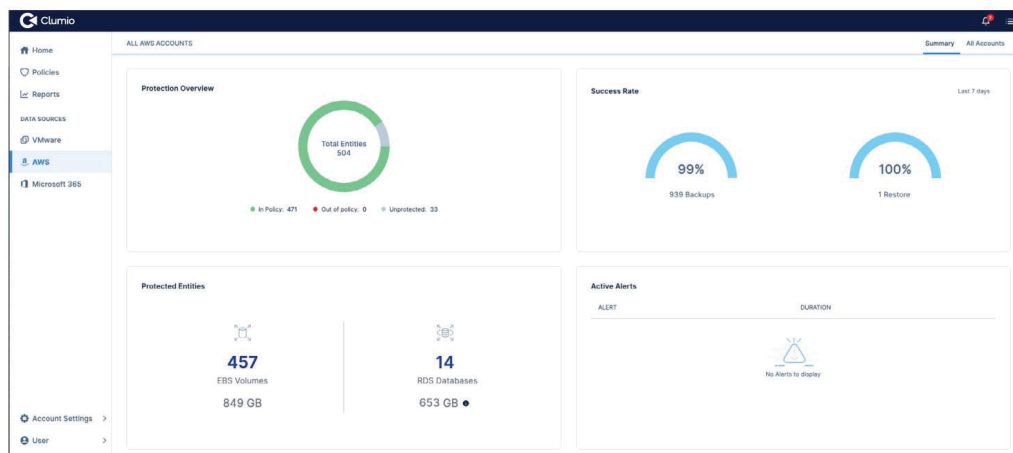
Unlike third party snapshot managers for Amazon RDS, Clumio's backup service is designed to meet the needs of enterprises to protect vital RDS databases throughout their data lifecycle.

Making Amazon RDS Ready for Enterprise Applications

Meeting Enterprise Data Management Requirements

─── Provided by AWS ───	Required by enterprises, provided by Clumio ───	
OPERATIONAL RECOVERY	**DATA RECOVERY**	**EXTENDED RETENTION**
• Recover from failures, software glitches, user errors	• Rolling Backup - Rapidly recover a compromised account with a time lagged standby	• Store long term to meet regulatory requirements and company policies
• RTO in minutes to hours • RPO in minutes to days	• RTO in minutes to hours • RPO in minutes to a day	• RTO in hours to days • RPO in weeks to months

Manage across all instances and accounts

Unique Benefits of Clumio Backup for Amazon RDS

Clumio offers four key benefits to enterprises that deliver value for Amazon RDS data protection:

Always-On Security

- Backups are securely written directly into Clumio, safely stored outside of the production AWS account. Tenant data is always encrypted separately with unique, rotating keys.

- Rolling backup – a time lagged standby of production database - helps you rapidly recover RDS database from Clumio, if production accounts are compromised.

- All data transfers are safeguarded with in-flight encryption and end-to-end integrity checks.

- Clumio's access credentials are separate from AWS account credentials, facilitating a layered security model. AWS account credentials are not stored in Clumio.

- Backup data is written to a durable object store in an immutable format, creating an air-gapped security layer for additional peace of mind.

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Cost-Effective Compliance

- Reduce the costs of extended retention to comply with regulatory requirements and company policies by eliminating the use of snapshots.
- Store directly in Clumio service with a predictable pricing model that is based on protected terabytes and retention needs.
- Data is stored in engine-independent format, enabling retrieval even after the originating engine reaches end-of-life.

Simplified Policy Management

- Unified policy framework to easily and consistently apply protection across multiple AWS services and accounts.
- Protect RDS databases immediately via secure service authentication, with no software package to deploy, ever. Retain backup data for up to 7 years.
- Global policy compliance alerts from a single dashboard.

Rapid Database Recovery and Data Retrieval

- Rapidly recover using rolling backup onto an alternate account if the original account is compromised.
- Search and retrieve records directly from backups to comply with audits, legal holds, and eDiscovery needs without the undue burden of error-prone, time-consuming restore processes onto sandboxed environments.
- Enable migration across database engines and versions from backed up data.

SAAS PROTECTION AMAZON RDS: SIMPLE, SECURE, AND COST EFFECTIVE

Clumio simplifies data protection with unified protection policies, helping maintain consistent compliance across Amazon RDS databases and other related data sources of modern, distributed, enterprise applications. By enabling centralized management and on-demand scaling for thousands of AWS accounts with no software packages to deploy, Clumio facilitates a data protection approach that is immediate, secure, and reliable. Databases can be rapidly recovered to an operational point in time, and records can be directly searched and retrieved from extended retention copies via an intuitive, searchable interface. A Clumio subscription is priced per protected terabyte for a given retention period, thereby offering a cost-effective model with no hidden costs that are typically found with other snapshot management-based backup solutions.

Clumio takes the pain out of RDS database backup with our authentic SaaS platform, breaking down the barriers enterprises had faced in migrating mission critical databases to RDS, while mitigating the risk of data loss and non-compliance.

To learn more, visit **commvault.com**

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