

# A Secure, Multi-tenant Enterprise Backup as a Service



“The Clumio service has been built for multi-tenancy by isolating each customer’s backup data from other customers.”

## The Challenge

Businesses have no choice but to responsibly manage the protection, compliance, and governance of their data. But achieving sufficient protection and compliance requires secure processes and technologies. With increased cloud adoption, data gets distributed even further, leading to even disaster recovery challenges. Most companies must invest heavily in the administration of multiple backup systems that drive significant complexity and management overhead on responsible organizations.

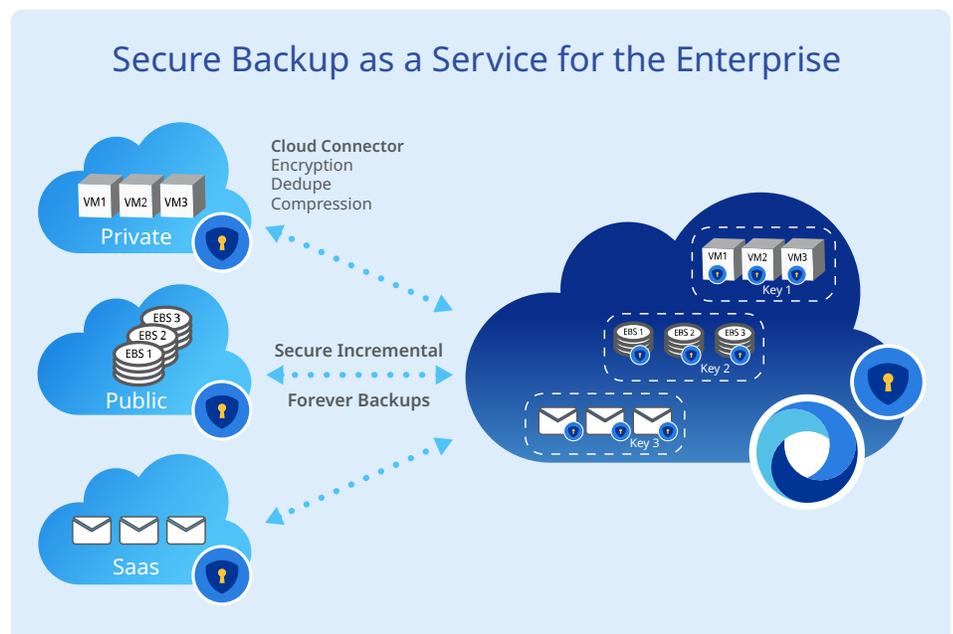
## The Solution

The Clumio service is designed to back up and restore all enterprise applications, whether running within a private cloud, public cloud, or as a SaaS application. Clumio eliminates the need for enterprises to manage any backup infrastructure while allowing administrators to ensure their business stays compliant.

In today’s world of frequent security breaches, the Clumio service is built from the ground up to preserve the integrity of customer data while providing equivalent (if not higher) data security. From day one, Clumio’s fundamental thinking is to bake security into its platform to ensure the highest level of data protection.

## Clumio Architecture

For backing up on-prem or cloud entities, customers deploy a cloud connector. The cloud connector would be in the form of a VM for on-prem data resources and a native cloud formation template for cloud data resources. The cloud connector is responsible for multiple things, including inventory detection, deduplication, compression, encryption, decryption, as well as for securely moving data between the customer’s environment and the cloud service. Other entities within the cloud service also ensure that customer’s data is always encrypted even when post-processing or other activities are being performed.



## Secure Infrastructure

Clumio operates within a virtual private cloud (VPC), a logically isolated network within the Amazon Web Services (AWS) cloud. AWS is ISO 27001 certified, has completed multiple SAS-70 Type II audits, and publishes a SOC 2 report under both the SSAE 18 and ISAE 3402 professional standards.

## Secure Access and Certifications

Clumio operates an Information Security Management System and has received ISO/IEC 27001:2013 certification. An SSAE 18 SOC 2 Type 1 report is available upon request. These controls ensure that Clumio's personnel, processes, and systems are adhering to information security best practices.

Clumio customers access the Clumio service via an email address and a password. The passwords follow industry best practices for complexity and strength. Customers can also turn on Single Sign On to integrate with their Identity Provider and ensure that administrators don't need an additional password to remember.

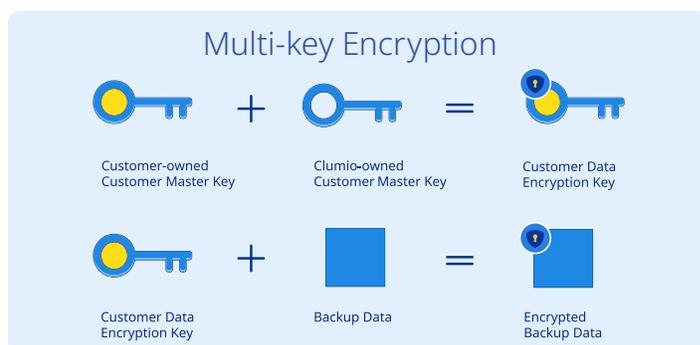
## Network Security

All communication from the connector to the Clumio service happens over TLS connections, which prevent passive eavesdropping, active tampering, and forgery of messages. These are all outbound connections, which means that customers do not need to open a port in their firewall to use the Clumio service. The instructions to the cloud connector are also access controlled to ensure that the connector doesn't perform any operation on unauthorized customer data.

The cloud formation template's privileges are also set to a minimum to ensure that it's only performing the required and necessary functions.

## Data Segregation

The Clumio service assigns a unique ID to every customer as they come on board. All future transactions like accessing the Clumio dashboard, performing data backup and restore, performing post-processing on the data are always referenced to that ID. The unique ID also has a corresponding key used to encrypt and decrypt data. This approach ensures that another customer can never read one customer's data.



## Data Encryption

In addition to providing data segregation, the Clumio service uses AES-256 encryption algorithm. Clumio service uses AWS Key Management Service (KMS) to assign a unique Customer Master Key (CMK) to every single customer. The customer data is encrypted using Data Encryption Keys (DEK), which are derived from customer-specific CMK and are rotated frequently.

The Clumio service also supports Bring Your Own Key (BYOK). This mechanism allows customers to leverage their own KMS system to create a CMK in their account and generate DEK. The customer data is encrypted using a combination of Clumio's and customer's DEK keys. This approach allows customers to own the keys to their data and can revoke access for Clumio service at their will. Customers can also audit the access to their keys and can also see the reasons why Clumio service accessed their key.

## Audits

Clumio service is continually tested by 3rd party vendors performing application-level penetration testing. Testing included the cloud connector, and attestations are available upon request.

## Conclusion

Most companies are starting to embrace the power of the cloud and, at the same time, grappling with the compliance and governance needs for their data. With Clumio's backup services following industry-standard security best practices, customers can finally break free from the complexity of designing, managing and maintaining backup solutions while at the same time, not having to worry about the security of their data.

**Clumio** is the innovator of authentic SaaS for enterprise backup. Using this secure service, organizations eliminate hardware and software for on-premise backup and avoid the complexity and cost of running third-party backup software in the cloud. As enterprises move aggressively to cloud, they use Clumio to protect workloads like VMware Cloud on AWS and AWS native services. Born in the public cloud, Clumio can leverage the most modern cloud services to ensure it meets the current and future backup requirements of the most demanding enterprises.

For more information, visit: [www.clumio.com](http://www.clumio.com)

