

Rubrik Security Cloud

Overview

Rubrik Security Cloud is a rebranding of Rubrik Cloud Data Management, the vendor's flagship solution which provides data protection, storage and management built on top of a distributed, scale-out file system. Specifically, the Rubrik solution combines data protection with archive, remote disaster recovery (DR) and copy data management (CDM) to create a secondary storage solution that can replace multiple purpose-built offerings. It provides full data lifecycle management from ingest to archive and retirement, using metadata to provide global search capabilities, manage data versions and maintain capacity efficiency as the system scales.

In being software-defined, the Rubrik solution can be deployed on industry standard server hardware and commodity storage devices. It is sold as pre-integrated appliance nodes through Rubrik partners, as a software-only appliance that can run on customers' hardware, and it is available to run in popular public cloud environments. Additionally, it has achieved the AWS Outposts Ready designation.

On-premises, Rubrik scales linearly, increasing capacity and performance as nodes are added. A flash tier is used to store metadata and host instant restores. A configurable, parity-based erasure coding schema is used to increase effective storage capacity while improving fault tolerance and data resiliency. To optimize storage utilization, the Rubrik Cloud-Scale File System provides content-aware, global deduplication and compression. Rubrik's append-only file system and support for Amazon S3 Object Lock write-once-read-many (WORM) control facilitate immutability.

Rubrik stores an initial copy of each data object, then captures changes with snapshots that are journaled in an incremental forever process that enables near-real time recovery. Asynchronous replication and DR are provided for off-site data recovery using the same policy engine that controls backup and archival schedules (data can be migrated and intelligently archived to the public cloud via API). Secondary use cases (e.g., test

Highlights

- Data storage and management solution using scale-out architecture
- Supports storage consolidation and comprehensive data protection and archive
- Deployed as an integrated physical or virtual appliance – or in the cloud
- Inline global deduplication, compression
- Near-zero RTOs with instant restores
- Indexing and archiving of billions of files
- Immutability, ransomware and sensitive data analytics, and data isolation

and development) are supported through the creation of multiple point-in-time copies of data sets via zero-byte clones.

In May 2021, Rubrik added an automated mass recovery capability to allow applications to be recovered more quickly, at scale. The company also introduced a cloud-based disaster recovery tool that uses application blueprints and resource mapping to automate (and as a result accelerate) the recovery process. The tool encompasses all application components, the compute, storage, and networking resources required to run the application, and resource mapping including workload dependencies.

To bolster its ransomware resiliency capabilities, Rubrik offers two-factor authentication, and API-level integration with automation frameworks, including Palo Alto Networks Cortex XSOAR and ServiceNow Incident Response. Rubrik also offers machine learning-based analytics for insights into data risk (e.g., suspicious changes to data such as mass deletion or encryption activity) and user behavior (e.g., what sensitive data is in use and who has access to it). Rubrik Cloud Vault is an Azure-based service offering a logical air gap with retention lock controls. The customer sets up their data archive policies, as well as the Azure tier and region they would like to use, and Rubrik manages the day-to-day operations. This reduces operational complexities and user errors such as misconfigured user credentials. Rubrik also offers a \$5 million ransomware recovery warranty for Rubrik Enterprise Edition to cover expenses related to data recovery and restoration if data protected by Rubrik cannot be recovered following a ransomware attack. The customer works with a Rubrik Customer Experience Manager to validate implementation of security best practices, such as restricted user and application access, end-to-end data encryption, and hardened API security.

Usage and Deployment

Rubrik is typically deployed first as a backup and recovery solution and then expanded to include other services such as DR, archive, and copy data management. Rubrik can simplify data management by using APIs to integrate with various orchestration and workflow tools.

Rubrik is licensed in Foundation, Business and Enterprise Editions, with the Enterprise Edition offering the most robust suite of capabilities including Rubrik's Ransomware Investigation, Incident Containment, Sensitive Data Discovery and Orchestrated Application Recovery services. All are offered as three-year subscription payment models for required hardware, software, and support (pre-integrated appliance solution via channel partners). It also can be installed as a Cloud Cluster in public clouds such as AWS and Azure. Rubrik GO adds an evergreen refresh at the time of renewal. Additional services including NAS Cloud Direct, and Microsoft 365 Protection may be licensed, and customers may transfer their license to the cloud at any point during the subscription term for no additional charge.

Rubrik Edge is a virtual appliance version for VMware vSphere and Microsoft Hyper-V. Edge provides local backup for all supported operating systems and platforms including virtual machines (VMs), physical servers and storage systems. Edge replicates backups to a Rubrik cluster in the central data center and/or archives data to a public or private cloud.

- Characteristics
 - Scale-out, software-defined storage for data protection, archive and other secondary storage workloads
 - NFS, SMB, iSCSI, S3, REST
 - Capacity optimization
 - Inline, global deduplication and compression.
 - Erasure coding for efficient data resiliency
 - Supports all archival classes of public cloud storage, including instant tiering to AWS Glacier Deep Archive
 - Data Protection and High Availability
 - Remote replication – site-to-site, many-to-one, site-to-cloud
 - Can support multiple replication targets
 - Security
 - Software-based encryption for data in-flight and either software-based or self-encrypting drives for data at rest
 - Global Multi-Factor Authentication (MFA)
 - API-driven integration with Palo Alto Networks' Cortex XSOAR security orchestration, automation and response (SOAR) platform
 - Sensitive Data Discovery
 - Automatic identification and classification of sensitive data, including Personal Identifiable Information (PII)
 - Immutability
 - Append-only file system
 - Support for Amazon S3 Object Lock write-once-read-many (WORM) control
 - Logical air gapping
 - Rubrik Cloud Vault based on Azure
 - Features
 - Instant, native access to backups
 - Index and search capabilities
 - Copy data management capabilities
 - Windows Bare Metal Restore
- Applications
 - Embedded backup, disaster recovery and archive
 - Cloud tiering to leading public clouds such as AWS, Azure, Google Cloud and Oracle Cloud
 - Integrates with Rubrik Polaris, a SaaS platform for data management applications
- Supported host environments
 - VMware, Windows servers, Linux servers, UNIX (AIX, Solaris) servers, MS SQL Server, Oracle DBMS, SAP HANA
 - Cassandra databases via Datas IO acquisition

- VMware environments can be protected across AWS, Azure, Google and VMware Cloud on AWS
- Hypervisor support – VMware, Hyper-V, AHV
 - Includes backup and recovery for Nutanix Files, Live Mount for AHV
- Public/private cloud connectivity via S3
- Tape support through QStar
- AWS EC2 and Microsoft Azure environments, including Oracle databases hosted on these clouds.
- Google Cloud environments, including VMs, file sets and automated discovery and backup of SAP HANA on Google Cloud via SLA-based policies.
- Kubernetes containerized environments.
- AWS RDS, Microsoft 365, and Google Cloud sources

Evaluator Group EvaluScale™: Rubrik Security Cloud

Evaluator Group product review methodology “EvaluScale” assesses each product within a specific technology area. The definitions of the criteria and explanations of how products are reviewed can be found in the [Evaluation Guides](#).

	Criteria	Description	Requirement	EG View of Rubrik	Explanation for Rubrik
1	Model Options	Variety of available appliance models and configurations.	"Meets Requirements" : Two or three models. "Exceeds" : More than three models of varying size/capabilities.	Exceeds requirements	Multiple models including a virtual appliance provide deployment flexibility.
2	Performance	Resources and design elements to maximize performance.	"Meets Requirements" : Published vendor test performance numbers. "Exceeds" : Published standard benchmark performance numbers.	Meets requirements	Performance scales linearly with capacity growth, but no standard performance data is available.
3	Scalability	Using the model options available and the capabilities of the software, includes total compute and storage capacities and how flexibly and efficiently they scale.	Virtual Tape Library (VTL) : "Meets Requirements" : Supports >50 VTLs, 500 virtual drives, 500K tapes. "Exceeds" : Supports >100 VTLs, 1,000 virtual drives, 1 million tapes. Backup-to-Disk : "Meets Requirements" : Can scale to >1PB. "Exceeds" : Can scale to >5PB.	Exceeds requirements	The ability to scale to an unlimited number of nodes is an architectural design point for Rubrik. Scaling after the initial configuration is one node of any size or generation.

4	Vendor/Product Stability	Assesses company viability and stability, product longevity (incl. the stage of product lifecycle), and the number and type of partnerships.	Judgement-based. "Meets Requirements" typically requires more than five years of company existence and product general availability (GA); "Exceeds" typically requires more than 15 years.	Meets requirements	While the Rubrik solution is solid, and its current success impressive, this company is still new compared to most peers (albeit well-funded and highly valued company) in a data protection market that has historically favored traditional technologies and established players.
5	Economics	Evaluates the cumulative impact of system architecture, data reduction, and overall ecosystem costs (e.g. software licensing) on the economics of the solution (capex and opex).	"Meets Requirements" : Single price for the system. If software is licensed separately, requires the option for an enterprise license agreement (ELA) or for software to be licensed per TB. "Exceeds" requires published TCO numbers and the option for consumption-based purchasing – in addition to "Meets" criteria.	Meets requirements	Uses commodity servers with industry standard components. Data reduction across all nodes improves efficiency and lowers storage costs.
6	Protocols / APIs / Cloud Tiering	Protocol support for data access, and for public cloud connectivity.	"Exceeds Requirements" : Supports a combination of NFS, CIFS/SMB and S3, and/or special protocols (e.g. the Open Storage Technology or OST protocol). REST API support is needed to integrate with and to automate data transfer to/from the cloud. "Meets" : Missing support for any and only one protocol under "Exceeds."	Meets requirements	Supports NAS (NFS, CIFS/SMB), Amazon S3. REST API is provided as is support for cloud tiering for off-site copies and long-term retention.
7	Data Reduction	Deduplication, compression, thin provisioning; inline versus post process.	"Meets Requirements" : Includes both compression (typical L-Z or variant) and deduplication. "Exceeds" : Includes a second-pass data reduction algorithm or other advanced feature, as well as compression and deduplication.	Meets requirements	Rubrik deploys a variety of data reduction techniques including thin provisioning, inline deduplication and compression across all the data in the system
8	Data Resiliency	Evaluates the cumulative impact of the system's data resiliency features	"Exceeds Requirements" : Provides transparent high availability (failure recovery in <30 seconds). Includes RAID/erasure coding for device failure and remote replication.	Meets requirements	The scale-out architecture provides no single point of failure. Erasure coding is used across the nodes in the cluster. Replication provides additional resiliency.

		including protection from device and node failure (e.g. high availability, RAID and erasure coding) and cluster availability. Includes replication and snapshots.	" Meets ": Includes all "Exceeds" requirements, but failure recovery is >30 seconds.		
9	Data Security	Security of data in flight and at rest.	" Meets Requirements ": Data encryption in flight and at rest, with self-contained keys and write once read many (WORM) protection. " Exceeds ": Includes "Meets" criteria as well as Key Management Interoperability Protocol (KMIP) protocol support and crypto shredding.	Meets requirements	Encryption for both data in flight and for data at rest is available. Some models are FIPS 140-2 compliant.
10	Advanced Features	Additional functionality that provides unique or advanced, value-add efficiency or management capabilities.	Judgement-based. " Meets Requirements " typically includes integration with other management software. " Exceeds " typically includes system-controlled copy for ransomware (not host-accessible) or other unique features - in addition to integration with other management software.	Exceeds requirements	Index and search capabilities. Copy Data Management features. Integrates with a variety of third-party software offerings including Morpheus.

Evaluator Group Opinion: Differentiating elements for Rubrik Security Cloud

Rubrik helped to propel interest in the scale-out data protection market with Cloud Data Management. Rubrik positions Cloud Data Management as a software-defined platform that unifies backup, recovery, replication, compliance, search, analytics, and copy data management all in one. Its platform supports physical, virtual, container and cloud environments. It emphasizes software rather than hardware aspects of the platform, but it does offer Cloud Data Management as an integrated appliance based on partners' hardware, and as branded appliances based on commodity hardware because many IT organizations want to acquire scale-out data protections systems this way.

More than most of the competitors in this market, Rubrik leverages VM images as a foundation to providing capabilities around application data, cloud mobility, and data analytics, making the company very focused and successful on the backup and management of VMs. Rubrik has an API-first architecture which means it uses its own APIs for development and for plugging into orchestration tools like ServiceNow and for interfacing with the cloud.

Rubrik uses an SLA-based approach to replication, archiving and location based on RTO and RPO objectives. Customers define an SLA (gold, silver, bronze, etc.) for each protected object and an internal intelligence engine drives activity from there. Data copies in the Rubrik system have native immutability based on the Rubrik architecture which provides ransomware recovery and can offers write once ready many (WORM)-like capabilities. Rubrik Andes 5.2 added the ability for snapshots to be placed on indefinite hold, for additional compliance and security.

One set of customers that Rubrik is focused on is MSPs, who have had success in differentiating themselves by building their offerings on top of Rubrik Cloud Data Management. According to Rubrik, many of these MSPs are using Rubrik appliances in their data centers.

Rubrik as a company is extending into the realm of data management with its SaaS platform for data management, Polaris. More details on this effort and Polaris are covered in Evaluator Group's separate Multi-Cloud Data Management Product Brief.

Like any startup in this space, Rubrik competes with traditional data protection vendors and long-established backup processes in many organizations. As IT organizations reevaluate their data protection strategies as part of an overall digital transformation, scale-out solutions like Rubrik will be part of the discussion. For customers looking to evolve data protection into broader data management, Rubrik's Cloud Data Management solution and strategic directions offer a differentiated approach.

Information that is more detailed is available at <http://evaluatorgroup.com>

Copyright 2023 Evaluator Group, Inc. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or stored in a database or retrieval system for any purpose without the express written consent of Evaluator Group Inc. The information contained in this document is subject to change without notice. Evaluator Group assumes no responsibility for errors or omissions. Evaluator Group makes no expressed or implied warranties in this document relating to the use or operation of the products described herein. In no event shall Evaluator Group be liable for any indirect, special, inconsequential or incidental damages arising out of or associated with any aspect of this publication, even if advised of the possibility of such damages. The Evaluator Series is a trademark of Evaluator Group, Inc. All other trademarks are the property of their respective companies.