COMMVAULT

SOLUTION BRIEF

Protecting Your Most Valuable Asset, Your Data, with Commvault HyperScale™ X

Data is critical to your business and a lucrative target for bad actors. Data protection and security have always been core for business continuity, compliance, cost control, and productivity. With the staggering rise in cyberattacks, supporting a work-from-anywhere workforce, and the need to navigate increasingly complex hybrid environments, the pressure is on to achieve comprehensive security and protection across all layers of the technology stack. This requires a much more active and expanded set of data management services than most organizations currently have in place.

Increasingly, backup and recovery platforms are at risk to cyber threats, including ransomware. Organizations need an immutable architecture to ensure their data is safe and secure, and more importantly, ready whenever they need to restore it.

Why the need for immutable architecture?

With cyber threats becoming increasingly sophisticated, having a multi-layered approach to securing your data dramatically reduces the risk and impact to your organization. As part of this approach, a proven technique for reducing the attack surface on your backup data is immutability. Ensuring backup copies are immutable and cannot be altered or encrypted by ransomware is critical. But immutability must also be cost-effective and flexible for use in any environment on-premises, in the cloud, or any combination. Immutability ensures the backups are safe, secure, and available for restoration.

Definition of immutable: Not capable of or susceptible to change.
Merriam-Webster[1]

The time is now for immutability

Immutability is a vital component of multi-layered security and Zero Trust Principles, and it is now easier than ever to add to your data protection strategy. Ensure you have these benefits:

- **Storage locks:** Prevent random changes or modifications to your backup storage from external threats and unauthorized users.
- **Application locks:** Control roles and permissions to prevent unauthorized access to data.
- **Infrastructure locks:** Use standardized hardening guidelines and the best available information to close infrastructure gaps and pre-harden storage whenever possible.
- **Air gap and isolation:** Isolate data targets through network segmentation to reduce the likelihood of ransomware or unauthorized users gaining access to backups.
- **Data validation:** Continuously validate backup integrity within applications and storage levels, and take corrective action if corruption occurs.

1 Merrian-Webster https://www.merriam-webster.com/dictionary/immutable#:~:text=Merriam-Webster

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Commvault makes immutability easy

Commvault data management and protection software provides multi-layered security and zero trust principles with immutable architecture to protect, detect, and recover from ransomware. Commvault HyperScale™ X makes it easy to implement an immutable architecture as an integrated appliance or reference design for an all-in-one solution. Now you have a modern approach to being recovery ready.

Introduction to Commvault immutable architecture

Commvault employs a multi-layered approach to protect against various threat vectors and ensure data is safe. Also, Commvault includes storage locking and controls up and down the backup and recovery stack to provide comprehensive protection. Commvault's machine learning platform extends the immutable protection capabilities by providing a proactive platform for detecting and responding to threats accordingly. At a high level, Commvault's immutable architecture includes these five layers:

Commvault's immutable architecture

Storage I/O controls (Ransomeware lock)	Lock storage by monitoring I/O requests and only allowing access to authenticated and authorized Commvault binaries
Zero trust AAA controls (Authentication, authorization, auditing)	Continuously validate trust and monitor access requests using multi-level authentication controls
Infrastructure hardening	Harden infrastructure using CIS and STIGS to reduce the attack surface
Zero trust isolation and air gap	Segment, compartmentalize and air gap backup data using TLS encrypted network topologies reducing the attack surface
Data validation	Data validation using CRC, and Commvault HyperScale file system erasure coding

Commvault HyperScale™ X for greater immutability

Commvault HyperScale™ X accelerates hybrid cloud adoption with an integrated solution that delivers comprehensive data management for all workloads from a single, extensible platform. With Commvault HyperScale™ X, you can leverage the entire Commvault software portfolio giving you access to all the features, functions, and industry-leading integration with applications, databases, public cloud environments, hypervisors, operating systems, NAS systems, and storage arrays. Wherever your data resides, you may view it, use it, and confidently protect it. Its flexible architecture allows you to get up running quickly and scales as your needs demand while addressing these five areas:

- **Storage locks:** Backup recovery point data is never changed or modified, only appended providing additional security for your data.
- **Application locks:** Secure access is accomplished through authenticated role-based access control (RBAC) service segmenting roles and privileges and multi-factor authentication (MFA) which limit exposure and mitigate risk to your organization's data.

- **Infrastructure locks:** Provides multiple layers of immutability across the software, OS, and file system to help prevent protected data from being accidentally or maliciously encrypted, modified, or deleted, helping you recover data in the event of an attack.
- **Air gap and isolation:** Zero trust architecture combined with segmented, compartmentalized, and isolated data using TLS encrypted network topologies reduces attack surface. Metallic® Recovery Reserve™ provides additional air gapped options preventing users from directly accessing or changing data.
- **Data validation:** Part of data lifecycle management that automatically verifies on read and validation policies with audits and alerts.

A modern approach to immutable architecture

Commvault takes data security and protection seriously. Commvault Hyperscale™ X has an immutable architecture built on a deeply layered system of controls that work together to harden data against ransomware, cyber threats, and bad actors. It is a modern approach to being recovery ready. And that is the immutable truth.

Learn more: **Commvault Hyperscale™ X provides greater data security and protection with an immutable architecture >**