UPC Cyber vault

UNITEDLAYER®

AI-POWERED CYBER RECOVERY

When the backups are gone, this one is not.

Air-gapped isolation with **WORM immutability and AI-driven validation** for guaranteed data restoration — powered by United Private Cloud's intelligent layer.

Immutable **Isolated** **Validated** **Recoverable**

THE CHALLENGE

Ransomware stopped attacking data. It attacks recovery.

For years the defence against ransomware was simple: restore from backup and refuse to pay. Attackers adapted. Modern intrusions locate and destroy the backups first, then encrypt production — because an organisation that cannot restore is an organisation that negotiates.

Backup-hunting is now standard

Current ransomware families enumerate and delete backup repositories and snapshots before encryption begins. A backup reachable from production is a backup an attacker can reach.

One compromised admin is enough

If backups authenticate against the same directory as production, stolen domain-admin credentials delete the backups as easily as they encrypt the data.

Policy immutability can be switched off

Retention enforced by a backup application's policy is only as durable as the account that administers it. Immutability has to live at the storage layer, not in a setting.

Restoring fast can restore the payload

Dwell time is often measured in weeks. The most recent recovery point is frequently the most infected one, so speed without validation reintroduces the attacker.

WHAT CYBER INSURERS NOW EXPECT

- Storage-layer immutability
- Credentials separated from domain admin
- Air-gapped or isolated copy
- Evidence of recent restore testing
- Documented recovery procedure

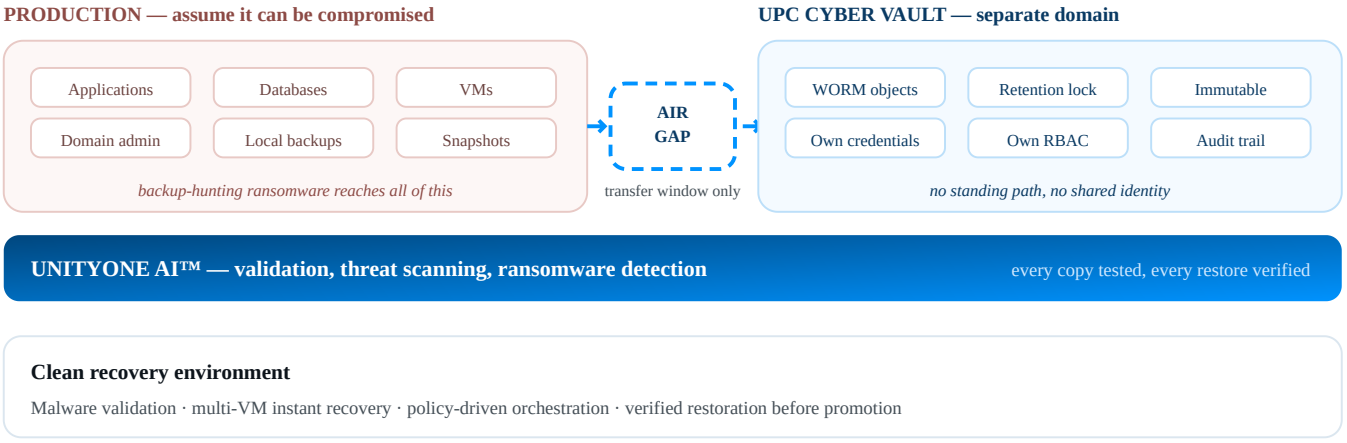
THE GAP

A backup your administrators can delete is a backup your attackers can delete. The last clean copy has to be beyond both.

THE ANSWER

A separate domain, not another backup tier

UPC Cyber vault is a secure, isolated, ransomware-resilient recovery environment. It holds copies that cannot be altered, in a domain that shares no identity and no standing network path with production — and it validates that those copies will actually restore.



The vault is not another backup tier. It is a separate domain with its own identity, its own storage rules, and no standing route back to production.

FIGURE — WHERE THE VAULT SITS

Immutable

Tamper-proof, WORM-enabled backups stored directly on scalable object storage. Protected from deletion, encryption, or unauthorized modification.

Isolated

Logically segmented recovery domain with hybrid cloud integration and automated DR orchestration to prevent lateral threat propagation.

Ransomware-resilient

Secure and restore with malware validation and multi-VM instant recovery to minimize RTO and ensure clean, verified data restoration.

BUILT FOR THE AI ERA

The vault that checks its own work

An untested backup is a hypothesis. UPC Cyber vault applies the United Private Cloud intelligent layer to the one question that matters during an incident: will this copy actually restore, and is it clean?

AI-driven validation

AI automatically tests every backup, ensuring restorability and catching corruption before disaster strikes — rather than discovering it during recovery.

AI threat scanning

AI continuously scans for malicious code, zero-day threats, and suspicious patterns before they cause harm, so infected copies are identified rather than promoted.

AI ransomware detection

AI detects ransomware in real time by spotting encryption patterns, blocking attacks before data is locked.

UNBREAKABLE SECURITY

Air-gapped isolation

Air-gapped infrastructure with immutable storage, so there is no standing route from a compromised production estate into the recovery domain.

Immutable storage

Tamper-proof backups that cannot be deleted, encrypted, or modified — enforced at the storage layer rather than by an application policy.

Instant recovery

Minimize downtime with policy-driven orchestration that restores data near-instantly, including multi-VM recovery for whole service groups.

Zero Trust framework

Strict identity-based controls and continuous verification — never trust, always verify — applied to the vault as a domain in its own right.

99.999%
High-availability compute, N+M

WORM
Storage-layer immutability

24×7
Security and expert support

0
Target recovery errors

THE ARCHITECTURE

Built on 3-2-1-1-0

The widely used backup standard has gained two digits in the ransomware era. The last two are the ones that decide whether recovery works — one immutable and air-gapped copy, and zero errors when it is restored.

3	2	1	1	0
copies	**media types**	**offsite**	**immutable & air-gapped**	**recovery errors**
Production data, a local backup, and the Cyber vault copy	Primary all-flash storage plus WORM object storage	Vault held in a physically separate facility	WORM enforced, no standing network path	Restore testing with verified, clean results

HOW DATA MOVES

STAGE	WHAT HAPPENS	WHY IT MATTERS
1 · Production write	Data written to primary storage with replication	Normal operations, unchanged
2 · Transfer window	Scheduled jobs copy data into the vault during a deliberate, time-limited window	Connectivity exists only when initiated, never standing
3 · WORM enforcement	Vault storage locks objects for their retention period	Copies cannot be modified or deleted, by anyone
4 · Validation	AI tests restorability and scans for malicious code and encryption patterns	A corrupt or infected copy is identified before it is needed
5 · Air-gap maintained	The path closes; the vault holds its own identity and RBAC	Compromising production does not reach the vault
6 · Recovery	Verified data restored into a clean environment with orchestration	Restoration is clean, ordered, and measurable

HOW IT DIFFERS

Cyber vault versus a traditional backup

Most organisations already have backups, and most of those backups share the weakness that matters: they live where the attacker will be.

DIMENSION	TRADITIONAL BACKUP	UPC CYBER VAULT
Immutability	Policy-based, and a policy can be switched off by whoever holds the credentials	**Storage-layer WORM — objects cannot be altered until retention expires**
Network position	Connected to the production network and reachable from it	**Logically air-gapped, with connectivity only during initiated transfer windows**
Identity	Authenticates against the same directory as production	**Dedicated vault credentials and separate RBAC, isolated from production identity**
Administrator reach	An administrator, or anyone impersonating one, can delete backups	**Admin-proof — destructive operations require time-delayed, approved unlock**
Ransomware behaviour	Enumerated and destroyed before encryption begins	**Survives backup-hunting because it cannot be reached or altered**
Restore confidence	Restorability assumed until the day it is tested for real	**AI-validated copies with malware scanning and verified restoration**
Insurance posture	Often falls short of current backup requirements	**Aligned to immutability, credential isolation, and restore-testing expectations**

THE DISTINCTION

A backup protects you from failure. A vault protects you from an adversary who is already inside.

USE CASES

Where the last clean copy is the whole plan

Financial services

Challenge: regulatory mandates require immutable backups and demonstrable cyber-resilience testing.
Solution: WORM storage, recovery validation, and tamper-evident audit trails supporting PCI DSS obligations.

Healthcare

Challenge: PHI must be protected from ransomware, and downtime carries clinical consequence.
Solution: a clean copy of patient data that survives any attack, with orchestrated recovery for tier-one clinical systems.

Government & defence

Challenge: sensitive information requires sovereign residency and tightly constrained personnel access.
Solution: vault held within the sovereign perimeter with residency-specific access controls and in-boundary audit.

AI labs & data teams

Challenge: training datasets and model weights are high-value targets and expensive to reconstruct.
Solution: immutable, air-gapped protection for model artefacts and training data alongside the applications that use them.

PART OF UPC PROTECT

Cyber vault is one of four services in the UPC Protect platform. Each addresses a different point on the same timeline.

SERVICE	ROLE IN CYBER RESILIENCE
Security	Zero Trust architecture, IAM, PAM, and secrets vault — prevents attackers gaining initial access
Disaster Recovery	Orchestrated DR with policy-driven replication and automated failover — ensures rapid recovery
Backup	Point-in-time protection with application-quiesced snapshots — provides granular recovery options
Cyber vault	Immutable, air-gapped recovery vault — ensures at least one clean copy always survives

GETTING STARTED

Three ways to deploy it

Within UPC Protect

Included as one of four services in the UPC Protect platform, available as part of a complete United Private Cloud license.

As a standalone vault

Deployed as a standalone service for existing United Private Cloud customers needing enhanced cyber resilience.

Inside a sovereign perimeter

Deployed within the sovereign boundary where GDPR and similar requirements apply.

PLANNING CONSIDERATIONS

DIMENSION	WHAT TO DECIDE
Vault sizing	Typically a proportion of production capacity for tier-one systems, varying with recovery objectives and retention
Retention policy	Configurable from short operational windows to multi-year retention, driven by compliance mandates
Transfer windows	Scheduled backup windows with optional controlled override for emergency transfers
Recovery objectives	Tiering aligned to business impact, with orchestrated failover runbooks for the systems that need them
Validation cadence	Regular restore testing with verified results, producing the evidence auditors and insurers request

BOTTOM LINE

When attackers delete the backups, encrypt production, and demand payment — Cyber vault is how you recover without paying.

Ready to test your last clean copy?

Book a Cyber vault architecture review, or run a ransomware recovery simulation with our team.

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Product positioning and capability descriptions reflect UnitedLayer published materials for UPC Cyber vault, together with general industry practice in immutable and air-gapped backup architecture. Retention behaviour, isolation model, approval workflows, sizing, availability figures, and regulatory alignments vary by configuration and contract and should be confirmed for your deployment. Cyber insurance requirements vary by insurer and policy. UnitedLayer®, United Private Cloud®, UNITYONE AI™, and UnitedSecure™ are marks of UnitedLayer.

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