



PQC Adoption in Vaulting Services: Strategic Insights for HNDL Defense

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Executive Summary

This document provides a market research overview of how physical vaulting companies—specifically Iron Mountain and Vital Records, Inc. (VRI)—are addressing the rising threat of Harvest Now, Decrypt Later (HNDL) attacks. Post-Quantum Cryptography (PQC) offers a forward-looking encryption strategy to future-proof archived data from quantum threats. While traditional vaulting companies are not yet providing PQC-enhanced offerings, adjacent vendors like Commvault, Entrust, and Unisys are actively deploying PQC solutions for healthcare and government applications.

Review of Vaulting Providers

Iron Mountain

Iron Mountain offers secure physical and digital storage but does not currently provide PQC capabilities. Its pricing model is based on volume (per cubic foot or TB), access frequency, and transport logistics. There is no line item for quantum-resistant encryption or PQC upgrades. Classical encryption is the standard.

Vital Records, Inc. (VRI)

VRI focuses on long-term archival storage and transportation of media assets in environmentally controlled vaults. Similar to Iron Mountain, VRI has not introduced PQC options for protecting vault contents against quantum threats. Pricing follows traditional models based on storage volume and service frequency.

Alternative Vendors Offering PQC-Related Services

Commvault

Commvault provides encrypted backups and secure storage solutions and has integrated quantum-resistant encryption (HQC) into their offerings. Healthcare entities like the British Medical Association and government departments such as the Nevada DOT use Commvault to mitigate HNDL risks. PQC services are included within their enterprise license model.

Entrust (nShield HSM)

Entrust offers hardware security modules (HSMs) and Post-Quantum Public Key Infrastructure (PKI)-as-a-service, targeted at clients in government, healthcare, and finance. Entrust's PQC offerings include NIST-approved lattice-based cryptography such as CRYSTALS-Kyber and Falcon. Pricing is subscription-based and scaled to HSM capacity.

Unisys

Unisys provides cryptographic assessments and PQC implementation services to defense and public-sector clients. Services include secure roadmap development and cryptographic migration planning. Pricing is consultancy-driven and scoped by engagement size and compliance level.

Case Studies in PQC Deployment

- British Medical Association (Healthcare): Deployed Commvault's HQC algorithm for secure long-term backup.
- Nevada Department of Transportation (Public Sector): Implemented hybrid PQC encryption with Commvault.

- Government Agencies (Defense): Entrust nShield HSMs deployed in classified cryptographic environments.

Analogy: Locking a Vault for the Future

Consider a physical vault as a medieval castle. Today's encryption is like a steel gate—imposing but eventually penetrable. PQC is like a quantum-resistant force field—designed to stop tomorrow's siege weapons. Vaulted data encrypted today without PQC is vulnerable to being copied and cracked once quantum computers mature.

PQC Pricing Insights

- Iron Mountain / VRI: No PQC pricing offered; classical vaulting fees apply.
- Commvault: PQC included in enterprise license (~\$200–500/TB/year depending on tier).
- Entrust: PQC HSMs available via subscription (~\$15K–50K/year based on configuration).
- Unisys: Engagement pricing (typically starting at ~\$75K+ for full PQC assessment and planning).

Conclusion

Physical vaulting companies have yet to adopt PQC services to address HNDL threats. However, adjacent vendors like Commvault and Entrust offer viable PQC solutions for organizations looking to protect mission-critical data archives. Forward-thinking procurement teams should initiate PQC evaluations, particularly for data subject to long-term regulatory, privacy, or national security compliance.