IBM Storage Defender Data Protect and IBM Storage Deep Archive

IBM Storage Deep Archive on Diamondback brings a low cost tape offload solution that integrates with IBM Storage Defender Data Protect.

Highlights

Data Protect has integration with Deep Archive on Diamondback for efficient data lifecycle management

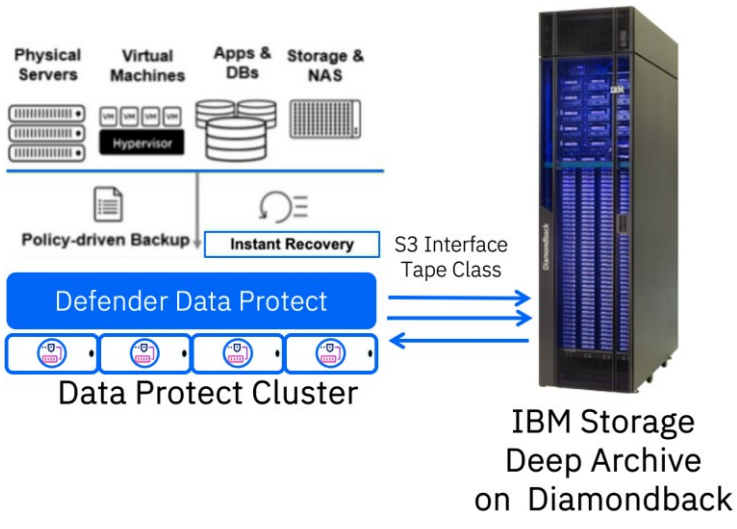
S3-compatible tape storage enables secure and cost-effective long-term archival

Air-gap immutable tape backups enhances cyber resilience

Lowers data protection TCO

IBM Storage Defender Data Protect and IBM Storage Deep Archive on Diamondback together deliver an integrated, future-ready solution for enterprise data resilience and long-term retention. Data Protect provides robust, policy-driven backup and recovery across hybrid cloud environments, while Diamondback Deep Archive introduces a scalable, on-premises S3-compatible tape storage platform. This seamless integration enables organizations to efficiently move backup and archival data from Data Protect clusters directly to the high-density tape of Diamondback, via standard S3 object storage interfaces, ensuring that critical information is both protected and cost-effectively preserved for the long term.

For IBM customers already leveraging Data Protect, adding Diamondback Deep Archive extends data lifecycle management with ultra-low-cost, cyber-resilient tape storage that is fully compatible with modern object storage workflows. Conversely, organizations with Diamondback in place can now unlock advanced data protection and automated archiving through the flexible policies and unified management of Data Protect. For those utilizing both solutions, the pairing maximizes operational efficiency, enhances cyber resilience with air-gapped protection, and dramatically reduces total cost of ownership-empowering clients to safeguard their data assets while simplifying compliance and recovery processes.



IBM Storage Defender and Data Protect

IBM Storage Defender
IBM Storage Defender delivers end-to-end data resilience through a unified approach to cyber threat protection, backup management, and rapid recovery. As a comprehensive solution, it combines policy-driven automation, multilayered security, and hybrid cloud support to safeguard critical workloads against ransomware, malware, and infrastructure failures. Its credit-based licensing model (resource units) provides flexibility, allowing organizations to select only the required capabilities-such as immutable snapshots, air-gapped tape integration, and cross-environment replication-while minimizing costs. By consolidating data protection, copy management, and threat detection under a single offering, it simplifies compliance and accelerates recovery across on-premises, edge, and cloud environments.

IBM Storage Defender Data Protect
Data Protect backup is a core capability of the IBM Storage Defender solution, specializing in high-performance backup and recovery with near-zero RPOs and near-instant RTOs. It supports cloud-native, database, and virtualized workloads through AI-driven anomaly detection, global deduplication, and immutable snapshots stored in a secure file system. The solution's S3-compatible architecture enables seamless integration with archival systems like IBM Diamondback Tape Library, while its API-first extensibility ensures compatibility with modern IT ecosystems. By combining granular recovery controls, continuous data protection, and automated tiering to cost-effective storage, Data Protect helps organizations reduce operational overhead and maintain business continuity against evolving cyber threats.

IBM Deep Archive on Diamondback

97%

energy consumption reduction[1]

IBM Diamondback Tape Library
IBM Diamondback Tape Library is a high-density, next-generation tape storage solution designed for modern data centers. It supports up to 1,548 LTO-10 or LTO-9 cartridges in a single-frame, server-rack design, delivering up to 46 PB uncompressed (115 PB compressed) capacity with LTO-10. Up to 14 LTO-10 or LTO-9 drives for high-performance data access. Key features include simplified management via REST API or browser-based GUI, automated fail-over, AES-256 encryption, WORM media support, NVME cache to optimize data ingest, and ultra-high-density storage slots for minimal footprint. Its self-service design and customer-replaceable units (CRUs) minimize downtime, making it ideal for scalable, secure, and energy-efficient archival needs.

IBM Storage Deep Archive solution
IBM Storage Deep Archive integrates S3-compatible object storage with the tape infrastructure of Diamondback, offering a cost-effective, on-premises alternative to cloud archival services. It supports industry-standard S3 Glacier Flexible Retrieval APIs for seamless integration. The solution includes AES-256 encryption, air-gapped security, and efficiencies reducing energy use by 97%[1]. With preconfigured hardware/software and single-point support, it simplifies deployment for cold data retention while maintaining rapid access (13.7 TB/hour throughput).

IBM solution unity

Data resiliency and immutable air-gapped storage

In an era of escalating cyber threats and stringent regulatory frameworks, data resiliency has become a cornerstone of enterprise strategy. Immutable, air-gapped storage ensures data remains unaltered and physically isolated from network-based attacks, providing a critical layer of defense against ransomware and malicious tampering. Solutions like IBM Storage Defender Data Protect integrate immutable snapshots and policy-driven automation to create recovery points that cannot be deleted or encrypted by attackers, while IBM Storage Deep Archive on Diamondback Tape Library adds an offline, S3-compatible air-gap-effectively breaking the attack chain. Together, they address the growing regulatory emphasis on verifiable data integrity, such as SEC Rule 17a-4(f) and GDPR, which mandate tamper-proof retention and rapid recovery to avoid penalties that can reach millions of dollars per incident.

Complementary strengths for cyber resilience

IBM Storage Defender Data Protect and Diamondback Deep Archive form a unified defense-in-depth architecture. The AI-driven anomaly detection and granular recovery capabilities of Defender ensure rapid response to threats, while the encrypted, offline tape storage of Diamondback provides a final bulwark against data exfiltration. This pairing enables organizations to tier data dynamically keeping active backups on high-performance storage and automatically archiving older data to cost-efficient tape via S3 Glacier Flexible Retrieval APIs. The integration has been rigorously validated, with IBM demonstrating seamless interoperability between the S3 object lock validation of Data Protect and the S3 interface of Diamondback, ensuring compliance-ready workflows that meet financial and healthcare sector requirements.

Lowering TCO and meeting protection goals

By combining the policy-driven automation of Data Protect with the ultra-high-density tape infrastructure of Diamondback, organizations can achieve up to 97% energy consumption reduction versus HDD-based archives[1], aligning with sustainability mandates while maintaining 13.7 TB/hour retrieval speeds for compliance audits or AI-driven analytics. Government agencies and enterprises benefit from a solution that not only mitigates ransomware risks but also streamlines compliance reporting a critical advantage given rising penalties for data breaches, such as HIPAA's $1.5M annual caps for negligence[2].

IBM tested interoperability

IBM has validated the end-to-end resilience of this architecture, including the integration of Data Protect to the Diamondback Deep Archive via S3 Glacier storage class and automated tiering workflows. The combined solution's preconfigured hardware/software stack minimizes deployment complexity, enabling clients to operationalize cyber-resilient archives without specialized tape expertise.

Why IBM?

IBM offers a vast portfolio of hardware, software and services to help organizations cost-effectively address their IT infrastructure needs. These include robust data-storage solutions to enable always-on, trustworthy storage, and recovery from disaster. Because business needs shift, IBM solutions emphasize interoperability and the integration of new use cases or approaches, from analytics to multi-site backup to near-instant recovery. With IBM, organizations can create flexible, robust and resilient storage infrastructure to support critical operations for smooth operations and regulatory compliance.

For more information

To learn more about IBM Storage Sentinel, contact your IBM representative, IBM Business Partner, or visit:

- https://www.ibm.com/products/storage-defender
- https://www.ibm.com/products/storage-defender/data-protect
- https://www.ibm.com/products/diamondback-tape-library
- https://www.ibm.com/products/deep-archive

1. OCP Bryce Canyon high density HDD storage at the same capacity: 27PB, 16TB HDD, 3 JBOD to 1 controller: total energy usage per year estimated 115,590 kWh compared to IBM Diamondback at 27PB, 4 tape drives: total energy usage 2,367 kWh. http://files.opencompute.org/oc/public.php?service=files&t=eddcffbce54dba60f72bcf0721ffe6b4
2. https://www.hipaajournal.com/what-are-the-penalties-for-hipaa-violations-7096/

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