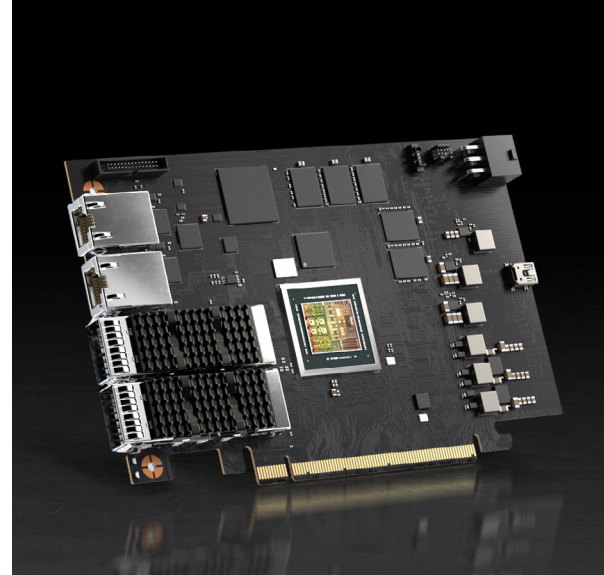Solution Overview

NVIDIA.

Post-Quantum Security with NVIDIA DPUs and Morpheus

Mitigate data breaches and exfiltration threats in your organization.

> "Bloombase and NVIDIA's collaboration unlocks the capability of securing stored data with quantum-safe encryption that boasts unparalleled performance, and accelerating the identification of crown-jewel information that necessitates protection in intricate IT landscapes."

Sean Xiang, CEO, Bloombase

Overcoming the Challenges of Storage Security

Unauthorized data exposure is a critical issue for all enterprises, especially with disaggregated infrastructure and off-premises clouds. Agent-based and proprietary encryption tool kits create maintenance challenges, while storage-based encryption often results in vendor lock-in.

With the advent of quantum computing, previously protected information is vulnerable to brute-force attacks. Furthermore, the rapid proliferation of data is making the conventional approach of manual classification impossible.

Accelerating Data Encryption and Classification

To combat these data vulnerability challenges, Bloombase StoreSafe Intelligent Storage Firewall leverages NVIDIA BlueField data processing units (DPUs), NVIDIA data center GPUs, and the NVIDIA Morpheus AI framework to help automate and accelerate the full lifecycle protection of the crown-jewel data.

Bloombase StoreSafe is an agentless, turnkey encryption solution packed with post-quantum cryptography (PQC) capability for data-at-rest use cases. It secures on-premises storage systems, virtualized hypervisor data stores, and even off-premises cloud storage services. Software applications gain the benefit of automatic encryption of their data as they write through the Bloombase StoreSafe storage resources. Likewise, by retrieving data from the storage backend via Bloombase StoreSafe, data is automatically decrypted and presented to the trusted clients as virtual plaintext.

BLOOMBASE®

Bloombase is the intelligent storage firewall company providing application-transparent, high-bandwidth, low-latency data-at-rest encryption security using post-quantum cryptography (PQC) technologies for edge computing, physical and virtual datacenters, through hyper-converged infrastructure (HCI) and composable disaggregated infrastructure (CDI), and to the cloud.

Industry
> Telecommunications
> Financial Services
> Public Sector
> Healthcare IT

Challenge
> Traditional cryptographic methods are becoming obsolete and make encrypted data susceptible to attacks. Encryption is essential for next-generation datacenters but retrofitting with new hardware or implementing agent-based tools have limitations and require radical change in infrastructure.
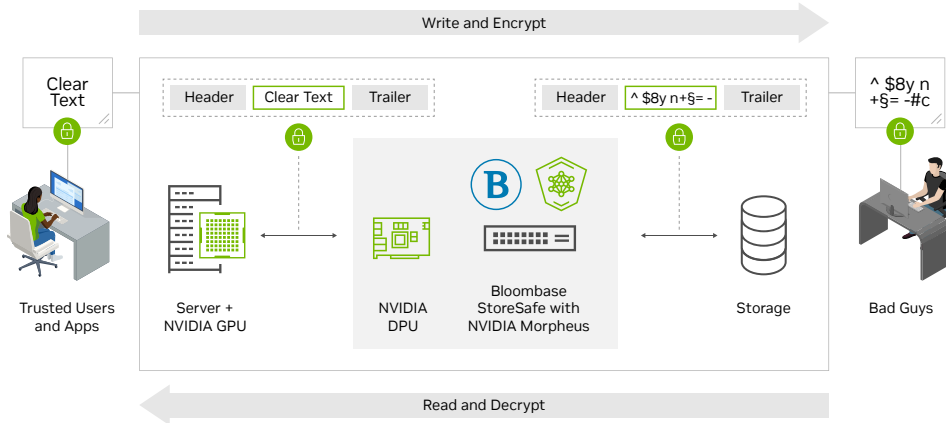
Bloombase StoreSafe accelerates transparent encryption of data utilizing NVIDIA DPUs for storage encryption and the Morpheus AI Framework for automatic data classification.

Without needing to modify the business logic of client software applications, organizations can ensure that their Bloombase StoreSafe-protected information are secret and safe, and be able to meet information confidentiality regulatory compliance requirements immediately.

Bloombase StoreSafe is fully integrated with NVIDIA BlueField DPUs, via native NVMe over PCIe or NVMe over Fabrics (NVMe-oF) protocols. Storage encryption occurs on the DPU, creating a new level of security from the host and freeing CPU cycles.

Bloombase StoreSafe takes advantage of the NVIDIA Morpheus pre-trained cybersecurity AI framework to detect and classify sensitive information in real-time with zero human intervention. Thus sensitive data is protected spontaneously as it is physically written to the disks, enabling proactive defense-in-depth and eliminating lengthy deployment and migration procedures.

Automated, Agile, and Accelerated Data-at-Rest Security

Together, Bloombase and NVIDIA deliver hardware-accelerated post-quantum encryption of all-flash storage systems and services with automated data discovery and classification for next-generation composable infrastructures. The ultimate goal is to enable business sensitive data, whether structured or unstructured, to be secured seamlessly with validated cryptographic technologies at zero operational change. These capabilities provide mission-critical applications with a trusted data environment for day-to-day operations and give business owners and management peace of mind regarding data protection.

Products Used

> NVIDIA DPUs

> NVIDIA GPUs

> NVIDIA DOCA SDK

> NVIDIA Morpheus AI Framework

Benefits

> Safeguard crown-jewel information with strong cryptography

> Increase operational efficiency with simple architecture and minimal disruption

> Lower maintenance costs

> Agentless and clientless; minimal disruption of application performance

> Protect data on all storage media

> Deliver low latency on-the-fly transparent encryption for next-generation high-speed storage networks

> Vendor agnostic approach for ease of deployment and extensibility

> Discover, identify, and classify sensitive information for initial encryption and rekey automation

> Single pane-of-glass management for on- and off-premises deployment

> No dependency on operating systems or software applications

> Zero costly application modifications

> Meet confidentiality regulatory compliance requirements

> High performance and scalable to meet SLA requirements

Ready to Get Started?

To learn more about Bloombase StoreSafe, visit:
www.bloombase.com