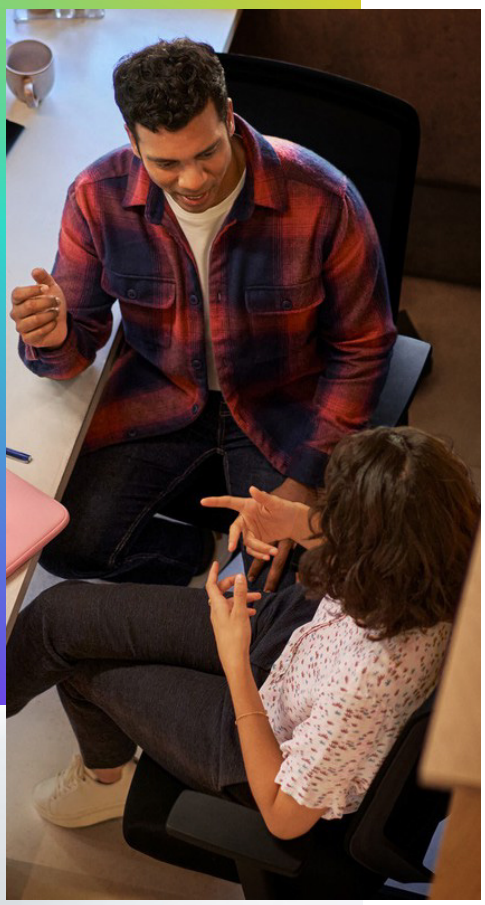
HPE Alletra Storage

Solution brief



Scalable and resilient Splunk SmartStore multi-site storage with HPE Alletra Storage MP X10000

Modern observability and security analytics platform powered by scalable, high-performance storage with efficient tiering and multi-site resilience



Splunk is a leading data analytics platform for observability, security, and operational intelligence. It enables organizations to collect, index, and analyze machine-generated data from virtually any source in real time. When integrated with HPE Alletra Storage MP X10000, Splunk gains a powerful, cloud-native storage foundation that supports the SmartStore tiered data model while providing high-performance access and scalability, critical for modern analytics and AI workloads.

About Splunk

Splunk turns data into doing. It helps organizations monitor, investigate, and act on data across their digital infrastructure to improve performance, security, and resilience.

The challenge

As enterprises scale their digital operations, the volume of machine-generated data, such as logs, metrics, traces, and events, grows exponentially. Splunk provides a platform for observability and security analytics, which is often deployed in environments ingesting terabytes of data daily. However, managing this data efficiently and cost effectively at scale presents several challenges.

Splunk stores all indexed data on disk, so rising data volumes steadily increase the demand for high-performance storage to support fast indexing and low-latency search. Keeping all data on expensive local storage, regardless of how often it is accessed, quickly becomes unsustainable, driving overprovisioning, underutilized resources, and escalating costs. Scaling traditional storage to keep pace can also be complex and disruptive.

Splunk SmartStore introduces an intelligent data management architecture that decouples compute from storage, enabling organizations to scale more efficiently and cost effectively. Instead of storing all indexed data on local disks, SmartStore retains only the most recent and frequently accessed data, referred to as hot data, on indexer nodes. Older, less frequently accessed data, in the warm and cold tiers, is offloaded to a remote object storage layer.

While this approach significantly reduces the need for expensive local storage and improves scalability, it also introduces new considerations. Traditional object storage systems are not optimized for high-performance analytics.

As a result, retrieving data from remote tiers can introduce latency, especially when dealing with large datasets or complex queries. Search queries that span hot, warm, and cold data may experience inconsistent performance, impacting responsiveness in environments with high search concurrency or strict performance requirements. These challenges intensify in multi-site deployments. Many enterprises run Splunk across multiple sites for high availability and disaster recovery, so indexed data must be both protected across locations and quickly searchable at each one. Traditional object storage struggles to deliver both, since reaching a remote tier across sites adds latency, and keeping data consistent between sites is operationally complex.

The solution

To fully realize the benefits of Splunk SmartStore, it's essential to pair it with a high-performance, scalable object storage solution. HPE Alletra Storage MP X10000 is designed to handle the demands of modern analytics workloads.

As depicted in Figure 1, each site offloads its warm and cold data to its own local HPE Alletra Storage MP X10000 object tier. Keeping that data close to the indexers that query it delivers fast, reliable search. A uniform S3 endpoint, fronted by Global Server Load Balancing (GSLB), keeps traffic site-local and transparently routes to the remote store when needed. Bi-directional asynchronous replication keeps both object stores eventually consistent, so warm and cold data survives a full site outage and remains locally accessible for write and search at the surviving site. The result is a smaller local storage footprint on indexer nodes, optimizing utilization and driving down TCO by reducing the need for expensive, high-performance local disks.

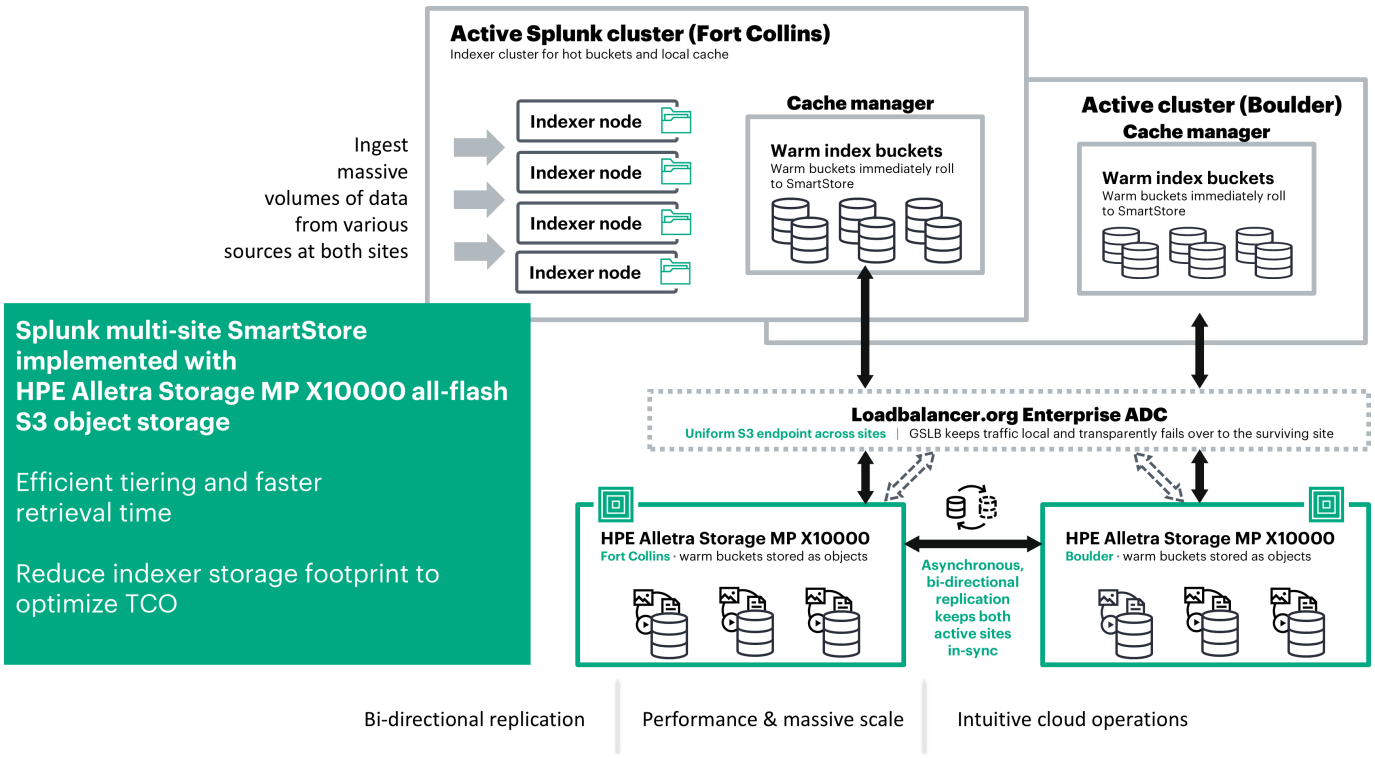


Figure 1. Splunk multi-site SmartStore backed by HPE Alletra Storage MP X10000 for efficient data tiering

Decoupling compute and storage lets organizations scale each independently, per site or across the entire multi-site deployment, without overprovisioning either. The X10000's cloud-native design delivers the high throughput, low latency, and enterprise-grade durability that modern analytics workloads demand as they grow.

Ensuring continuous access with intelligent load balancing

Cross-site replication keeps warm and cold data available at every location, but availability is only half the story, because indexers still need a dependable way to reach it. Rather than pinning each site to a fixed storage address, HPE pairs the X10000 tier with the Loadbalancer.org Enterprise ADC and its GSLB. Every indexer targets a uniform S3 endpoint, and under normal operation the ADC steers each site's traffic to its local X10000 for fast, low-latency search while continuously health-checking both clusters.

If a cluster or an entire site becomes unavailable, GSLB automatically reroutes that site's SmartStore traffic to the surviving X10000, which already holds the replicated data, and fails back on recovery, with no manual reconfiguration and no change on any indexer. The result is an active-active deployment that keeps ingest and search responsive through planned maintenance and unplanned outages alike.

Benefits and value proposition

By combining Splunk with HPE Alletra Storage MP X10000, organizations can build a modern observability and security analytics platform that is:

— **Splunk-validated:** HPE Alletra Storage MP X10000 - SmartStore Ready for the validated single-site and two-site on-premises multisite configuration.

— **Cost-efficient:** Optimize TCO with intelligent data tiering that keeps only hot data on premium storage, stores a single copy on the object tier, and reduces indexer footprint

— **Scalable:** Seamlessly scale storage and compute independently to match data growth without overprovisioning

— **High-performance:** Accelerate indexing and search with low-latency object storage access for faster, more consistent retrieval times

— **Cloud-native:** Deploy and manage through the HPE GreenLake cloud portal with the control and performance of on-premises infrastructure

— **Secure and compliant:** Meet regulatory and governance requirements with enterprise-grade data protection and lifecycle management

— **Resilient:** Maintain business continuity across multi-site deployments with asynchronous cross-site replication and disaster recovery, backed by enterprise-grade durability and data locality

— **Always-on access:** A uniform, health-checked S3 endpoint with automatic multi-site failover keeps SmartStore reachable through cluster or site outages, with no manual intervention

HPE Alletra Storage MP X10000 helps organizations maximize the value of their Splunk investments by delivering a modern multi-site SmartStore architecture that balances performance, resilience, and cost efficiency. By simplifying data tiering, ensuring continuous access to critical data, and enabling independent scaling of compute and storage, the solution empowers IT teams to meet growing observability and security demands with greater operational efficiency and stronger business continuity.

References

— HPE Alletra Storage MP X10000

— Introducing HPE Alletra Storage MP X10000

— Top 10 reasons to choose HPE Alletra Storage MP X10000 brochure

— The ultimate guide to Global Server Load Balancing (GSLB): Benefits, uses, and configurations

— Splunk

— About SmartStore

— Splunk S3 compatibility and certification repository

Learn more at

HPE.com/us/en/storage.html

Visit HPE.com

Chat now

© Copyright 2026 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

a00149321ENW

HEWLETT PACKARD ENTERPRISE

hpe.com