

## Policy-driven object storage that seamlessly integrates flash, disk, tape & cloud

BlackPearl® Object Gateway is a **secure, sovereign, and scalable** platform that provides native, policy-driven object storage on flash and disk, seamlessly tiering data to tape and cloud. It lowers costs, blocks threat vectors, returns resources, and enables compliance, governance, and sovereign control of data.



### Reduces Storage Costs

- Place infrequently-accessed data on low-cost tape media
- Deploy an on-premises alternative to cloud backup & archive at the lowest TCO



### Hardens Cyber Resilience

- Implement an immutable, air-gapped cyber recovery tier
- Ensure ransomware or insider attacks cannot reach, modify, or delete critical data



### Reclaims Capacity

- Move cold data to a high-efficiency tape tier, releasing warm capacity
- Achieve greatest storage density per watt while reducing environmental load

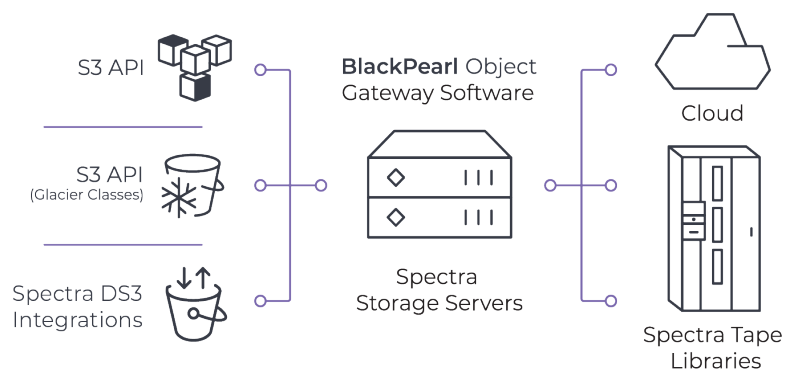


### Enhances Compliance

- Enable authenticated access, object versioning, and policy-based copies
- Assure compliance and jurisdictional sovereignty beyond the reach of foreign legal domains

## Native Object Storage with Policy-Driven Tiering

BlackPearl Object Gateway provides a fully-compatible target environment for Amazon S3, Amazon S3 Glacier, and Spectra® DS3 objects that are automatically tiered to flash, disk, tape or cloud, based on user policies — eliminating manual workflows and ensuring data is always stored on the optimal tier.



# Preserve Forever Data without Compromise

BlackPearl Object Gateway is purpose-built for organizations that can't afford to compromise on cost control, cyber resilience, capacity efficiency, or regulatory compliance. BlackPearl solutions enable enterprises to meet their most demanding data protection and preservation requirements — with sovereign control and predictable economics.

Use Case	Feature	Benefit	BlackPearl Object Gateway	BlackPearl Object Gateway + Tape	BlackPearl Object Gateway + Cloud <sup>1</sup>
Immutable Storage	Create tamper-proof Write-Once, Read-Many (WORM) objects	Blocks unauthorized modification or deletion of data	✓	✓	✓
Automated Data Retention	Apply lifecycle rules to tier data based on age, storage class, multi-site replication, or cloud replication policies	Preserves data while optimizing storage costs and satisfying recovery time objectives	✓	✓	✓
Storage Offload	Move infrequently accessed data and secondary backup copies to object-based tape	Stores cold data on an efficient tape tier, releasing warm tier capacity for reuse		✓	
Active Archives	Store occasionally accessed datasets with policy-driven tiering	Maintains accessible archives for discovery, analytics, and reuse while controlling storage costs	✓	✓	✓
Deep Archives	Archive infrequently accessed datasets, such as scientific, research, academic, & historical data	Cost-effectively preserves data at scale for multiple decades		✓	✓
Media Archives	Integrate with 40+ media asset management and orchestration platforms	Enables fast discovery and retrieval of archived media assets for production and reuse	✓	✓	✓
Hierarchical Storage Management	Provide highly-scalable deep archive tier for HSM	Eliminates HSM-to-tape complexity and scalability limits	✓	✓	✓
Backup & Disaster Recovery	Create durable, policy-driven copies across flash, disk, tape, and cloud	Automates recovery from cyber events or site failures while reducing backup storage costs	✓	✓	✓
Hybrid Cloud Object Storage	Replicate objects between on-premises and public cloud buckets	Implements & automates policy-driven 3-2-1-1-0 strategy			✓
Cyber Recovery	Physically isolate objects from the network through air-gapping	Reduces threat vectors and ensures clean recovery points		✓	
Compliance & Governance	Enforce immutable data retention policies via object lock, legal hold, and bucket-level versioning	Prevents deletion or modification and preserves a complete, auditable history	✓	✓	✓
Data Sovereignty & Residency	Enable policy-based data placement and replication within user-defined locations	Maintains control of data by storing it within designated regions or legal jurisdictions	✓	✓	

1. Public cloud use may incur substantial fees

# Transform Tape into a Modern Object Archive

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BlackPearl Object Gateway delivers the automation, cyber resilience, and scalability needed to manage and protect petabytes to exabytes of high-value data through an intelligent, tape-aware architecture that brings cloud-compatible object storage to tape.

## Tape-Aware Data Interface

Enables efficient, high-throughput data movement to tape through a purpose-built, job-based interface designed for long-latency media. Built on Spectra DS3 technology, it allows applications to batch objects, maximize streaming efficiency, and simplify archive workflows without application changes.

## Multi-Layer Cyber Resilience

Executes any combination of resilience strategies, including data-in-flight and data-at-rest encryption, object immutability, multi-site and cloud replication, and air-gapped isolation to protect and defend data against ransomware and growing cyber threats.

## Native Object-to-Tape Architecture

Stores objects directly on tape through a native object interface that presents automated tape libraries as an Amazon S3 Glacier-compatible storage tier, while built-in, tape-aware intelligence manages robotics, data placement, and media operations—eliminating the complexity of traditional HSM-based archive systems.

## Policy-Driven Multi-Tier Data Orchestration

Automates how data is placed, moved, and replicated across flash, disk, tape, and cloud using unified lifecycle policies, enabling intelligent, tape-aware data placement that optimizes cost, performance, and long-term storage efficiency.

## Bi-Directional Bucket Synchronization

Synchronizes buckets across multiple sites to enable consistent multi-location access, seamless data sharing, and resilient, tape-aware distributed data architectures.

## Optimized Tape Streaming & Object Packing

Maximizes performance by intelligently ordering objects and aggregating smaller files into optimized containers, improving throughput, efficiency, and usable capacity when leveraging the cost and energy advantages of tape.

## Amazon S3 Glacier-Compatible Workflows

Enables applications to archive and restore data using standard S3 Glacier workflows, extending cloud-based archive behavior to on-premises environments without modifying existing workflows.

## Multi-Site Data Access and Mobility

Provides unified access to objects across distributed sites with centralized visibility and control, enabling scalable, resilient data management and mobility across locations while maintaining full control over data placement.

## Portable, Self-Describing Object Tape Format

Enables long-term object recoverability through a portable, self-describing media format readable by any tape platform.

**Together, these innovations transform traditional tape into a modern, tape-aware object storage platform with unmatched cost efficiency, cyber resilience, and scalability.**

## Rich Features for Comprehensive Solutions

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### BlackPearl Object Gateway Features

#### Data Access: data retrieval and connectivity.

Amazon S3 API (Standard, Standard\_IA, and Glacier classes)

Spectra DS3 API

Buckets and objects

REST-based management APIs

Custom metadata attributes

Object tagging

Object metadata retrieval

#### Data Management: policy-driven lifecycle and data orchestration.

Portable, self-describing object tape format (1)

Lifecycle policies

Automated tiering

Expiration rules

Cloud tiering (2)

Cloud replication (2)

Cloud synchronization (2)

#### Data Platform & Scale: core infrastructure and operational capabilities

Multi-node clustering

Exabyte-scale capacity

Multi-tenancy

Metrics and telemetry

Logging

GUI management interface

#### Data Security: data protection, encryption, access control, and cyber resiliency.

Bucket-level permissions

IAM-style authentication

Server-side encryption at ingest

Encryption in transit

Encryption at rest

Amazon KMS support

Key Management Interoperability Protocol (KMIP) (1)

Role-based access control

Object locking (WORM / compliance)

#### Data Services: usability, governance, and long-term data operations.

Object versioning

Retention policies

Legal hold

#### Footnotes:

1. BlackPearl Object Gateway with a Spectra tape library.
2. BlackPearl Object Gateway with Cloud.
3. Public cloud use may incur substantial fees.

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## The Right Infrastructure for Every Scale

BlackPearl software can be deployed on any Spectra Storage Server, delivering a highly-scalable infrastructure with seamless tape and cloud integration that grows from petabytes to exabytes

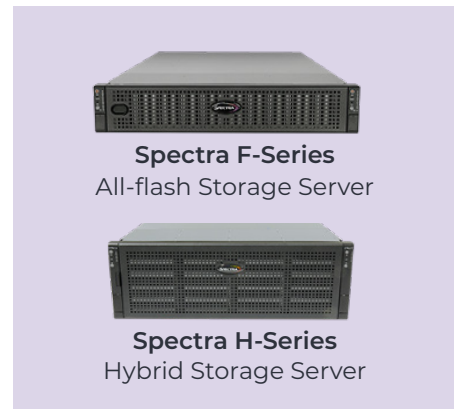
Spectra Storage Servers provide the scalability, resilience, and cost-effectiveness needed for modern object storage environments like the BlackPearl Object Gateway. A choice of all-flash and hybrid disk/flash models allow tailoring of performance and cost to suit a wide range of secondary storage workloads, from backup/recovery to active or long-term archives, and so much more.

Optional attachment to any Spectra tape library extends scalability while adding a policy-driven tier of air-gapped storage to further protect and preserve objects for multiple decades.

### Spectra Storage Servers

**Spectra F-Series** – Flash-accelerated storage optimized for warmer, more active workloads, delivering fast ingest and consistent throughput for analytics, backup and active archives.

**Spectra H-Series** – Hybrid disk and flash storage optimized for cooler, less active workloads, providing cost-efficient capacity for infrequently accessed data and long-term retention.



### Spectra Tape Libraries

BlackPearl Object Gateway readily integrates with any Spectra Logic® tape library to create a cost-efficient, air-gapped, deep archive tier. BlackPearl policy-driven workflows can automatically move infrequently accessed data to tape, reducing storage costs, protecting it from cyber threats, and preserving it for decades.

#### Spectra Stack



#### Spectra Cube™



#### Spectra T950



#### Spectra TFinity™ Plus



### Spectra Optical SAS Switch

The Spectra OSW-2400 Optical SAS Switch enables one or more BlackPearl Object Gateways to share libraries, enable zoning, extend and expand connectivity across data centers and campuses, and more – all without requiring complex and expensive Fibre Channel SANs.



# Get Ready to Deploy with Confidence

Deploy BlackPearl software on your terms—quickly and confidently—with systems designed for self-installation or expert-led implementation services.

BlackPearl Object Gateway is delivered as a fully pre-integrated platform, enabling organizations to move from delivery to operational object storage in hours, not days. All software is pre-installed on Spectra Storage Servers and fully validated before delivery, making deployments simple, predictable, and low risk.

## Simplified, Self-Service Deployment

With a ready-to-deploy platform, DIY organizations can rack, power on, and begin configuring buckets, policies, and workflows in a matter of hours. Built-in management interfaces and REST APIs simplify setup and ongoing administration, enabling teams to quickly integrate BlackPearl software into existing environments without specialized expertise or complex configuration.

## Spectra Implementation Services

Accelerate deployment with expert guidance from Spectra Professional Services. Spectra engineers work with your team to install, configure, and validate the environment, ensuring alignment with your architecture, workflows, and long-term data protection objectives.

Spectra Professional Services ensures a smooth, efficient deployment while establishing a reliable, production-ready foundation for scalable, cyber-resilient object storage.

Installation Services include	Description
System Installation & Connectivity	Deploy and configure the BlackPearl system and associated storage infrastructure.
Environment Configuration	Create buckets, lifecycle policies, and access controls.
Workflow Validation	Test ingest, retrieval, and policy-driven tiering using representative workloads.
Production Deployment	Transition validated configurations into a live environment.
Post-Deployment Optimization	Review performance and refine policies.

## SpectraGuard® Support Offerings

A variety of comprehensive support offerings are available for BlackPearl Object Gateway software and related hardware, including 7x24 phone support and 4-hour onsite support options. More information is available by visiting [www.spectralogic.com/support](http://www.spectralogic.com/support) or your sales representative.

## About Spectra Logic Corporation

Spectra Logic modernizes IT infrastructures to preserve, protect and defend data, from days to decades, whether on-premises, in a single cloud, across multiple clouds or in all locations at once. Our cost-effective solutions help organizations efficiently manage, migrate and store long-term data, from terabytes to exabytes, with features that make it ransomware resilient.



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