



# **BlackPearl Platform FAQ**

## **Beyond The Black Box**

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## Overview

The Spectra BlackPearl FAQ includes a list of answers to common questions about the Spectra® BlackPearl® Platform .



## BlackPearl Platform Benefits and Descriptions

### What is the BlackPearl Platform and how can it expand over time?

BlackPearl is a scale-up storage architecture allowing organizations to protect multiple petabytes at a low cost. Extensions can be seamlessly added to expand the functionality of the BlackPearl. Converting a BlackPearl NAS into a BlackPearl S3 appliance is an example of an easy transformation. This is done through adding a software key to turn on the functionality of the extensions.

### What extensions are available for BlackPearl?

The extensions include:

- [Scale-up NAS](#)
- [Attack-Hardened™ Storage](#)
- [BlackPearl Native S3 Interface](#)
- [BlackPearl On-Premises Glacier\\*](#)



### Can I upgrade an existing BlackPearl to take advantage of the extensions?

Yes. The only prerequisite is the BlackPearl must be a Gen2 or higher. Earlier versions of BlackPearl can be upgraded to Gen2.

### What is Black Pearl Attack-Hardened and how does it offer cyber-resiliency?

The BlackPearl's Attack-Hardened storage has multiple features that, when combined, deliver enhanced security and cyber-resiliency. Attack-Hardened features include:

- Triggered and time-based immutable snapshots
- Multi-factor authentication
- Multi-site replication
- Self-encryption
- Multiple types of air gap

Read more about [How Spectra overcame a ransomware attack](#)

### How is air gap achieved with BlackPearl?

Replication provides a variety of air gap options:

- **Virtual Air Gap:** Snapshots are replicated on the same BlackPearl.
- **Remote Air Gap:** Snapshots are replicated to another BlackPearl that is in a separate location, to the cloud or tape.
- **Offline Air Gap:** Tape or On-Prem Glacier is utilized. Data is kept offline and cannot be directly accessed.

## How does BlackPearl extend to the cloud?

BlackPearl S3 allows organizations to take advantage of the flexibility and agility of the cloud while maintaining control of where backup data is stored.

- The native S3 extension makes it easy to deploy an S3-based storage solution at a single site or across multiple sites.
- BlackPearl On-Prem Glacier allows backup data to be stored locally with the benefits delivered by Amazon S3 Glacier. It supports bi-directional replication between on-prem and the public cloud. Applications that support AWS S3 or AWS Glacier can interface to BlackPearl On-Prem Glacier
- [Spectra StorCycle®](#) is fully integrated with the BlackPearl Platform and brings additional benefits by providing insight into your data. StorCycle scans primary storage and uses metadata to migrate or copy files that meet policy-based criteria to a lower cost tier of storage, including any combination of supported cloud storage, object disk storage, network-attached storage (NAS) and object tape.

## Does BlackPearl provide disaster recovery capabilities?

Yes. The data on BlackPearl follows BlackPearl's own unique, robust data policy engine called Advanced Bucket Management (ABM). BlackPearl ABM policy will persist data with as many duplicated copies as desired, including disk, tape, automatically ejected tape, another BlackPearl bucket for high availability plus disaster recovery, and/or to public cloud storage for hands-off disaster recovery.

## Does the BlackPearl platform offer failover capabilities?

Yes. If the primary BlackPearl is unavailable, the active backup detects a missing heartbeat and will reboot and failover to another BlackPearl. Once live, it will take over the IP address and the primary BlackPearl can be repaired. Another option is to use replication (object) to a second system and failover the DNS. BlackPearl S3 supports failover to the cloud and on-prem.

## Explain snapshots and how they are used by BlackPearl

A storage snapshot provides a state of the data at a specific point in time. Advantages of BlackPearl snapshots:

- Can be created in seconds and as frequently as needed.
- Provide an immutable copy of the snapshots for an any point in time restore.
- Take very little storage space as they simply track the changes since the previous snapshot.

Restoring data from a specific point in time is particularly helpful when recovering from ransomware attacks and other undesirable changes. By having a snapshot of the data prior to an attack, a pristine copy of the data can be restored. Snapshots can be scheduled or triggered.

- [Scheduled Snapshots](#) can be enabled on a storage volume in BlackPearl NAS. The administrator sets the frequency of the snapshot (e.g., every two hours), and BlackPearl NAS automatically takes the snapshots on that volume.
- [Triggered Snapshots](#) enable external applications that support pre and post scripts to trigger snapshots on BlackPearl NAS, as well as "lock/unlock" data at the volume level. Backup applications that support pre and post scripts can instruct BlackPearl to take a snapshot as soon as backups are complete (post command). After the snapshots are complete, scripts are used to make the target volume read-only. The volumes cannot be overwritten or encrypted. The pre command can be used to "open" the volume or turn it back to read/write before the next backup job is scheduled to run. The process then repeats itself with the post command.

## What are the benefits of BlackPearl Native S3 Extension?

[BlackPearl Native S3](#) provides on-prem object storage and takes advantage of the benefits of public cloud object storage. BlackPearl automates the restore of data from the cloud, including Amazon Glacier.

## What are the benefits of BlackPearl On-Prem Glacier?

[BlackPearl On-Prem Glacier](#) brings the cost-effectiveness of Amazon S3 Glacier to on-prem locations. You can take advantage of a Glacier-like tier while eliminating egress fees. Support for On-Prem Glacier storage includes spin-down object storage disk and connectivity to automated tape.

## What is BlackPearl NAS?

[BlackPearl NAS](#) is the optimal backup target for mid-tier data as it provides self-protecting, flexible and affordable secondary storage. Not only is BlackPearl NAS attack-hardened, but it is also the only NAS solution on the market that can be upgraded and enhanced through a number of different software and hardware extensions to offer a native S3 interface as well as on-prem Glacier storage.

## What are the differences between BlackPearl S3 and [Vail](#)?

	 <b>Vail</b>	 <b>BLACKPEARL</b> Native S3
<b>Deployment</b>	Software system that combines on-prem and multi-cloud storage into a single S3 namespace	Appliance-based (BlackPearl) local S3 storage with cloud/tape tiering options.
<b>Storage</b>	Broad spectrum of on-premises storage	Local S3 standard as BlackPearl/ZFS pool - DR or gateway to AWS and/or tape
	Any - VM, BlackPearl, cloud node	No VMs - on BlackPearl only - Appliance
	BlackPearl, VM, block, local S3, public cloud	No 3rd party storage (no block/LUN, other local S3 etc.)
	Multi-Cloud / Multi-Site	Single Cloud / Single Site
<b>Failover</b>	Cloud or local nodes for failover	Optional enhancement for Cloud DR "node" for failover
<b>Notifications</b>	Notifications allowed - active S3 content and sync multi-directional sync	No notifications (linked buckets) Bi-directional synch Optional enhancement to enable linked buckets for BlackPearl S3
<b>Multi-Site Options</b>	Multiple nodes of any type, VM, BlackPearl, other	Multiple BlackPearls allowed in a BlackPearl S3 solution (only BlackPearls)
<b>Description</b>	This software is primarily used to orchestrate data, manage data placement and access, and acts as a data mover with intelligent policy management built in. Vail provides a single global namespace to manage all clouds, on-prem storage, and application data into a single managed namespace that can be accessed for anywhere.	Storage device that creates a synchronous link to cloud/tape. Optionally, customer can set up a lifecycle rule using move commands that allows immediate or delayed move (copy/delete) and allows BlackPearl S3 to work as a gateway enabling more data in cloud/tape than on local disk.

## About Spectra Logic Corporation

[Spectra Logic](#) develops a full range of Attack-Hardened™ data management and data storage solutions for a multi-cloud world. Dedicated solely to data storage innovation for more than 40 years, Spectra Logic helps organizations modernize their IT infrastructures and protect and preserve their data with a broad portfolio of solutions that enable them to manage, migrate, store and preserve business data long-term, along with features to make them ransomware resilient, whether on-premises, in a single cloud, across multiple clouds, or in all locations at once.

To learn more, visit [www.spectralogic.com](http://www.spectralogic.com).