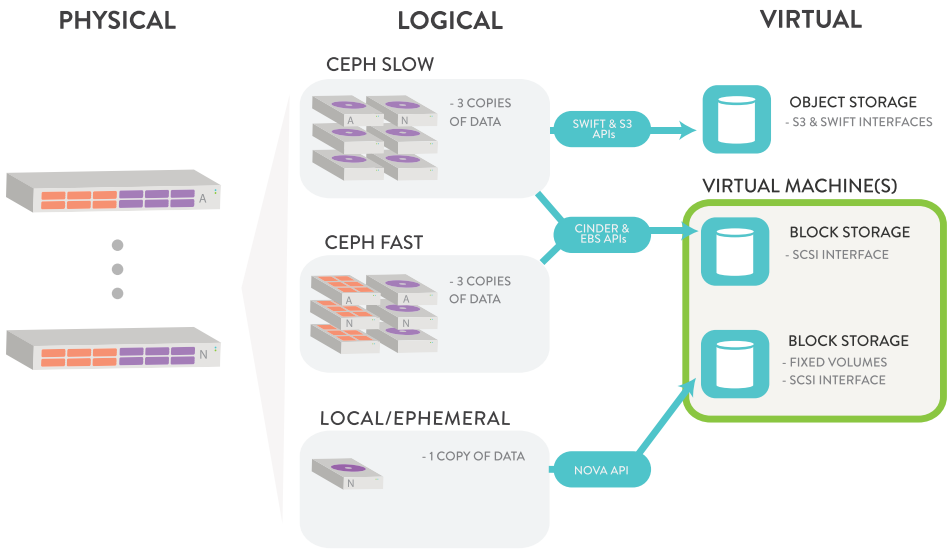
STORAGE OPTIONS IN PISTON OPENSTACK™

Dramatically improve workload performance and lower your total solution cost

Piston
CLOUD COMPUTING

PISTON OPENSTACK PROVIDES CUSTOMERS WITH OPTIONS FOR CUSTOMIZING THEIR STORAGE IN THEIR CLUSTER DURING INSTALL TIME

Customers can define multi-tier storage pools using fine-grained storage policies. Storage profiles created with these policies combine SSDs with SATA or SAS disks to dramatically improve the performance of workloads, while lowering the total cost of storage. Profiles provide visibility into all disk usage on each node during runtime.



Piston OpenStack Overview

Piston OpenStack Storage

Piston OpenStack uses Ceph™, a commercially supported open source software storage solution backed by Inktank™, for both object storage and block storage, and supports the Amazon S3 APIs, as well as the Swift and Cinder OpenStack® APIs. Physical storage media can be managed and assigned to multiple Ceph

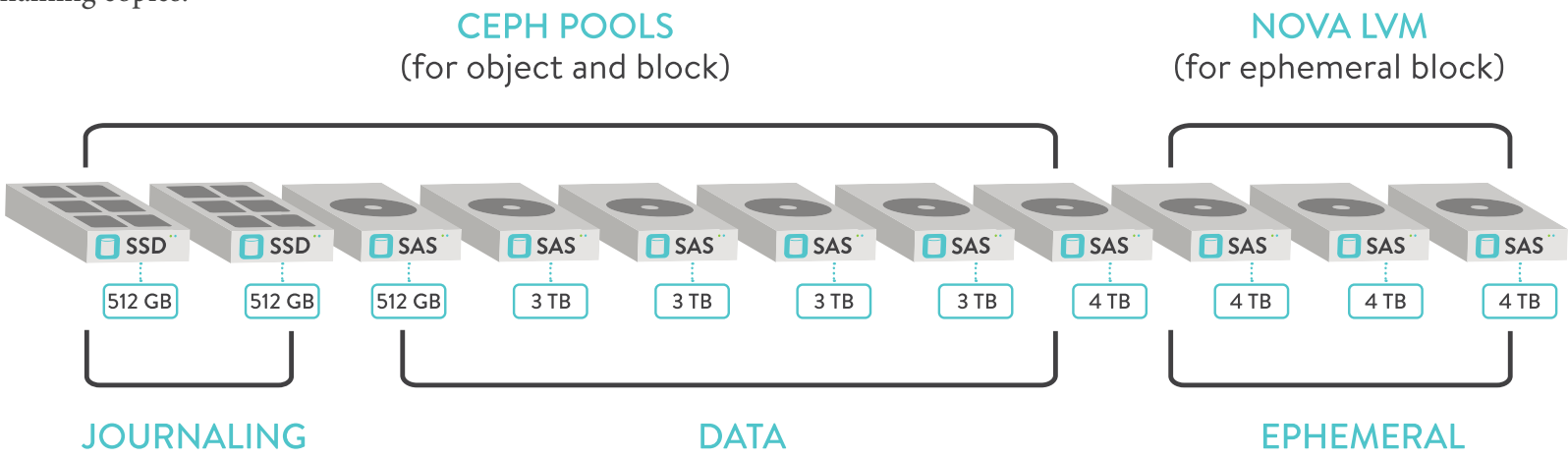
pools according to operator-defined policies that can reflect the customer's specific workload requirements. With this feature, customers can define how different classes of media will be used, without having to perform any configuration on individual nodes. The default policies in Piston OpenStack are intelligent enough to place Ceph journals on any SSDs that are detected, and store the data itself on the slower SAS or SATA drives.

With Ceph continually running in the background, each bit of data in a Piston OpenStack environment is replicated on three separate drives in three different physical nodes. This means that if one of the nodes containing the information fails, or if a hard drive dies, the data is automatically restored and replicated from the remaining copies.

Common use cases for these storage profiles among our customers' deployments include the following:

1. Cost-Focused:

Customers configure the profile in a manner such that SSDs are used for Ceph journaling and SAS/SATA drives are used to store data. This reduces the overall cost of the solution as SSD-based Ceph journaling is more cost effective than storing Ceph data using SSDs. Data such as larger images or genome files are stored on slower media SAS and SATA, which are low cost and high density.

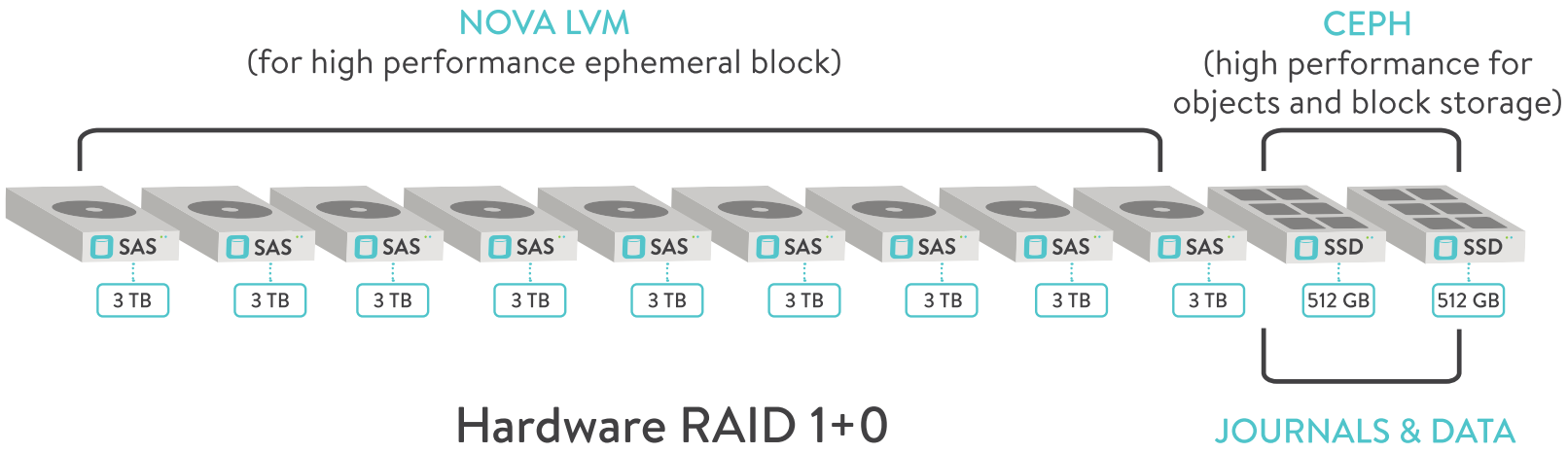


Cost-Focused Policy Example

2. Performance-Focused:

Customers configure the profile with the right mix of ephemeral and Ceph-based storage. Customers use Ceph for object and block storage to store persistent data such as application & database data stores, and use local server storage for ephemeral data, which delivers higher performance.

Example: a Hadoop cluster will have the majority of its storage media assigned to ephemeral pools to achieve cluster performance closer to bare metal server performance.



Performance-Focused Policy Example

Conclusion

With storage profiling in Piston OpenStack, customers can customize their cluster in infinite ways, either according to their capital budget constraints or their workload performance requirements. Users also have more options for creating multiple storage pools to meet different workload requirements in the same cluster simultaneously. Finally, the flexibility of storage profiles allows customers to take advantage of existing hardware investments, and to mix and match diverse hardware over time for better ROI.

Next Steps

The best way to see if Piston OpenStack is the right fit for you is to schedule a demo with one of our team members to answer your individual questions about Piston OpenStack's storage options.

SCHEDULE A DEMO

More information

- Get a free demo and a 60-day free trial of Piston OpenStack at pistoncloud.com/start-now-demo/
- Get in touch with us at info@pistoncloud.com
- Find out more about Piston OpenStack's storage feature at pistoncloud.com/technology/storage