

Open Compute and OpenStack

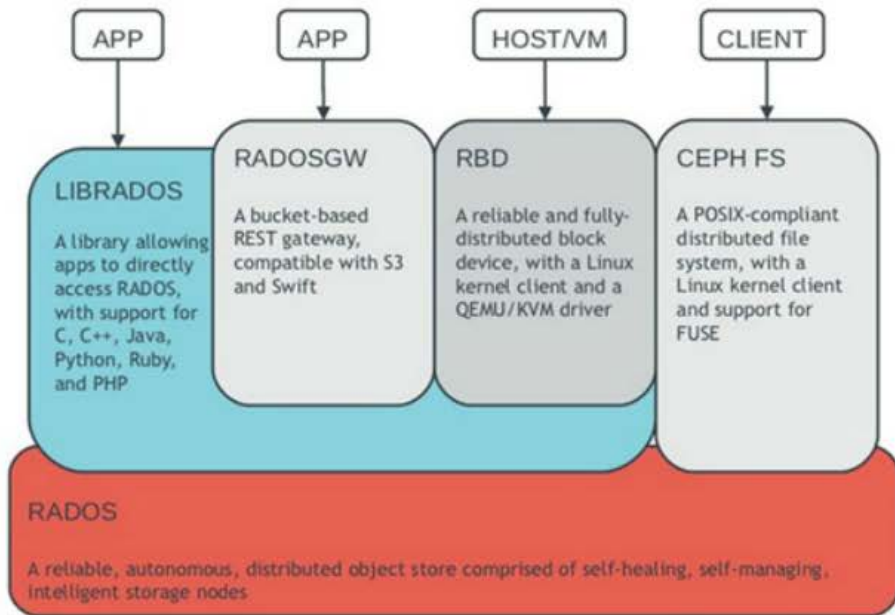
Leveraging Next Generation Storage

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Solutions, Seagate Technology

Next Gen Storage with Deployment Model

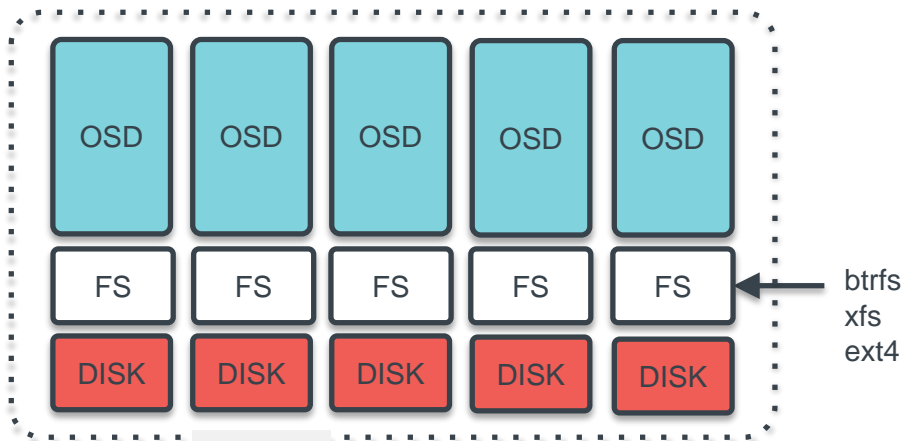


Ceph Explained

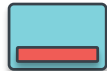


- **Ceph is a massively scalable, open source, distributed storage system**
- **Object Storage, Block Storage, File System**
- **Autonomic Distributed Object Store (RADOS)**

Ceph Deployment



Object Storage Daemons (OSDs):

- 10s to 10000s of OSDs in a cluster
- One per disk or SSD 
- Serves stored objects to clients
- Intelligently peers to perform replication and recovery tasks
- Support for erasure encoding of objects
- Support for strong consistency leveraging write journals

Advanced Storage:

- Shingled Magnetic Recording (SMR) Drives (drive managed)
 - Excellent density, cost, read performance, and sequential write streaming.
 - Poor random write performance.
- PCIe Flash
 - Excellent performance, in server integration
 - Poor cost per GB.

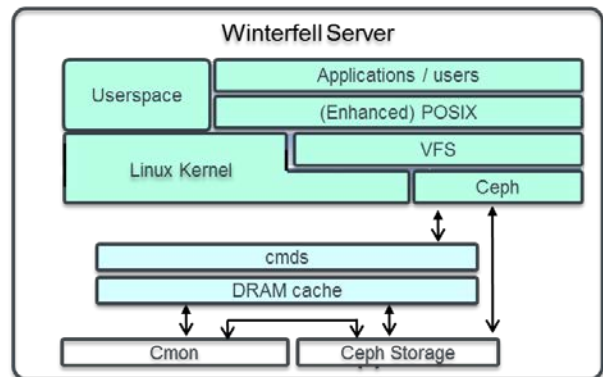
Configuration

Benefits

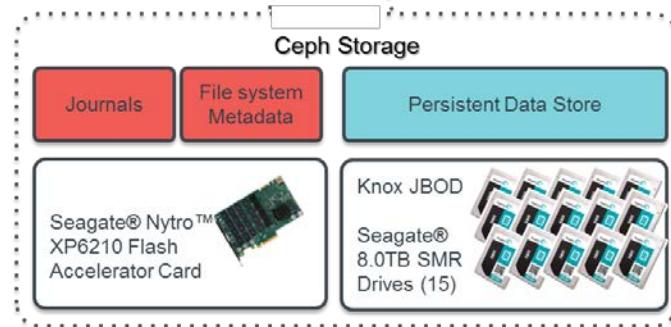
- Accelerate Ceph journals and Metadata with flash
- By moving this data onto flash, cost-effective SMR drives are a well-suited for extremely dense object storage systems reducing storage costs by 25%.

Futures

- Filter driver small IO cache to flash integration
- Ceph cache tiering
- Host aware SMR plus flash



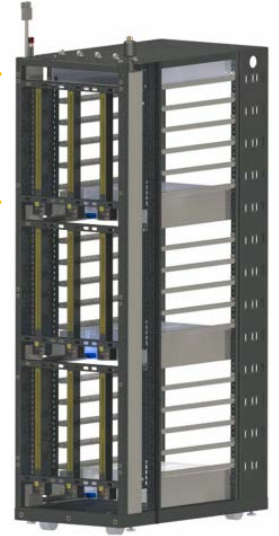
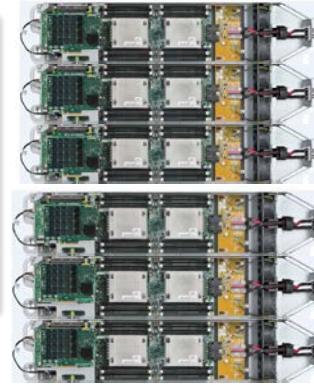
- Seagate storage technology**
- Accelerate Ceph journals and Metadata with Nytro PCIe flash
 - Achieves 120TB of storage per U Seagate SMR drives



Scaled-Up Hardware Configuration

Fully Populated Open Rack:

- 18 Winterfell Servers
- 33.5 TBs of Flash
- 2.2 PBs of SMR Storage





Thank You! Questions?



Learn how Seagate accelerates storage with one of the broadest SSD and Flash portfolios in the market

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