Note
You need to update the endpoint only to port existing applications that use the Amazon S3 API or the OpenStack Swift API.

The Ceph Object Gateway offers scalability support by not limiting the number of deployed gateways and by providing support for standard HTTP load balancers. The Ceph Object Gateway includes the following use cases:

- Image storage (for example, SmugMug, Tumblr)
- Backup services
- File storage and sharing (for example, Dropbox)

Ceph File System (CephFS)

Ceph File System (CephFS) is a parallel file system that provides a scalable, single-hierarchy shared disk. Red Hat Ceph Storage provides production environment support for CephFS, including support for snapshots.

The Ceph Metadata Server (MDS) manages the metadata that is associated with files stored in CephFS, including file access, change, and modification time stamps.

Ceph Client Components

Cloud-aware applications need a simple object storage interface with asynchronous communication capability. The Red Hat Ceph Storage Cluster provides such an interface. Clients have direct, parallel access to objects and access throughout the cluster, including:

- Pool Operations
- Snapshots
- Read/Write Objects
  - Create or Remove
  - Entire Object or Byte Range
  - Append or Truncate
- Create/Set/Get/Remove XATTRs
- Create/Set/Get/Remove Key/Value Pairs
- Compound operations and dual-ack semantics

The `object map` tracks the presence of backing RADOS objects when a client writes to an RBD image. When a write occurs, it is translated to an offset within a backing RADOS object. When the object map feature is enabled, the presence of RADOS objects is tracked to signify that the objects exist. The object map is kept in-memory on the librbd client to avoid querying the OSDs for objects that do not exist.

The object map is beneficial for certain operations, such as:

- Resize
- Export
- Copy
- Flatten
- Delete
- Read

Storage devices have throughput limitations, which impact performance and scalability. Storage systems often support `striping`, which is storing sequential pieces of information across multiple