MIMOS Reliable Object Storage System (Mi-ROSS)

The data deluge in recent years requires a different approach in the implementation of storage systems, more so in a cloud environment. MIMOS Mi-ROSS offers an open distributed object-based storage platform that allows data to be stored in a cost-effective way and yet remain highly available and redundant.

Overview

MIMOS Mi-ROSS is platform based on an open, flexible and scalable distributed object storage that provides a cost-effective way to store large amounts of data and yet provide high availability and redundancy. It allows the virtualisation of physically distributed storage systems to become a logical storage. Mi-ROSS provides a frontend to manage backend storage currently based on flexible and scalable storage from Ceph (a distributed object store and file system).

Features

Mi-ROSS comprises the following features:

- **Flexible Storage Data Access**
  Mi-ROSS currently provides Network File System (NFS) and an open source implementation of Common Internet File System (SAMBA) data access to various clients and a web-based management user interface for its Ceph backend storage.
- **Replication and Erasure Modes**
  Utilising Ceph as the backend allows multiple copies of data to be created using replication mode and provides an erasure code mode if storage space efficiency is required.
- **Open Platform Software and Hardware**
  Mi-ROSS is built on open source software and commodity hardware to increase interoperability, improve deployment and reduce cost of ownership.
- **Custom Data Mapping and Distribution**
  Mi-ROSS enables the mapping of the Ceph storage backend such as solid-state drive (SSD) and Serial Advanced Technology Attachment (SATA) and a distribution policy such as data replication into various physical/geo-locations.
- **Scalable Storage Architecture**
  The backend Ceph storage cluster allows capacity to be scaled as and when required by infrastructure needs.

Technology Benefits

The main impacts of Mi-ROSS are:

- **Data Redundancy and Availability**
  Mi-ROSS provides data redundancy via tunable replication criteria and ensures data resiliency due to the distributed nature of the system.
- **Vendor Agnostic Preventing Lockdown**
  The platform is independent of specific hardware brands and can be deployed using off-the-shelf components adding flexibility in deployment and reducing vendor lockdown.
- **Integration with MIMOS Platforms**
  Mi-ROSS can be integrated with MIMOS platforms such as Mi-Cloud for comprehensive management of virtual machines, networks and storage, and Mi-Mocha for monitoring the health of multiple sites.

Technology Summary

Mi-ROSS

A scalable reliable object storage system that provides data redundancy and availability through flexible mapping and replication strategies using open platform solutions.
Industries: Enterprise, Government

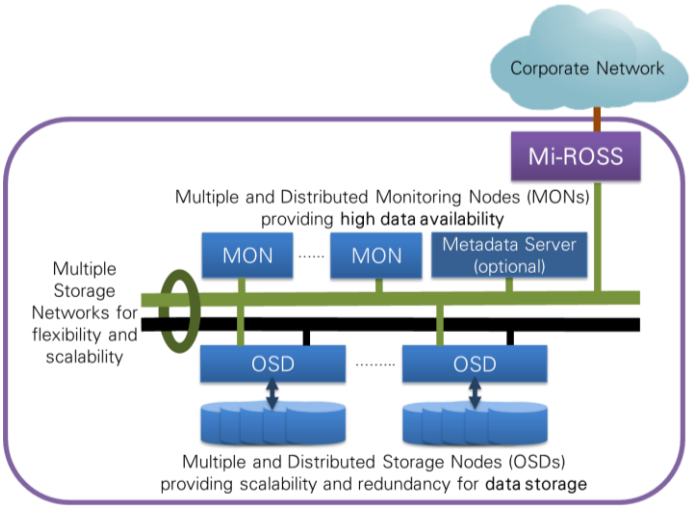
Features

Mi-ROSS addresses the challenges of storage systems through:

- Flexible storage data access
- Replication and erasure modes
- Open platform software and hardware
- Custom data mapping and distribution
- Scalable storage architecture

Technology Benefits

- Data redundancy and availability
- Vendor agnostic preventing lockdown
- Integration with MIMOS platforms



MIMOS Mi-ROSS system overview

System Requirements

Mi-ROSS	
Basic Entry Requirements (3 nodes)	
N/A	1 x Intel Xeon (Hex Cores) ≥ 32GB RAM 1 x SAS (300GB, OS) 1 x SAS/SATA Enterprise SSD (≥480GB, OSD) 1 x SATA/NL SAS (≥4TB, OSD) 4 x 1GigE ports
Advanced Entry Requirements (6 nodes)	
3 MONs	1 x Intel Xeon (Quad Cores) ≥ 32GB RAM 2 x SSD (≥ 480GB, RAID 1, OS) 4 x 1GigE ports or 2 x 10GigE port
≥3 OSDs	2 x Intel Xeon (≥Hex Cores) ≥ 128GB RAM 2 x SAS/SATA (≥300GB, RAID 1, OS) 8 x SATA/NL SAS (≥4TB, OSD) 4 x SATA/SAS/NVMe SSD (≥480GB, OSD) 2 x 10GigE ports

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