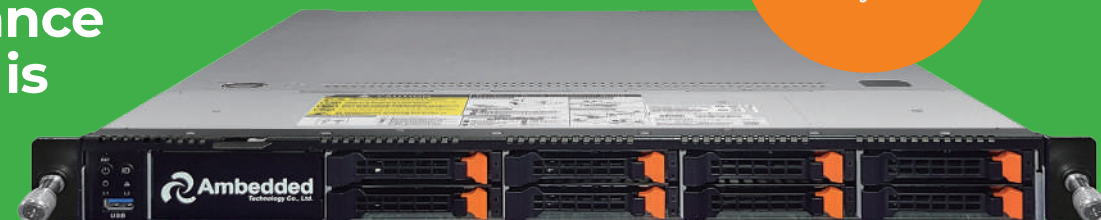


Ambedded NVMe Ceph Storage Appliance based on Ampere Altra Arm processor is Generally Available

Monday, October 17th, 2022

Ceph Ready
Object, Block,
File system



Ambedded Technology launches Mars 500 All-Flash Ceph storage appliance, which offers file and object storage, making it easy to deploy and manage scalable and high-available storage at a lower total cost of ownership (TCO). A NVMe ceph storage with low carbon footprint without sacrificing the performance.

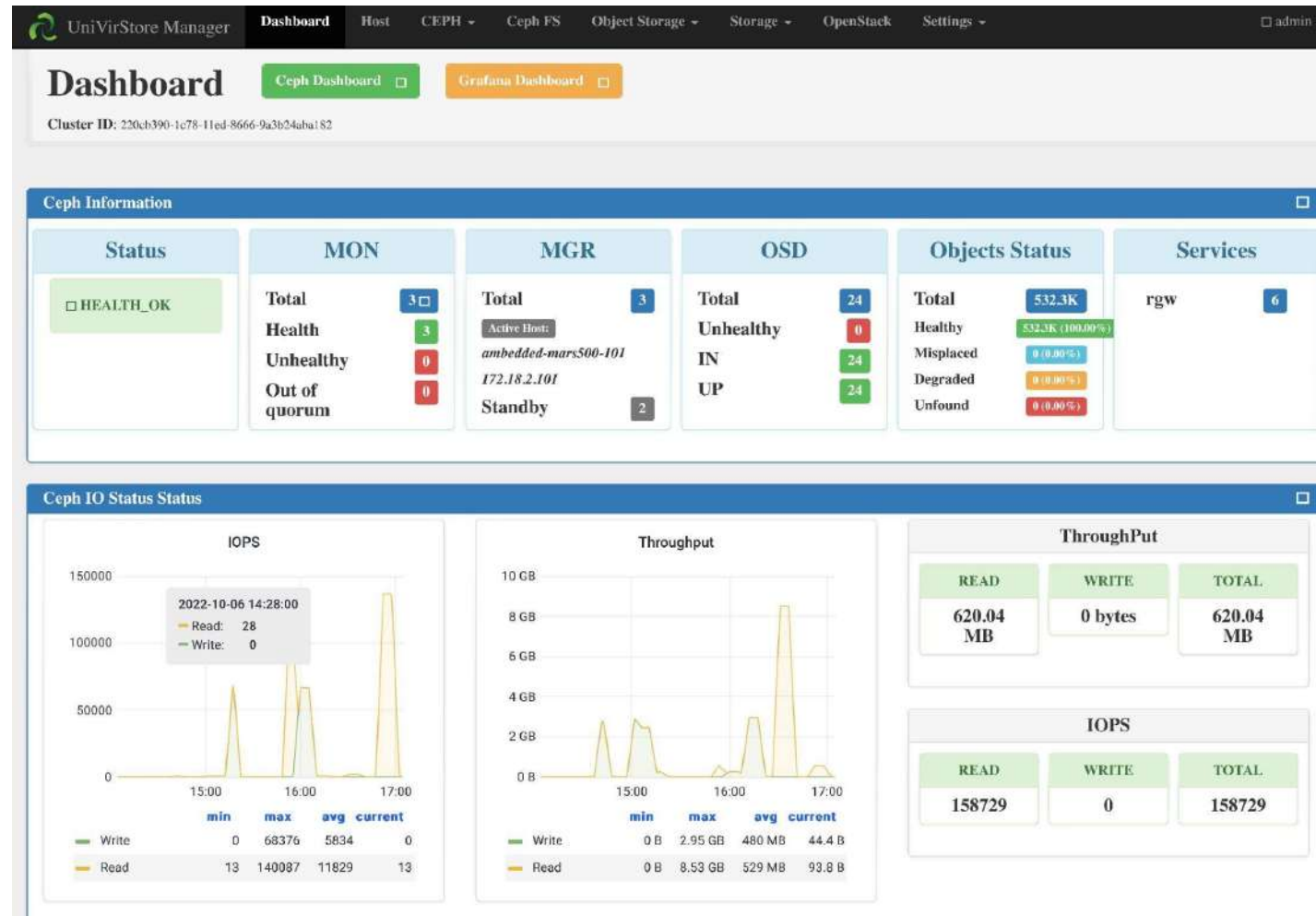
Ambedded announced the general availability of UniVirStor Flash Mars500 Ceph Storage Appliance, a scalable, highly available software-defined storage integrated Ceph, Ampere Arm servers, and Ambedded's Ceph management web UI. This turn-key appliance solution simplifies the deployment, operation, management, and monitoring of the ceph storage cluster.

Ceph storage is an open-source cloud-native software-defined storage system well-known for its resilience and scalability. Many companies choose Ceph as their low-cost enterprise-class storage solution. Organizations need in-house Linux administrators to plan, deploy and manage Ceph clusters.

Ambedded endows Ceph with a strong affinity by offering a turn-key Ceph appliance solution. Ambedded's Mars 500 NVMe Ceph Appliance tightly integrates Ampere Altra Arm Server and UniVirStor. UniVirStor (UVS) is a software package that includes Linux, Ceph, and Ceph management GUI (UVS Manager).

UniVirStor automates deployment, management, operation, and maintenance of Ceph cluster applications. The Mars 500 Ceph Appliance server has a 32-cores Ampere Altra Arm processor, eight NVMe SSDs, and two ports 25Gb NICs.

In addition, Ambedded Technology continuously invests engineers in tuning and validating the configurations over computing, memory, network, and the UniVirStor to ensure the storage system's optimum reliability and performance at a feasible cost.



Highlights ON UVS 3.0

Mars500 comes with the new UVS manager version 3. It has many new features that enable storage administrators to deploy, monitor, and manage the ceph cluster by a graphical user interface and automated processes without using any command lines. New features include a redesigned dashboard, host management, CRUSH map, RBD snapshot schedules, mirroring, and multi-site object storage.

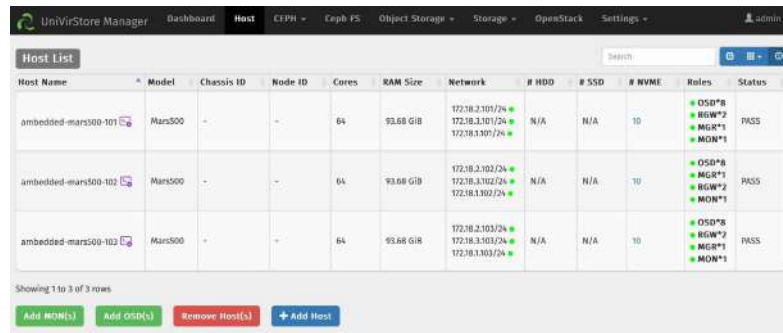


Fig1. UVS Manager- host management on ceph cluster, with Mars 500 NVME ceph storage, to have overall view on Network, OSD disk type, definition on OSD, MGR, MON and RGW.

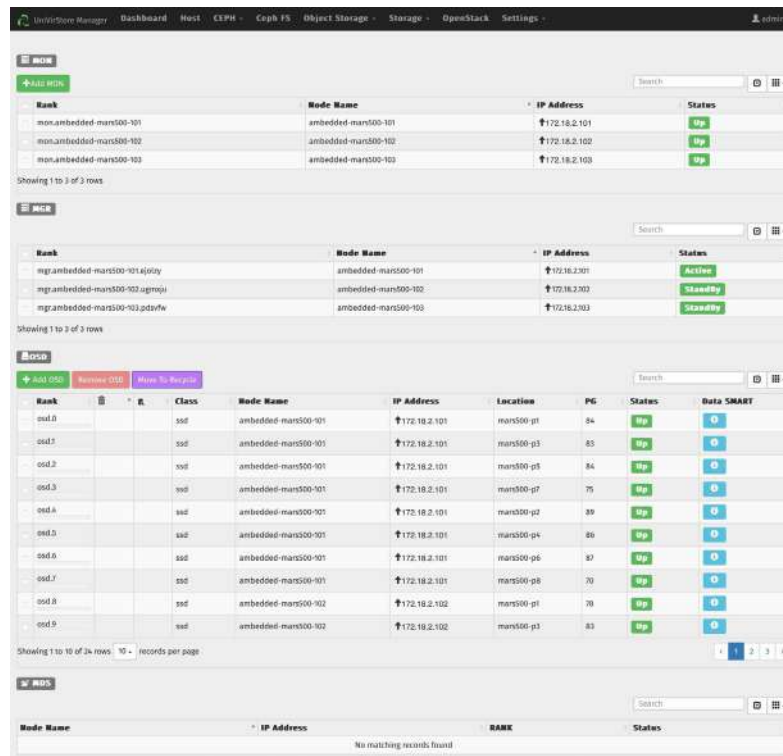


Fig2. User can see the ceph nodes management on UVS manager, it monitors the network, PG number, smart status on disk, to have an overall understanding on his ceph cluster

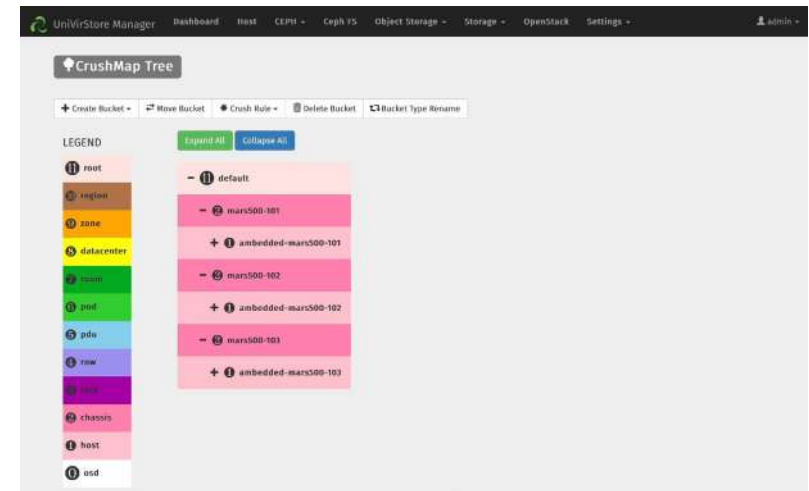


Fig3. A Ceph GUI management allows you to define your ceph cluster CRUSH map and CRUSH rule, in consideration of cluster high availability

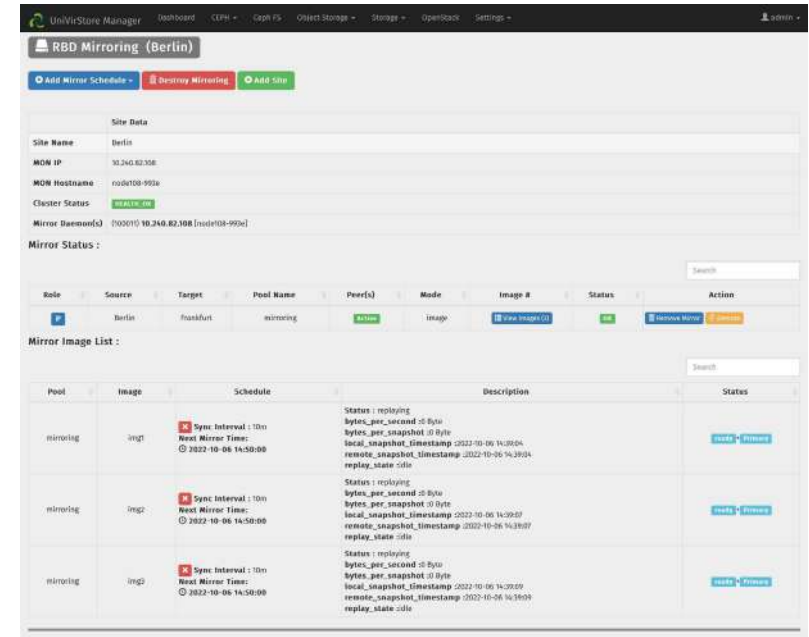


Fig 4. RBD mirroring function on UVS 3.0, it allows the users to configure the data mirroring between 2 clusters in different sites.

Ceph cluster running on Ampere Altra server, High Performance, Scalable, Sustainable

Because of the Ampere Arm technology, the server consumes only 180 watts of power at a high workload. Compared to the x86 server CPUs, it reduces carbon emissions and saves energy costs without sacrificing performance. Ampere Altra provides industry-leading power efficiency/core, establishing new levels of power efficiency with scalability. Additionally, the Ampere Altra processor provides extensive enterprise server-class RAS capabilities.

Data in memory is protected with advanced ECC in addition to standard DDR4 RAS features.

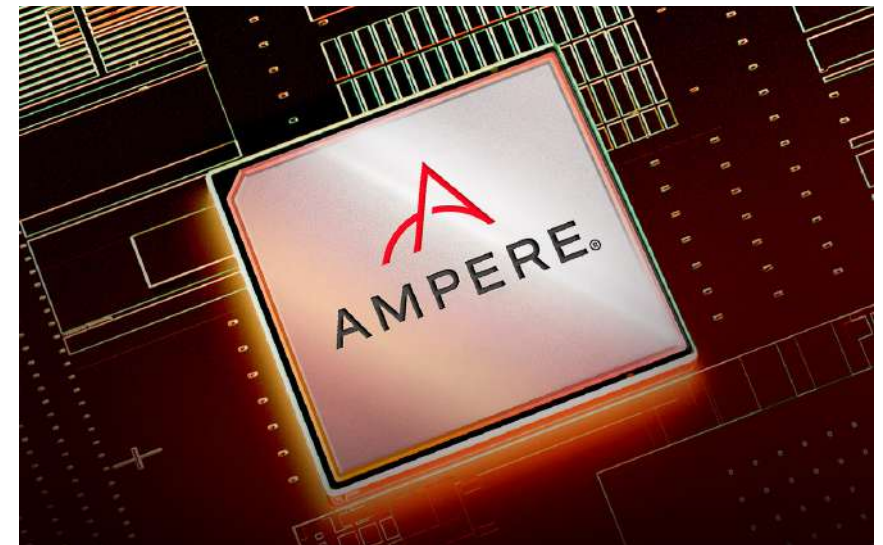
According to Ambedded's test report, a three 32 CPU cores appliances cluster could offer up to 155K read, and 33K write IOPS in ceph. The maximum performance is proportional to the number of appliances. Customers can add devices to scale out the capacity and performance on demand.

Unlock the Complexity on Operation, without vendor lock-in

Ambedded gives customers ceph consultancy, professional services, and software updates from day-0 to day-2 operation. IT administrators can focus on their core business without worrying about storage. Ceph and Linux are open-source software, so customers do not have vendor lock-in. Customers can mix the Mars500 ceph cluster with other server platforms and get support from vendors.

Ambedded's full Ceph appliance product line includes Mars 400 and Mars 500. They can serve as two standalone Ceph clusters or as a hybrid ceph cluster. When they fit in one group, the hard drive pool can utilize the NVMe SSD pool as the cache tier, and the user can add the NVMe SSD pool as the cache tier.

UniVirStor Mars 500 Ceph Appliance, with its high IOPS performance, scalability & reliability, and enormous energy saving, is very feasible for cloud providers, data centers, finance, research, academia, e-commerce, and media & entertainment enterprises.



High Performance



Green Solution

Benefits of Mars 500 NVME Ceph Storage Appliance

- Management GUI, Professional service, Easy to manage
- Simple to deploy Ceph in 30 minutes
- Tuned Ceph, Linux, and drivers for the hardware
- High available, Scalable, and Resilient
- Unified storage to provide block, shared file system, and object storage
- Supports NFS, SMB, iSCSI
- Cloud-Native storage supports OpenStack and Kubernetes.
- Low power consumption and reducing TCO
- Easy to setup Multi-Site high availability: RBD Mirroring, S3 multi-site
- Snapshot schedule management
- Integrated Grafana dashboard
- Monitoring & email notification
- Up to 120 TB per node
- Hybrid cluster with other Ceph nodes
- Three nodes with 24 OSD IOPS performance of a replica-three pool random Read/Write workloads: 154.7K/ 32.5K.

Mars500 Specifications:

Welcome to visit the [Ambedded Mars 500 NVME Ceph storage appliance](#).



With deep knowledge in open source software, Ceph distributed storage, embedded Linux, and ARM-based architecture, Ambedded burst on the scene in 2013 as an innovator of software-defined storage. Ambedded won Best of Interop Storage and Computex Best Choice Golden awards. Today Ambedded leads the world in innovation with the Arm-based Ceph storage appliances and the Ceph management software.

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