

ma●ellan

Container Native Storage for Kubernetes with Instant Data Mobility

One Data Platform for Every Application

On Any Infrastructure, Any Cloud



Why Magellan?

Kubernetes Native



Eliminate traditional storage infrastructure and management silos reducing total cost of infrastructure. Runs natively in Kubernetes and delivers performance and complete data management for customer's business critical applications.

Cloud Infrastructure as Code



Simplify IT deployments in hybrid or multi-cloud deployments with a single cloud platform based on Kubernetes and Magellan, with consistent operational workflows. Runs on any infrastructure where Kubernetes runs - on premise or in the public cloud.

Application Mobility

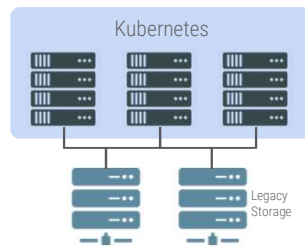


Defeat the challenge of data gravity with instant application mobility between infrastructure islands. Magellan's instant data mobility allows an application's data to move with the application instance without delay.



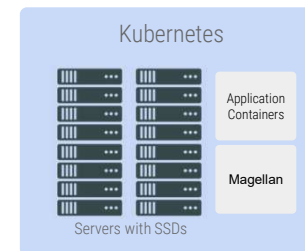
Enterprise Grade Kubernetes Native Storage

Kubernetes with Legacy Storage



- 💰 Expensive storage appliances
- 🗑️ Siloed storage performance and capacity
- 🗑️ Operational complexity
- 🗑️ Limited to on premise deployments

Kubernetes with Magellan

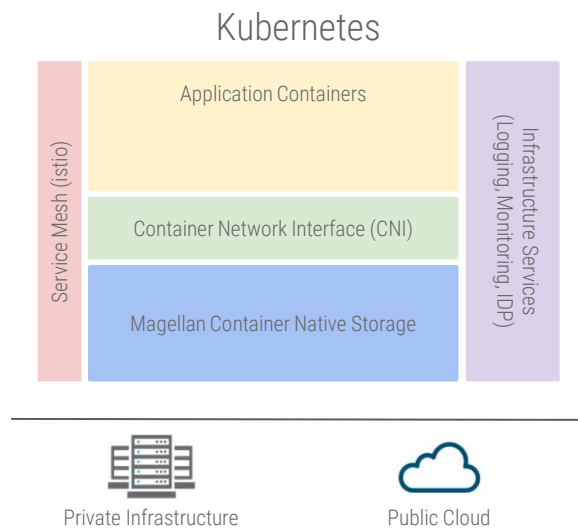


- 💰 Reduced infrastructure costs
- 👍 Commodity HW nodes
- 👍 Erasure coding across nodes
- 👍 Global data reduction
- 💰 Reduced operational costs
- 👍 Built for Kubernetes
- 👍 Integrated data management
- 👍 Runs on any infrastructure



Cloud as Code

Single software defined IT platform for applications independent of infrastructure



- For multi-data center, hybrid cloud or multi-cloud
- One infrastructure-independent platform for applications
- One set of storage and data management workflows
- Eliminates cloud vendor lock-in

vs. Legacy Deployments

- Applications developed to use specific storage layer available in the infrastructure
- Infrastructure dependent storage and data management workflows
- Moving data requires complex migration between systems



Application Mobility vs. Application Migration

Application mobility without downtime

- When an application is moved all associated volumes are moved with it
- Data movement is deferred and smart pre-fetch is used to ensure that important data is transferred first
- Global deduplication and compression is used to minimize the amount of data that is moved

vs. Legacy Migration with downtime

- Application instances with stateful data require all data to be copied before migration
- Downtime is required for the migration to be completed
- Limits flexibility of multi-data center, hybrid cloud and multi-cloud deployment

How Does Mobility Work?



Volume Copy: Copy of a Transportable Data Container (TDC) - a patented lightweight representation of a data set.

Access: On a Magellan that receives a TDC, all data is immediately accessible

Write Handling: always performed locally,

Global Deduplication: global deduplication identifies data that may be available locally

Read on Demand: for data that is not available locally

Background Read: prioritizes data based on previous read and write operations



The Magellan Platform

maellan

 Built for Clouds

Kubernetes native container-based software defined storage platform for edge, and private, public, hybrid, and multi-cloud.



Instant Application Mobility

- Application aware - manage applications instead of volumes
- Start working without waiting for all data to be copied
- Instant Copy, Instant Move, and Instant Sync



Unified Data Management

- Application aware data management
- One-second recovery, DR, and copy data management
- Dynamic tiering and global data reduction



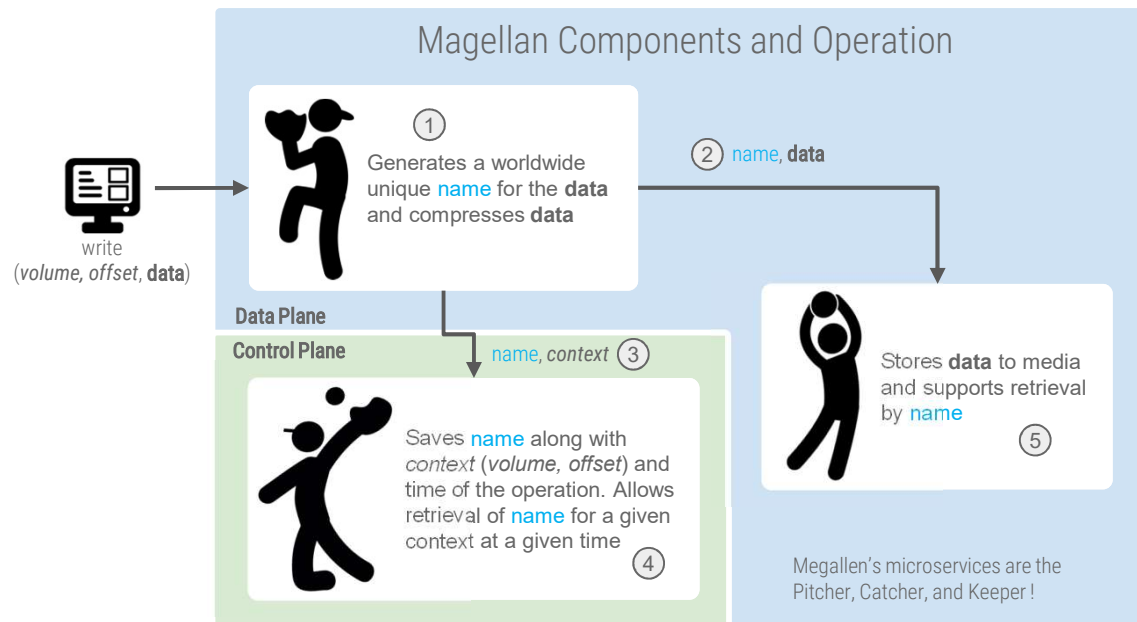
Extensible Storage Platform

- Microservices based high performance storage platform
- Independent performance and capacity scaling
- Evergreen and no forklift upgrades ever



The Innovation

- Address data by **name** instead of location
- Break the stack into unique components to separate control plane and data plane
- Implement each as a microservice that can independently scale



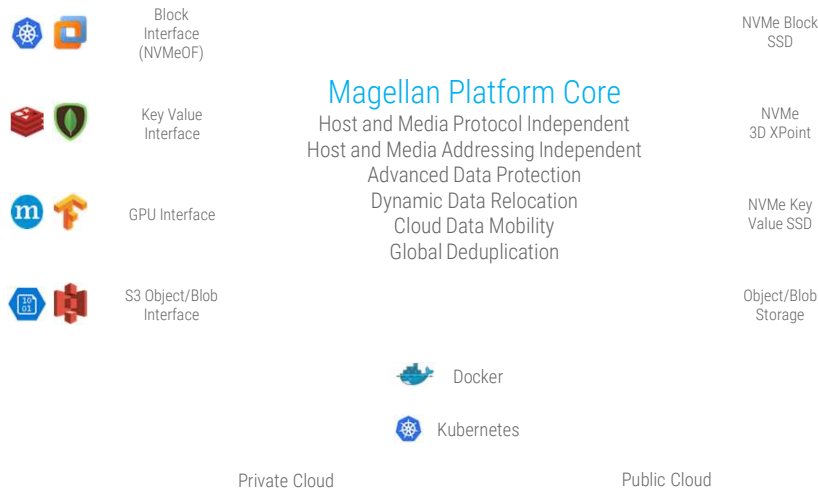
- ① Names enable definition of data to be transportable for mobility
- ② Addressing independent, can support any addressing scheme including block
- ③ Protocol independent, can support any protocol for applications to access data
- ④ Time enables reconstructing data from any point in the past
- ⑤ Media independent, can support any SSD, object store, cloud storage, and tier between them



Magellan: Future Proof



Extensible platform and future proof platform. New features and capabilities can be added by adding new, or by modifying existing microservices.



→ **Universal Host Interface**
High speed NVMeOF & NVMe/TCP for containers (CSI for Kubernetes) & legacy applications
Others added by adding new microservices

→ **Universal Media Support**
SSD (block & Key Value), 3D X-Point, Object
Extensible to support novel media types and addressing schemes

→ **Extensible Features**
New features can be added to the core without any impact on host or drive side interfaces

→ **Scalable & Elastic**
Grows and shrinks based on need



Focus Application Use Cases

CI/CD

Instant copy of applications across clouds and instant clones at one-second granularity for acceleration development and testing



Jenkins



Bamboo



Travis CI

Data Processing

Capacity and performance scaling on demand, and optimized infrastructure with tiering across types of storage



kafka



APACHE Spark



hadoop



Flink



elastic

Databases

High performance storage, and common data management and protection workflows



redis



Microsoft SQL Server



mongoDB



elastic



MySQL



cassandra



Competition

First Gen. Container Native



- Not build for Production
- Inefficient hardware use
- Limited data management
- No Data Mobility

Hyperconverged



- High overhead, VM "tax"
- Not Kubernetes native
- No Data Mobility

Legacy Storage



- Not Kubernetes native
- Legacy implementation
- Not Cloud native
- No Data Mobility



Cost Comparison

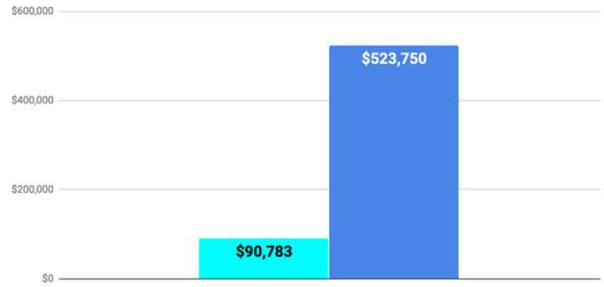
Capacity (TB)	100
Performance (K IOPS)	200
Nodes for Magellan	13
Nodes for Portworx	75

Capacity (TB)	600
Performance (K IOPS)	600
Nodes for Magellan	20
Nodes for vSAN	30

Capacity (TB)	1,000
Performance (K IOPS)	600
Nodes for Magellan	20

Magellan vs. Portworx (Annual)

■ Magellan ■ Portworx

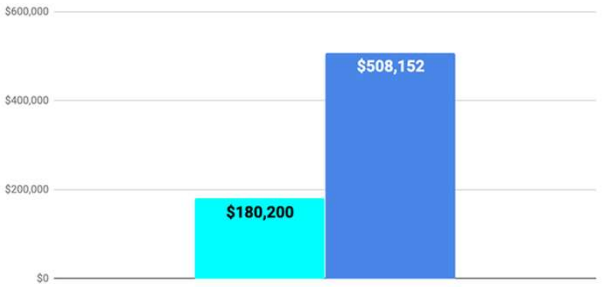


MAGELLAN SAVINGS 83%



Magellan vs. vSAN (Annual)

■ Magellan ■ vSAN

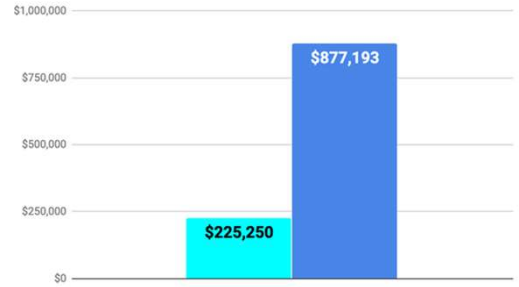


MAGELLAN SAVINGS 65%



Magellan vs. Appliance (Annual)

■ Magellan ■ AFA Appliance



MAGELLAN SAVINGS 74%





Competitive Strength/Technology Barriers

Competitive Strength

- Application/Data Mobility
- Data Management - BackDating, DR, Tiering
- Enterprise grade storage - Performance, Erasure code
- Extensibility - KV support, AI/ML Acceleration

Technology Barriers

- The metadata that enables the differentiated capability - Cloud as a Software
- Microservices architecture
- Multi-disciplinary skill set - Storage, Networking, Containers, Kubernetes, Clouds



Product Status

- Magellan Eval results
 - Successful Customer site installation (CSP)
 - 2 additional successful customer evaluation of Magellan on AWS
- Beta (PoC) code - end of August - Done
- Successful Early PoC code with Large Bank (August 2019)



Planned PoC

- 7 engagements agreed and scheduled PoC (one started)
 - 3 Enterprise
 - 3 large OEM
 - 1 Ecosystem partner (Data Base)
- 5 engagements in advanced discussions, probable PoC during Q4
 - 4 Enterprise customers, 1 channel
- 4 engagements in earlier stages, potentially Q4/Q1 PoC
 - 5 Enterprises
 - Channel (SI)



Containers and Cloud - Hot Sector

- **\$2 billion invested** across 40 startups - in 2018 alone
- **\$1.2B** in container specific **venture M&A** over the past two years



 **86.3B Hybrid Cloud Market (40% CAGR)**

  **Israeli Cloud company Acquisition**

  **\$33B Acquisition of Containers leader**

  **Competitors Raised Financing Rounds**

  **Israeli Cloud company Acquisition**

  **\$2.7B acquisition of K8s distribution**

Last two months



Major Trends

- Kubernetes is moving to production
- Kubernetes is the only Orchestration system for Containers
- Software as a Cloud: single platform to run your IT across all Clouds

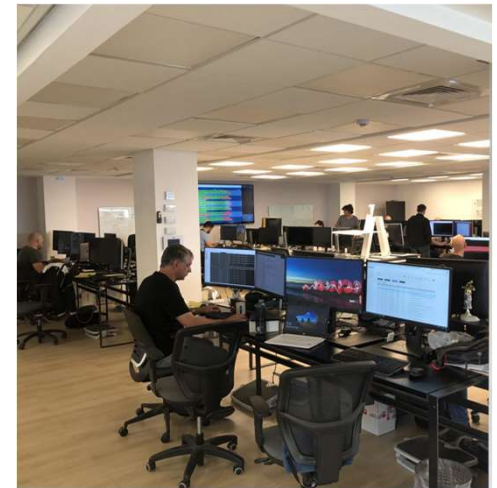
Forbes names **Reduxio**: 5 Cloud Native Storage Startups To Watch Out For In 2019

Kubernetes Takes Center Stage at VMworld - "Since Java, the virtual machine or cloud, we haven't seen a technology as critical as Kubernetes," VMware CEO



Company Overview

- Established 2013, Pivot in 2018
- Headquarter in Tel Aviv, Israel. Office in the US
- 35 employees, mostly engineers
- First product in 2015, 150 customers
- Magellan Beta in September 2019



Experienced Investors: Intel Capital, JVP, C5 Capital





Thank You

maellan

HOME | EVENTS & ALERTS | SETTINGS  Fred Allen

OVERVIEW

- 240 TB USER DATA
- 910 TB CLOUD DATA
- 3:1 SAVING
- 9 APPS
- 52 VOLUMES
- 4 CLUSTERS
- 48 NODES

CLUSTERS 

Cluster Name	Region	Used Storage	Total Storage	Nodes
Plato	AWS US East 2 Zone B	24 TB	300 TB	42 nodes
Orpheus	AWS US East 2 Zone A	24 TB	90 TB	21 nodes
Hera	GCP europe-west 2 Zone C	20 TB	70 TB	15 nodes
Socrates	On-Prem Site UK	320 TB	490 TB	47 nodes

