

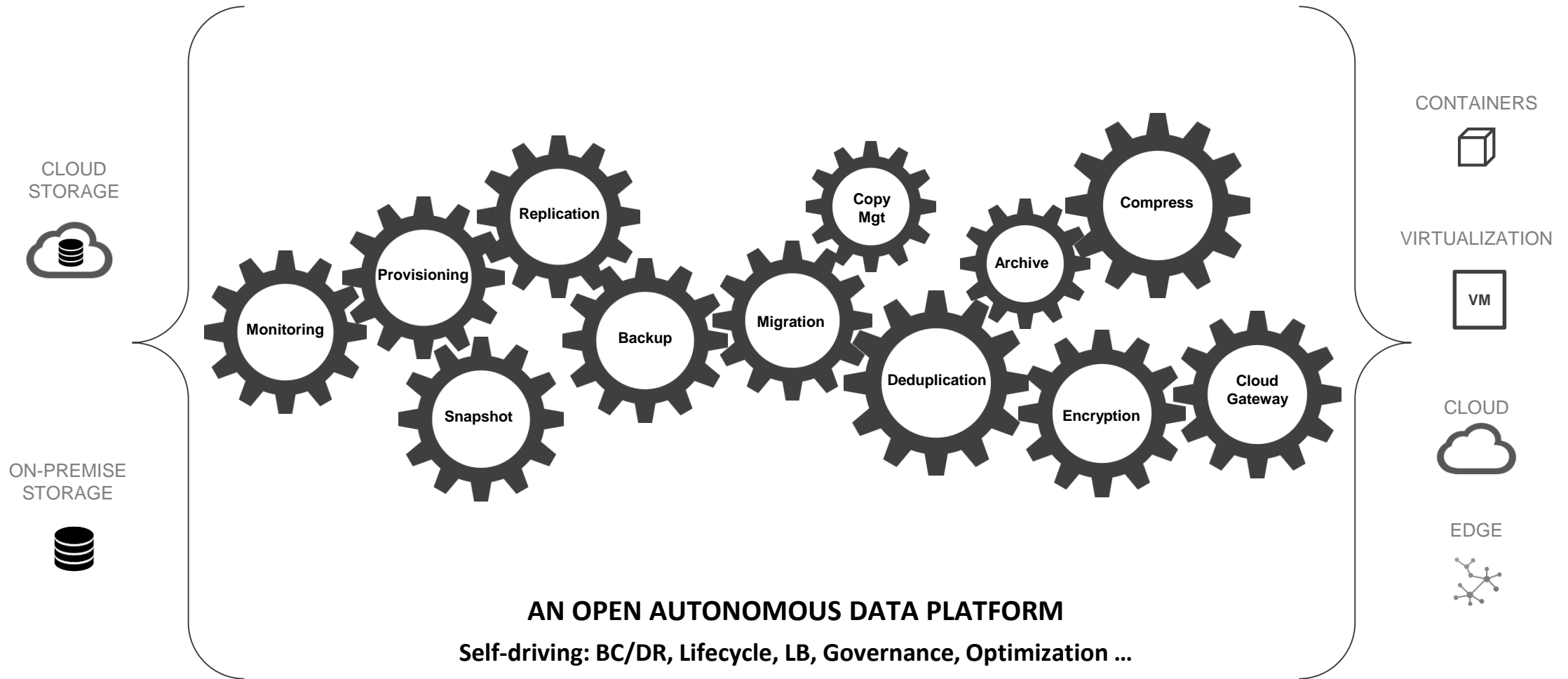


# Open Source Autonomous Data Management and Storage

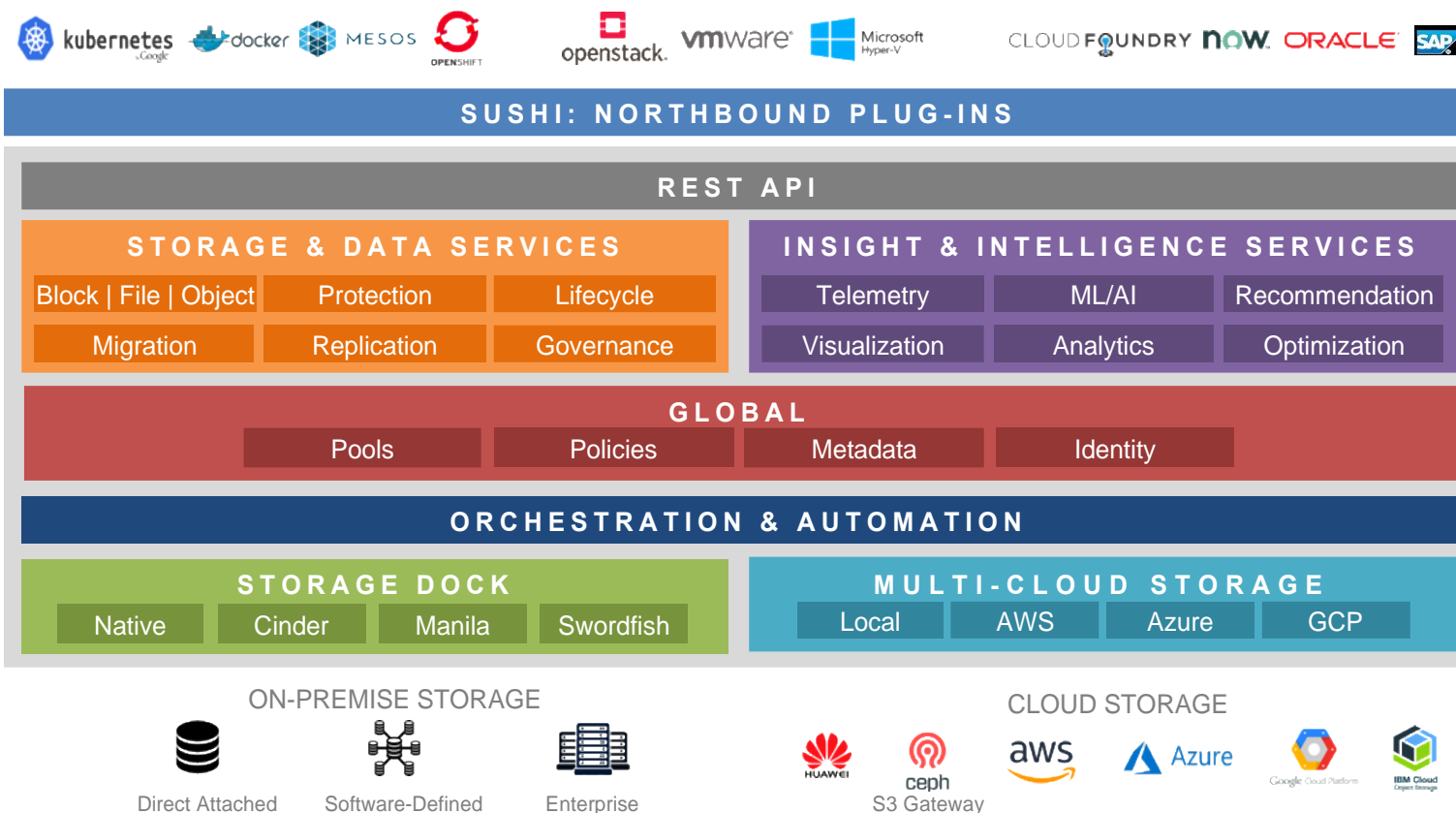
Store, Run & Manage Your Data Anywhere

# SODA: Smart Open Data Autonomy

## SODA Connects Things



# Architecture and Projects



## ❖ SUSHI

### The Northbound Plug-ins Project

Common plug-ins to enable OpenSDS storage services for cloud and application frameworks

## ❖ HOTPOT

### The Storage Controller Project

Single control for block, file, and object services across storage on premise and in clouds

## ❖ Gelato

### The Multi-Cloud Project

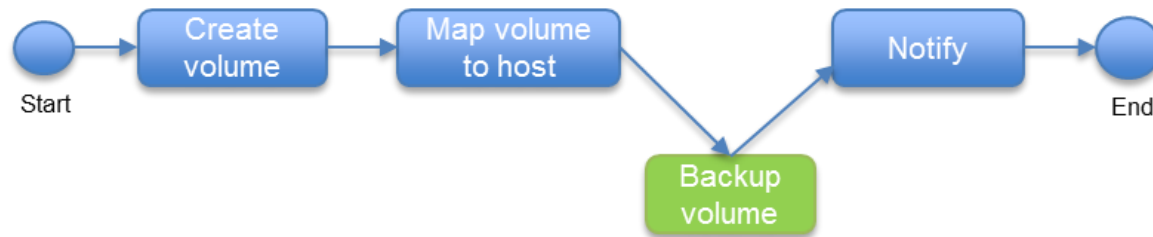
Policy based multi-cloud data control to enable data mobility across clouds

# Intelligent Data Provisioning

Automation and Orchestration provide a framework for intelligent data provisioning



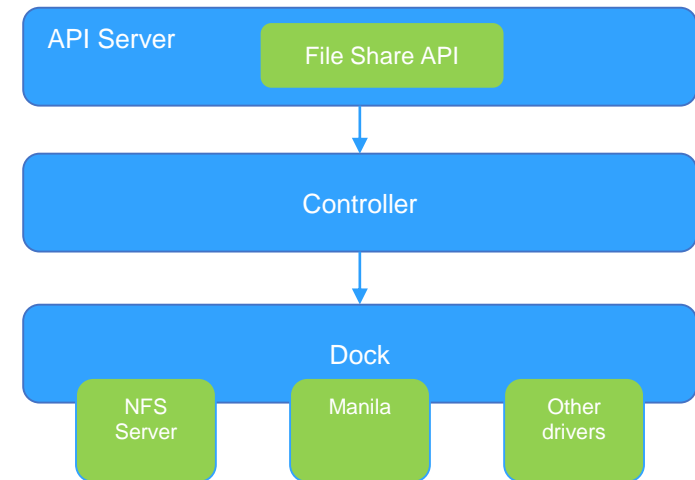
## Simple Data Provisioning Workflow: Volume Creation



### Key Points

- Supports Service Catalog
- Supports Customized Workflows
- Easy integration of new actions

## Seamless File Sharing

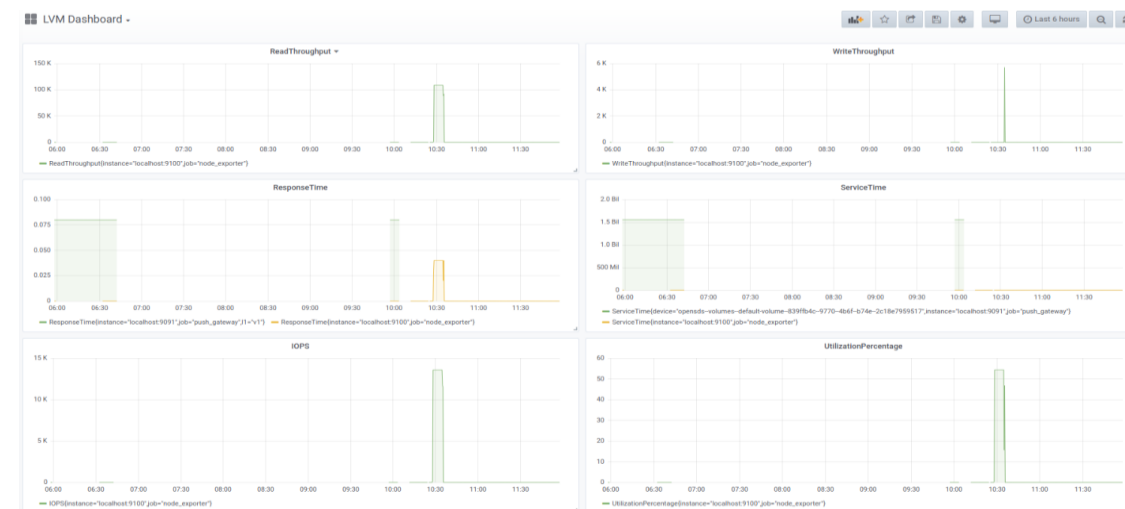
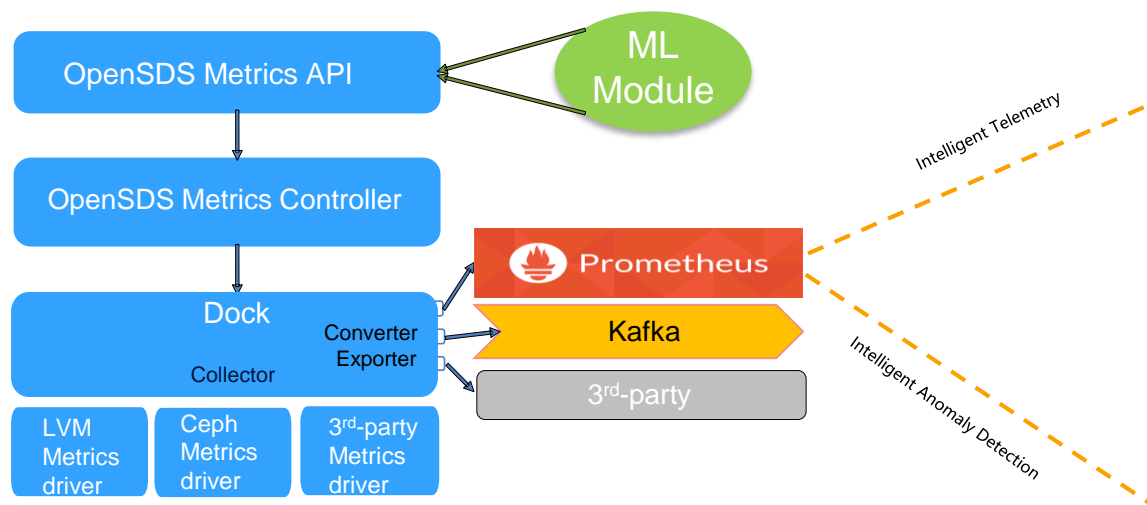


### Key Points

- Supports file share in hotpot
- Supports NFS Server, Manila and etc.

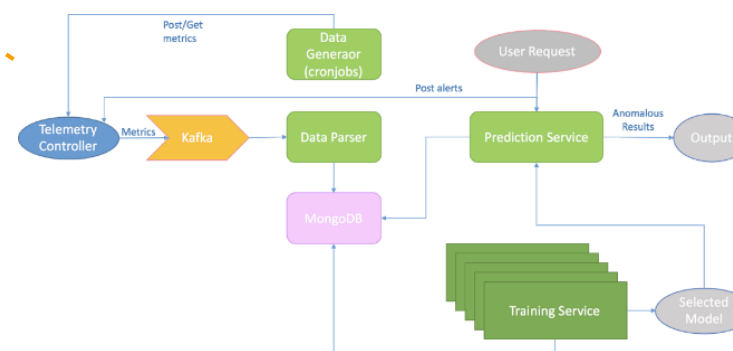
# Intelligent Data Operation

Framework for data operations based on intelligent analysis of telemetry data and anomaly detection

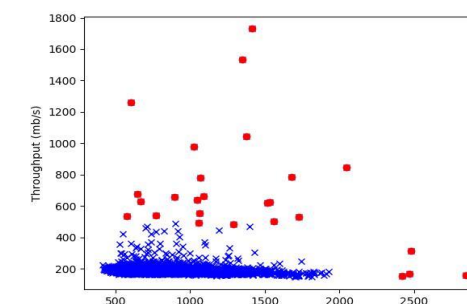


## Key Points

- Scalable interfaces for different data processing
- Scalable metrics driver to support heterogeneous storages



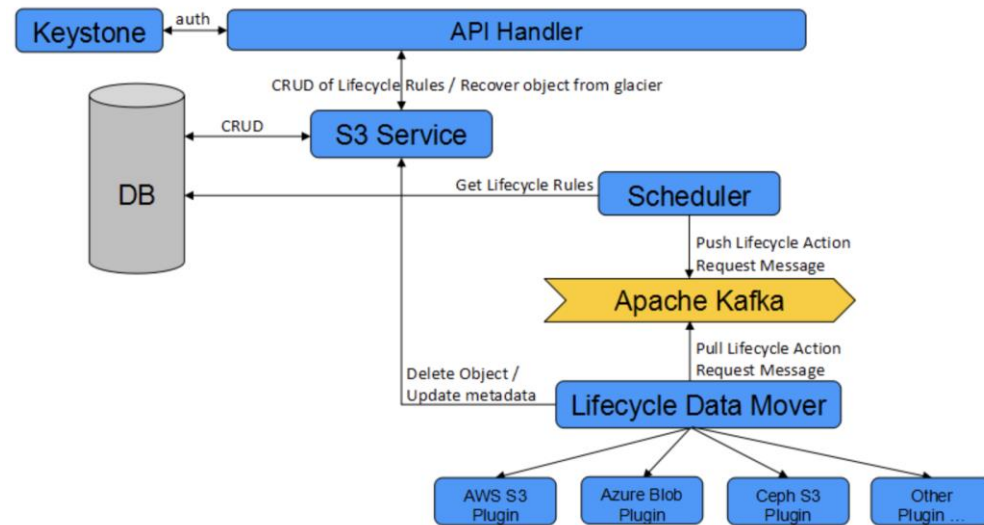
Anomaly Detection Framework



dbscan algorithm

# Intelligent Data Migration

Data in the past, at present, and in the future is connected and end-to-end data lifecycle management cross multi-clouds.



OpenSDS S3	AWS S3	Azure (blob)	Google Cloud Storage	Huawei OBS	IBM Cloud Object Storage	Ceph / Fusion Storage
Tier 1	Standard	Hot	Multi-Regional	Standard	Standard	Standard
Tier 2	Standard_IA	Cool	NearLine	Warm	Vault	
Archive	Glacier	Archive	ColdLine	Cold	Cold Vault	

## Key Points

- Support object data migration across different cloud service providers.
- Support of choosing the storage tier through the lifecycle management rules.
- Support customized Tier definition.

# Contact Information

**OpenSDS website:** <https://opensds.io>

## **Code repository:**

Sushi:

<https://github.com/opensds/nbp>

Hotpot:

<https://github.com/opensds/opensds>

Gelato:

<https://github.com/opensds/multi-cloud>

## **How to join OpenSDS:**

<https://www.opensds.io/join-now>

How to contribute to the community:

<https://github.com/opensds/opensds/blob/master/CONTRIBUTING.md>

Twitter account:

[https://twitter.com/opensds\\_io](https://twitter.com/opensds_io)

Online discussion (slack):

<https://opensds.slack.com/>

Email discussion:

<https://lists.opensds.io/g/opensds>



# SODA Project Mission Statement

To foster an **ecosystem of open source data management and storage** software for **data autonomy**; to offer a neutral forum for **cross-projects collaboration and integration**; to provide a common **build and test infrastructure**; to provide end users **quality end-to-end solutions**

# SODA Project Goals

- › Open: Collaborate openly with leading industry vendors and global end users to accelerate the development of autonomous data management and storage
- › Real: Designed for end users, the project is focused on simplifying data and storage management, and drive towards autonomous operations for real world use cases
- › Ready: Mix and match hardware, software, and services to build solutions from a certified ecosystem of suppliers

# SODA Project Deliverables

- › An autonomous data storage platform with on-premise and cloud storage support for enterprise and cloud native environments
- › A set of specifications for standardizing data management, collection, and measurements
- › A certified ecosystem of data and storage hardware, software, cloud services, and professional services
- › A community of developers, operators, integrators and trainers that can provide support

# SODA Participants in the Ecosystem

- › Key Vendors: Intel, IBM, Fujitsu, Huawei
- › Other Vendors: WD, HPE, Sony, Toshiba, Linbit, MayaData (OpenEBS), Click2Cloud, Quobyte, SME, CTC, Maru Beni, Msys, Wipro, Tata Consulting
- › End Users: Vodafone, KPN, NTT Communications, Toyota, Yahoo Japan, GMO Pepabo, Sakura Internet, IIJ, China Unicom, China Mobile, China Telecom, China Merchant Bank, UnionPay, JD.com, Itau Unibanco, Vivo, KIO

# Benefits of Membership

- › Provide financial support and leadership for the project
  - › drive roadmaps, request features
- › Public recognition of organization as a supporter of the project
- › Participate in the development of strategic programs, such as compliance trademark programs.
- › Participate in proof-of-concept (POC) testing
  - › For end users – test and provide feedback and requirements
  - › For vendors – engage end users and grow awareness of brand
- › Join a growing community focused on developing an open data storage ecosystem

# Expectations of Members & Users

- › Participate in the technical project
- › Advocate for the project
- › Coordinate in upstream project contributions
- › Project feedback to the community
- › Test the project with provision of feedback to the community.

# Governance Model



# Membership

- Like other projects of the Linux Foundation, this project is funded through membership dues and contributed engineering resources
- Membership levels include Premier and General.
- End users, government entities, academic and nonprofit organizations can join for free as Associate Members

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