

DATERA SIMPLIFIES STORAGE FOR CONTAINER CLOUDS – DATASHEET

ELASTIC DATA FABRIC

Modern software development has fundamentally changed applications impacting the requirements to the underlying infrastructure, tools, and processes to manage applications properly throughout the lifecycle. Cloud-native application design deconstructs application components into small, discretely optimized micro-services.

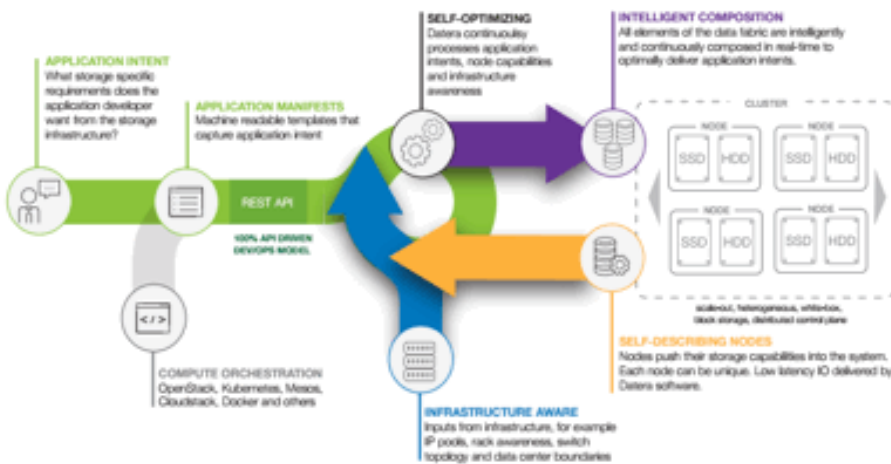
Today, containers can be the atomic compute unit for fine grain resource management, and can be the new virtual machine. As container adoption grows beyond stateless applications to stateful workloads such as MySQL, Kafka, Cassandra, and Couchbase, the need for persistent storage is foundational.

Datera Elastic Data Fabric™ (EDF), delivers persistence for cloud deployments, and seamlessly integrates with Kubernetes, Docker/Swarm, and Mesos/DCOS. Based on the first principles of containers, Datera allows application resource provisioning to be decoupled from the underlying physical infrastructure. This brings clean contracts (aka, no dependency or direct knowledge of the underlying physical infrastructure), declarative formats, and eventually portability to stateful applications.

DATERA ELASTIC DATA FABRIC

Datera EDF is a next-generation “public-cloud”-like elastic block storage is deployable within enterprises and service providers on industry-standard x86 servers. It translates application-based intents to intelligently compose the fabric taking into account the infrastructure awareness, self-describing node capabilities and evolving system requirements. The application intent captures the invariant description of the service objectives for the application.

Datera delivers intent-based multi-tenant aware storage with the ability to scale through application awareness.



FEATURES

- Built on the horizontal scaling paradigm with the ability to scale resources linearly
- Runs on heterogeneous x86 servers delivering heterogeneous hyper-scale infrastructure
- Distributed system completely self-aware, self-adaptive, and self-optimizing making it an autonomous organism adapting
- Deployable within enterprises and service providers on industry-standard x86 servers
- Delivers intent-based multi-tenant aware storage to automate to scale through application awareness

DATERA ADVANTAGE FOR CONTAINER ERA CLOUDS

Datera Elastic Data Fabric changes the cloud storage playing field and raises the bar far beyond traditional storage solutions capabilities in several areas, including:

Distributed Persistence	For distributed applications, there is a need for distributed infrastructure layer providing a common operational framework for stateful and stateless workloads. This can provide consistent scale-out access anywhere in the cluster for both ephemeral and persistent storage tiers. In addition, Datera optimizes for distributed access by using container locality, infrastructure failure domains, and resource segregation.
Grow-as-you-go Model	Start small, and be able to scale fast. Traditional storage is limited in scale by the proprietary hardware frame size and performance, while Datera delivers “heterogeneous COTS scale-out”. Software-based system will organically evolve—grow with new hardware, and decommission obsolete old hardware without any disruption. Data gets rebalanced and access optimized for the runtime workloads. No data migration. No forklift upgrades. Ever.
Container Scale and Velocity	Containers may be 10x denser than virtual machines. Given the scale and velocity of transactions, the storage infrastructure has to support low latency, fast operations, and scale of storage objects. Datera not only provides native flash latencies, and linear scale but provides container native block drivers, optionality to describe the volume, and templates to automate at scale.
Intent-Defined Container Deployment	Application specific templates define the I/O characteristics of an application environment. Templates can define broad service classes or specific requirements for each workload in an application environment. Datera maps the intent defined by the app template to the available storage when volumes are created. Each volume is unique, allowing composable, on demand storage infrastructure. Datera system allows for storage to be placed intelligently maintaining the intended services level objectives for any application workload, even in multi-tenant clouds.
DevOps Operations Model	Datera provides application-driven real-time resource consumption, evolving datacenters from slow infrastructure-centric IT to agile DevOps-centric IT. Application requirements are captured in context-aware policies (“intents”) that deeply shape the fabric, accommodating failure domains, network topology, multi-tenancy, workload isolation, etc. An intent-based REST API makes the infrastructure programmable and composable, and allows instantiating entire storage clouds with single API calls (datacenter-as-code). Datera transforms datacenter speed, agility and experience.
Transparent DevOps to IT Ops Transition	Datera allows for application related storage provisioning to be decoupled from the physical infrastructure management. Moreover, customers can seamlessly transition from development to test to IT operations without application configuration changes, but morphing the infrastructure constraints through policy overrides based on application, user or tenant.
Wide Price/Performance Aperture	Given the wide variety of containerized applications, Datera provides the elastic price bands that fit the economic value for particular data. Each volume’s requirements are composable on-demand and that articulates storage placement. Datera system allows for storage to be placed intelligently maintaining the intended services level objectives for any application workload, even in multi-tenant clouds.

SCALABLE. FLEXIBLE. SMARTER.

Datera brings hyper-scale operations and economics to private and public clouds. Datera’s products are used in production by large enterprises and service providers worldwide. The company is headquartered in Sunnyvale, CA.