

# Mesosphere DCOS: Modern Apps in Containers, Made Easy



Mesosphere Data center Operating System (DCOS) makes it easy to build and run modern distributed applications in production at scale by pooling resources across an entire data center or cloud.

Mesosphere and Intel have been collaborating on enhancements to DCOS that leverage Intel technology, including a joint technology called Serenity. Serenity increases the efficiency of datacenters by increasing server utilization. While cluster allocation is often close to or above 80% for resources such as CPU and memory, the actual usage is typically below 20%. Serenity takes advantage of allocated but temporarily unused resources to execute best-effort tasks such as background analytics, video/image processing, chip simulations, and other lower priority jobs. Serenity utilizes Intel's hardware performance counters to detect interference, correct misplacement, and thus ensure the quality of service for latency-sensitive jobs while increasing cluster utilization.

With DCOS you can confidently run containers and microservices at scale with a rock-solid platform powering today's production hyperscale data centers, and easily install and manage Big Data services like Kafka, Spark, and Cassandra that power many of today's Internet of Things and Big Data stacks.

## Key Business Outcomes

**Hyperscale Operations** with unprecedented IT efficiency and automation: DCOS runs the entire data center or cloud as a single pooled entity so that deployment of applications and services and instant scaling of thousands of containers is all possible with a single command, while providing security and business continuity.

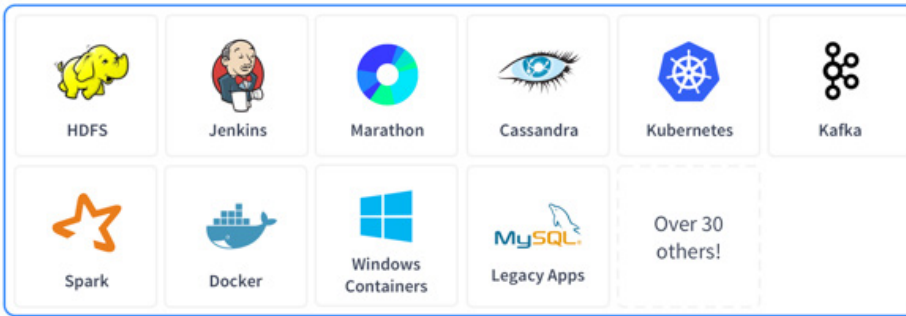


**Developer Agility** and accelerating time to value for new services: DCOS enables application teams to easily scale and sustain continuous integration and a continuous development environment, reducing the time and risk of introducing new software releases to production at scale.



**Data Agility** enabling enterprises to gain insight and take action from ubiquitous data: DCOS elegantly runs common services like Kafka, Spark, and Cassandra that power many of today's Internet of Things and Big Data stacks, enabling enterprises to run a simple, open-source based, and integrated turnkey solution to power their Big Data applications.





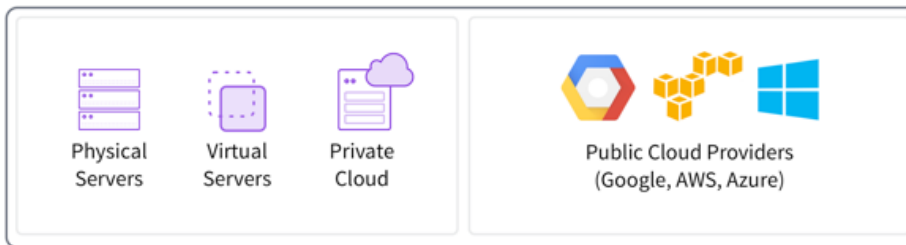
**Over 40 Services Made for the DCOS**

DCOS enables single-command installation of services like Spark, Cassandra, Jenkins, and Kafka. Once a service is installed, it can be run across the entire data center, elastically sharing all or some of the data center’s resources.



**Your Hyperscale Data center**

Built on Apache Mesos, DCOS lets you easily build and run modern distributed apps and move to a microservices architecture, with high availability, security, and monitoring and operations built-in.



**Works Where You Work**

Install Mesosphere DCOS on any public cloud or in your own private data center—whether virtualized or on bare metal. Create a consistent user experience and move your workloads with ease.

**Capabilities and Features**

**Production Proven**

- Robust, battle-tested core with Apache Mesos enables massive scaling (10K+ nodes)
- Distributed, highly-available architecture with no single point of failure

**One Platform**

- Advanced container orchestration with support for any container (Mesos, Docker, RKT, Windows)
- Simplified deployment and scaling of Big Data services such as Spark, Kafka, and Cassandra
- Mixed workload support through isolation and bin packing on the same host

**Simplified Operations**

- Non-disruptive DCOS upgrades and maintenance
- Automatic monitoring of apps and automatic recovery in case of app/instance/node failure
- Multi-user identity and authentication with role-based access control
- Identity management integration (Active Directory/ LDAP)
- Access logs and permission management UI

**Hybrid Cloud**

- Unified operational experience across private and public clouds

**Mesosphere DCOS Enterprise Edition**

Security and Governance	Monitoring and Operations	Advanced Networking and Storage	Advanced Big Data Pipeline Integration
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**Mesosphere DCOS Community Edition**

**CORE OPERATING SYSTEM ELEMENTS**

**SIMPLIFIED USER EXPERIENCE**

Init System (Marathon)	Distributed Chron (Chronos)	Service Discovery (Mesos-DNS)	User interface	Command Line Interface	Framework Testing and Certification
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**APACHE MESOS**

Resource Allocation & Isolation	Extensible Application Framework	Production Proven At Scale (10K+ Nodes)
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**Architectural and Consulting Services**

Mesosphere offers a high-touch paid service for customers to accelerate their understanding of DCOS through presentations, discussions, and on-premises software configuration to meet a specific use case.

**Interested in Learning More?**

Contact our sales team at [www.mesosphere.com/contact](http://www.mesosphere.com/contact) or visit our website [www.mesosphere.com/product](http://www.mesosphere.com/product).



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