The Myth

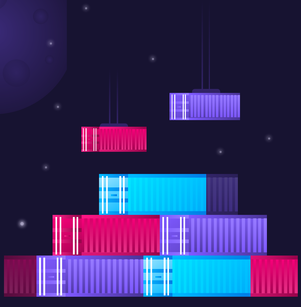
DOCKER vs. KUBERNETES vs. APACHE MESOS

What You Think You Know is Probably Wrong

The Myth

There are countless articles, discussions, and lots of social chatter comparing Docker, Kubernetes, and Mesos. Unfortunately, many of these articles are misinformed; perpetuating the myth that these three open source projects are in a fight-to-the-death for container supremacy!

While all of three of these technologies make it possible to use containers to deploy, manage, and scale applications, they each solve for different things and are rooted in very different contexts. Read on to find out more.



Let's Start With Docker

Docker is a containerization platform that enables your applications to work seamlessly in any environment by packaging your app and its components in one container.

Using containers mean:

- Consistent code across all environments
- More streamlined workflows
- Ability to increase and decrease resources as needed
- Easy incorporation of new technologies into workflows

Organizations started using so many containers that they needed a way to coordinate these containers across multiple machines

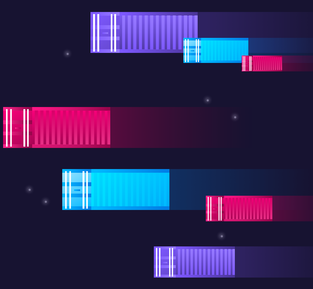
Enter Container Orchestration & Kubernetes

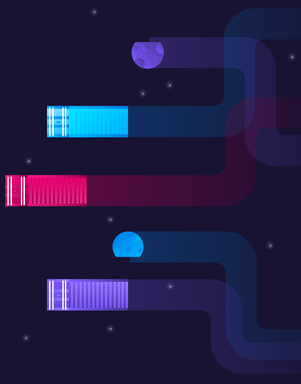
Container orchestration is the process of automating the deployment of multiple containers by provisioning hosts, initiating and rescheduling containers, linking them together, and more. Basically, if you are running multiple containers you need a way to orchestrate them.

Kubernetes helps all of your containers move together by:

- Automating container deployment
- Scheduling and scaling containerized apps
- Running in multiple environments
- Being highly modular and scalable

But...what if you want to run other workloads like analytics and stateful data services? I mean, containers aren't the only thing, right?





All the Workloads All the Time With Apache Mesos

Apache Mesos was started as a UC Berkeley project to create a next-generation cluster manager. Mesos' modular architecture enables companies to leverage a single unified platform to run any combination of workloads together on any infrastructure combination.

What workloads does Mesos support?

- Containers and microservices
- Data services
- Analytics
- Legacy applications

Container orchestrators, like Kubernetes, are the top workloads that run on Mesos. But containers aren't the only workloads you want to run. With Mesos, you can run your datacenter and cloud as a single computing resource.

So Why All the Confusion?

Docker, Kubernetes, and Mesos are three completely complementary platforms. Kubernetes runs Docker containers and Mesos runs Kubernetes. So where did this battle royale come from?

Well, both Docker and Mesos do provide their own specialized orchestration framework—Docker Swarm and Marathon. But these are features of the core platform–not the main frameworks themselves. And there are other container orchestrators too, like Titus and Aurora–which can all run on Mesos.

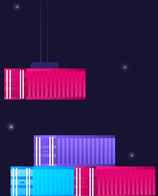
Why Does This Matter?

Let's get our tech straight! At their core, Docker, Kubernetes, and Mesos all have fundamentally different functionality.

Mesos doesn't care what is running on top of it. Mesos can run any microservice, container, data service, and more on any physical infrastructure, virtual machine, or public cloud. And that includes running both Kubernetes AND Docker.

Want to learn more about how Mesosphere can help automate Kubernetes on infrastructure?

Visit mesosphere.com or email sales@mesosphere.com



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