

"Orchestrating microservices using containers in the cloud"

Marc Andreessen quipped in 2011: "Software is Eating the World". He was observing the e-commerce transformation and stating that every business should act like a "software company" to survive the new business model. In 2016, he still maintained that "Software is Eating the World" and went further. He said, "Software is Programming the World". This is in reference to the digital transformations that are disrupting the businesses that have been around for a while. Think Uber for example and how it has changed the way we hire taxis.

There is very little time to market these days. To be successful in this fast-paced, highly competitive market, software development, delivery and operations have to be very agile. Systems should rely on light-weight, loosely-coupled microservices that can grow or shrink based on demand. A high-maintenance monolithic application is no longer an option for systems development. Systems should provide high availability, scalability, resilience, low-maintenance and easy upgradability.

Now, cloud computing provides the infrastructure scalability and resiliency, while container based microservices provide application resiliency and high-availability.

In this session, we will discuss datacenter inflection points and evolution of cloud computing from physical machines to virtual machines, followed by the IaaS, PaaS models to containerized services. The foundational elements of cloud computing - Compute, Storage and Networking - will be reviewed. The session will cover an overview of containers and their lifecycle - creation, deployment and management.

Containers could change the world of IT. We will discuss microservices architecture. This session will cover the basics of containers, and how they can be orchestrated on a local repository and in the cloud. Application architecture has transformed from fat clients to client server model, three-tier and service-oriented architecture. Now, containers are becoming the choice for developing application core functionality. The focus is on low maintenance, self-healing and painless upgradability.

"Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure." -- Melvyn Conway, 1967