
Registration & Breakfast

8 am - 9 am
Main agenda

Introduction to Containers

9 am - 12 pm
Main agenda

- Learn what Containers are and what it is for
- Learn the terminology; define images, containers, etc.
- Gain a deep understanding of containers
- Learn how to build, manage, and distribute images
- Interact with the Docker Hub website

Limited to 40 participants. Register early to ensure your spot.

Participants

Instructor: Tianon Gravi, SVP, Operations, InfoSiftr

Instructor: Talon Bowler, Trainer, InfoSiftr

Lunch & Networking

12:15 pm - 1:15 pm
Main agenda

Intermediate Containers Workshop

1:15 pm - 4:15 pm
Main agenda

- Learn how to run and manage containers
- Gain a full understanding of container volumes and networking
- Acquire tips and good practice
- Know what's next: the future of Docker and how to get help

Limited to 40 participants. Register early to ensure your spot.

Participants

Instructor: Tianon Gravi, SVP, Operations, InfoSiftr

Instructor: Talon Bowler, Trainer, InfoSiftr

Chef: Container Automation with Habitat

1:15 pm - 2:45 pm
Main agenda

Containers provide a delightful development experience. It's easy to download a container image and get started writing code. But it's a different story when you have to run containers in production at scale. That's when all the hidden complexities become apparent and the real challenges begin. What tools are you going to use to build, deploy, run, and manage your containerized applications? How are you going to manage difference between environments like staging and production with a fleet of immutable objects? How will you effectively scale containerized applications once you've deployed them?

Habitat, our open-source project for application automation, simplifies container management by packaging applications in a compact, atomic, and easily auditable format that makes it easier to deploy your application on various container runtimes. Once your applications are deployed, the Habitat supervisor simplifies the complexities of running in production environments with built-in abstractions for functions typically handled by external tooling, such as dynamic scaling and rolling updates.

Join us for this workshop to learn how Habitat can help you overcome these obstacles as you look to implement container based solutions. Attendees will learn about Habitat's container build system, how to package and application with Habitat, and how to run this packaged application leveraging Habitat's service supervisor.

Participants

Michael Ducey, Director, Product Marketing, Chef

Getting Started with Containers and Kubernetes

3 pm - 4:30 pm
Main agenda

In this workshop you'll dive into containers, how they're composed, and their uses. From there you'll stand up a Kubernetes deployment either in the cloud or on your laptop and dive in to how containers can be managed on platforms like Kubernetes.

By the end of this workshop, you'll be able to identify the differences in container types, how to setup a Kubernetes install, and the vocabulary and common workflows for running containers on Kubernetes.

Attendees will need to bring a laptop. For those of you interested in running Kubernetes, you'll need Ubuntu running on your laptop or virtual machine with a minimum of 4GB RAM and SSD drive. Otherwise, temporary cloud credentials will be provided for deployment sections of the workshop.

Participants

Marco Ceppi, DevOps Engineering Manager, Canonical

SCHEDULE

PRE-CONFERENCE - 21/02/2017

Container World
February 21-23, 2017
Santa Clara Convention Center
California

TIME	MAIN AGENDA
8 AM	8 am - Registration & Breakfast
9 AM	9 am - Introduction to Containers
10 AM	
11 AM	
12 PM	12:15 pm - Lunch & Networking
1 PM	1:15 pm - Intermediate Containers Workshop 1:15 pm - Chef: Container Automation with Habitat
2 PM	
3 PM	3 pm - Getting Started with Containers and Kubernetes

Registration & Breakfast

8 am - 9 am
Main agenda

Orchestrating Least Privilege

9 am - 9:30 am
Orchestration / Workloads

The popularity of containers has driven the need for distributed systems that have the ability to manage resources, place workloads and adapt to faults. These so-called Container Orchestrators have seen a rise in popularity in the enterprise that is reminiscent of the early container adoption. Open-source projects such as Docker Swarm, Kubernetes and Marathon make it easy for anyone to manage their container workloads using their cloud-based or on-premise infrastructure. But are these orchestrator systems architected to be safe enough for enterprise use? Nathan McCauley, Docker's Director of Security will share how following the principle of least-privilege, where any participant of the system only has access to the resources that are strictly necessary for its legitimate purpose - no more, no less - offers a secure design for orchestration technology.

Participants

Keynote Speaker: Nathan McCauley, Director of Security, Docker

Becoming Cloud Native: Taking it One Container at a Time

9:30 am - 10:10 am
Standards & Community

Are we close to hitting peak confusion regarding containers? Are we in the middle of a container war? Does anyone really know how to build a cloud native computing architecture? What does it mean to be cloud native?

The questions are many as we build a new computing paradigm for enterprises and service providers. With every answer we provide to the big challenges cloud operators and application developers face, three more are raised.

In this presentation, representatives from the Cloud Native Computing Foundation will discuss the lessons we have learned with containers so far, including how Google (and quite a few other companies) have been developing and using containers to manage applications for over decade. The panel will address the old world of node first development vs. the new world of cloud native computing; properties of a cloud native computing architecture – container packaged, dynamically managed and micro-services oriented – and the benefits it can provide developers, CIOs, and end users. The panel will also touch on what to do with the containers once they are standardized and different adoption paths a company can take to become cloud native.

Participants

Panelist: Chris Wright, Advisory Board | Vice President and Chief Technologist, Office of Technology, Cloud Native Computing Foundation | Red Hat

Panelist: Mark Thiele, Chief Strategy Officer, Cloud Native Computing Foundation | Apcera

Panelist: Benjamin Hindman, Advisory Board | Co-founder, Cloud Native Computing Foundation | Mesosphere

Panelist: Mackenzie Burnett, Product, CoreOS

Moderator: Val Bercovici, CTO, Cloud Native Computing Foundation | SolidFire

Evolution of Containers on AWS

10:10 am - 10:40 am
Main agenda

The container space is evolving rapidly. As more and more companies move toward microservices and containers, the tooling and products that help enable container-based development need to mature just as quickly. In this session, we'll cover why companies are adopting containers, and how our approach to containers at AWS has evolved over the last year to support developers. To illustrate this, we'll cover the basics of Amazon EC2 Container Service (ECS), and how it's matured over the last year by giving an overview of several key additions to ECS, including Task Placement Strategies, Parameter Store, and the Event Stream for Amazon CloudWatch. We'll also talk about our vision for the future: more control for developers and a continued focus on operational excellence.

Participants

Abby Fuller, Sr. Technical Evangelist, Amazon Web Services

Expo Floor Open

10:30 am - 6:30 pm
Main agenda

Break & Speed Networking

10:40 am - 11:30 am
Main agenda

Containers Are Here to Stay

11:30 am - 12 pm
Containers in the Enterprise

Containers are here to stay and it's time to get your infrastructure in order. While containers address the application packaging and distribution problem there is a huge gap between deploying applications and managing them in production. We must move beyond the single machine programming model and start adopting API driven distributed systems to unlock the true value of containers. The tools are here. The community is ready. The only thing missing is you.

Participants

Kelsey Hightower, Developer Advocate, Google

The Future Stack: How Container-as-a-Service Enables Next-Gen PaaS

12 pm - 12:30 pm
Main agenda

Platform as a Service (PaaS), either home-grown or cloud hosted, has proven to be an important component in accelerating and normalizing the delivery of a variety of reliable, scalable cloud applications. Traditionally these PaaS products were restrictive in that they generally limited developer choice to a specific programming language and required developers to conform to a specific application lifecycle model. The alternative was to use raw infrastructure as a service (IaaS) which forces tremendous work onto developers in the form of machine and operating system management.

More recently, container orchestration or container-as-a-service (CaaS) is emerging as a sweet spot between virtual machine infrastructure and platform as a service. CaaS provides a more flexible foundation than traditional PaaS while still enabling developers to focus on their application and forget about the machines on which it is running. This means enterprises are able to innovate more quickly, creating a modern platform that supports the delivery of reliable and scalable solutions.

Interestingly, CaaS is becoming the new infrastructure foundation, enabling the rapid development of next-generation PaaS products that build on top of this core container-as-a-service foundation. These new PaaS's enable developers to use the power of PaaS for rapid development, and step down to lower-level abstractions when it is necessary. The combination of CaaS and next-generation PaaS provide developers with the tools need to rapidly and reliably build and deploy all aspects of their application while still focusing on managing the app, rather than machines.

Participants

Brendan Burns, Partner Architect, Microsoft

Lunch on Expo Floor

12:30 pm - 1:30 pm
Main agenda

Docker at Zoosk

1:30 pm - 2:10 pm
Containers in the Enterprise

Zoosk uses containers extensively in all phases of our product pipeline: development, testing, and production. In this session, we'll describe our journey from running applications on bare metal to a fully containerized workflow. We'll cover details on how we've gotten our development environments under control and gained huge developer efficiency; how we used simple tools to deploy containers in production on top of existing infrastructure; custom docker integrations we've developed, including load balancing, secrets, and deploys; our experience containerizing existing services of various sizes; and what we're looking forward to in the coming year.

Participants

Ethan Tuttle, Lead Engineer, Zoosk

Use the Right Container Technology for the Job

1:30 pm - 2:10 pm
Orchestration / Workloads

Application containers, machine containers, process containers, system containers – what's the difference? 12-factor apps, Microservices, cloud-native application design – are these real? Docker, Rocket, OCID, LXD – do I need all of them? Should I run PaaS on top of my IaaS, or my IaaS on top of my PaaS? Do containers fit into PaaS or IaaS? Or both? Neither? Where are the intersections of Kubernetes, Swarm, Mesos, and OpenStack? How do I ensure compatibility across my public and private clouds? And how does bare metal – from my commodity, scale-out x86 to my powerful, scale-up mainframes fit into all of this? Can any of this stuff actually be used in a highly secure environment? In this session, Dustin Kirkland, Ubuntu Product and Strategy Lead at Canonical, will explain the container ecosystem in clear, concise terms, from real enterprise user experience – the successes and the failures.

Participants

Dustin Kirkland, Advisory Board | Ubuntu Product & Strategy, Canonical

An In-depth Look at Amazon ECS

1:30 pm - 2 pm
Containers in the Enterprise

In this session, we'll take an in-depth look at Amazon EC2 Container Service (ECS). This will include an overview of ECS, its basic functionality, and a more technical deep dive into some of the more advanced features, such as Task Placement Strategies, Parameter Store, and Amazon CloudWatch Event Stream. We'll also talk about some different use cases for ECS, like running scheduled batch jobs. We will conclude with a brief demo and an opportunity for Q&A.

Participants

Abby Fuller, Sr. Technical Evangelist, Amazon Web Services

Panel: Stateless vs. Stateful Architectures

2:20 pm - 3 pm
Storage / Persistent Storage

In this panel, leaders from companies running containers in production and those developing cutting edge container technology will debate:

- How to achieve statelessness
- Pros and Cons of State
- How to build lots of microservices infrastructure
- What it takes to manage multiple state locations and more.

Participants

Panelist: Brian Bulkowski, CTO and Co-Founder, Aerospike

Panelist: Naveen Nimmu, Founder and CEO, Clouber

Panelist: Tom Jackson, Software Engineer, Nordstrom

Panelist: Chris Haddad, Chief Architect, Karux LLC

Moderator: Craig Matsumoto, Managing Editor, SDxCentral.com

Panel: Container Adoption Paths into Legacy Infrastructure

2:20 pm - 3 pm
Containers in the Enterprise

No one can argue against the benefits of containers: portability/flexibility/scalability. But, there must be intelligent adoption paths for companies entrenched in legacy infrastructure. For some companies, taking the container plunge requires overcoming business and technical risk mitigation strategies and can require major organizational changes. Furthermore, companies don't have an obvious ROI model for container adoption, as they did with things such as purchasing servers and adopting the cloud. That ROI is not driven by containers for the sake of containers, but by container-leveraged products that both fit into existing business and technical processes and add substantial and quantifiable value.

This panel will discuss the multifaceted challenges and business opportunities relating to integrating containers into legacy infrastructure.

Participants

Moderator: Larry Gordon, Principal, The FactPoint Group

Panelist: Michael Feinstein, CEO, Jisto

Panelist: Ranga Rajagopalan, CTO and Co-Founder, Avi Networks

Panelist: Mark Carlson, Principal Engineer, Industry Standards, SNIA | Toshiba

Panelist: Allon Cohen, VP, Product, Elastifile

Panelist: John Mathon, CEO, AgileStacks

Characterizing and Contrasting Container Orchestrators

2:20 pm - 3 pm
Orchestration / Workloads

Running a few containers? No problem. Running hundreds or thousands? Enter the container orchestrator. Let's take a look at the characteristics of the four most popular container orchestrators and what makes them alike, yet unique:

- Swarm
- Nomad
- Kubernetes
- Mesos+Marathon

We'll take a structured look at these container orchestrators, contrasting them across these categories:

- Genesis & Purpose
- Support & Momentum
- Host & Service Discovery
- Scheduling- Modularity & Extensibility
- Updates & Maintenance
- Health Monitoring
- Networking & Load
- Balancing
- High Availability & Scale

Participants

Lee Calcote, Sr. Director of Technology Strategy, SolarWinds

Networking & Refreshments

3 pm - 3:30 pm
Main agenda

Expo Floor Open

3 pm - 7:30 pm
Main agenda

How Secure is your Container Pipeline?

3:30 pm - 4:10 pm
Containers in the Enterprise

The concept of containerization was in Linux from ages in the form of jails, zones, LXC etc. but it's gained tremendous recognition in the past two years. The credit goes to "Docker" which made the concept of containerization very useful by adding many benefits to existing container technologies. Tech giants like Redhat, Google, IBM, VMware etc. are not only the biggest contributors to this most active open source project but also major users of it. Security is always an important issue for any upcoming technology and Docker is no exception. This presentation starts with a brief introduction to containers vs. virtualization technology, Docker ecosystem and then goes in-detailed into "Docker Security". It gives you an overview of security issues that can occur at every point in Docker container pipeline but goes "deep" into security issues of "Images" and "Container run-time". Then, you will be learning on how to protect your container ecosystems from these security issues. Presentation also covers enterprise specific container security measures, golden rules to maintain each component of your container ecosystems securely, building a secure in-house Docker images registry, creating enterprise level container security standards and guidelines, Tools for your container ecosystem, hardware isolation to containers etc.

Participants

Manideep Konakandla, Security Researcher, Carnegie Mellon University

Boosting Performance of Data Intensive Applications via Persistent Memory

3:30 pm - 4:10 pm
Storage / Persistent Storage

Data-intensive applications need fast access to storage. Persistent memory is the ultimate high-performance storage tier. Non-volatile DIMMs (NVDIMMs), a type of persistent memory, have emerged as a practical next-step for boosting performance of next generation server, storage, and cloud platforms. Standardization and ecosystem enablement efforts around NVDIMMs are paving the way for plug-n-play adoption. This session will explore what customers, developers, and the industry are doing to fully unlock the potential of persistent memory today.

Participants

Arthur Sainio, Co-Chair, SNIA NVDIMM Special Interest Group and SMART Modular Technologies

SESSIONS

DAY 1 - 22/02/2017

Container World

February 21-23, 2017
Santa Clara Convention Center
California

Cloud Native Workloads & VMware – A Grand Tour

3:30 pm - 4:10 pm
Orchestration / Workloads

Have you ever found a new technology that makes your application deployments easier, but when you go to put it into production, your ops team shut you down because they don't understand it or it appears complex to them?

Many of you know VMware as the "Hypervisor Vendor" that your infrastructure teams manage. What you may not know is that VMware has specific technologies targeted at the cloud-native and container realm that your infrastructure team can offer in a production world. This presentation will cover some key VMware technologies as it pertains to the cloud native and container space. Many of which are open source and available on <http://vmware.github.io>.

- Photon OS – VMware's Linux Distribution optimized to be a container host
- vSphere Integrated Containers – a way to provide a virtual container host to your SW developers
- Photon Platform – A full stack Container Optimized IaaS solution
- VMware Integrated OpenStack – VMware's OpenStack distribution that runs on top of your existing vSphere environment

Come learn about technologies that you want to use and that your operations teams won't give you a lot of friction to move to production.

Participants

Steve Tegeler, Director, Technical Product Management and Systems Engineering, Cloud Native Apps, VMware

Accelerate Application Delivery with Docker Containers and Windows Server 2016

4:15 pm - 4:55 pm
Orchestration / Workloads

Applications are changing and Docker is driving the containerization movement to deliver new microservices applications or provide a new construct to package legacy applications. Attend this session to learn how the combination of Docker, Linux, Microsoft Windows Server and other technologies together deliver an application platform for hybrid cloud apps. Accelerate your app delivery and gain freedom to use any stack across a secure software supply chain.

Participants

Mike Coleman, Technology Evangelist, Docker

Stateful Services on AWS Using Kubernetes -- Ready for Prime Time?

4:15 pm - 4:55 pm
Storage / Persistent Storage

Kubernetes promises to dramatically simplify the way Web services are provisioned and maintained. Many of the first Kubernetes success stories involved stateless microservices. But what about stateful microservices? Databases? Is Kubernetes up to the challenge? And what about the Kubernetes promise to provide a clean abstraction layer over arbitrary infrastructure providers? How soon before you can spread your database nodes across your data center and AWS using Kubernetes?

Participants

Tom Jackson, Software Engineer, Nordstrom

You're Monitoring Containers Wrong

4:15 pm - 4:55 pm
Operations/DevOps

I hate to say it, but there's a lot of bad advice out there on how to monitor your containers in production. In this talk I hope to add some much-needed clarity on how to best monitor containers to manage the health of your applications.

My advice is built off our experience creating container monitoring solutions, and the information we've gotten from working with hundreds of customers deploying Docker. I'll cover key questions like:

- Why is it so hard to get visibility into Docker containers?
- How far can you get with the Docker stats API?
- What metrics really matter for your containerized applications?
- How should you think about monitoring microservices in containers?
- How does Kubernetes improve monitoring? How does it get in the way?
- What open source tools can help with these challenges?

In addition to this theory, I'll get into some real examples that will ground our discussion. You'll walk away with a new appreciation of what it takes to monitor your environment right, as well as a few ideas that you can put into practice right away.

Participants

Mark Stemm, Software Engineer, Sysdig

You Don't Have to Start Over! A Practical Guide for Adding Docker to Enterprise Workflows

5 pm - 5:40 pm
Containers in the Enterprise

So, you want to use Docker, but receive feedback and commentary such as "our pipeline won't support containers" or "the applications aren't micro services, so I don't see a benefit." You are not alone...these and other statements are misconceptions when considering using docker in the enterprise. Perhaps having a real enterprise use case with some tips on objection handling would support your goal of adding docker to your current workflow?

In this presentation, Chris Ciborowski, CEO and Principal Consultant at Nebulaworks and Docker Captain will discuss ways that you can insert docker in existing enterprise pipelines and workflows, that provide a benefit to both developers and operations teams and accelerate DevOps adoption. He will also provide a few insider tips on the type of objections often heard while working with enterprise clients, and how you can build responses to help overcome your own barriers to adoption.

Participants

Chris Ciborowski, CEO, Nebulaworks

Case Study: How Expedia Runs Hundreds of Apps in Production Using Containers

5 pm - 5:40 pm
Orchestration / Workloads

Come learn how Expedia runs hundreds of apps in production using containers. In the session, we will walk you through how we have setup clusters in Amazon EC2 Container Service, how we maintain/upgrade clusters when a new version of Docker is released. We will walk through how we have built a platform where teams can create new apps powered by Docker for their deployments, how CI/CD is setup for these apps, how apps are auto-deployed in different environments including production in AWS.

Participants

Kuldeep Chowhan, Principal Engineer, Expedia

Happy Hour on Expo Floor

5:40 pm - 7:10 pm
Main agenda

SCHEDULE

DAY 1 - 22/02/2017

Container World

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TIME	MAIN AGENDA	CONTAINERS IN THE ENTERPRISE	OPERATIONS/DEVOPS	ORCHESTRATION / WORKLOADS	STANDARDS & COMMUNITY	STORAGE / PERSISTENT STORAGE
8 AM	8 am - Registration & Breakfast					
9 AM				9 am - Orchestrating Least Privilege	9:30 am - Becoming Cloud Native: Taking it One Container at a Time	
10 AM	10:10 am - Evolution of Containers on AWS 10:30 am - Expo Floor Open 10:40 am - Break & Speed Networking					
11 AM		11:30 am - Containers Are Here to Stay				
12 PM	12 pm - The Future Stack: How Container-as-a-Service Enables Next-Gen PaaS 12:30 pm - Lunch on Expo Floor					
1 PM		1:30 pm - Docker at Zoosk 1:30 pm - An In-depth Look at Amazon ECS		1:30 pm - Use the Right Container Technology for the Job		
2 PM		2:20 pm - Panel: Container Adoption Paths into Legacy Infrastructure		2:20 pm - Characterizing and Contrasting Container Orchestrators		2:20 pm - Panel: Stateless vs. Stateful Architectures

SCHEDULE

DAY 1 - 22/02/2017

Container World

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TIME	MAIN AGENDA	CONTAINERS IN THE ENTERPRISE	OPERATIONS/DEVOPS	ORCHESTRATION / WORKLOADS	STANDARDS & COMMUNITY	STORAGE / PERSISTENT STORAGE
3 PM	3 pm - Networking & Refreshments 3 pm - Expo Floor Open	3:30 pm - How Secure is your Container Pipeline?		3:30 pm - Cloud Native Workloads & VMware – A Grand Tour		3:30 pm - Boosting Performance of Data Intensive Applications via Persistent Memory
4 PM			4:15 pm - You're Monitoring Containers Wrong	4:15 pm - Accelerate Application Delivery with Docker Containers and Windows Server 2016		4:15 pm - Stateful Services on AWS Using Kubernetes -- Ready for Prime Time?
5 PM	5:40 pm - Happy Hour on Expo Floor	5 pm - You Don't Have to Start Over! A Practical Guide for Adding Docker to Enterprise Workflows		5 pm - Case Study: How Expedia Runs Hundreds of Apps in Production Using Containers		

Registration & Breakfast

8 am - 9 am
Main agenda

Expo Floor Open

8 am - 1:30 pm
Main agenda

Case Study: Containers in Production at ADP

9 am - 9:30 am
Containers in the Enterprise

Greenfield, brownfield, micro service or monolith ADP sees benefits from containerization across the spectrum. Don't be fooled by the 12 factor crowd or the cloud nativists, there are benefits for cloud immigrants.

Container Adoption in an established enterprise with legacy code and paying clients brings unique challenges. This session will overview the progress to date, idealized automation pipeline and desired end state.

Participants

James Ford, Chief Architect, Global Product and Technology, ADP

Panel: Containers in Production War Stories

9:30 am - 10:10 am
Emerging Tech

Panelists relate their individual stories of moving to a containerized infrastructure, and the pitfalls and the successes they experienced along the way.

- How to take your applications to the containerized / cloud native nirvana? (Time, selection, scale)
- What are the first decision concerning DevOps that you should make?
- Assessing the support system you have in place (or don't) and how solution providers need to cater for customers embarking on the containerization journey.
- Specialized needs/issues for individual industries/verticals/tech

Participants

Moderator: Tim Clark, Partner, The FactPoint Group

Panelist: Shubhra Kar, VP, Product, Joyent

Panelist: Amit Srivastava, Technical Manager, SdaaS, Cloud Native Tools & Adoption, Integration Competency, Cisco

Panelist: Jeff Tantsura, Consulting VP, Network Architecture, Futurewei

Break & Speed Networking

10:10 am - 11 am
Main agenda

Panel: How the Open Container Initiative (OCI) is Establishing Container Format and Runtime Standards

11 am - 11:45 am
Main agenda

Uptake and adoption of container-based solutions has been evolving very rapidly. To help with this massive growth, the Open Container Initiative (OCI) was established to help promote a set of common, minimal open standards and specifications around container formats and runtime. OCI will be issuing v1.0 of its runtime and image format specifications in early 2017, in addition to the launch of its certification program, marking the project's first major milestones.

In this panel discussion, OCI members will discuss the project's progress at large with special focus on the v1.0 release and certification program. Additional discussion topics will include:

- How the runtime and image format specs are driving broader innovation across the industry
- The impact the v1.0 release will have on the container landscape
- Future plans for the OCI
- Implementations and use cases
- Value and benefits of the certification program and key factors involved in establishing a certification program for container technology

Panelists: Representatives from OCI member companies

Participants

Moderator: Rob Dolin, Senior Program Manager and Technical Diplomat at Microsoft Cross-Platform Interoperability team, Open Container Initiative | Microsoft

Panelist: Sarah Novotny, Program Manager of Kubernetes Community, Open Container Initiative | Google

Panelist: Vincent Batts, Principal Software Engineer, Open Container Initiative | Red Hat

Panelist: Stephen Walli, Independent Consultant, Open Container Initiative | Docker

Panelist: Jeff Borek, WW Program Director, Open Cloud Business Development, Open Container Initiative | IBM

Twitter's Microservices Architecture: Operational & Technical Challenges

11:45 am - 12:15 pm
Operations/DevOps

Twitter embraced stateless containerized microservices early. From humble beginnings we've scaled to hundreds of teams running thousands of services in hundreds of thousands of containers on tens of thousands of hosts. Along the way we've learnt a few things about scale and scalability, two separate things...

Come to hear about the other side of scalable infrastructure: sub-linear operations. How do we continue to scale without being crushed by operational burden? What architectural decisions and tradeoffs were made early on? What tooling do we employ and how is it evolving? How do we collaborate with our users to achieve goals, ours and theirs? How does our platform differ from those at smaller scale?

Participants

Ian Downes, Engineering Manager, Twitter

Lunch on Expo Floor

12:30 pm - 1:30 pm
Main agenda

Live in a Container: Renovating Hotel IT with Containerized Microservices

1:30 pm - 2:10 pm
Emerging Tech

Hotel industry leaders are driving towards enhanced speed and scale by refactoring their business into next generation services. By living inside the container and driving containerized micro services into production, architecture and project teams are learning how to decompose monoliths, rapidly compose business solutions, and achieve greater resiliency. In this session, learn how architecture teams chose their container platform, implemented infrastructure and delivery pipeline prerequisites, enabled best practices, and facilitated business project team journeys into a containerized Cloud.

Participants

Chris Haddad, Chief Architect, Karux LLC

Open Container Initiative Certification

1:30 pm - 2:10 pm
Standards & Community

Over 150 engineers from companies from Amazon to VMware are participating in a cross-industry, open effort to standardize interoperable software shipping containers. At the heart of this effort is the Open Container Initiative (OCI), a Linux Foundation Collaborative Project applying techniques and best practices from open source communities to development of open standards/specifications for container runtime and container image format as well as developing a container runtime reference implementation and tools for testing and certification. This session will include information on how to contribute by submitting a pull request to the specs and/or code, the public availability of the newly-launched OCI Certification Program, factors to consider if becoming OCI-certified makes sense for your container project, how to get your container project OCI-certified, and how you might be able to gain interoperability benefits from OCI-certified solutions.

Participants

Rob Dolin, Senior Program Manager and Technical Diplomat at Microsoft Cross-Platform Interoperability team, Open Container Initiative | Microsoft

Jeff Borek, WW Program Director, Open Cloud Business Development, Open Container Initiative | IBM

The Pillars of Intent-Based Security

1:30 pm - 2:10 pm
Security

Containers represent both a shift in technology and operational pattern from traditional models. Thus, trying to bend traditional security approaches to fit containerized environments often falls short. In the session, we examine the changes to the threat landscape that containers bring, what fundamental characteristics of containers are different, and how security organizations can leverage these characteristics to understand developer intent and automate the creation and management of scalable, yet app tailored, defenses.

The State of ... State in the Container Ecosystem

2:20 pm - 3 pm
Storage / Persistent Storage

Containers are being adopted at a massive scale for stateless workloads. It's why many of us are here. But people are beginning to realize that they can benefit from using containers for databases, queues, key-value stores and other stateful services too. This talk will provide an overview of the common options available for running stateful services in containers including the Docker volume plugin framework and storage options in popular container managers like Kubernetes, Mesos, and Swarm.

Participants

Michael Ferranti, Container Evangelist, Portworx

Monitoring in Motion: An Introduction to Monitoring Dynamic Workloads

2:20 pm - 3 pm
Orchestration / Workloads

We rely on our monitoring to tell us when our services, applications, or infrastructure diverge from "normal." Containers have created a new world of dynamic infrastructure where normal is changing constantly, making it quite difficult to define. How do you check if a service is up when your scheduler or clustering tools are changing the hosts and ports it runs on? Ilan Rabinovitch takes a deep dive into techniques for leveraging service discovery into your monitoring workflow and explains how to instrument your code in your containers and track the performance and availability of your applications as they move around. The techniques discussed will apply regardless of the monitoring platform you choose.

Participants

Ilan Rabinovitch, Director of Technical Community, Datadog

Introducing Operators: Simplifying Stateful Application Deployment and Management

2:20 pm - 3 pm
Emerging Tech

Containerization is the wave of the future -- but deploying containers at scale is a complex task, which Kubernetes can help manage through automation. Managing stateful applications like databases, caches, and monitoring systems, pose a challenge. These systems require application domain knowledge to correctly scale, upgrade, and reconfigure, while protecting against data loss or unavailability.

At CoreOS, we developed Operators that extend the Kubernetes API to create, configure, and manage instances of complex stateful applications on behalf of a Kubernetes user. Operators encode operational logic into software: think of them as highly-scalable Site Reliability Engineers (SREs). We want this application-specific operational knowledge encoded into software that leverages the powerful Kubernetes abstractions to run and manage the application correctly. This reduces the operational expertise required to run applications, databases, and infrastructure generally. Join Mackenzie Burnett, product manager at CoreOS, for an introduction to Operators.

Participants

Mackenzie Burnett, Product, CoreOS

Networking & Refreshments

3 pm - 3:30 pm
Main agenda

Panel: Container Security: Countering the Container Challenges

3:30 pm - 4:10 pm
Security

- What are the challenges that need solving in container networking and apps?
- How to apply networking policies to containers
- Do containers really contain?
- Container Runtime and security issues and possible defenses
- Different security issues with images and possible defenses

Participants

Moderator: Abhi Dugar, Director, Cloud Infrastructure and IoT Security, IDC

Panelist: Rani Osnat, VP Marketing, Aqua Security

Panelist: Jayanth Gummaraju, Co-founder and CTO, Banyan

Panelist: Tim Mackey, Technology Evangelist, Black Duck

Panelist: Ethan Tuttle, Lead Engineer, Zoosk

Panel: The Future of Containers

3:30 pm - 4:10 pm
Emerging Tech

- How will containers evolve in the next year, 2 years?
- Stateless vs. Stateful.
- Unikernel
- What about Serverless?
- Do you even need containers to be cloud native?

Participants

Moderator: Dave Nielsen, Sr. Developer Advocate, Intel

Panelist: Jo Peterson, VP, Cloud Services, Clarify360

Panelist: Sergey Maksimov, Product Management, Virtuozzo

Panelist: Mark Woodward, VP, Development, AppZero

Panelist: Kuldeep Chowhan, Principal Engineer, Expedia

Panel: Containers from both a Developer and a SysAdmin Point of View

3:30 pm - 4:10 pm
Operations/DevOps

This session will explore the different perspectives of developers and sysadmins on containers and how they can work together, including views on:

- Containers or VMs: When to step away from the stable and proven
- Mesos, Swarm, Kubernetes, Kontena or?
- How to scale container-based applications
- Production war stories

Participants

Panelist: Miska Kaipainen, CEO & Founder, Kontena

Panelist: Malathi Malla, Director, Product Marketing, Virtualization and Cloud solutions, Spirent

Panelist: Dev Nag, CTO and Founder, Wavefront

Panelist: Vikas Rangarajan, Principal Software Engineer, Comcast

Flexible and Extensible Software Delivery using a Containerized Microservice-Based Approach

4:20 pm - 5 pm
Emerging Tech

Comcast delivers cable television service to millions of customers. And its diverse array of services includes video delivery services and interactive information services like sports and home automation. The ecosystem is constantly evolving in response to technological and social changes. To remain competitive in the face of constant change, Comcast must continuously deliver incremental enhancements.

Comcast's journey began with a simple tool, Gumby, to deploy services to a private cloud, progressing to a RESTful service deploying to a multi-cloud public/private infrastructure. Gumby has evolved into a set of loosely coupled, independently testable microservices leveraging docker and its ecosystem of tools. The architecture allows new microservices to be plugged in to support new cloud providers, container services and satellite features like DNS records. Comcast is leveraging modern technologies like Scala and Akka to ensure a highly resilient, scalable and reactive continuous deployment service.

Their microservice-based approach has enabled the delivery of services to containers for rapid testing. This is a stepping stone to a uniform service deployment solution, which brings to developers the benefits of a PAAS, while maintaining the flexibility to choose the development platform and tooling. It also leaves room for developers to target traditional VMs and/or containers in a range of public/private clouds. This talk will highlight the complementary role of container technology and design choices in realizing this combination of flexibility and feature-richness in an application deployment service.

Participants

Vikas Rangarajan, Principal Software Engineer, Comcast

DevOps @Scale (Greek Tragedy in 3 Acts)

4:20 pm - 5 pm
Operations/DevOps

Remember the times when one server was enough? And a guy named "sysadmin" was babysitting it along with his other duties of installing MS Office for everybody?

For better or for worse, those times are long gone. Today, companies manage tens of thousands of servers and perform thousands of production changes per day.

In this talk we will look at the resources, techniques and tools needed for managing DevOps at Scale and we will discuss the challenges that companies encounter when they hit it.

Participants

Mark Galpin, Senior Solution Engineer, JFrog

Case Study: Transforming Enterprise On-Prem Hosting to Container-Anywhere World

4:20 pm - 5 pm
Containers in the Enterprise

- Recap of what drives hosting solutions
- Review of how containers fare compared to other hosting solutions
- Refer intermediate solutions before full-containerization
- Remit robust DevOps discipline to manage the process
- Reconsider future trends

Participants

Sudhi Sinha, VP, Product Development, Johnson Controls Inc.

Justin Ploegert, Sr. Staff Engineer/Sr. Project Manager, Johnson Controls Inc.

Registration & Networking

5:30 pm - 6 pm
Main agenda

Welcome & Introductions

6 pm - 6:30 pm
Main agenda

Lightning Talks

6:30 pm - 7 pm
Main agenda

Unconference Sessions

7 pm - 8 pm
Main agenda

SCHEDULE

DAY 2 - 23/02/2017

Container World

February 21-23, 2017
Santa Clara Convention Center
California

TIME	MAIN AGENDA	CONTAINERS IN THE ENTERPRISE	EMERGING TECH	OPERATIONS/ DEVOPS	ORCHESTRATION / WORKLOADS	SECURITY	STANDARDS & COMMUNITY	STORAGE / PERSISTENT STORAGE
8 AM	<p>8 am - Registration & Breakfast</p> <p>8 am - Expo Floor Open</p>							
9 AM		<p>9 am - Case Study: Containers in Production at ADP</p>	<p>9:30 am - Panel: Containers in Production War Stories</p>					
10 AM	<p>10:10 am - Break & Speed Networking</p>							
11 AM	<p>11 am - Panel: How the Open Container Initiative (OCI) is Establishing Container Format and Runtime Standards</p>			<p>11:45 am - Twitter's Microservices Architecture: Operational & Technical Challenges</p>				
12 PM	<p>12:30 pm - Lunch on Expo Floor</p>							
1 PM			<p>1:30 pm - Live in a Container: Renovating Hotel IT with Containerized Microservices</p>			<p>1:30 pm - The Pillars of Intent-Based Security</p>	<p>1:30 pm - Open Container Initiative Certification</p>	

SCHEDULE

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2 PM			2:20 pm - Introducing Operators: Simplifying Stateful Application Deployment and Management		2:20 pm - Monitoring in Motion: An Introduction to Monitoring Dynamic Workloads			2:20 pm - The State of ... State in the Container Ecosystem
3 PM	3 pm - Networking & Refreshments		3:30 pm - Panel: The Future of Containers	3:30 pm - Panel: Containers from both a Developer and a SysAdmin Point of View		3:30 pm - Panel: Container Security: Countering the Container Challenges		
4 PM		4:20 pm - Case Study: Transforming Enterprise On-Prem Hosting to Container-Anywhere World	4:20 pm - Flexible and Extensible Software Delivery using a Containerized Microservice-Based Approach	4:20 pm - DevOps @Scale (Greek Tragedy in 3 Acts)				
5 PM	5:30 pm - Registration & Networking							
6 PM	6 pm - Welcome & Introductions 6:30 pm - Lightning Talks							
7 PM	7 pm - Unconference Sessions							