kubernetes

CLOUD NATIVE COMPUTING FOUNDATION

Sofia Meetup

Agenda

- 19:00 - 19:25 - CNCF Introduction
- 19:25 - 20:25 - Post KubeCon Copenhagen 2018
- 20:25 - 21:00 - Networking

CLOUD NATIVE
COMPUTING FOUNDATION

Kubernetes & CNCF Bulgaria Introduction

Welcome

Introduction

Vladimir Dimov

- **Kubernetes & Cloud Consultant**
- **10+ years experience with infrastructure**
- **Road Warrior**
- **Motorcycle Enthusiast**

The Crew

Orlin Vasilev

- **Software Infrastructure Engineer at VMware**
- **Ex-private-cloud engineer/architect**
- **Father of one, soon +1**

Spas Atanasov

- **Part-time DevOps, Full-time daddy**
- **Ex-bare metal system administrator**
- **Technical Troll**

The Story

Special Thanks

CNCF Platinium Member

CNCF Bulgaria is part of Cloud Native Computing Foundation Meetups

- 73,893 Members
- 148 Groups
- 32 Countries

Call for Speakers

Stay in touch

- meetup.com (comments, discussions, messages)
- Slack channel #bulgaria : https://slack.cncf.io/

What is CNCF ?

What is CNCF ?

- Initially Home for Kubernetes
- Non-Profit Organisation
- Founded 2015
- Part of Linux Foundation
- Help Open Source projects drive
- Provide Certification
- https://landscape.cncf.io/

1. CONTAINERIZATION

- Commonly done with Docker containers
- Any size application and dependencies (even PDP-11 code running on an emulator) can be containerized
- Over time, you should aspire towards splitting suitable applications and writing future functionality as microservices

2. CI/CD

- Setup Continuous Integration/Continuous Delivery (CI/CD) so that changes to your source code automatically result in a new container being built, tested, and deployed to staging and eventually, perhaps, to production
- Setup automated rollouts, roll backs and testing

3. ORCHESTRATION & APPLICATION DEFINITION

- Kubernetes is the market-leading orchestration solution
- You should select a Certified Kubernetes Distribution, Hosted Platform, or Installer: [pathway]
- Helm Charts help you define, install, and upgrade even the most complex Kubernetes application

kubernetes — CNCF Graduated

HELM — CNCF Incubating

4. OBSERVABILITY & ANALYSIS

- Pick solutions for monitoring, logging and tracing
- Consider CNCF projects Prometheus for monitoring, Fluentd for logging and Jaeger for Tracing
- For tracing, look for an OpenTracing-compatible implementation like Jaeger

Prometheus — CNCF Incubating

fluentd — CNCF Incubating

OPENTRACING — CNCF Incubating

JAEGER — CNCF Incubating

5. SERVICE MESH AND DISCOVERY

- CoreDNS is a fast and flexible tool that is useful for service discovery
- Envoy and Linkerd each enable service mesh architectures
- They offer health checking, routing, and load balancing

envoy — CNCF Incubating

CoreDNS — CNCF Incubating

LINKERD — CNCF Incubating

6. NETWORKING

To enable more flexible networking, use a CNI-compliant network project like Calico, Flannel, or Weave Net

CNI — CNCF Incubating

7. DISTRIBUTED DATABASE

When you need more resiliency and scalability than you can get from a single database, Vitess is a good option for running MySQL at scale through sharding.

Vitess — CNCF Incubating

8. MESSAGING

When you need higher performance than JSON-REST, consider using gRPC. NATS is publish/subscribe message-oriented middleware

gRPC — CNCF Incubating

NATS — CNCF Incubating

9. CONTAINER RUNTIME

You can use alternative container runtimes. The most common, all of which are OCI-compliant, are containerd, rkt and CRI-O.

containerd — CNCF Incubating

rkt — CNCF Incubating

10. SOFTWARE DISTRIBUTION

If you need to do secure software distribution, evaluate Notary, an implementation of The Update Framework.

Notary — CNCF Incubating

TUF — CNCF Incubating

So Cloud Native App/ Infrastructure/ Architecture

Projects

- Kubernetes
- Prometheus
- OpenTracing
- Fluentd
- gRPC
- Containerd
- rkt
- CNI
- Envoy
- Jaeger
- Notary
- TUF
- Vitess
- CoreDNS
- NATS
- Linkerd
- Helm

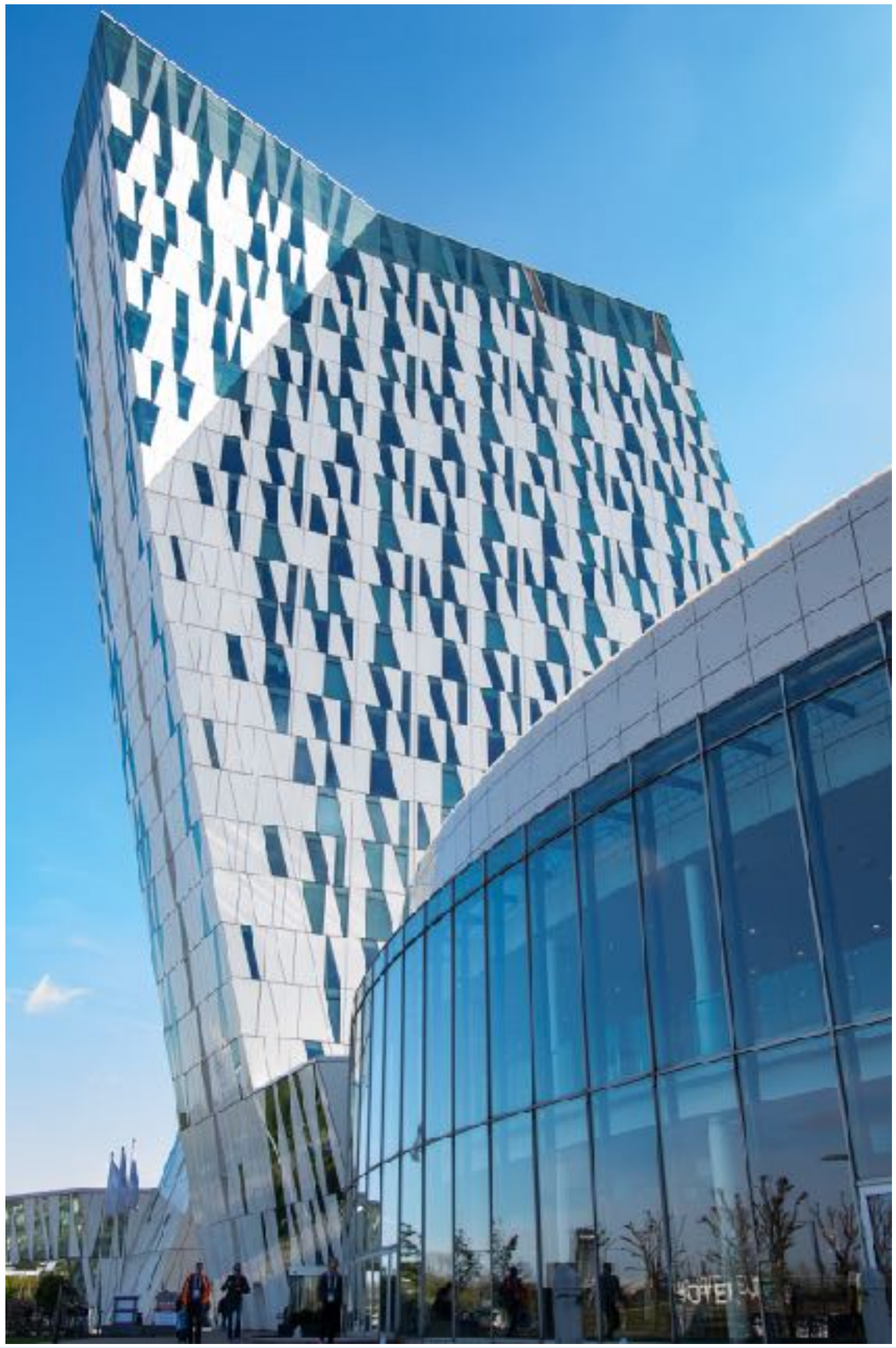
Our Next Meetup

Thanks for your time

CLOUD NATIVE
COMPUTING FOUNDATION

CNCF KubeCon 2018 Copenhagen

the hotel - Bella Hotel



The Venue - Bella Center

Welcome helmsmans' !

the one to blame

people behind KubeCon

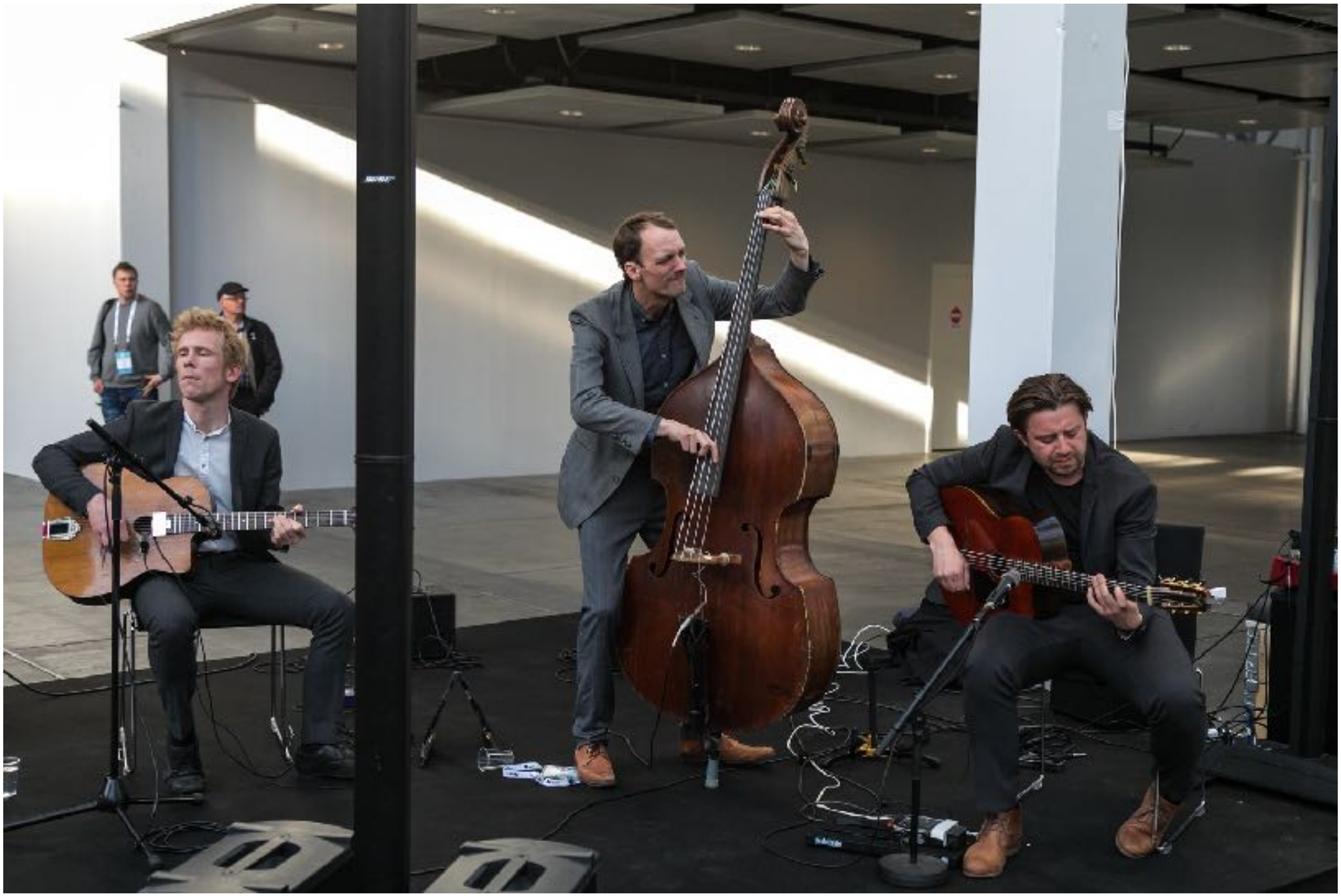
almost empty

almost empty p2

The best


Crossing the River by
Feeling the Stones
Simon Wardley
Researcher,
Leading Edge Forum
GRPC
OPENTRACING
kubernetes
CloudNativeCon
Europe 2018
Prometheus
fluentd
CNI

Time for music



the fun

the fun 2

the fun 3