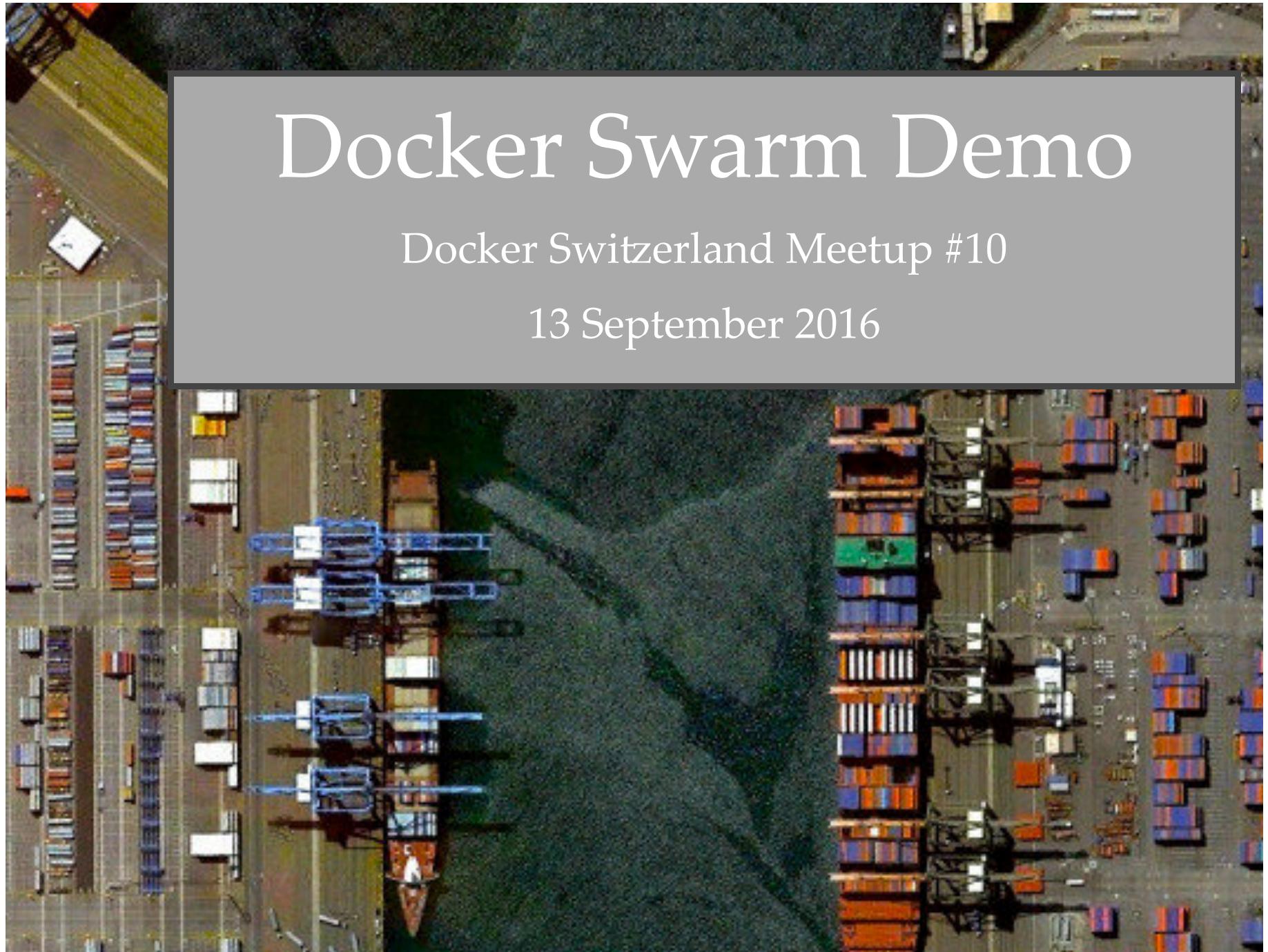


Docker Swarm Demo

Docker Switzerland Meetup #10

13 September 2016





MakeACU

Agenda

1. Introduction
2. Swarm Overview
3. Build a Swarm

Brian Christner

- Swisscom Cloud Architect
- Docker Captain
- Background in Containers, Cloud, & Engineering



Swarm Overview



Docker Engine

Orchestration Components

Swarm Mode Manager

Swarm Mode Worker



TLS



Load Balancing



Certificate Authority



Service Discovery



Distributed store



Networking

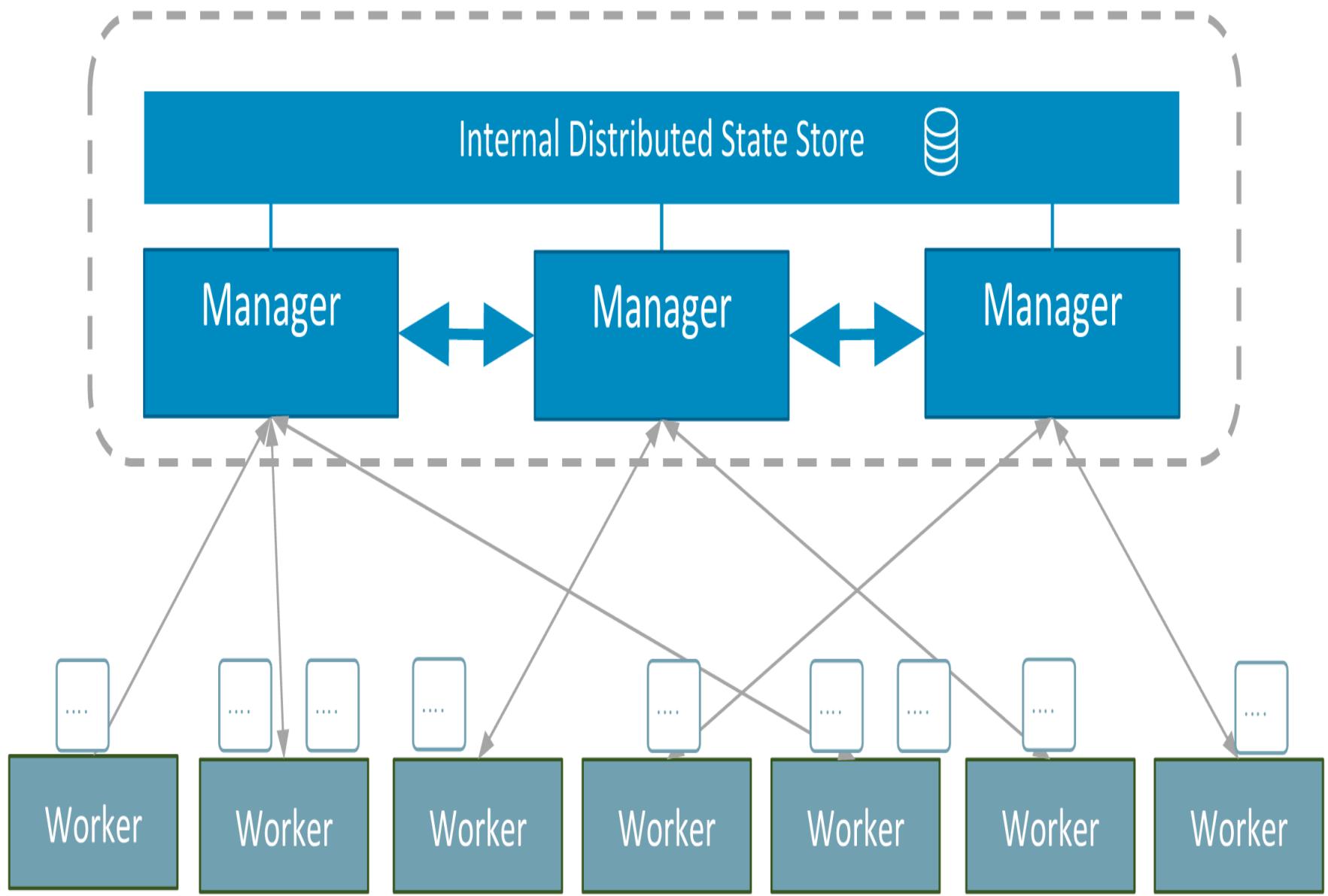


Volumes



Plugins

Container Runtime



Declare

\$ docker service create declares the service name, network, image:tag port, and scale

Reconcile

Engines check to see what is running and compared to what was declared to “true up” the environment

Schedule

Managers break down service into tasks, schedules them and workers execute tasks

DEMOTIME



Follow along

[https://github.com/vegasbrianc/docker
-ch-meetup10](https://github.com/vegasbrianc/docker-ch-meetup10)

Step 1. Deploy a Standalone App

```
$ docker run -d --name cats-app -p 5000:5000 vegasbrianc/cats
```

```
$ docker ps
```

```
$ curl 0.0.0.0:5000
```

Step 2.

If you Build it, the Swarm will come

```
$ docker-machine create -d virtualbox mgr
```

```
$ docker-machine create -d virtualbox node01
```

```
$ docker-machine create -d virtualbox node02
```

```
$ docker-machine ls
```

Step 3. Initialize the Swarm

```
$ docker-machine ssh mgr
```

```
$ docker swarm init --advertise-addr 192.168.99.100
```

```
$ docker run -it -d -p 8080:8080 -e HOST=192.168.99.100 \
-v /var/run/docker.sock:/var/run/docker.sock \
manomarks/visualizer
```

Step 4. Join Nodes to the Swarm

```
$ docker-machine ssh node01
```

```
$ docker swarm join-token worker
To add a worker to this swarm, run the following command:
  docker swarm join \
--token SWMTKN-1-1vh7h94m797al5a4pcma4p7nxdw22vqa2udwgkrkcd0twsz92d-4xg
192.168.99.100:237
```

Repeat for Node02

Step 5. Verify our Swarm

```
$ docker-machine ssh mgr
```

```
$ docker node ls
```

```
$ docker info
```

Open the Visualizer 192.168.99.100:8080

Step 6. Create Overlay Network

```
$ docker network create -d overlay catnet
```

```
$ docker network ls
```

Step 7. DEPLOY

```
$ docker service create --network catnet --name cat-app vegasbrianc/cats
```

Time to Scale

```
$ docker service update --replicas 6 cat-app
```

Drain a node

```
$ docker node update --availability drain mgr
```

Conclusion

- Created Swarm Nodes
- Joined Nodes to a Swarm
- Deployed our Cat service
- Scaled our Cat service
- Drained Manager Node



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Thank you

Brian Christner /
@idomyowntricks

<http://veggiemonk.github.io/awesome-docker>