

Persistent Storage with Containers ... the short short version

John Griffith

Garrett Mueller



Agenda

Data Persistence Do I need it? Going overboard Keeping it elastic

Options

Local Remote Data Containers

Demo

Maestro









Persistent Data

Always try to be stateless, but ...

- It's not a stateless world
- Databases are important
- Sometimes you just can't be stateless



Persistent Data

Don't go crazy, these aren't VM's

- We still want micro-services
- We still want ephemeral services
- BUT we tend to *do things* with data

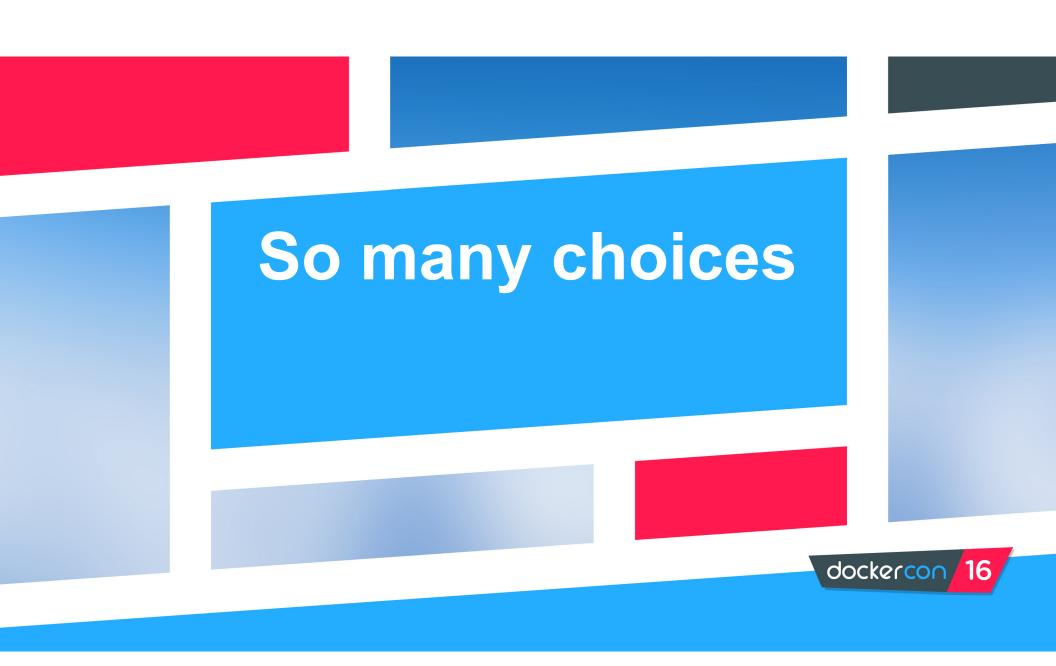


Persistent Data

Choose wisely

- We still want/need to be elastic
- Portability matters
- Automation
- Scale
- Simplicity matters





Storage Types

There will be a quiz!	Persist beyond the container	Share across containers on the same host		Dynamical ly provisione d	s host
Ephemeral					
Host	Х	Х			
External (Mount)	Х	Х	Х		Х
External (Plugin)		Х	Х	Х	Х
up and can do more advanced stuff too					

dockercon 16

Docker Volume Plugins

Rapidly growing number of choices

- Individual device plugins
- "Uber" plugins
 - management layer
 - abstraction layer
 - multiple backend-devices
 - schedulers

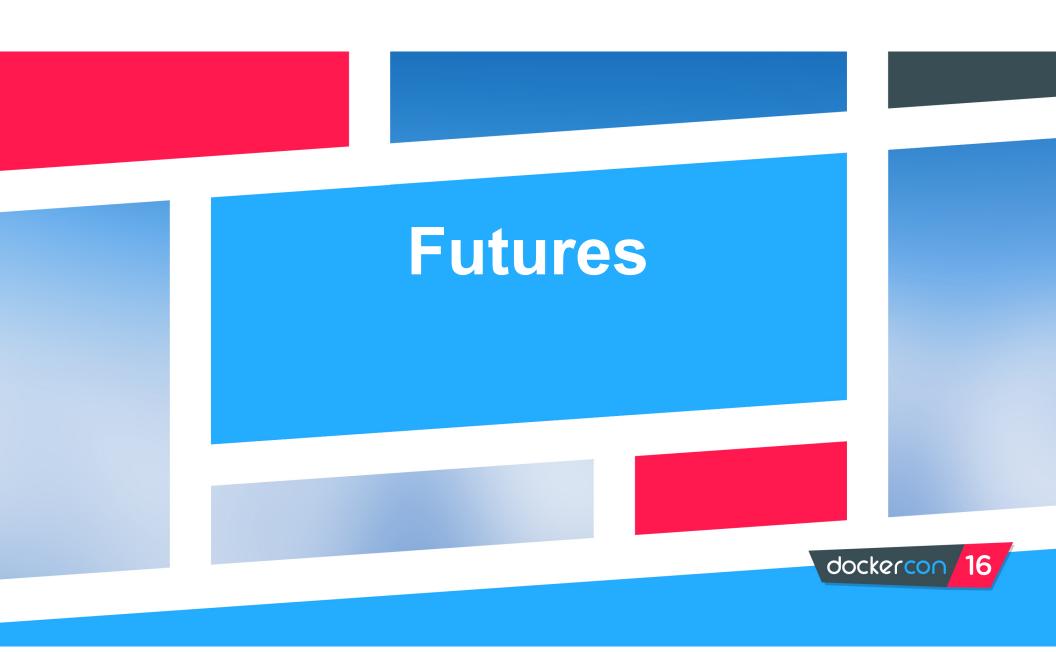


Docker Volume Plugins

They all have strengths/weaknesses

- NetApp nDVP
- SolidFire
- REX-Ray
- Flocker
- Convoy
- GCE
- Contiv Volume Plugin





Extending Docker Engine

Expose more advanced storage concepts but in an app-friendly way

- Snapshots
- Clones
- Replication
- ••



Extending into Orchestrators

Storage needs to be scheduled too

- Match capabilities to app requirements
 - ... over the entire lifecycle!
- Host and network affinity
- ... all coordinated with container scheduling!



Let's do a demo!!



