LINUX CONTAINER WORKSHOP 2017

QUO VADIS DOCKER?
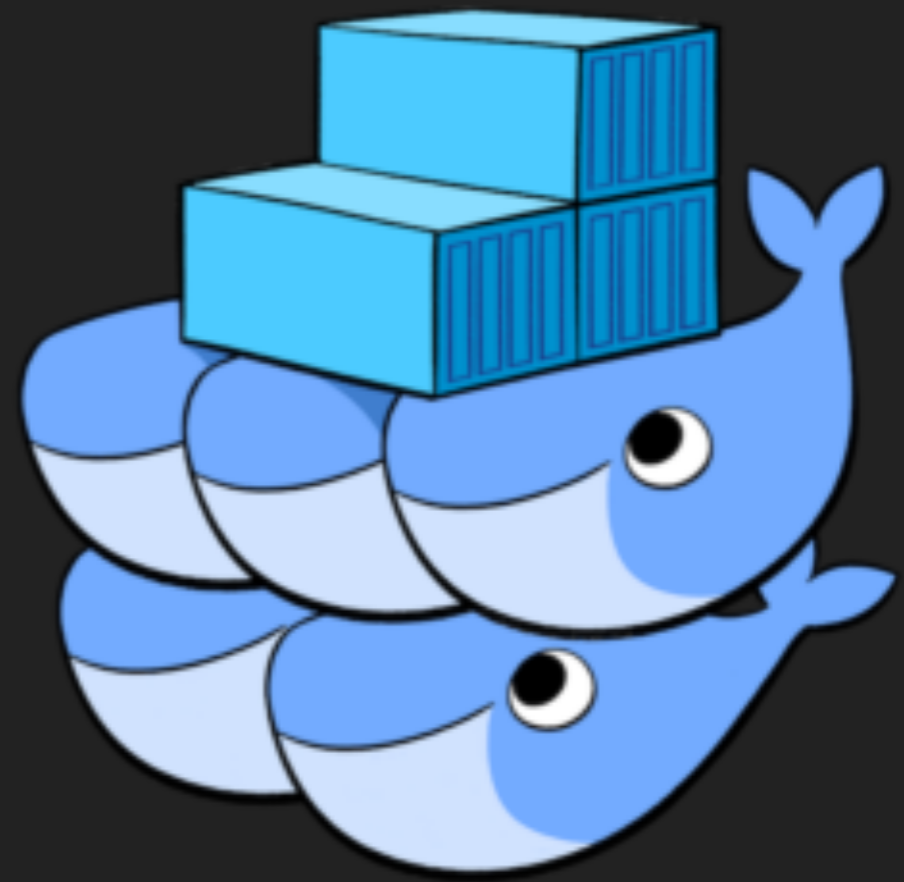
CONTAINERD

DOCKER FUTURE VERSION

API	CLI	Build	Notary	DataKit

containerd 1.0

SwarmKit	HyperKit	VPNKit	InfraKit
System Storage	System Distribution	System Networking	InfraKit

GRPC API

Execution · Host Storage · Host Distribution · Network Interfaces & Management

overlay

vxian

Supervisor

bridge · macvlan

executor

runC
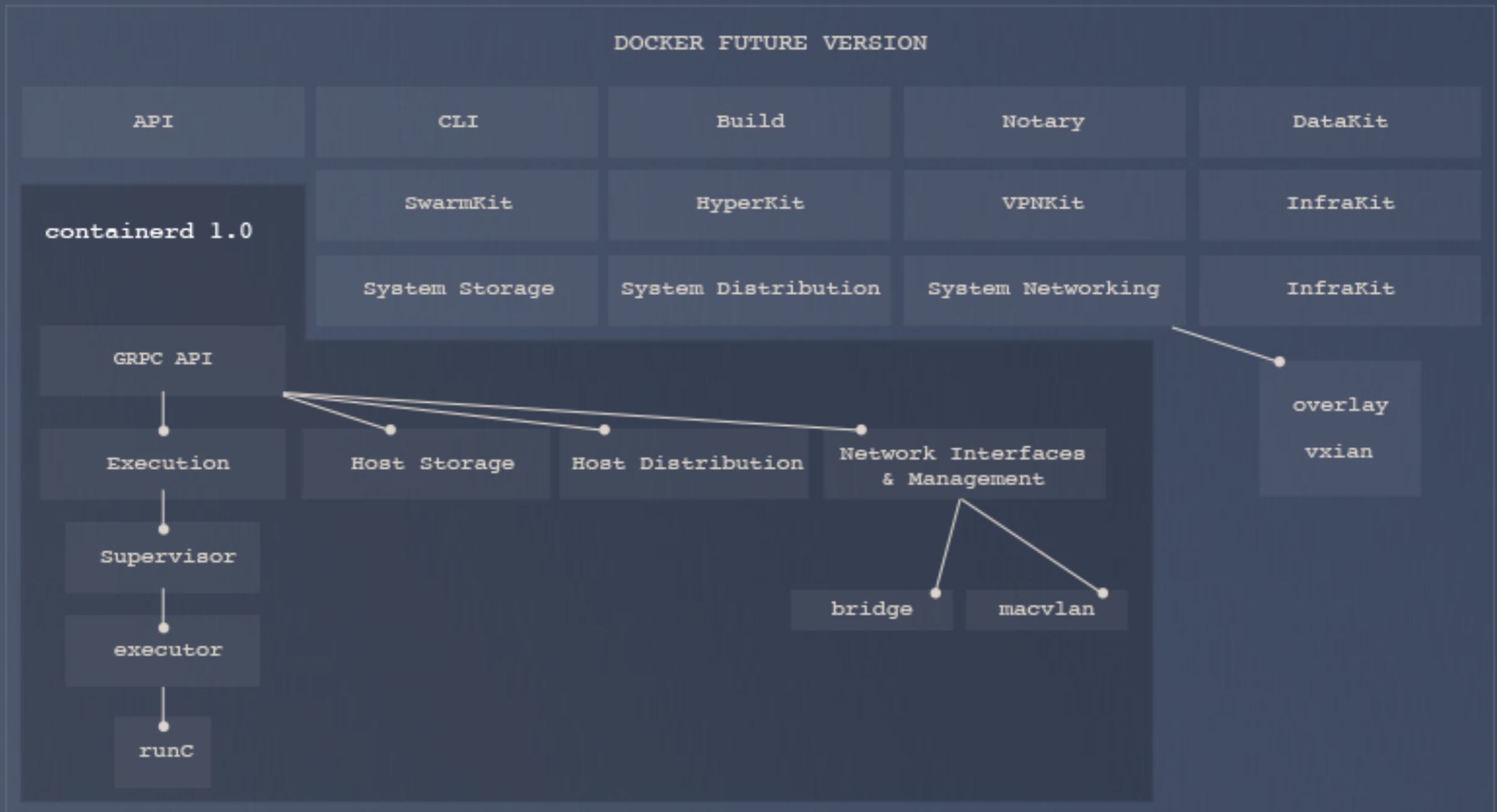
DOCKER SWARM

▸ Move from containers to services currently ongoing

   ➡ Lack of cap_add in services

   ➡ Lack of shared namespaces (PODs in kubernetes)

   ➡ Only one *HEALTHCHECK*

▸ But, the constraints help limit the scope and keep it portable. :)
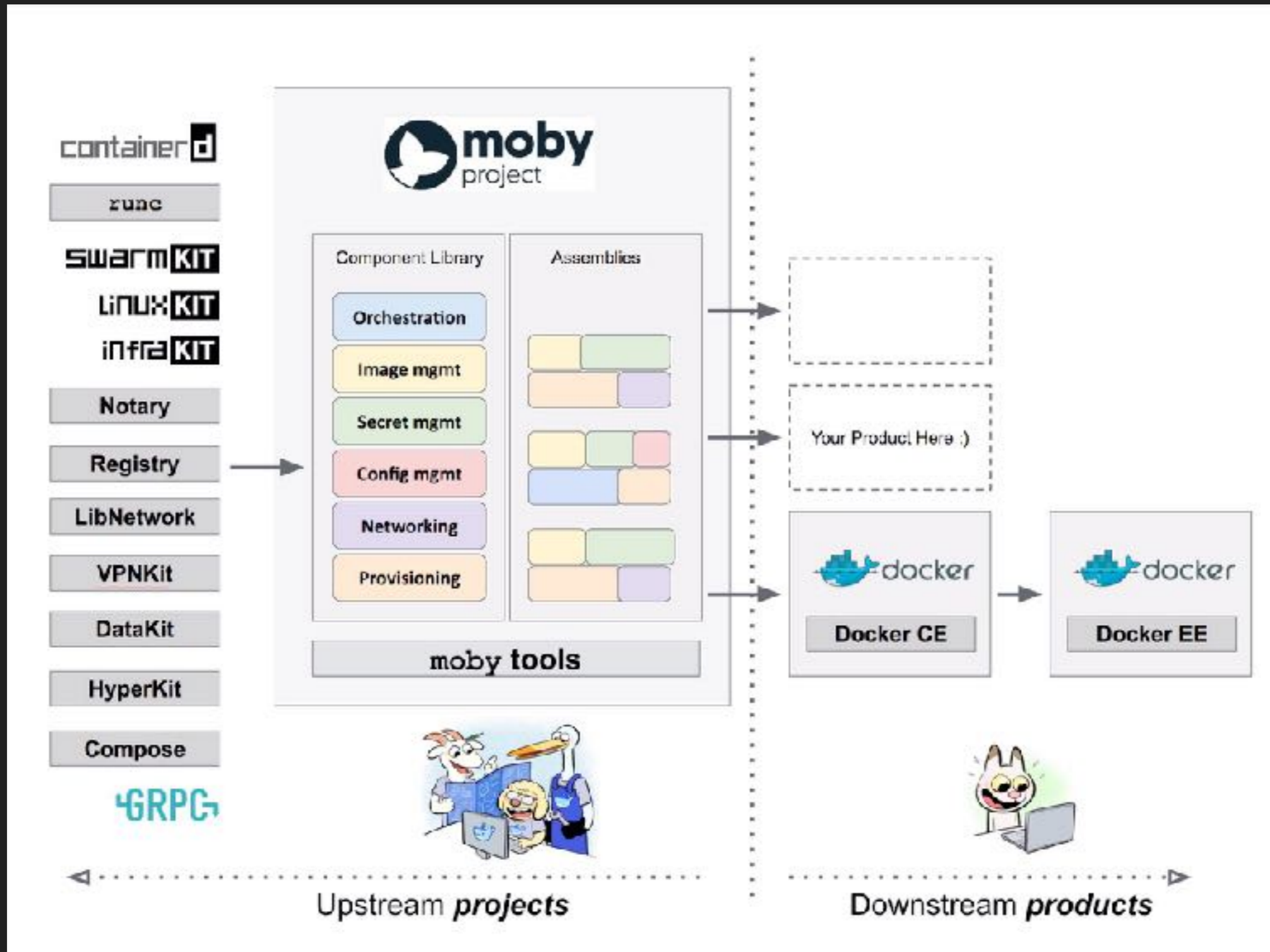
MY WISHLIST?

▸ Adding MPI workloads to SWARM

➡ ability to spawn distributed

▸ Adding native container support to HPC schedulers

➡ slurmctld?
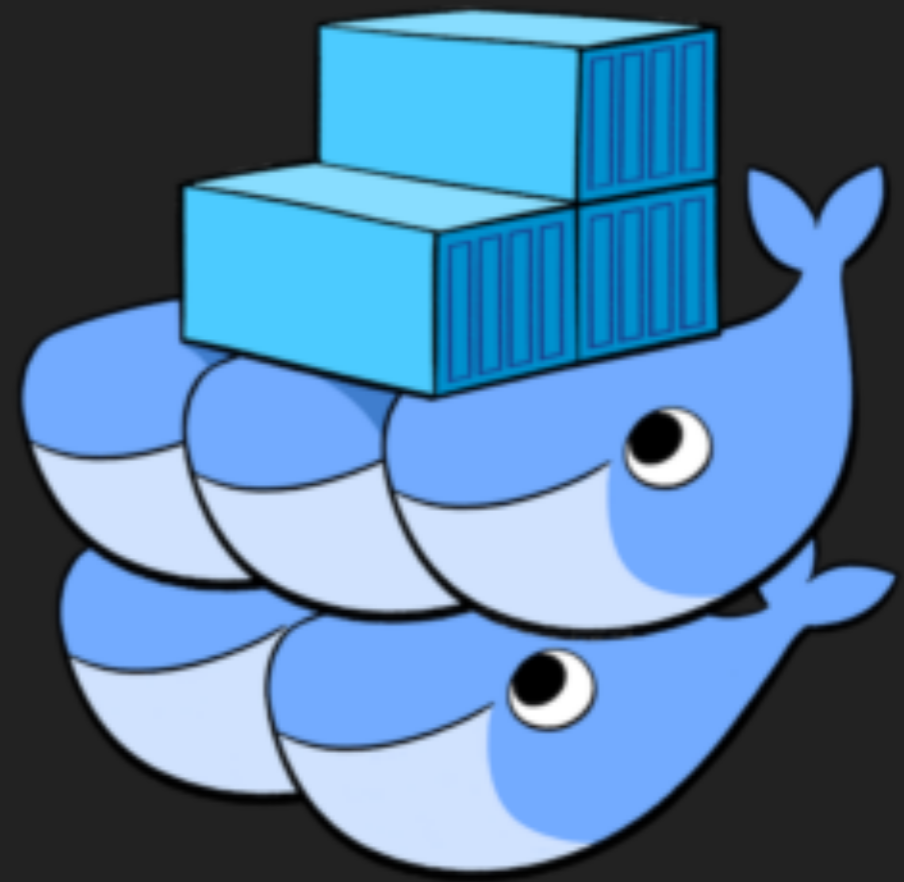
PROJECT MOBY

```yaml
kernel:
  image: "linuxkit/kernel:4.9.x"
  cmdline: "console=ttyS0 console=tty0 page_poison=1"
init:
  - linuxkit/init:17693d233dd009b2a3a8d23673cb85969e1dce80
  - linuxkit/runc:3a4e6cbf15470f62501b019b55e1caac5ee7689f
  - linuxkit/containerd:04880f344709830aa4c938baa765764e644fc973
onboot:
  - name: dhcpcd
    image: "linuxkit/dhcpcd:7d2b8aaaf20c24ad7d11a5ea2ea5b4a80dc966f1"
    command: ["/sbin/dhcpcd", "--nobackground", "-f", "/dhcpcd.conf", "-1"]
services:
  - name: getty
    image: "linuxkit/getty:d0765e0a14733f9454010ac109a7c846a4e67fc5"
    env:
     - INSECURE=true
trust:
  org:
     - linuxkit
```

```yaml
init:
  - linuxkit/init:17693d233dd009b2a3a8d23673cb85969e1dce80
  - linuxkit/runc:3a4e6cbf15470f62501b019b55e1caac5ee7689f
  - linuxkit/containerd:04880f344709830aa4c938baa765764e644fc973
onboot:
  - name: dhcpcd
    image: "linuxkit/dhcpcd:7d2b8aaaf20c24ad7d11a5ea2ea5b4a80dc966f1"
    command: ["/sbin/dhcpcd", "--nobackground", "-f", "/dhcpcd.conf", "-1"]
services:
  - name: getty
    image: "linuxkit/getty:d0765e0a14733f9454010ac109a7c846a4e67fc5"
    env:
      - INSECURE=true
  - name: redis
    image: "redis:3.0.7-alpine"
    capabilities:
      - CAP_NET_BIND_SERVICE
      - CAP_CHOWN
      - CAP_SETUID
      - CAP_SETGID
      - CAP_DAC_OVERRIDE
    net: host
trust:
  org:
    - linuxkit
  image:
    - redis:3.0.7-alpine
```