# CONTAINING THE OS

## WHAT'S LEFT?

Vincent Batts @vbatts

```
$> finger $(whoami)
Login: vbatts                           Name: Vincent Batts
Directory: /home/vbatts                 Shell: /bin/bash
Such mail.
Plan:
OHMAN
$> id -Gn
devel opencontainers docker appc redhat golang slackware
```

# CONTAINERS

(Cite: the internet)

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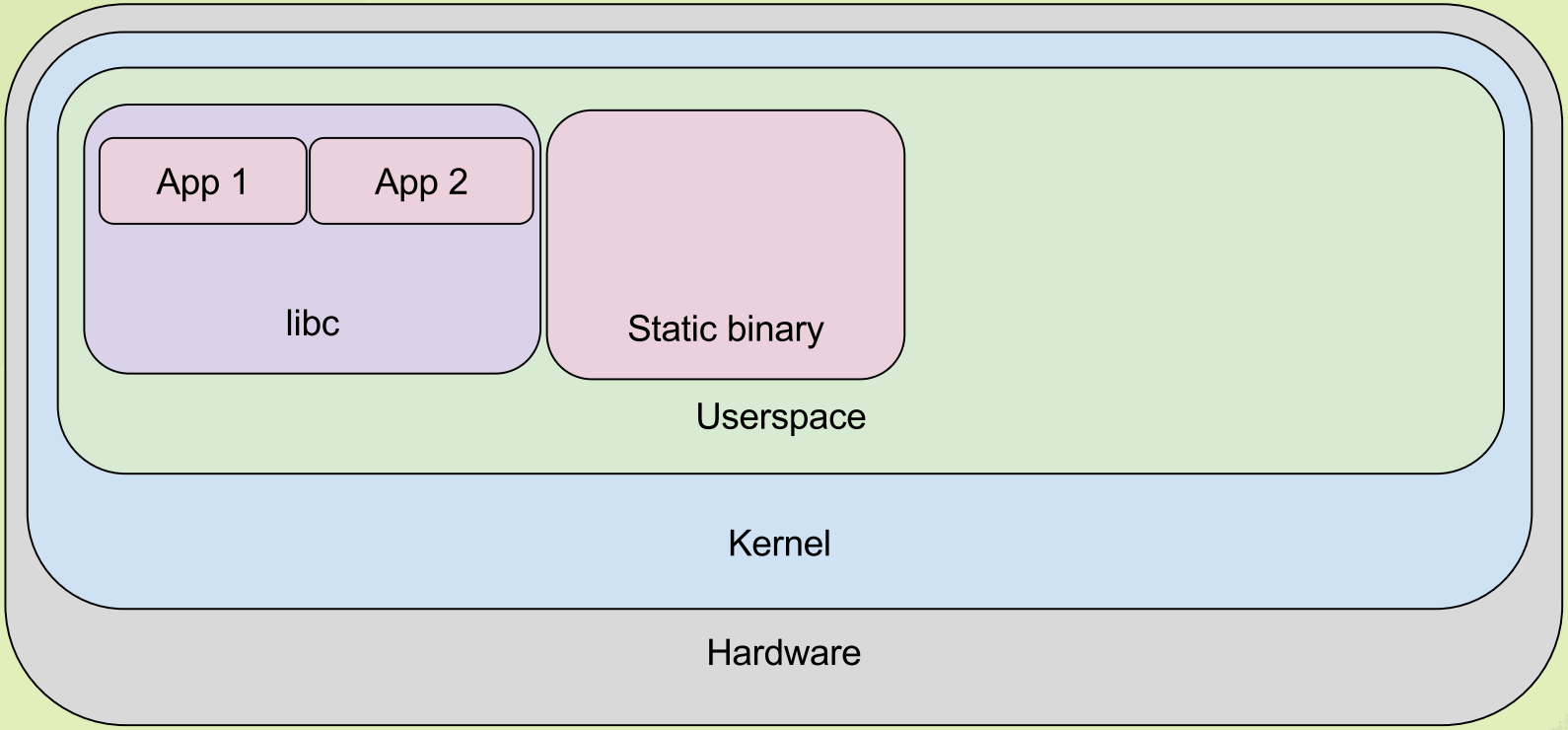
App 1
App 2
libc
Static binary
Userspace
Kernel
Hardware

Kernel's Guarantee:

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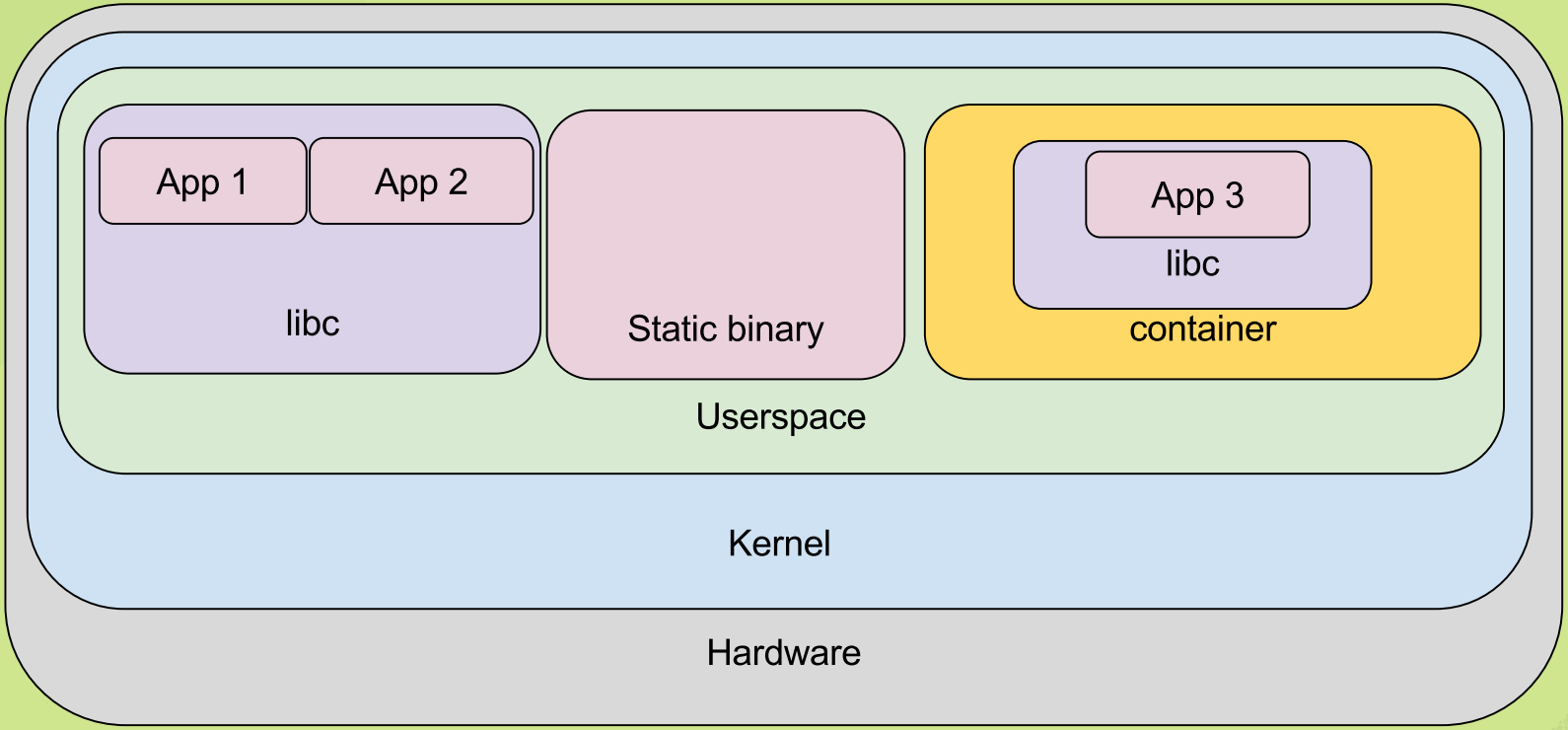
- and more, I'm sure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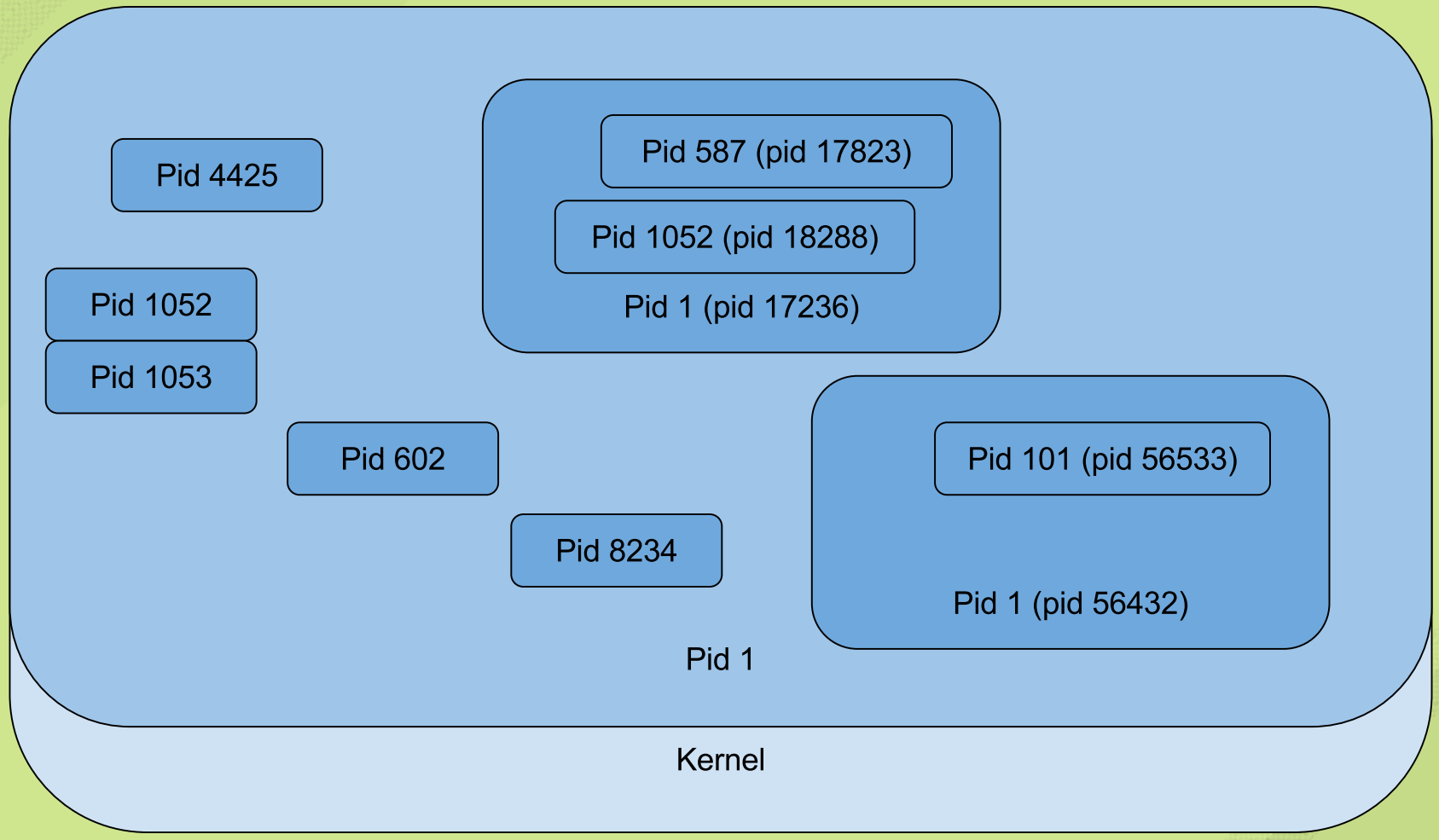
Isolation by control groups, syscall filtering, and Linux Security Modules (SELinux, apparmor, etc.)

## KERNEL NAMESPACES:

unshare() docs

- mount
- IPC (message queues, semaphores, shm)
- UTS (hostname)
- network
- PID
- cgroup
- user

## KERNEL NAMESPACES: PID



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Standardize the formats (see Open Container Initiative)

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Discoverable APIs (see OpenAPIs)

"Scheduled" functionality (see OpenShift and Kubernetes)

intercommunication (see gRPC)

event driven functions (aka "serverless")

intelligent routing (istio and envoy)

trusted pipeline (CI/CD, grafeas, etc)

# CLOUD

(Cite: the internet)

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THANKS!