Replacing Docker With Podman

By Dan Walsh @rhatdan
dnf install -y podman
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alias docker=podman
Questions

Blog: https://podman.io/blogs
Github:
- https://github.com/projectatomic/libpod (podman)
- https://github.com/containers/storage
- https://github.com/containers/image
- https://github.com/containers/buildah

IRC: freenode: #podman
Site: https://cri-o.io
Alan Moran on Twitter: "I completely forgot that ~2 months ago I set up "alias docker=podman" and it has been a dream. #nobigfatdaemons @projectatomic"

11:49 PM - 29 May 2018

7 Retweets 15 Likes

Alan Moran @tlalanmoran · May 30
Only downside is no Mac OS support (Main dev machine)

Joe Thompson @cafeinspresent · May 30
Replying to @tlalanmoran @projectatomic
So, what reminded you?

Alan Moran @tlalanmoran · May 30
docker help 😵️
Please Stand
Please read out loud all text in red.
I Promise
To say Container Registries Rather than Docker registries
I Promise
To say Container Images Rather than Docker images
I Promise
To say Containers
Or
OCI Containers
Rather than Docker Containers
Sit Down
Swear Jar
What do you need to run a container:

- Standard Definition of what makes up a container image.
  - OCI Image Bundle Definition
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  - runc default implementation of OCI Runtime Spec (Same tool Docker uses to run containers)
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  - Container Networking Interface
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● Tool to monitor container
  ○ Conmon
Introducing podman

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#nobigfatdaemons
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# podman images

...

https://github.com/projectatomic/libpod
Pod architecture (runc)

Pod
(ipc, net, pid namespaces, cgroups)

Infra Container

Container A (runc)

Container B (runc)

common

common

common

#nobigfatdaemons
DEMO

#nobigfatdaemons
Proper Integration with Systemd

- Can run systemd as PID 1 in container, with no modifications
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- Socket Activation
Remote API for Podman

- Added Varlink support
- Socket activation of podman system service with varlink

[Unit]
Description=Podman Remote API Service
Requires=io.podman.socket
After=io.podman.socket
Documentation=man:podman-varlink(1)

[Service]
Type=simple
ExecStart=/usr/bin/podman varlink unix:/run/podman/io.podman

[Install]
WantedBy=multi-user.target
Also=io.podman.socket
Python Bindings

```python
python3 -c "import podman; import json; c=podman.Client();print(json.dumps(c.system.info(), indent=4))"
[
    {
        "mem_free": 5796605952,
        "mem_total": 16679206912,
        "swap_free": 0,
        "swap_total": 0,
        "arch": "amd64",
        "cpus": 4,
        "hostname": "localhost.localdomain",
        "kernel": "4.18.9-200.fc28.x86_64",
        "os": "linux",
        "uptime": "11h 2m 32.25s (Approximately 0.46 days)"
    },
    ...
]"
Remote API Support

pypodman - Python program used for running remote podman commands.

https://asciinema.org/a/203590
Cockpit support

https://github.com/cockpit-project/cockpit-podman
What we don’t do

- **Autostart, autorestart**
  - Systemd should be handling this

- **Swarm**
  - We support Kubernetes container orchestrator

- **Notary**
  - We do support simple signing, but would look at PRs for Notary support

- **HealthChecks**
  - We are looking into this, perhaps systemd support? Side car container in pod?

- **Docker API** - We have no plans to support this, but we do have Varlink

- **Docker volumes**
  - It is on the roadmap
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