Atomic Developer Bundle

Containerized Development Made Easy

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Problem Statement

- Linux Container Development
- Group wants uniform stable development environment
- Developers want personalized environment
- Developers should "develop" not "configure"
- Developer machines may not even run the technology
- Current tools are not use case specific

Solution - The Atomic Developer Bundle (ADB)

- Platform independant development environment
  - Windows, OS X, Linux
- Preconfigured tools that are good mimics of production
  - Multiple orchestrators (Kubernetes, OpenShift, Mesos-Marathon, …)
  - Extensible
  - No required stack
  - Nulecule Specification
- Developer environment independent (keep on truckin')
  - 3 distinct use cases
    - Command Line Carl
    - IDE Igor
    - My Environment Mike

Demo Time

- **"Command Line Carl"** wants a command prompt. He doesn't want the rest. His company/wife/budget gave him a box that doesn't run docker or he doesn't want to pollute his 'email layer.'

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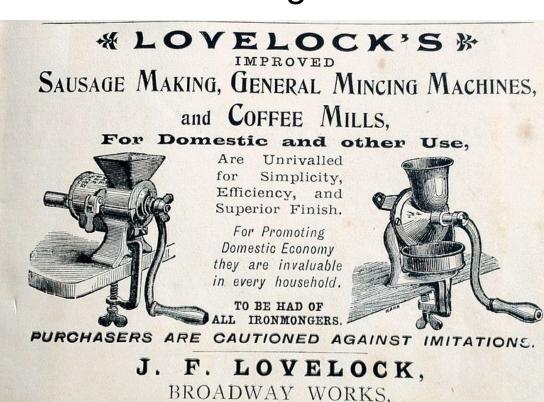- **"IDE Igor"** has always used an IDE. He wants to do containers on his terms.

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- **"IDE Igor"** has always used an IDE. He wants to do containers on his terms.

- **"My Environment Mike"** has his own box that he has tricked out to his liking. Mike wants to have his environment connect seamlessly with the dev tools and for them to stay out of the way.

How Do We Make the sausage?

- Vagrant Box
  - VirtualBox & libvirt
- Utility scripts and configurations for multiple orchestrators
- Vagrant Plugin
- CentOS 7
- CentOS Build System

What's the Sausage Made Of?

- TLS protected docker daemon
- Kubernetes
- OpenShift
- Mesos-Marathon
- Atomic CLI

Why We Love CentOS

- Stability

- Community of Users

- Special Interest Group (SIGs) for users and specific software versions

- Build System

- CI/CD System

- Release cadence

Sausage, It's What's For Dinner!

- cloud.centos.org or via vagrant

  ```
  $ vagrant init projectatomic/adb
  $ vagrant up
  $ vagrant plugin install vagrant-adbinfo
  $ vagrant adbinfo
  ```

- Client CLIs Available Upstream

  - docker
  - kubernetes
  - OpenShift

Note: Under VirtualBox you need to enable a public network interface - see the Usage Docs @ GitHub

Photo: http://www.darkroastedblend.com/2008/07/russian-vintage-advertising-posters.html

ADB Development & Contribution

- Project repositories under projectatomic organization
  - https://github.com/projectatomic/
- Mailing lists
  - https://www.redhat.com/mailman/listinfo/container-tools
- IRC:
  - #nulecule and #atomic on Freenode
- Public Meetings
  - Every Wed at 1230 UTC in a Bluejeans Video Conference
  - IRC meeting on #nulecule every Monday 1500 UTC

Photo: By Paul Stahr (1883–1953) [Public domain], via Wikimedia Commons
https://commons.wikimedia.org/wiki/File%3AColumbiaStahrArtwork.jpg

"The Future's So Bright, I Gotta Wear Shades"

- Future Ideas
  - more hypervisors
  - more orchestrators
  - service architecture and improved management via vagrant plugin
- Today's Challenges
  - TLS certificates generation for docker daemon
  - new vagrant plugin architecture
  - docker image caching
  - folder sync, sshfs?
  - DNS under Windows - ruby forks :(

Thank you!

- Slides and Video will be at: https://wiki.centos.org/Events/Dojo/Brussels2016
- Demos at: https://github.com/navidshaikh/centos_dojo_brussels_2016

- References:
  - http://www.projectatomic.io/
  - https://github.com/projectatomic/adb-atomic-developer-bundle/
  - https://github.com/projectatomic/vagrant-adbinfo
  - https://www.centos.org/

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