What are Containers?

16 January 2018

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So... what are containers?

Definitions

- "... operating system feature(s) in which the kernel allows the existence of multiple isolated user-space instances."

  Operating-system-level virtualization, Wikipedia

- "LinuX Containers (LXC) combines the kernel's **cgroups** and support for isolated **namespaces** to provide an isolated environment for applications."

  LXC, Wikipedia

- "A container image is a lightweight, stand-alone, executable package of a piece of software that includes everything needed to run it: code, runtime, system tools, system libraries, settings."

  What is a container, Docker

Liz Rice - Inspiration for this talk

Building a container from scratch in Go, Microscaling Systems

- Golang UK Conf. 2016 - Liz Rice - What is a container, really? Let's write one in Go from scratch www.youtube.com/watch?v=HPuvDm8IC-4

- Building a container from scratch in Go - Liz Rice (Microscaling Systems), www.youtube.com/watch?v=Utf-A4rODH8

- @lizrize

Let's build a container

Namespaces

Control what a process can see.

- PID (process table)

- UTS (unix timeshare)

- Mount

- Network

- IPC (inter-process communication)

- User (Linux users and groups)

- Cgroup (control groups)

Cgroups

Control what a process can use.

- Memory

- CPU

- CPU Accounting

- CPU Sets

- PIDs

- Blkio

- Devices

Thank you

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