

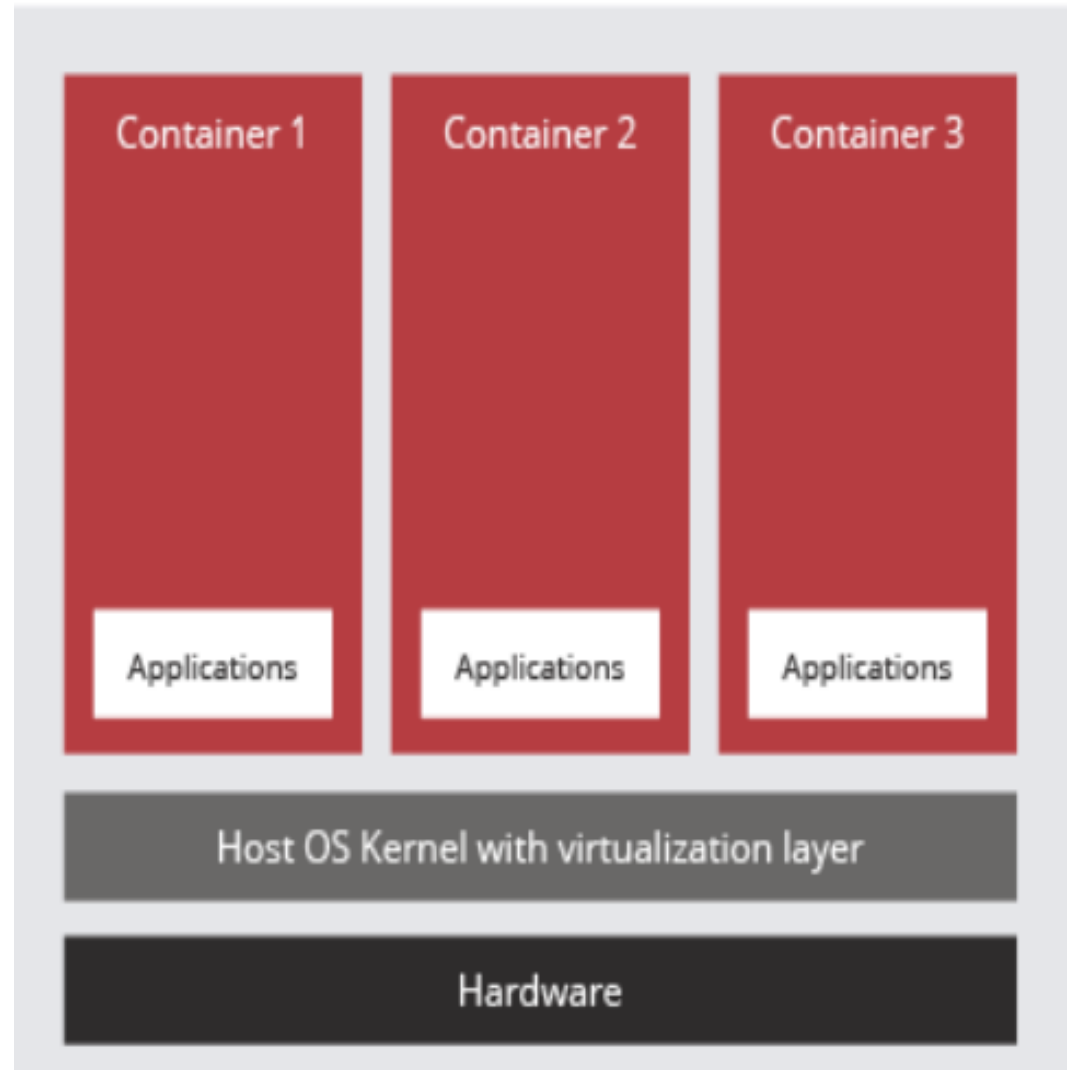
Container Templates

zvirtuozzo

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Terminology

- Container – lightweight virtual environment
- Host kernel in all containers



Technologies

- Solaris zones
- *BSD jails
- Linux
 - LXC
 - Docker
 - Virtuozzo/OpenVZ

Empty container – bad container

- Users need software
- Templates (php, java, redis, sql)
- Favorite OS

Content delivering in container

- Precreated VMs
 - Just popular (docker)
(“30% of Official Images in Docker Hub Contain High Priority Security Vulnerabilities” – BanyanOps, 2015)
 - Need to maintain & support
- Automatic install after container creation

Automatic install

- «native» tools to install os
- Specific for each distro (apt for ubuntu, yum for centos, dnf for fedora, etc)
- need to be preconfigured
- OS-dependent tools
- LXC with ubuntu can be bootstrapped only on ubuntu
- Tools to bootstrap distro has limited functionality (e.g. a lot of python deps for yum and it's hard to run on ubuntu)

Live after install

- Install & remove applications
- Need to support system
- Install updates

Virtuozzo container templates

- Install os to container from the ground up
- Install & update software presets
- No need to enter inside the container to tune up and install sshd, postgres, mariadb, etc

Linux Distro

- cpio archive
- scripts
- triggers
- metadata
- Package Manager
 - unpacking archives
 - run scripts & triggers
- RPM\DEB package
- Files
- Pre-install, post-install scripts
- Package Requires

Package management

OS installation == rpm\deb archive unpacking in the correct sequence

Not enough to unpack it:

- Scripts and triggers
- Dependencies (package foo requires library bar)
- package manager nuances

Virtuozzo vzpkg*

- Modified package managers for various linux distros
- configured for deployment from scratch
- Interact with virtuozzo tools

Kinds of Templates

- OS Template
 - basic
 - addons (centos minimal, centos webserver)

- App templates
 - PHP, Apache, MySQL

OS install

- Unpacking minimal chroot with modified package manager
- Downloading and unpacking distro packages
- Scripts and triggers

How to use

- Command line

```
# vzctl create 101 --ostemplate ubuntu-16.04-x86_64
```

```
# vzpkg install 101 mysql
```

```
# vzpkg remove 101 mysql
```

- GUI Virtuozzo Automator

