Developing WordPress With VAGRANT & Friends

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Site Reliability Engineering

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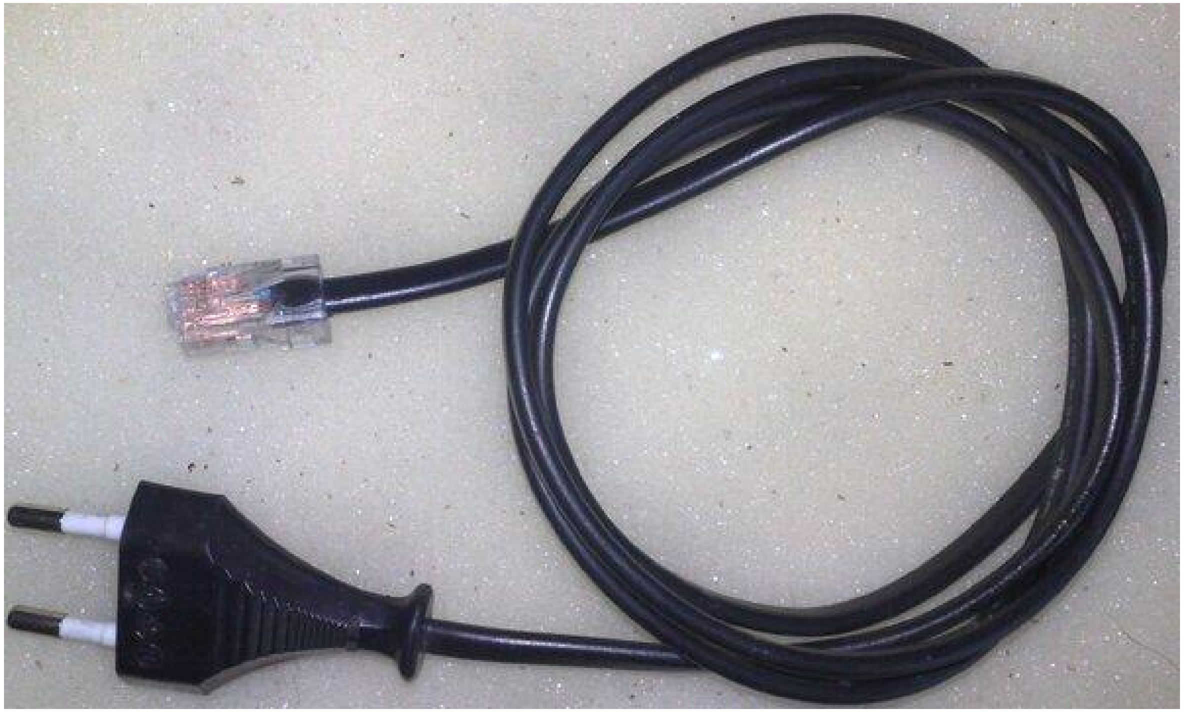
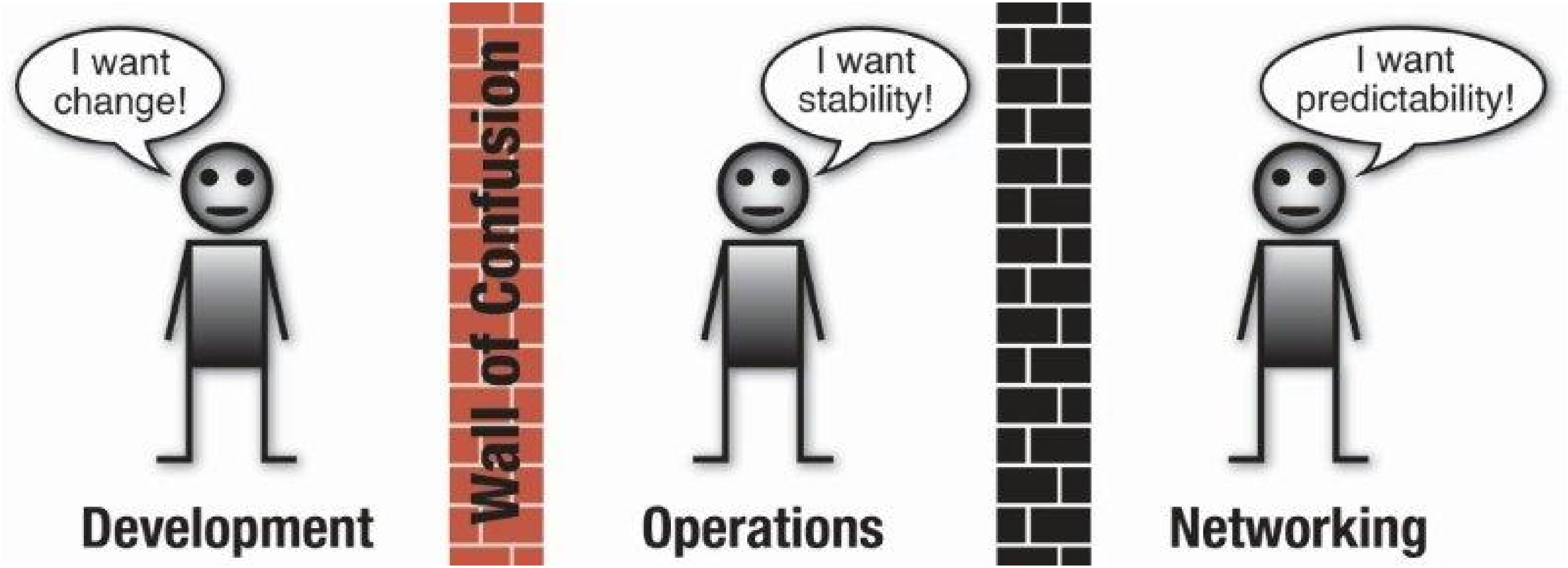
I was a BOFH



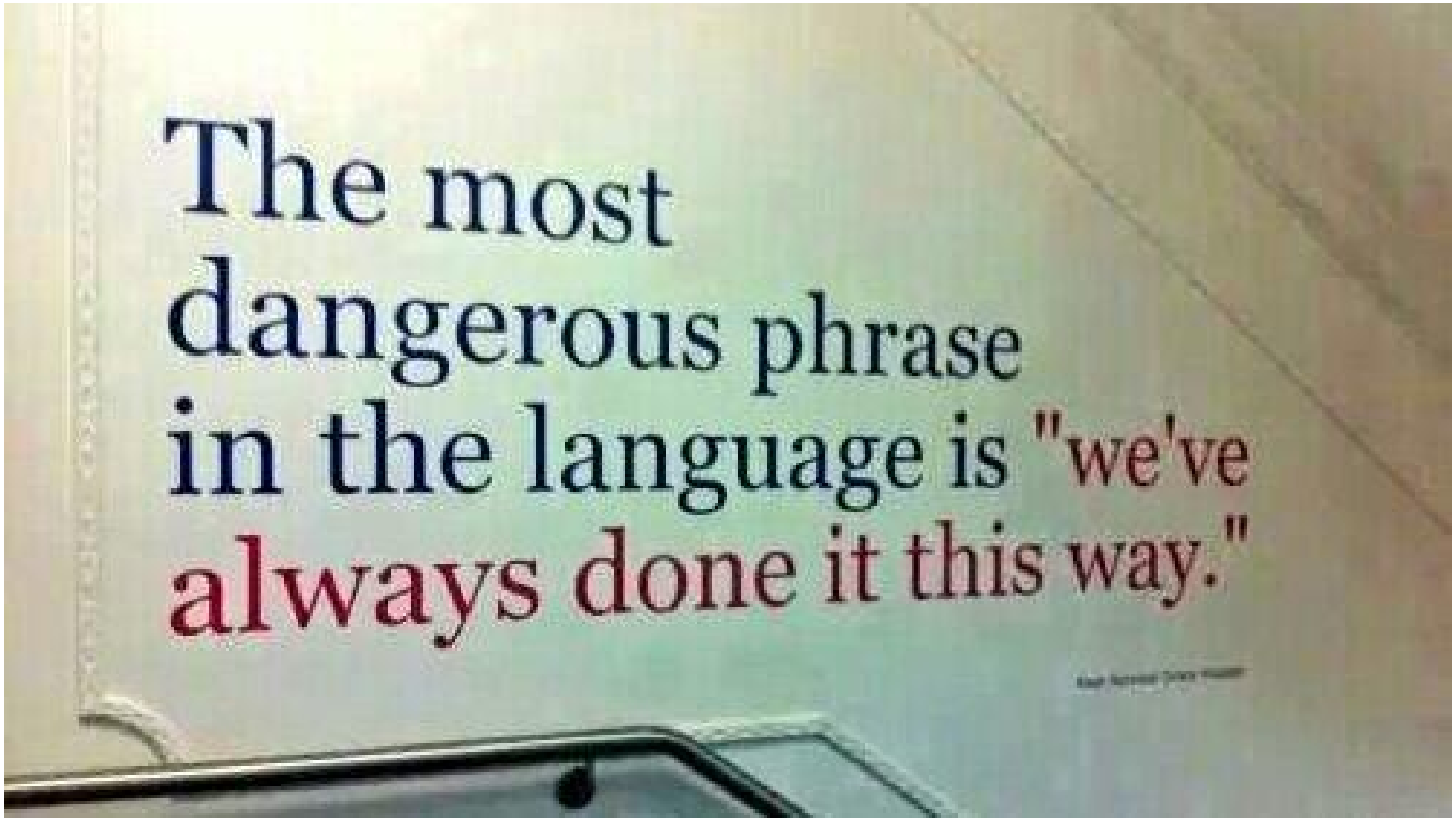
Separation, our starting point



Increasing Complexity

- Cloud and old school (shared)hosting
- LAMP, XAMP, MAMP, WAMP, Zend Server
- mod_php or php-fpm
- HA (> 99,5%)
- NoSQL
- Diversity in customer devices

People don't like change



The most dangerous phrase in the language is "we've always done it this way."

Ops has Nightmares

Seven Sins

- Editing of live code
- File permissions webroot: 777
- PHP code execution within directories: upload, wp-includes, wp-content
- Global unlimited access to wp-admin en wp-login.php
- Accounts with easy passwords
- FTP is still used instead of SFTP
- Old WordPress and plugins versions

Dev has nightmares too

- High Customer expectations
- Short Time To Market
- High performance
- Mission-Critical
- Development costs
- Code works on D but not on TAP
- Development environments get messed up, cruft
- Fix a single bug in a 3-year old project

What did we come up with?

- Distributed SCM (GIT or Mercurial)
- Agile software development
- Test automation
- Continuous Integration
- Continuous Delivery
- Continuous Deployment
- DevOps

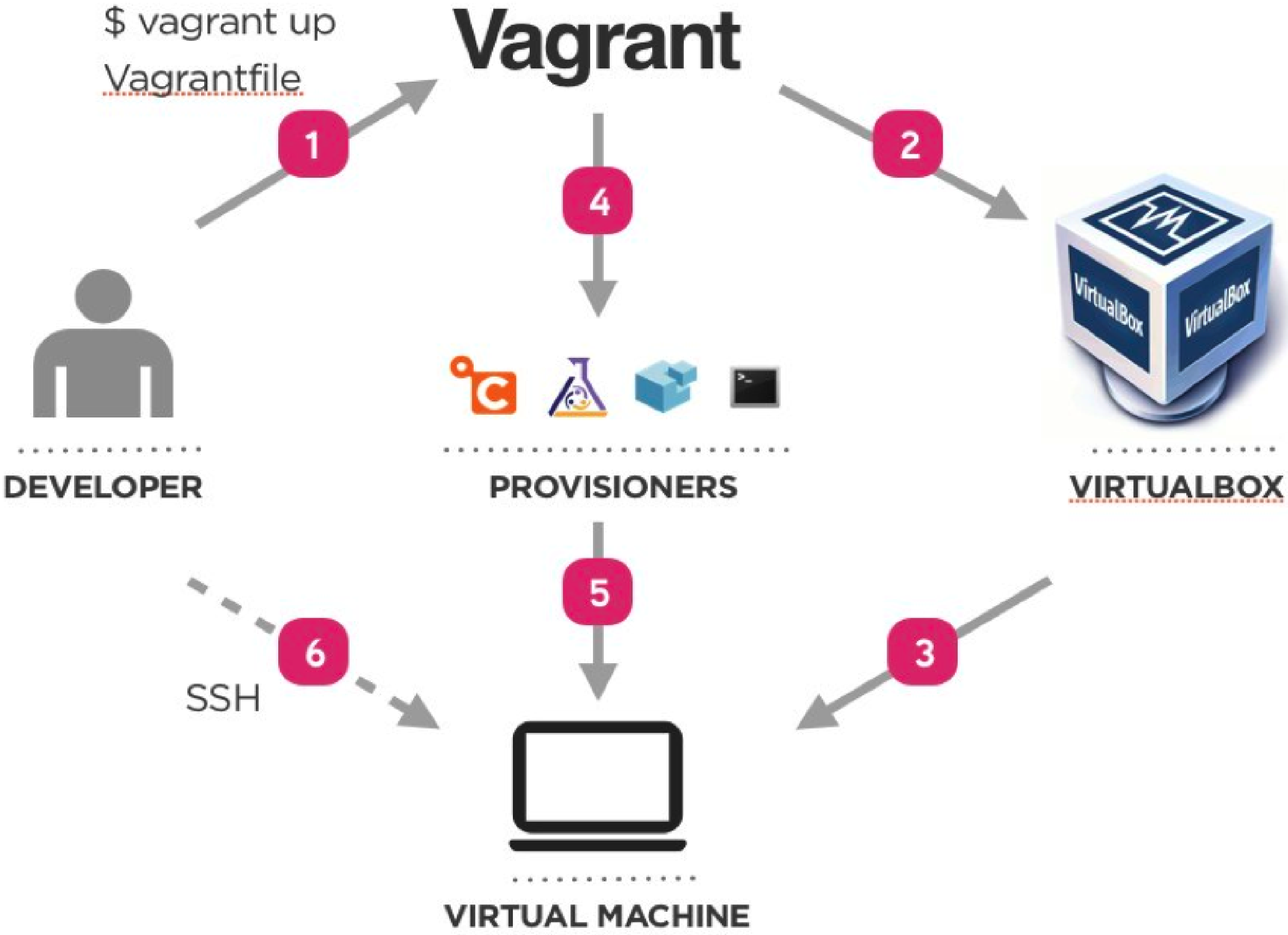
The Daily Practice

- Communication
- Collaboration
- Integration (Multidisciplinary teams)
- Predictability (reduce risk)
- Efficiency
- Security
- Maintainability
- More intelligent **automation**

But it works on my desktop!

Why Vagrant?

- Isolation
- Reproducible and consistent
- Portable
- Fast, Do It Yourself, No-Ops
- Cheap DTAP when needed
- Multiple guest machine setups
- Synced folders with host
- Host can be Linux, Mac or Windows
- Has a 'Vagrantfile' config written in Ruby


$ vagrant up
Vagrantfile
Vagrant
1
2
4
DEVELOPER
PROVISIONERS
VIRTUALBOX
5
6
3
SSH
VIRTUAL MACHINE

Vagrant Base Box

```
$ vagrant box add hashicorp/precise64
$ vagrant init hashicorp/precise64
$ vagrant up
$ vagrant ssh

$ vagrant {up, halt, reload, status, destroy}

$ vagrant box remove hashicorp/precise64 virtualbox
```

Vagrant Providers

- Virtualbox, KVM, libvirt, Hyper-V (Win8) ,VMware Fusion or VMware Workstation ($79 per seat)

- AWS, DigitalOcean, Rackspace, Openstack

Vagrant Provisioning

- Shell
- Ansible
- Puppet (master|no-master)
- Chef
- Saltstack
- CFEngine

Workflow with Vagrant

1. Install Virtualbox (version 4.3)
2. Install Vagrant (version 1.5.4)
3. Git clone project's code repository, including vagrantfile and provision scripts
4. Run 'vagrant up' to create and provision your own VM
5. Write code with your favorite IDE
6. VM serves website

Varying Vagrant Vagrants

- Vagrant configuration focused on WordPress development
- Just use Virtualization on the desktop
- Active project on Github and well documented
- Who is using it for day-to-day development?

Varying Vagrant Vagrants

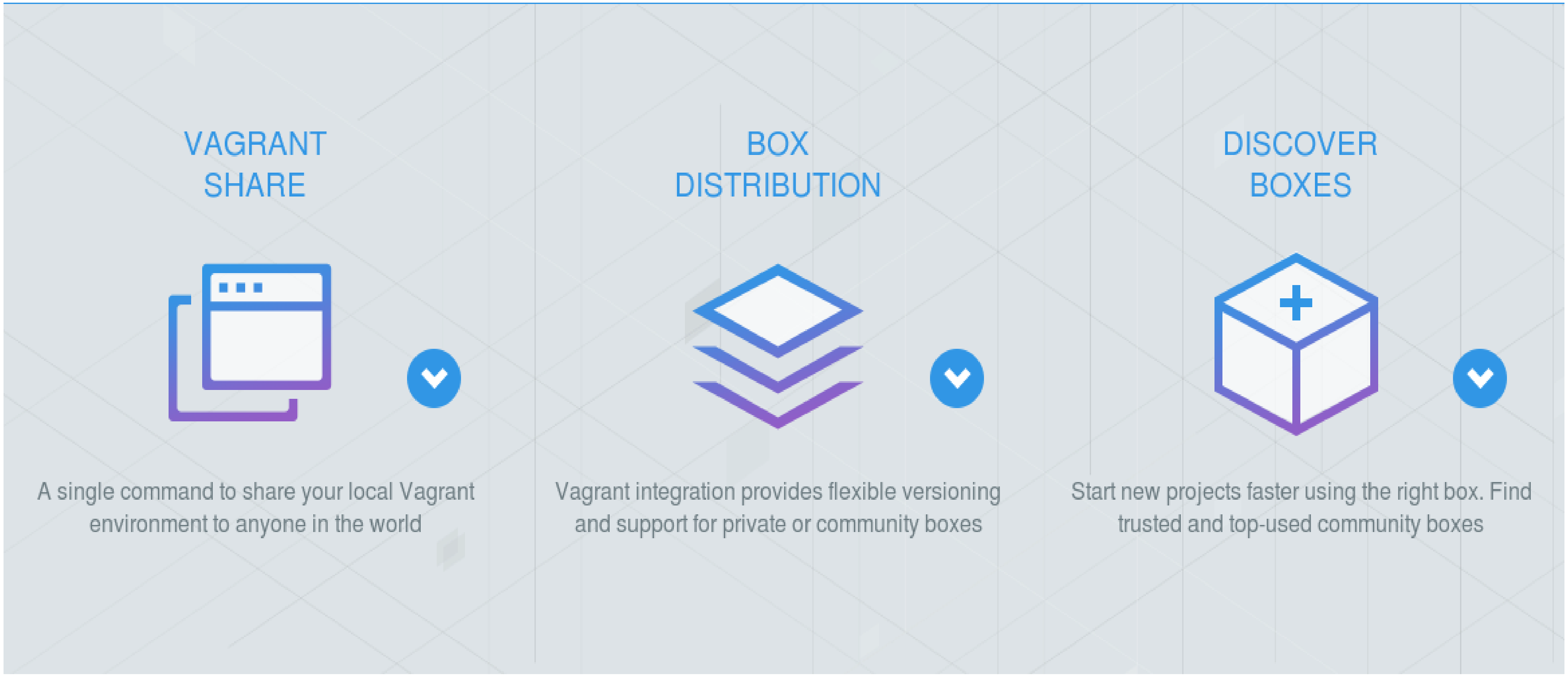
- Bleeding-edge?
- Ubuntu 14.04 LTS: true, YourHosting, i3d.nl, trans-ip, cloudvps
- Provisioned with a shell file
- Nginx with FPM
- VVV Init takes ~1166 sec (19 min) on a Intel Core2 Duo 3GHz and 4 GB ram

VVV Fork?

- Need for CentOS 6/Red Hat?
- Need for Apache httpd with mod_php?
- Need for ...

Vagrant Cloud

https://vagrantcloud.com/



VAGRANT SHARE

A single command to share your local Vagrant environment to anyone in the world

BOX DISTRIBUTION

Vagrant integration provides flexible versioning and support for private or community boxes

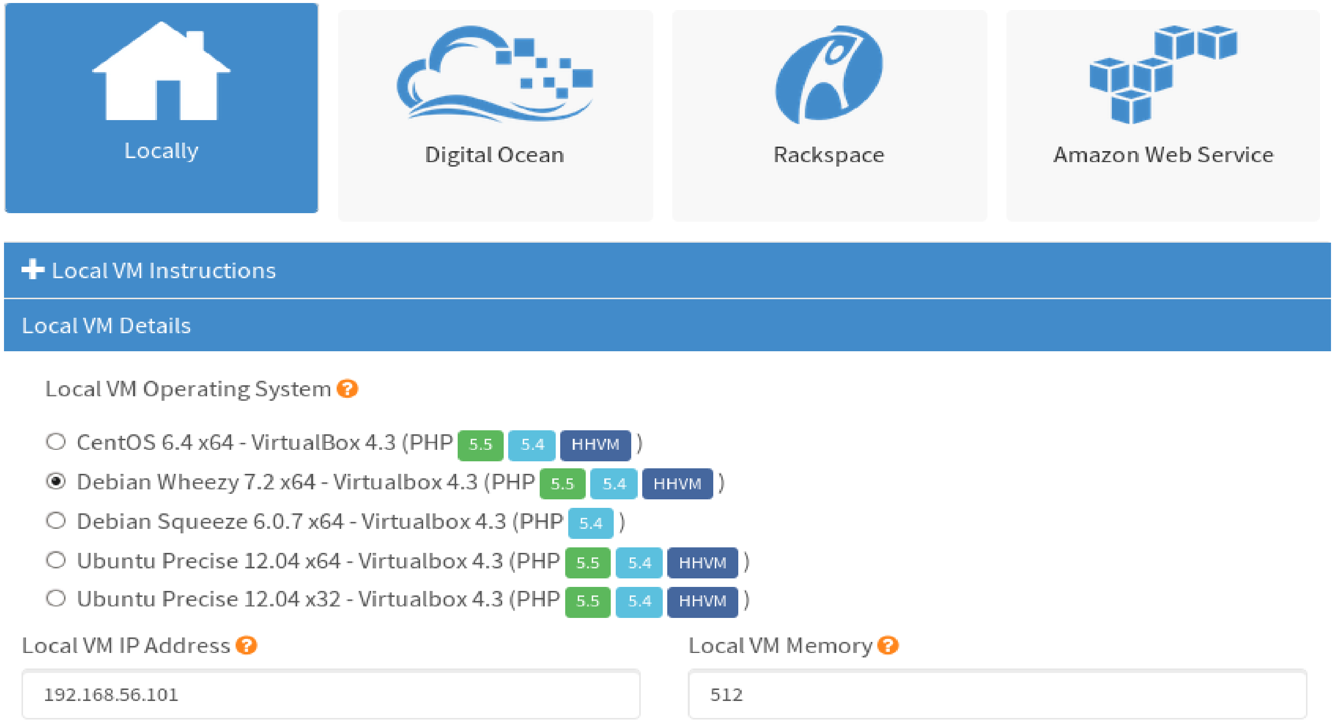
DISCOVER BOXES

Start new projects faster using the right box. Find trusted and top-used community boxes

PuPHPet

Control Vagrant & Puppet from a web GUI

http://puPHPet.com



+ Local VM Instructions

Local VM Details

Local VM Operating System ?

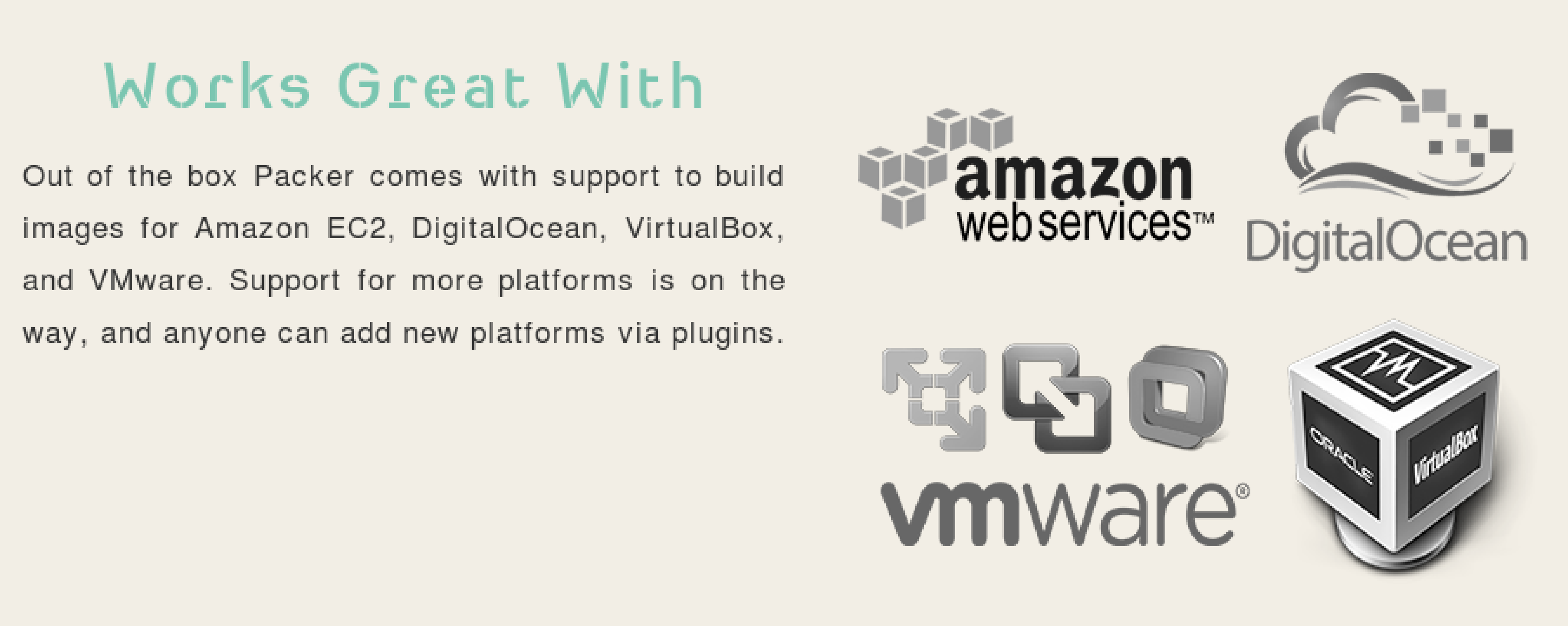
○ CentOS 6.4 x64 - VirtualBox 4.3 (PHP 5.5 5.4 HHVM)
● Debian Wheezy 7.2 x64 - Virtualbox 4.3 (PHP 5.5 5.4 HHVM)
○ Debian Squeeze 6.0.7 x64 - Virtualbox 4.3 (PHP 5.4)
○ Ubuntu Precise 12.04 x64 - Virtualbox 4.3 (PHP 5.5 5.4 HHVM)
○ Ubuntu Precise 12.04 x32 - Virtualbox 4.3 (PHP 5.5 5.4 HHVM)

Local VM IP Address ?
192.168.56.101

Local VM Memory ?
512

Packer

http://www.packer.io/

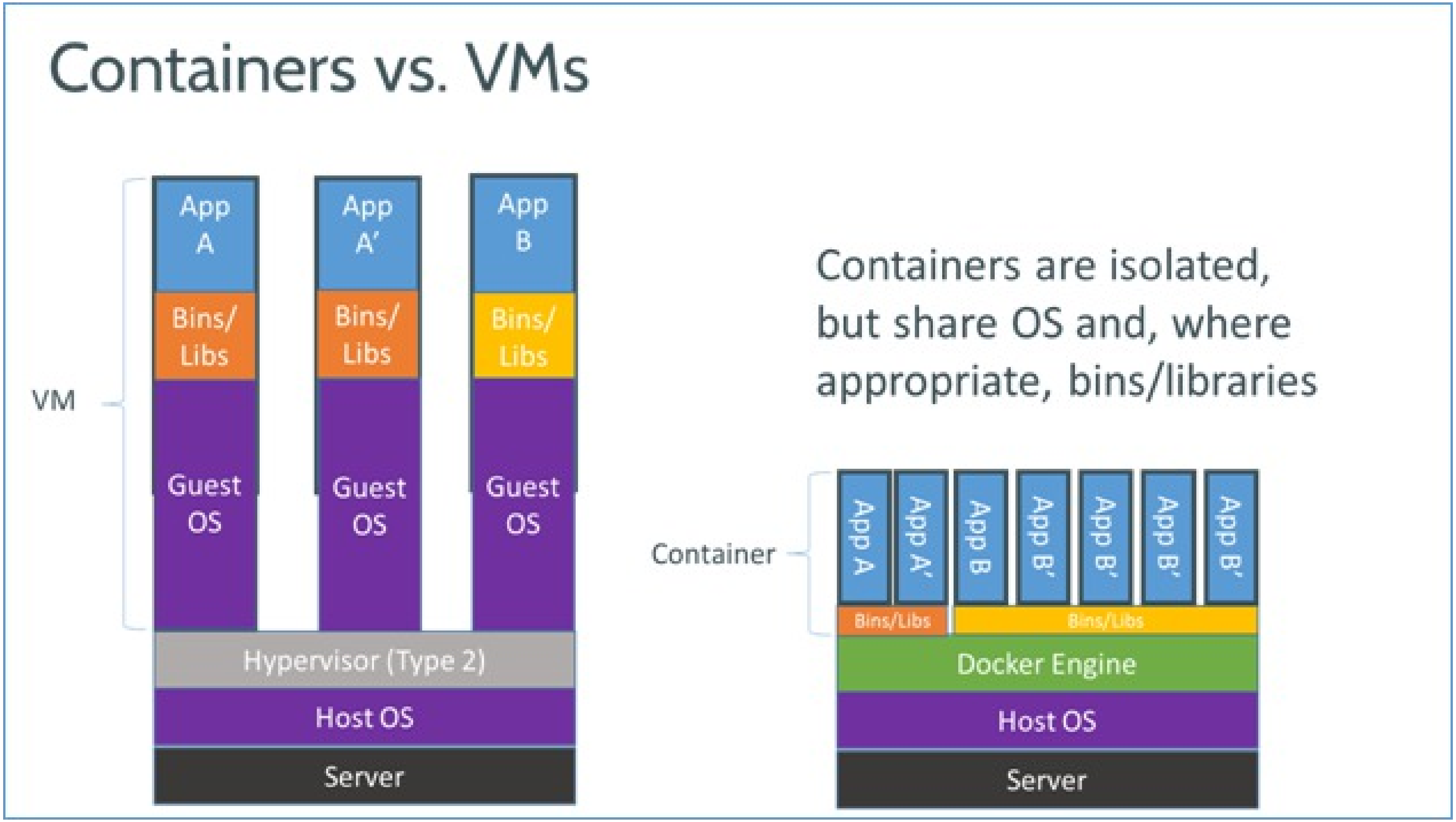


Works Great With

Out of the box Packer comes with support to build images for Amazon EC2, DigitalOcean, VirtualBox, and VMware. Support for more platforms is on the way, and anyone can add new platforms via plugins.

Docker

- Makes handling containers easy
- Fast boot
- Portable
- Lightweight
- Reproducible
- Service separation
- Red Hat and Ubuntu dig it
- Does to Linux what Git has done to source control



Containers vs. VMs

Containers are isolated, but share OS and, where appropriate, bins/libraries

Get Docker running

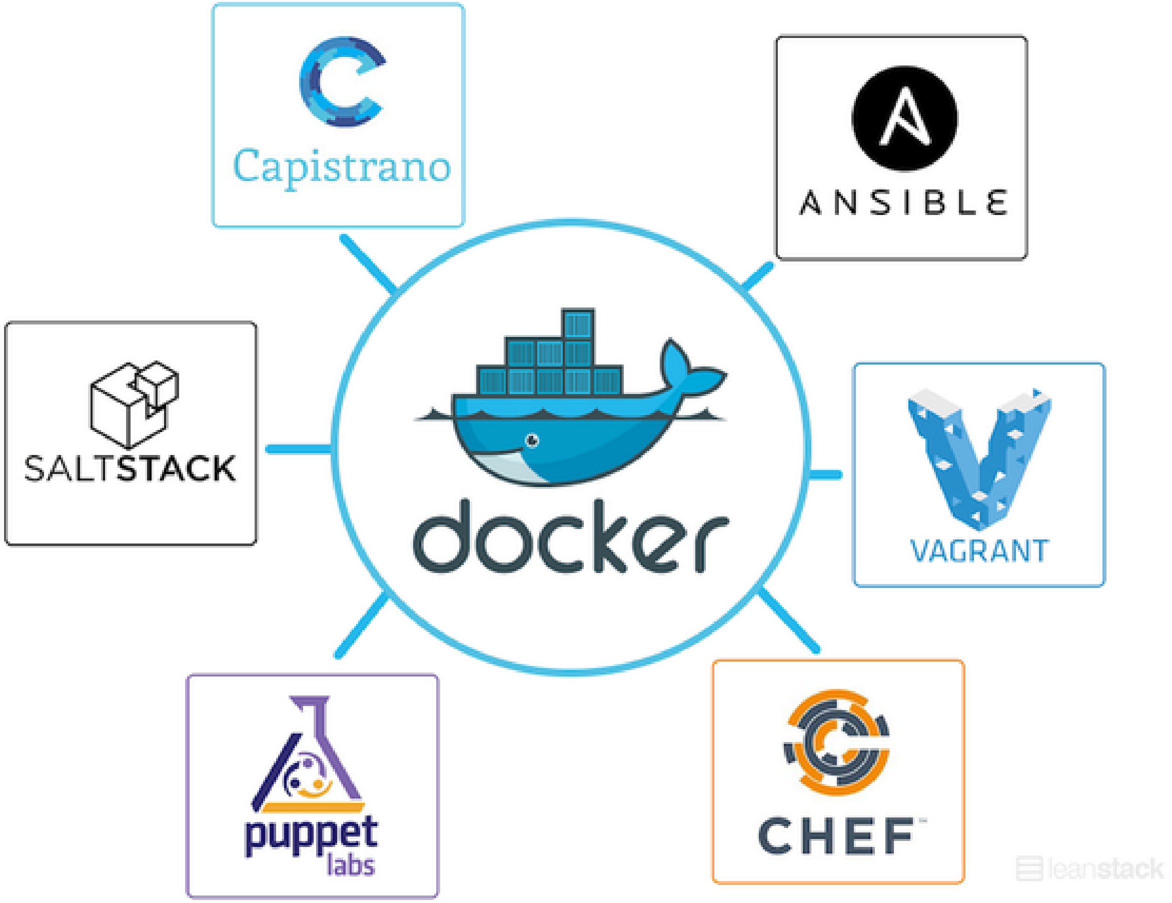
1. Install Virtualbox (version 4.3)
2. Install Vagrant (version 1.5.4)
3. Vagrant up
4. Build a Docker container
5. Docker run
6. Do whatever you like

Single container WordPress

```
$ docker build -t tutum/wordpress .
$ docker run -i -t tutum/wordpress bash

$ docker {ps, stop, ssh}
```

DevOps Dream



Recap Vagrant

- Consistent and easy CLI Interface
- Supports major host OS'es
- Supports growing number of Virtualization Providers
- Supports advanced automated provisioning
- Is about sharing (boxes)
- Is about 'being in control'
- Future proof investment (Docker, FOSS)

Thanks!

Get started today, visit and clone:

https://github.com/quadzero/wordcamp