

Virtualize Your Development

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This talk

- high-level
- ideas, problems and solutions
- tips (how **we** do things)
- discussions
- not much actual code/config/typing
- Q&A

A tale of seven cities?



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Traditional development

- one room (or at least one campus)
- shared dev server
- partitioned dev server
- workstation as dev server
- over-should reviews / collaboration

Develop where you deploy!

- MS won't like this...
- Maintaining PHP on OS X is a headache
- Linux, BSD... still bad idea
 - config changes
 - dev conflicts
 - full-machine access

Solution: Virtual Machines

- Each developer gets one
- runs on own machine, own hardware (*RAM)
- works offline (airplanes, trains; see previous map)
- a bit hard for non-sysadmins to maintain
- over-shoulder collaboration still a problem without...

VPN!

- (Virtual Private Network)
- VPNs suck! (-:
- OpenVPN sucks a bit less
 - easy to set up
 - more details later

VMs

- we use VirtualBox:
 - open source, free (Oracle)
 - good enough for what we need
 - good OS support
- started with base images, manual sysadmin
 - (ssh between VMs)
- still kind of hard to maintain for non-technical users...

Solution: Vagrant

- simple, command-line VM configuration
 - start up, shut down
 - reconfigure RAM
 - re-network
 - ...all without the VirtualBox GUI
- good systems-provisioning support

Systems-provisioning?

Solution: Puppet

- declarative
- package installation
- configuration
- builds on a simple base image
- keeps systems in sync, in order
- change the manifest, users reprovision (or auto)
 - config propagates

VirtualBox comments

- use two network interfaces
 - NAT (or bridged)
 - host-only
- use NFS if you can
 - (not shared folders)
 - adjust `git` accordingly

OpenVPN comments

- use certificates
 - use easy-rsa, and keep results in source repo
 - naming convention from day-one
- use TCP; UDP is better, but use TCP
- use Client Config to make IPs, routes sticky
- use a GUI client (e.g. Viscosity or Tunnelblick)

Network resolution

- started with /etc/hosts
- moved to DNS
 - fictivevpn.com
 - *.dev.fictivevpn.com, *.prod.fictivevpn.com
 - *.public.fictivevpn.com
 - sean.vm.dev.fictivevpn.com
 - local.gimmebar.com

dpkg

- not super simple, but also not too hard
- basically a directory tree of:
 - files to install
 - a control/manifest
 - pre/post-install scripts
- we have one for ElasticSearch, and a custom PHP
- Reference: <http://phpadvent.org/201011>
- set up your own apt

Demos! (if time allows)

Summary

- VirtualBox
- Vagrant
- OpenVPN
- Puppet

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- Puppet

- **WORK ANYWHERE (PANTS-FREE)**

Questions?

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