AUTONOMOUS APPLICATION DEPLOYMENT WITH

PKGSRC

WHO IS

THIS JACK–WAGON?

'MURICAN

▸ overweight

▸ a little bit bigoted

▸ I own guns

▸ I probably don't speak your language

OVERWEIGHT

▸ Did I mention that I'm 'Murican?

LITTLE BIT BIGOTED

▸ GNU/Linux

▸ GNUbs

▸ Systems that do not include netstat, traceroute, a sane default command shell for /bin/sh

▸ Systems that turn $#!+ on just because you installed it

▸ version control systems that allow history to be rewritten

▸ ORMs

LITTLE BIT BIGOTED (CONTINUED)

▸ PHP

▸ MySQL

▸ Oracle

▸ Chef

▸ Puppet

▸ Ansible

▸ Screen

▸ GLibC

I OWN GUNS

I PROBABLY DON'T SPEAK YOUR LANGUAGE

▸ Spanish

▸ Esperanto

▸ Italian

▸ German

▸ Romanian

▸ Frisian

▸ Polish

▸ Czech

▸ Mandarin

I PROBABLY DON'T SPEAK YOUR LANGUAGE

▸ Spanish

▸ Esperanto

▸ Italian

▸ German

▸ Romanian

▸ Frisian

▸ Polish

▸ Czech

▸ Mandarin

▸ shell

▸ AWK

▸ Python

▸ Lua

▸ Racket

▸ Ruby

▸ JavaScript

▸ Go

▸ Rust

HUGE NERD

- Plone
- Web2py
- RVM
- SaltStack
- Ansible
- Capistrano
- RepozeBFG

- Fabric
- Fossil
- SQLite
- PyJS
- Wempy
- Linux Mint
- MidnightBSD

GCW@
8IONS.COM

APPLICATION DEPLOYMENT SYSTEM VIRTUALIZATION ORCHESTRATION CONFIGURATION MANAGEMENT CONTAINERIZATION AUTOMATION

APPLIC8ION DEPLOYMENT
SYSTEM VIRTUALIZ8ION
ORCHESTR8ION
CONFIGUR8ION MANAGEMENT
CONTAINERIZ8ION
AUTOM8ION

GCW@
8IONS.COM

LOVE/HATE STORY

DEVELOPER HAS IDEA

▸ Developer builds app

▸ Developer runs app

▸ Developer needs to deploy app into production

ABOUT THE APP

‣ POSIX-y

‣ Few dependencies

   ‣ System Libraries

   ‣ runtime language (JavaScript, Python, Ruby, etc)

   ‣ packages for language (NPM, CPAN, PyPI, Gems, etc.

DEPLOYMENT OPTIONS

▸ Tarball

▸ Debs/RPMs

▸ Language tools (pip, gem, cpan, etc)

▸ Deployment tools

  ▸ Maven, ANT, Make

  ▸ Capistrano, Vlad, Fabric, etc

  ▸ Puppet, Chef, Salt, Ansible

HAPPILY EVER AFTER

UNTIL...

VULNERABILITY DISCOVERED IN APPLICATION CODE

▸ Re-roll Tarballs and deploy

▸ Re-build deb/rpm packages, put in repo, deploy

▸ Update deployment tools/recipes and deploy

VULNERABILITY IN COMMUNITY PACKAGE

▸ Check for update

▸ Check update for compatibility with application code

▸ Check updated application for compatibility underlying stack

NEW VERSION OF YOUR RUNTIME IS RELEASED

▸ Check compatibility with application

▸ Find/fix edge-case issues

NEW SYSTEM LIBRARIES

▸ Check compatibility with community packages

▸ Check compatibility with application

WHAT IF THEY DON'T WORK TOGETHER?

FORK IT!

OR WORSE

DON'T UPGRADE ANYTHING

BUT THERE'S A BETTER WAY

THE OS IS SUBSTRATE YOUR APPLICATION IS THE COLONY

TWO SETS OF DEFINITIONS

▸ A host on your network

  ▸ monitoring

  ▸ orchestration

  ▸ (system) packages

▸ Your application stack

  ▸ apps that make up your stack

▸ Your application is now autonomous

▸ You can move from OS to OS as long as your application stack is supported on the target platform

▸ You can push updates to your substrate much more easily

▸ You can update your dependencies at will

▸ You can maintain your own forks without system conflicts

▸ You can run multiple versions in parallel on the same system

▸ You can wrap it all in meta-packages

▸ Parallel installations with ${PREFIX}

▸ Chroot "jail" for simple process isolation

▸ Tarball-able (not recommended but better than some solutions)

▸ Highly portable and easily maintainable

▸ Many many more…

QUESTIONS

GCW@
8IONS.COM