

# Configuration Automation

## Michael Robinson

# Puppet, Cfengine, and Stuff

# Why automate configuration?

- Cheaper
- Reliable
- Predictable
- Google says so

# The ROI argument

- But I'm not Google
- We have many apps per machine, not many machines per app
- There's not enough similarity

# Scaling

- $10^6$  – Google
- $10^3$  – Web app
- $10^2$  – Enterprise
- $10^1$  – Most sysadmins in enterprises

# Background

- Worked for outsourcers a lot of my career
- EDS
- Datacom (local EDS competitor)
- Many customers, with few numbers of systems

"The test we used when designing infrastructures was 'Can I grab a random machine and throw it out the tenth-floor window without adversely impacting users for more than 10 minutes?' If the answer to this was 'yes', then we knew we were doing things right."

# Firewalls



# Cfengine

- Don't use it!

# Cfengine

- OK, reasons

# Cfengine

```
#!/usr/sbin/cfagent -qKf
```

control:

```
AddInstallable = ( datacom datacom_ppp unknown disconnected home toyota restart_ntpd )
confdir = ( /cf )
moduledirectory = ( ${confdir} )
actionsequence = (
    module:find_location
    shellcommands
    processes
    tidy
)
```

shellcommands:

```
home:: "/usr/bin/gconftool-2 -t bool -s /apps/gnome-screensaver/lock_enabled false"
!home:: "/usr/bin/gconftool-2 -t bool -s /apps/gnome-screensaver/lock_enabled true"
any:: "/bin/sh -c 'cd /cf/proxy; m4 proxy.pac.in > proxy.pac'"
```

processes:

```
define(PROC, ($1):: "$2" signal=kill restart "/bin/sh -c '$3 >/dev/null </dev/null 2>&1 &'"
    !($1):: "$2" signal=kill)dnl
PROC(datacom|datacom_ppp, fw-login.pl, /home/michaelr/bin/fw-login.pl)
PROC(datacom, main.py, /home/michaelr/bin/run-proxy)
```

tidy:

```
any:: /home/michaelr/.wesnoth/screenshots pattern=*.bmp age=0
any:: /home/michaelr/.wesnoth/saves pattern=*Auto-Save* age=0
```

# Puppet

- Luke Kanies
- [madstop.com](http://madstop.com)

# Example config

```
#!/puppet
class ntp {
  package { ["ntp": ensure => true ]
  file {
    "/etc/ntp.conf":
      mode => 0444, owner => root, group => root,
      require => Package["ntp"],
      content => "
server nz.pool.ntp.org
"
  }
  service {
    "ntp":
      ensure => true,
      enable => true,
      require => [File["/etc/ntp.conf"],Package["ntp"]]
  }
}
node "velocity" {
  include ntp
}
```

# Questions

- Dependencies: good or not?
- Transitioning sysadmins?
- Experiences?