Porting Puppet to OpenBSD

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Agenda

- Introduction
- OpenBSD
- General considerations
- Puppet stack
- Current challenges
- Best practices
- Closing
Introduction
• Who am I?
  • Jasper Lievisse Adriaanse
    – OpenBSD
    – Puppet
    – GNOME
  • OpenBSD developer since 2006
m:tier
• Who are we?
  • OpenBSD developers
  • Breathe open source
  • Secure system architects
What do we do?

- OpenBSD
- Puppet
- Zabbix
- Bacula
- Open Source Software consultancy / implementation
• But also
  • OpenBSD Long Term Support
  • Binary patches
  • Thin Client
  • GNOME for OpenBSD
  • GNOME automounter for BSD
    - opensource.mtier.org
OpenBSD
• OpenBSD?

• Unix-like, multi-platform operating system
• Derived from 4.4BSD, NetBSD fork
• Kernel + userland + documentation maintained together
• 3rd party applications available via the ports system
• Anoncvs, OpenSSH, OpenBGPD, OpenSMTPD
  strlcpy(3)/strlcat(3), etc
• Runs on many platforms...
• Platforms
  • 21 supported platforms
    - from amd64 to mvme88k to zaurus
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General consideration

or

“OpenBSD oddities”
- No `root:root`
  - instead `root:wheel`
- UID < 500
  - vs. UID < 1000
- package takes “flavors”
• The world isn't i386\(^\text{\wedge}\) amd64-only
• Stuck with Ruby 1.9
  • until exotic alpha and hppa are fixed for 2.0
  • 2.1 is still miles away (mips64 broken too)
Puppet stack
• Ruby
  • Actually, Ruby was in a pretty good shape of modern architectures...
  • ...slightly less so on sparc64
libshadow

- enables usage of the user's password property
- didn't support non-Linux a few years ago
  - did support non-Linux a few month ago
- free ride for us
• Facter
  • Added OpenBSD support for various facts
  • New SSH key facts for ed25519 keys
  • Minor *BSD-related cleanups
• Puppet
  • Package provider
    - pkg.conf
    - Features:
      • :purgeable
      • :install_options
      • :uninstall_options
• Puppet (cont.)
  • remount support for *BSD
  • SSH ed25519 key support to various types
• PuppetDB
  • Path and shell command tweaks
  • OpenBSD `rc.d` script
• Puppet MCollective module
  • user/group/package made configurable
Current challenges
• package
  • ensure => 'latest'
• service
  • rc.d provider recently added
Challenges

- Ruby > 1.9
  - 3.5.x supports 2.1
  - OpenBSD not ready yet
• Submit outstanding patches
  • Facter
    – Fix virtual fact
    – Add swap{free, size}_facts
  • Puppet
    – UID < 1000
    – Use passwd(1) for expiry
Best practices

or,

low hanging fruit
• root group

Bad

group => 'root'

Good

group => 0

or

group => $root_group
Best practices

• user/group names

Bad

```ruby
user { 'activemq': ... }
```

Good

```ruby
user { $activemq_user: ... }
```
• Package names

Bad

    package { 'activemq': ... }  

Good

    package { $package: ... }
• No default fail in `case`

**Bad**

```puppet
case $operatingsystem {
    'RedHat': { $www = 'httpd' }
    'Debian': { $www = 'apache' }
    default:    { $www = 'this-may-work-yay' }
}
```

**Good**

```puppet
case $operatingsystem {
    'RedHat': { $www = 'httpd' }
    'Debian': { $www = 'apache' }
    default:    { fail('Unrecognized platform.') }
}
```
Closing
Thank you,

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Ken Barber (@barber)
Thank you!

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