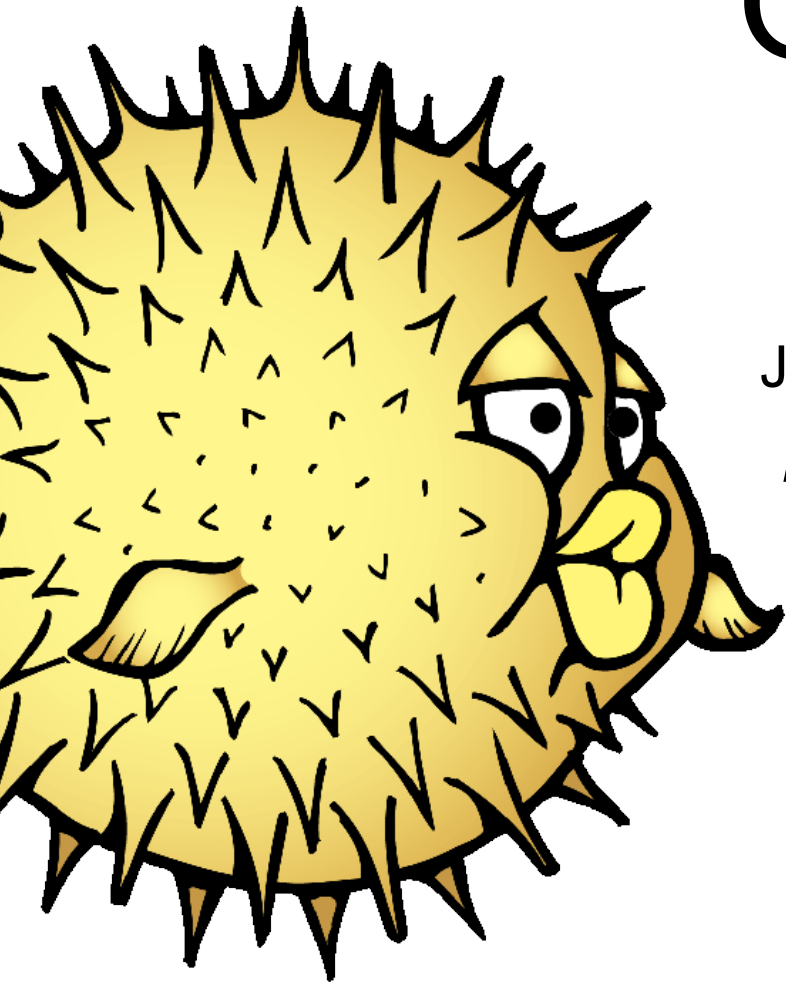# Porting Puppet to OpenBSD

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Engineering team, m:tier

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- Introduction
- OpenBSD
- General considerations
- Puppet stack
- Current challenges
- Best practices
- Closing

Introduction

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- # Who am I?
  - ## Jasper Lievisse Adriaanse
    - OpenBSD
    - Puppet
    - GNOME
  - ## OpenBSD developer since 2006

m:tier

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- # 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
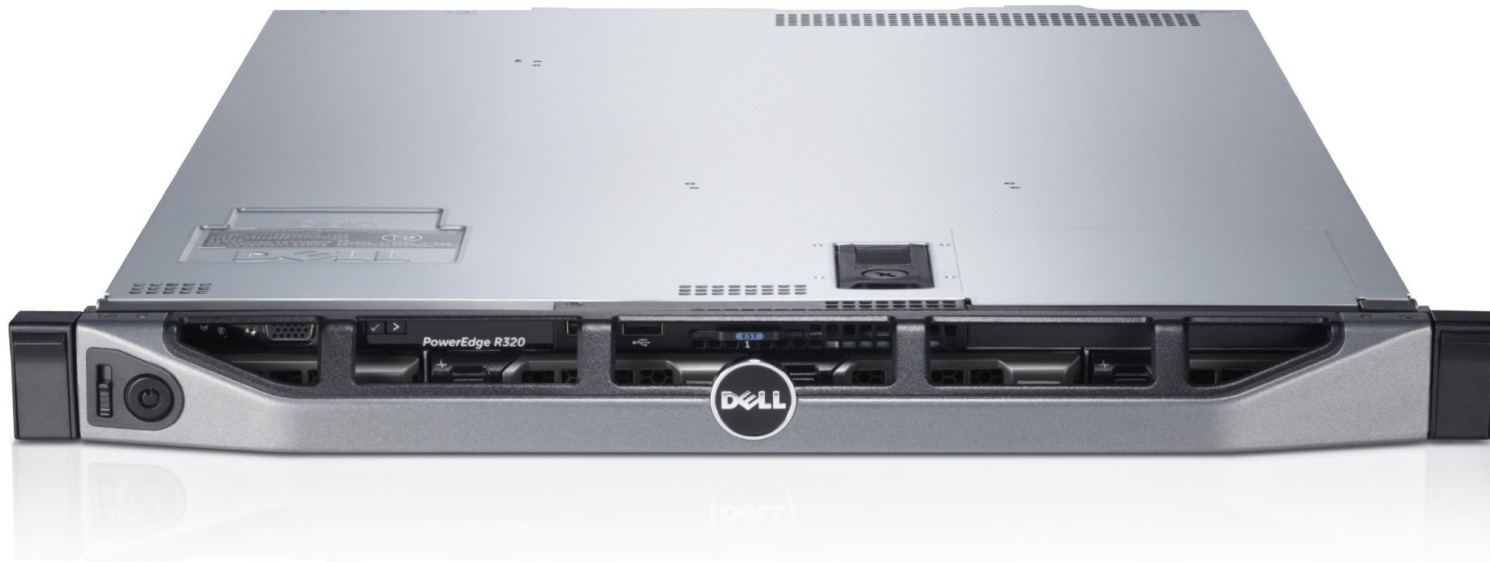
OpenBSD

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- ## 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"

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- No `root:root`
  - instead `root:wheel`
- UID < 500
  - vs. UID < 1000
- `package` takes "flavors"

- The world isn't i386`^W`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

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- 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` support
    - Features:
      - `:purgeable`
      - `:install_options`
      - `:uninstall_options`

- Puppet (cont.)
  - `remounts` support for *BSD
  - `SSHed25519` 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

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- `package`
  - `ensure => 'latest'`

- `service`
  - `rc.d` provider recently added

- Ruby > 1.9
    - 3.5.x supports 2.1
    - OpenBSD not ready yet

- Submit outstanding patches
  - Facter
    - Fix `virtual` fact
    - Add `swap{free,size}_mb` facts
  - Puppet
    - UID < 1000
    - Use `passwd(1)` for expiry

Best practices

or,

low hanging fruit

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- root group

Bad

```
group => 'root'
```

Good

```
group => 0
```
or
```
group => $root_group
```

- user/group names

Bad

```
user { 'activemq': … }
```

Good

```
user { $activemq_user: … }
```

- Package names

Bad

```
package { 'activemq': … }
```

Good

```
package { $package: … }
```

- No default fail in `case`

Bad

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

Good

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

Closing

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Thank you,

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Ken Barber `(barber)`

Thank you!

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