



# Beaker

## Cloud Enabled Acceptance Testing

# Life is Hard



# About Me

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# Beaker, The Onramp to Easy Street

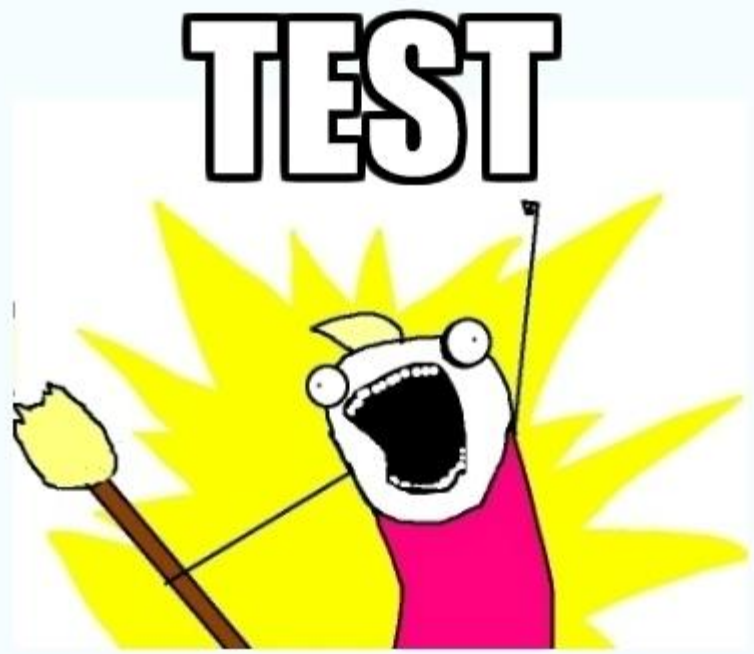
Flexible Test Construction

Cloud Enabled

Pretty Reports



# The Tests



ALL THE THINGS

memegenerator.net

# Tests in Ruby and Bash

The value of using a non-proprietary programming language.

```
test_name "#4059: ralsn can change settings"

agents.each do |agent|
  target = agent.tmpfile('hosts-#4059')
  content = "host example.com ensure=present ip=127.0.0.1 target=#{target}"

  step "cleanup the target file"
  on(agent, "rm -f #{target}")

  step "run the resource agent"
  on(agent, puppet_resource(content)) do
    stdout.index('Host[example.com]/ensure: created') or
      fail_test("missing notice about host record creation")
  end
  on(agent, "cat #{target}") do
    assert_match(/^127\.0\.0\.1\s+example\.com/, stdout, "missing host record in #{target} on #{agent}")
  end

  step "cleanup at the end of the test"
  on(agent, "rm -f #{target}")
end
```

# The Beaker DSL

It's a Domain Specific Language!



# A Few Carefully Selected Examples

on host, “echo hello”

install\_pe

install\_puppet

scp\_to host, “s.txt”, “d.txt”, :ignore => [‘.git’]

# Test Structure DSL Methods

test\_name “I’m a descriptive test name”

step “This is a step in a test”

teardown do

  puts “execute this code on test completion”

end

fail\_test “Uh oh. This test failed”

pass\_test “Woo! This test passed”

# Put It all Together

```
step "run agents once to cache the catalog" do
  with_puppet_running_on master, {} do
    on(agents, puppet("agent -t --server #{master}"))
  end
end

step "run agents again, verify they use cached catalog" do
  agents.each do |agent|
    # can't use --test, because that will set usecacheonfailure=false
    # We use a server that the agent can't possibly talk to in order
    # to guarantee that no communication can take place.
    on(agent, puppet("agent --onetime --no-daemonize --server puppet.example.
com --verbose")) do |result|
      assert_match(/Using cached catalog/, result.stdout)
    end
  end
end
```

# beaker-rspec

beaker DSL

+

RSpec

+

Serverspec

=

beaker-rspec

```
require 'spec_helper'

describe "ignore" do

  example "ignore" do
    hosts.each do |host|
      on host, 'echo hello'
    end
  end

  example "access options hash" do
    install_pe
  end

  example "access the logger" do
    logger.debug("hi, i'm a debug message")
    logger.notify("hi, I'm a notify message")
  end

  hosts.each do |node|
    describe service('ssh'), :node => node do
      it { should be_running }
      it { should be_enabled }
    end
  end
end
```

# The Cloud

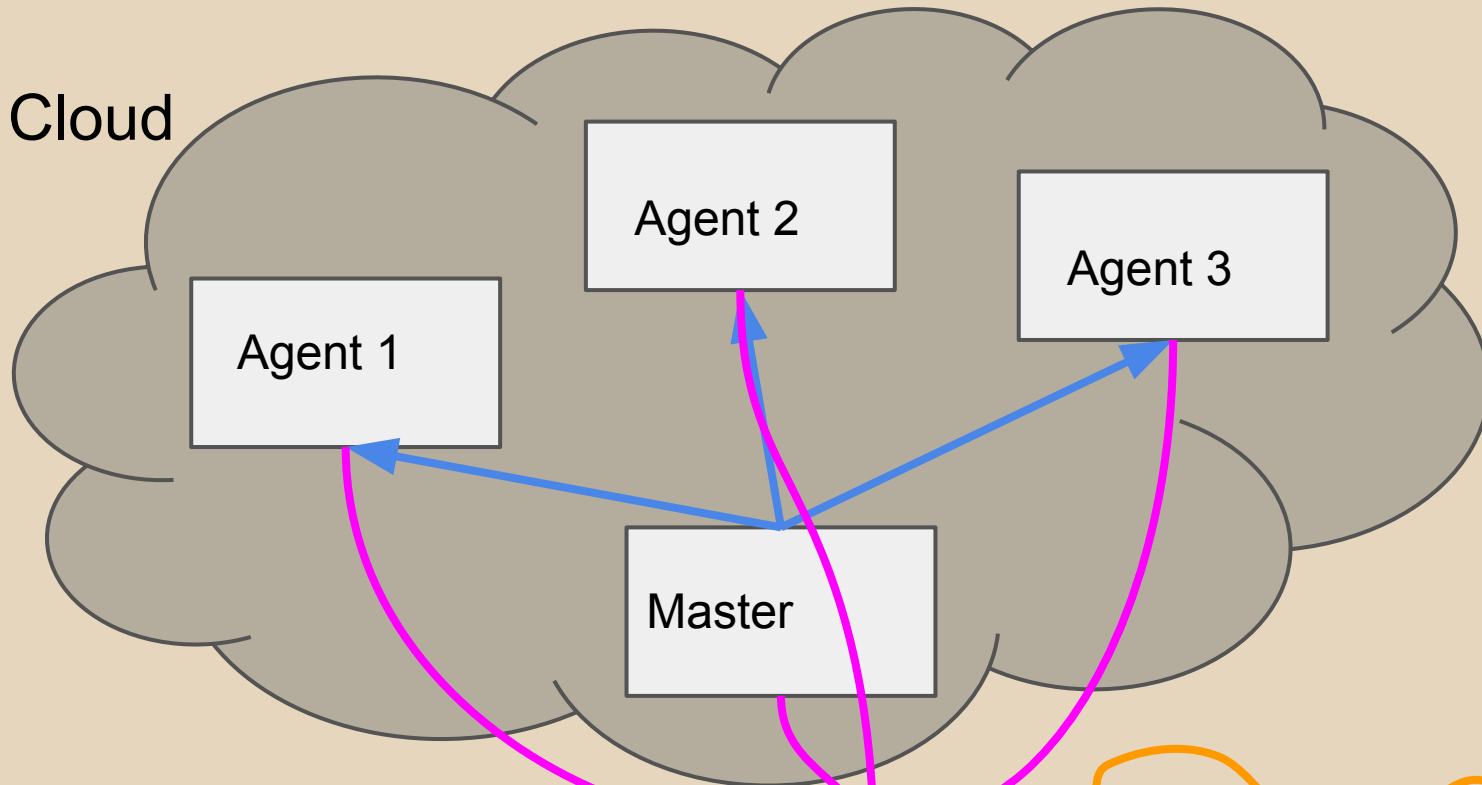


Who delivers your boxes?

# Beaker's Virtualization Options

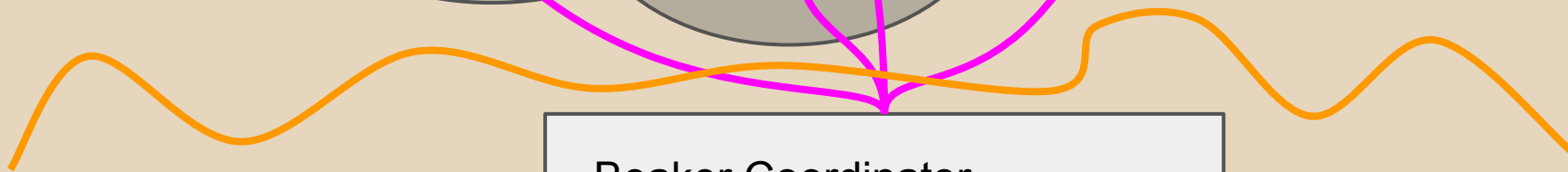
- Amazon Elastic Compute Cloud
- Google Compute Engine
- OpenStack
- Docker
- Vsphere
- Fusion
- Vagrant

The Cloud



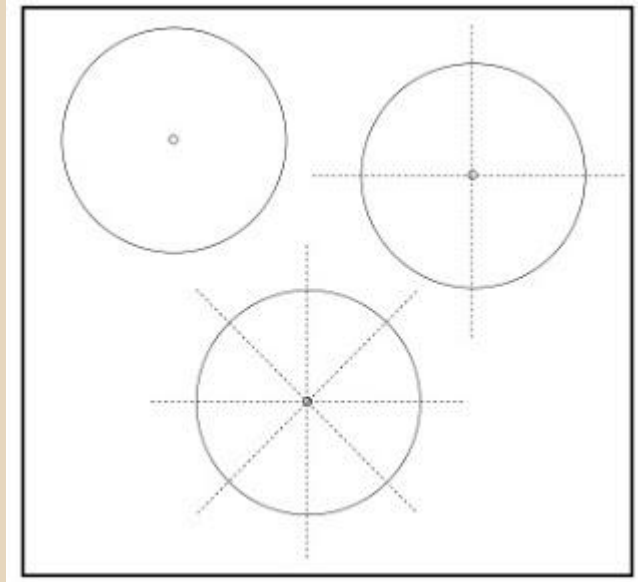
Home Network

Beaker Coordinator





# How we use it at Puppet



Let's divide up the pie.

**GET THOSE REPORTS TO  
ME**



**RIGHT MEOW**

memegenerator.net

# The Report Card

# The Noisy Scroll

```
centos-6-64-1 15:41:59$ env PATH="/opt/puppet/bin:${PATH}" RUBYLIB="${RUBYLIB}" puppet agent --configprint vardir  
/var/opt/lib/pe-puppet
```

```
centos-6-64-1 executed in 1.26 seconds
```

```
centos-6-64-1 15:42:01$ [ -e '/var/opt/lib/pe-puppet/state/agent_catalog_run.lock' ]
```

```
centos-6-64-1 executed in 0.04 seconds
```

```
Exited: 1
```

```
centos-6-64-1 15:42:03$ [ -e /etc/init.d/pe-puppet-agent ]
```

```
centos-6-64-1 executed in 0.04 seconds
```

```
Exited: 1
```

```
centos-6-64-1 15:42:03$ env PATH="/opt/puppet/bin:${PATH}" RUBYLIB="${RUBYLIB}" puppet resource service pe-puppet  
ensure=stopped
```

```
Notice: /Service[pe-puppet]/ensure: ensure changed 'running' to 'stopped'
```

```
service { 'pe-puppet':
```

```
  ensure => 'stopped',
```

```
}
```

# Not So Pretty

- Host Configuration Summary -

- Test Case Summary for suite 'tests' -

Total Suite Time: 571.58 seconds

Average Test Time: 4.40 seconds

Attempted: 130

Passed: 70

Failed: 0

Errored: 0

Skipped: 60

Pending: 0

Total: 130

Elapsed Time:  
1104.47984 sec

Total: 131

Failed: 0

Skipped:  
60

Pending:  
0

pre\_suite

Elapsed Time: 541.41314 sec

Attempted: 1

Failed: 0

Skipped: 0

Pending: 0

Total: 1

tests

Elapsed Time: 563.06670 sec

Attempted: 130

Failed: 0

Skipped: 60

Pending: 0

Total: 130

tests

Elapsed Time: 563.06670 sec

Attempted: 130

Failed: 0

Skipped: 60

Pending: 0

Total: 130

## Properties

chkconfig\_for\_pe\_services.rb

Path: /var/lib/jenkins/workspace/PE\_Smoke\_Test\_(ec2)/layout/64mdac-64a/platform/centos-6/pe\_acceptance\_tests/acceptance/tests/chkconfig\_for\_pe\_services.rb

Elapsed Time: 0.16187 sec

01\_check\_cron.rb

Path: /var/lib/jenkins/workspace/PE\_Smoke\_Test\_(ec2)/layout/64mdac-64a/platform/centos-6/pe\_acceptance\_tests/acceptance/tests/01\_post\_install\_tests/01\_check\_cron.rb

Elapsed Time: 0.04056 sec

03\_mcollective\_sanity\_checks.rb

Path: /var/lib/jenkins/workspace/PE\_Smoke\_Test\_(ec2)/layout/64mdac-64a/platform/centos-6/pe\_acceptance\_tests/acceptance/tests/01\_post\_install\_tests/03\_mcollective\_sanity\_checks.rb

Elapsed Time: 7.29993 sec

tests

Elapsed Time: 563.06670 sec

Attempted: 130

Failed: 0

Skipped: 60

Pending: 0

Total: 130

## Properties

project	Beaker Smoketest - PE
department	QE
validate	true
jenkins_build_url	<a href="http://jenkins-beaker.delivery.puppetlabs.net/view/Beaker%20Smoketests%20%28ec2%29/job/PE%20Smoke%20Test%20%28ec2%29/">http://jenkins-beaker.delivery.puppetlabs.net/view/Beaker%20Smoketests%20%28ec2%29/job/PE%20Smoke%20Test%20%28ec2%29/</a>
log_level	debug
trace_limit	10

chkconfig\_for\_pe\_services.rb

Path: /var/lib/jenkins/workspace/PE\_Smoke\_Test\_(ec2)/layout/64mdac-64a/platform/centos-6/pe\_acceptance\_tests/acceptance/tests/chkconfig\_for\_pe\_services.rb

Elapsed Time: 0.16187 sec

output

stderr

failure

Chkconfig validation on EL platforms

\* Validate pe-httpd and pe-puppet init scripts: Master, Agent, Dashboard

```
centos-6-64-1 11:21:20$  chkconfig --list | grep pe- | grep -e 'pe-httpd.*0:off.1:off.2:on.3:on.4:on.5:on.6:off' -e 'pe-p
pe-httpd          0:off  1:off  2:on   3:on   4:on   5:on   6:off
pe-puppet         0:off  1:off  2:on   3:on   4:on   5:on   6:off
pe-puppet-dashboard-workers  0:off  1:off  2:on   3:on   4:on   5:on   6:off
pe-puppetdb       0:off  1:off  2:on   3:on   4:on   5:on   6:off
```

centos-6-64-1 executed in 0.06 seconds

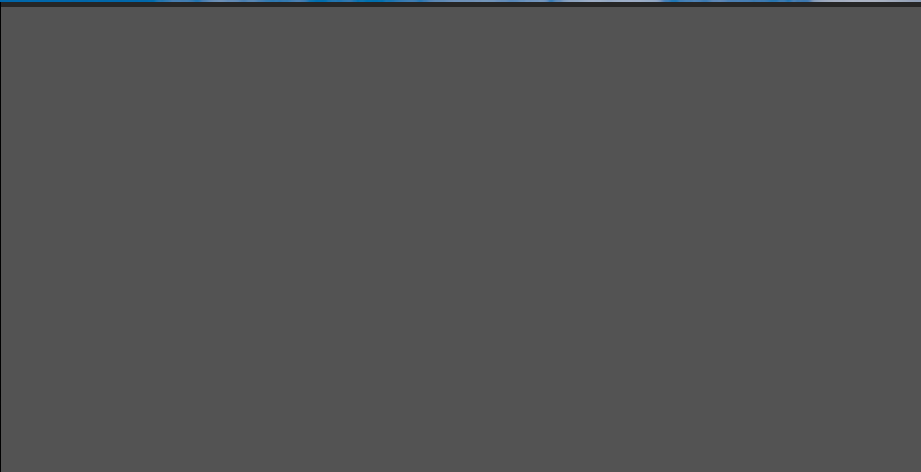
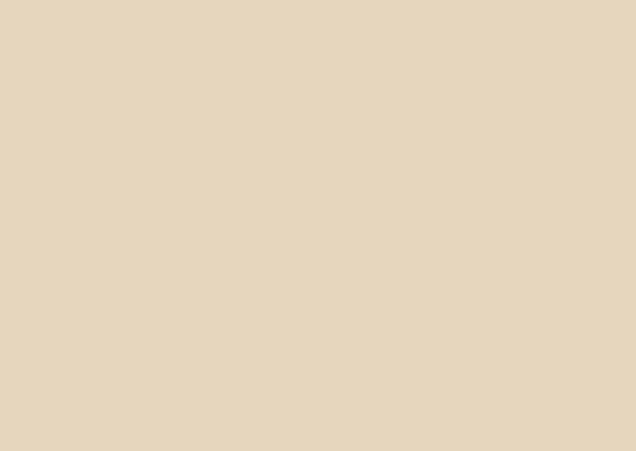
\* Validate pe-puppet-dashboard-workers init scripts: Master, Agent, Dashboard

```
centos-6-64-1 11:21:20$  chkconfig --list | grep 'pe-puppet-dashboard-workers.*0:off.1:off.2:on.3:on.4:on.5:on.6:off'
pe-puppet-dashboard-workers  0:off  1:off  2:on   3:on   4:on   5:on   6:off
```



# Links of Interest

- [Beaker on GitHub](#)
- [Beaker Wiki](#)
- [Beaker Yard Docs at RubyDoc](#)
- [FOSS Puppet Acceptance Tests](#)
- [Example Beaker Report](#)



Questions

