

# SSHave your Puppets!

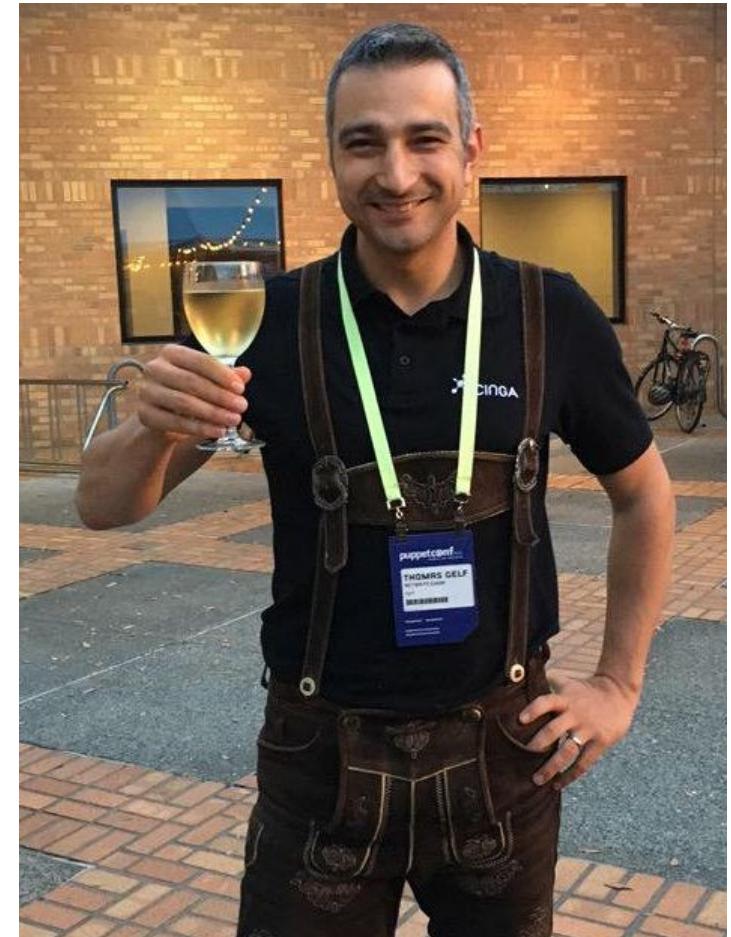


# Thomas Gelf

Principal Consultant  
@netways

Automation & Monitoring

Puppet Certified Developer



# Replace a bunch of Shell scripts

The right way!



# Puppet Infrastructure setup sucks.

Scaling OSS Puppet is easy.  
Ever tried to scale PuppetDB or PE?  
Driven by Puppet?



KICK IT!

puppet kick

mco

pcp, pxp



# Not every biz is a startup



Not all the people have their heads in the clouds  
CfgMgmt should work **for you**, not vice versa

DevOps: Don't forget about OPS!

# SSH - why not?

Seems to work fine somehow for everybody else



SALTSTACK

ANSIBLE

CHEF

# **SSHo why not Puppet?**

Asking the web for Puppet & SSH:

~~ssh 'git clone && puppet apply'~~



This is not what I want :-(

# But it works!

```
ssh <node> -c 'facter -j'  
puppet master --compile > catalog.json  
ssh <node> -c 'puppet apply -catalog -' \  
< catalog.json
```



# Problem: file server

```
file { '/tmp/test':  
    source => 'puppet:///mod.../a-file',  
}  
}
```

How to ship this over SSH?



# Shipping files with SSH?

Trivial joke!

There is SCP or rsync over SSH

```
file { '/tmp/test':  
    source => '/tmp/.sshave-tmp/a-file',  
}  
Fix the catalog on the fly :-)
```



# Next problem: plugin sync

Custom facts

Needed on the agent

**Before** fetching facts



# Reports, exported resources?

They will just work.



# One node one catalog

WHY??? I want:  
partial catalogs  
different schedules  
different user accounts



# Tasks on demand?

```
sshuttle <node> run "service {  
    'apache': ensure => stopped  
}"
```

```
sshuttle <node> apply manifests/stop_app.pp
```



# How this could look like

```
run_upgrade { 'my-app-name':  
  nodes          => ['app5', 'app6' ],  
  load_balancer => 'lb',  
}  
-> run_upgrade { 'my-app-name':  
  nodes          => ['app3', 'app4' ],  
  load_balancer => 'lb',  
}  
-> run_upgrade { 'my-app-name':  
  nodes          => ['app1', 'app2' ],  
  load_balancer => 'lb',  
}
```

```
define run_upgrade($nodes, $load_balancer) {  
  
  $app = $title  
  $names = join(', ', $nodes)  
  
  run { "Remove $names from load balancer":  
    node => $load_balancer,  
    params => {  
      action => 'remove',  
      node   => $nodes,  
    },  
  }  
  
  -> run { "Stop application $app on $names":  
    node => $nodes,  
  }  
  
  -> run { "Upgrade application $app on $names":  
    node => $test_nodes,  
  }  
  
  -> run { "Run smoke tests for $app on $names":  
    node => $test_nodes,  
  }  
  
  -> run { "Re-add $names to load balancer":  
    node => $load_balancer,  
    params => {  
      action => 'add',  
      node   => $nodes,  
    },  
  }  
}
```

*TooSmall;Don'tRead (tm)*

# Think about testing

Catalog diff



Catalog diff



## Resources differing in chosen catalogs

Differences Resource type

3 Class

4 Exec

1 File

1 Pe\_ini\_setting

## Resources of type "exec" differing in chosen catalogs

Variants Resource type

2 Exec [extract puppet-agent-ubuntu-14.04-amd64.tar.gz]

2 Exec [pe\_concat\_ /etc/puppetlabs/console-services/bootstrap.cfg]

2 Exec [pe\_concat\_ /etc/puppetlabs/puppetserver/bootstrap.cfg]

2 Exec [pe\_concat\_ /opt/puppetlabs/server/data/console-services/certs /pe2015.example.com.cert.pem]

Catalog diff



### Diff for Exec [extract puppet-agent-ubuntu-14.04-amd64.tar.gz]

```
3 creates => "/opt/puppetlabs/server  
/data/packages/public/2015.2.1/ubuntu-14.04-  
amd64/conf",  
4 cwd => "/opt/puppetlabs/server/data/packages  
/public/2015.2.1/ubuntu-14.04-amd64",  
5 logoutput => "on_failure",  
6 path => "/usr/local/sbin:/usr/local/bin:/usr  
/sbin:/usr/bin:/sbin:/bin",  
7 }
```

```
3 creates => "/opt/puppetlabs/server  
/data/packages/public/2015.2.1/ubuntu-14.04-  
amd64/conf",  
4 cwd => "/opt/puppetlabs/server/data/packages  
/public/2015.2.1/ubuntu-14.04-amd64",  
5 logoutput => "on_failure",  
6 path => "/opt/puppetlabs/puppet/bin:/usr/local  
/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:  
/usr/bin",  
7 }
```

# Dockerdockerdocker!

No need for a Puppet or SSHd  
SSH to the host  
ro-mount catalog & puppet  
nsexec



# Want more?

- Gin is great, beer might help
- You could also book me @netways

**Thanks for listening,  
own your tools &  
SSHave your Puppets!**



Thomas Gelf  
[thomas.gelf@netways.de](mailto:thomas.gelf@netways.de)