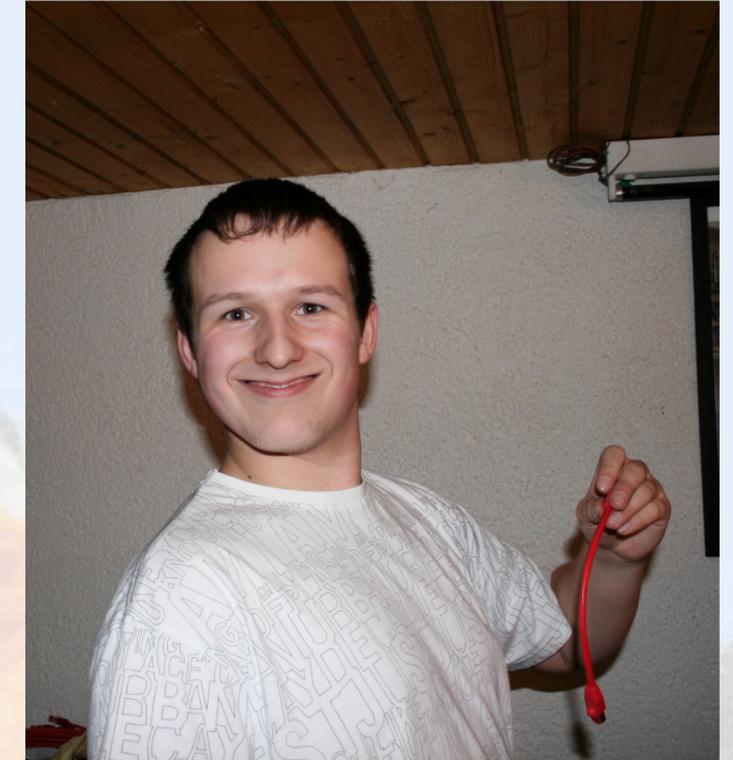


Bringing OpenBolt into Foreman

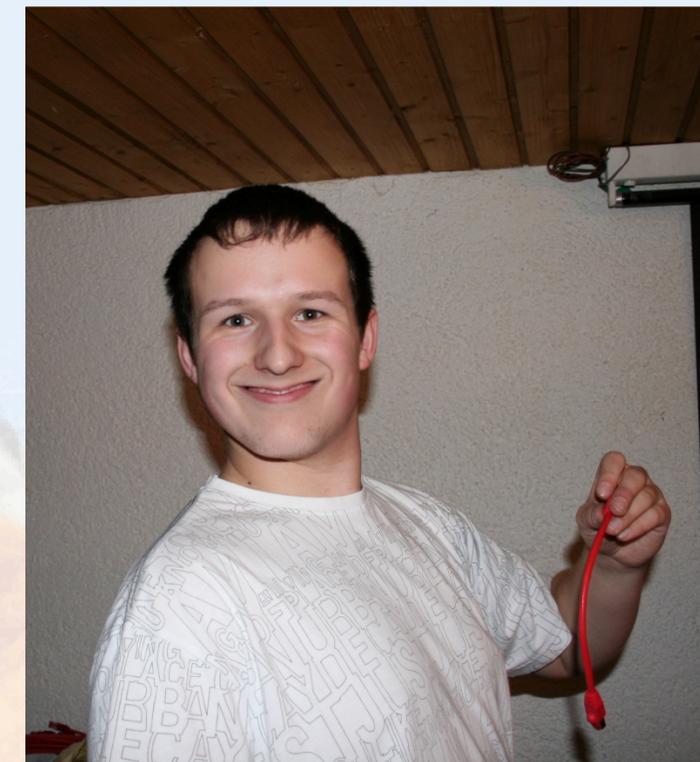
\$ whoami

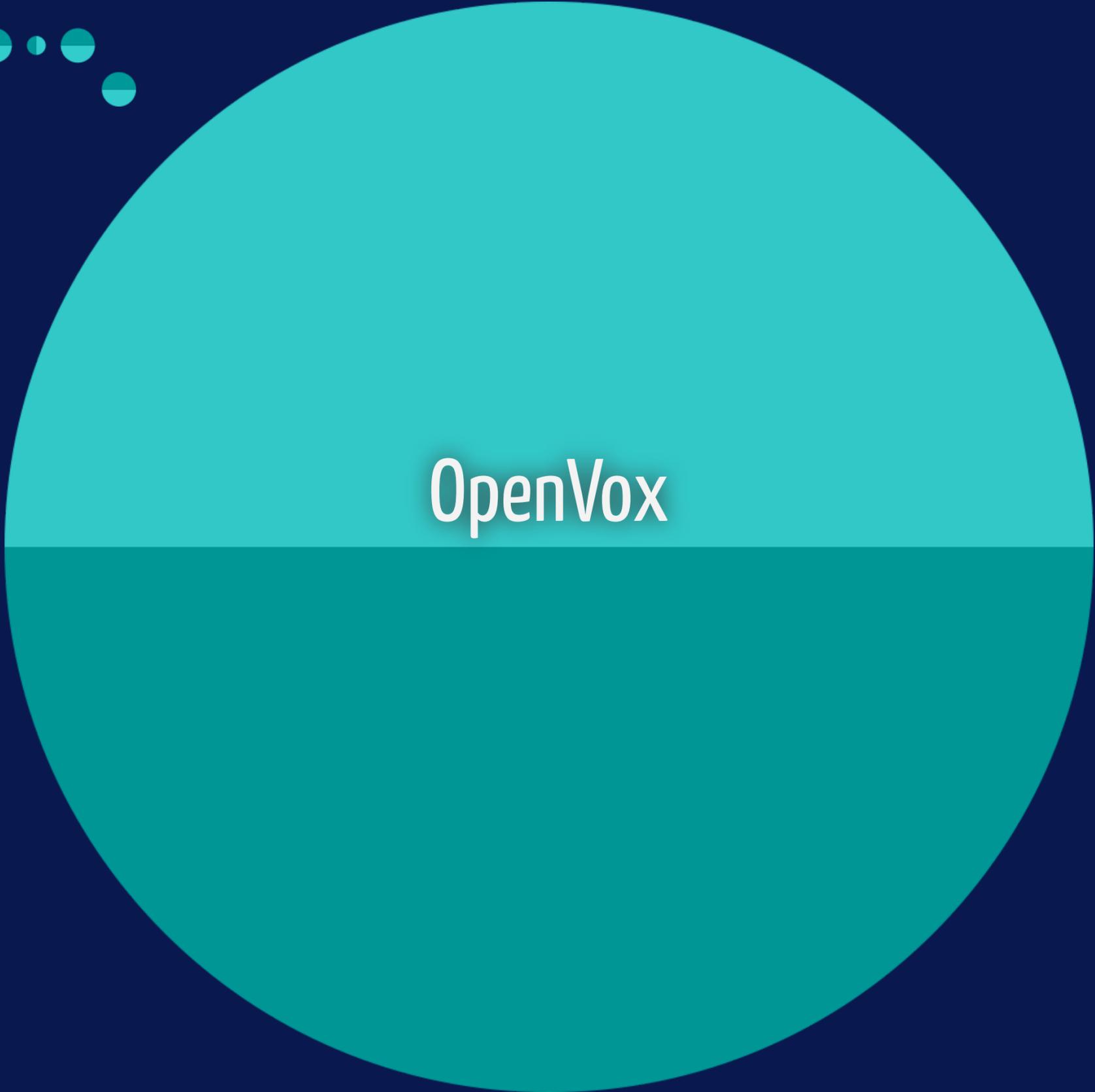
- Tim 'bastelfreak' Meusel
- Puppet Contributor since 2012
- Merging stuff on [Vox Pupuli](#) (Puppet Community) since 2015
- Vox Pupuli Project Management Committee member
- Senior IT Automation Consultant at [betadots](#)
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- New: Clojure & [ezbake](#) "expert"





OpenVox

OpenVox

What?

- Perforce stopped open source development
- Vox Pupuli continues the open source development



OpenVox

What?

- Perforce stopped open source development
- Vox Pupuli continues the open source development
- puppet-agent -> **openvox-agent**
- puppetserver -> **openvox-server**
- puppetdb -> **openvoxdb**
- bolt -> **openbolt**



OpenVox

What?

How?

example class for managing nginx

```
# @summary configures nginx in a bad way
# @param content the whole nginx config
class nginx (
  Sensitive[String[1]] $content,
) {
  package { 'nginx':
    ensure => 'installed',
  }
  -> file { '/etc/nginx/nginx.conf':
    ensure => 'file',
    content => $content,
  }
  ~> service { 'nginx':
    ensure => 'running',
    enable => true,
  }
}
```

OpenBolt

Tasks & Plans

OpenBolt

Tasks?!

- Runs tasks via ssh or WinRM on remote systems
 - CLI only
- A task is a executable binary/script + json file



OpenBolt

Tasks?!

```
{
  "puppet_task_version": 1,
  "supports_noop": false,
  "description": "Rename branch",
  "parameters": {
    "control_repo_branch": {
      "description": "Control-repo branch",
      "type": "String"
    }
  }
}
```

```
#!/bin/bash
```

```
pushd /tmp/control-repo || exit
git branch -m production old_prod
git branch -m "$PT_control_repo_branch" production
```



OpenBolt

Tasks?!

- Runs tasks via ssh or WinRM on remote systems
 - CLI only
- A task is a executable binary/script + json file
- Input and output of each task is JSON
 - makes parsing, scripting and concatenating easy



OpenBolt

Tasks?!

Plans?!

- Plans are written in OpenVox DSL (or **YAML**)
- Plans apply puppet code, execute OpenBolt or OpenVox functions, start tasks or other plans

```
# @summary Conference Demo plan
# @param message the string we want to paste to STDOUT
plan test::foo (
  String[1] $message = 'Hi CfgMgmtCamp 2026!',
) {
  out::message($message)
  run_task('puppet_agent::install', get_targets('all'))
}
```



OpenBolt is the missing part in the ecosystem for imperative workflows and orchestration

It combines scripts and OpenVox code

OpenBolt

Tasks?!

Plans?!

Foreman?!

- OpenBolt is a CLI only application
- Puppet Enterprise has a Web-UI & API
 - closed source & expensive
- Most Puppet/OpenVox users run Foreman anyways and don't want another UI



OpenBolt

Tasks?!

Plans?!

Foreman?!

- OpenBolt is a CLI only application
- Puppet Enterprise has a Web-UI & API
 - closed source & expensive
- Most Puppet/OpenVox users run Foreman anyways and don't want another UI
- Why not add OpenBolt support to Foreman?!

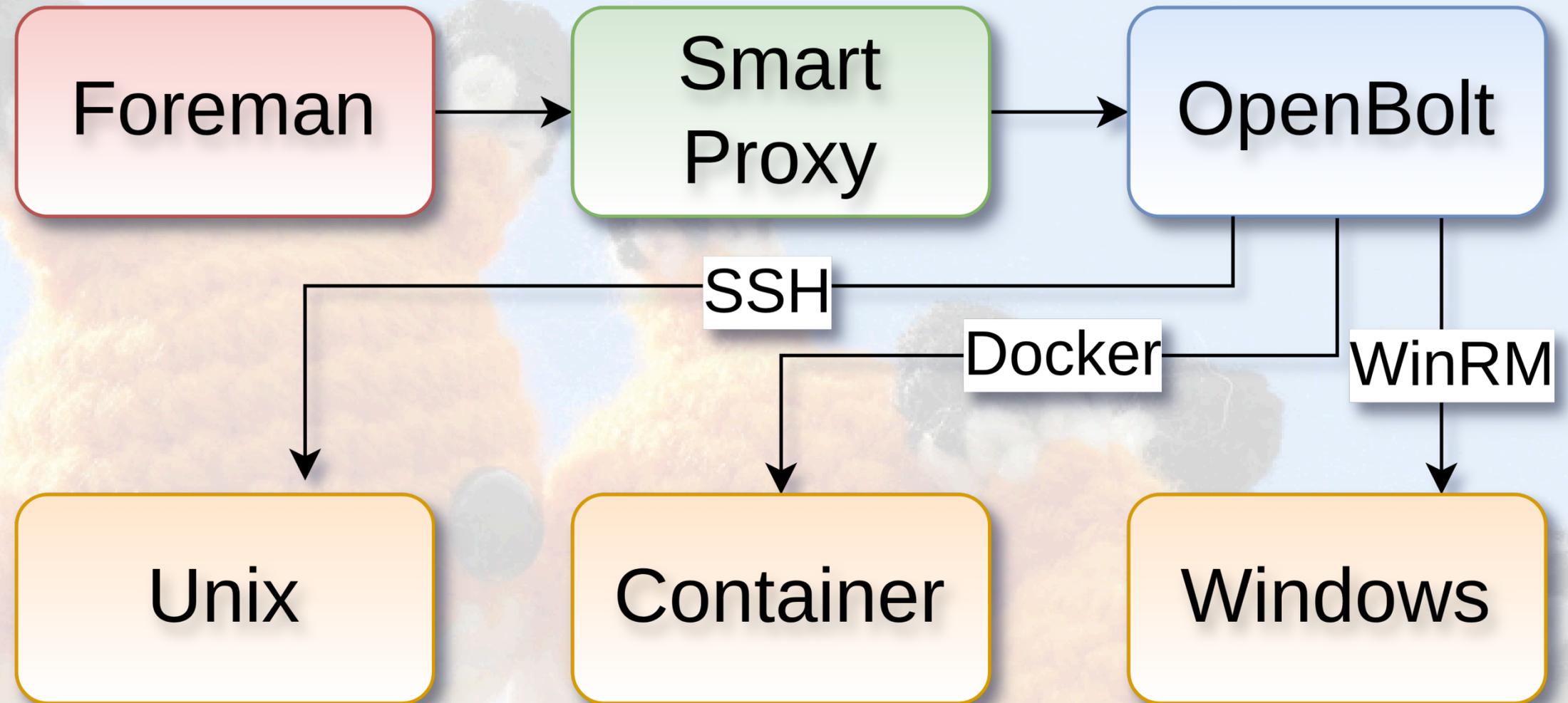


OpenBolt

Tasks?!

Plans?!

Foreman?!



OpenBolt

Tasks?!

Plans?!

Foreman?!

  **FOREMAN** Default Organization ▾ Default Location ▾

 Search and go

-  Monitor >
-  Hosts >
-  OpenBolt >
-  Configure >
-  Infrastructure >
-  Administer >

Overview

 Search  

Latest Jobs

No jobs available



OpenBolt

Tasks?!

Plans?!

Foreman?!

Launch OpenBolt Task

 Launch Task

Smart Proxy Select a Smart Proxy to run the task from.

foreman-smartproxy.local

Hosts

Hosts Filter by hosts

Task Name

Select Task 

Parameters


Select a task to see parameters

OpenBolt Options

Name	Value
> transport	ssh
> host-key-check	<input type="checkbox"/>
> noop	<input type="checkbox"/>
> verbose	<input type="checkbox"/>
> log-level	error
> password	
> private-key	
> run-as	
> sudo-password	
> tmpdir	
> user	



OpenBolt

Tasks?!

Plans?!

Foreman?!

Task Name

service ▼ 

Parameters

Name	Value
> action *	<input type="text"/>
> name *	<input type="text"/>
> force	<input type="checkbox"/>
> provider	<input type="text"/>



OpenBolt

Tasks?!

Plans?!

Foreman?!

Task Name

service



Parameters

Name

Value

▼ action *

Type: Enum[start, stop, restart, enable, disable, status]

This field is required

The operation (start, stop, restart, enable, disable, status) to perform on the service.

▼ name *

Type: String[1]

This field is required

The name of the service to operate on.

▼ force

Type: Optional[Boolean]

Force a Windows service to restart even if it has dependent services. This parameter is passed for Windows services only.

▼ provider

Type: Optional[String[1]]

The provider to use to manage or inspect the service, defaults to the system service manager. Only used when the 'puppet-agent' feature is available on the target so we can leverage Puppet.



OpenBolt

Tasks?!

Plans?!

Foreman?!

Task Execution

[Run Another Task](#)

 Execution Details

 Task Details

Smart Proxy	foreman-smartproxy.local
Job ID	4db2e7c2-ad22-404c-942f-458ec594c7b1
Hosts	2
Status	Running Updating every 5 seconds...
Execution Time	10s



OpenBolt

Tasks?!

Plans?!

Foreman?!

Task Execution

[Run Another Task](#)

Execution Details Task Details

Smart Proxy [foreman-smartproxy.local](#)

Job ID 6d74c10b-f5a4-47d3-92dc-781620c299c5

Hosts 1

Status ❌ Failed

Execution Time 5s

Result Log Output

```
{
  "items": [
    {
      "value": {
        "_error": {
          "msg": "Host key verification failed for testnode.local: fingerprint SHA256:dIVGoRGJUXLRsoj+pdqpXvnE5Li7YRfsRV4i3SEGavY is unknown for \"foreman-smartproxy.local,127.0.1.1\"",
          "kind": "puppetlabs.tasks/connect-error",
          "details": {},
          "issue_code": "HOST_KEY_ERROR"
        }
      },
      "action": "task",
      "object": null,
      "status": "failure",
      "target": "foreman-smartproxy.local"
    }
  ],
  "elapsed_time": 0,
  "target_count": 1
}
```



OpenBolt

Tasks?!

Plans?!

Foreman?!

 Result  Log Output

 Copy

```
OpenBolt command: bolt task run service --targets foreman-smartproxy.local --no-save-rerun --concurrency=100 --connect-timeout=30 --project /etc/puppetlabs/code/environments/production -format json --no-color --transport=ssh force=false action=status name=puppet
```



OpenBolt

Tasks?!

Plans?!

Foreman?!

```
Result Log Output Copy
{
  "items": [
    {
      "value": {
        "_error": {
          "msg": "Host key verification failed for testnode.local: fingerprint SHA256:dIVGoRGJUXLRsoj+pdqpXvnE5Li7YRfsRV4i3SEgavY is unknown for \"foreman-smartproxy.local,127.0.1.1\"",
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          "issue_code": "HOST_KEY_ERROR"
        }
      },
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    }
  ],
  "elapsed_time": 0,
  "target_count": 1
}
```



OpenBolt

Tasks?!

Plans?!

Foreman?!

Execution Details Task Details

Smart Proxy [foreman-smartproxy.local](#)

Job ID 4db2e7c2-ad22-404c-942f-458ec594c7b1

Hosts 2

Status Success

Execution Time 1m6s

Result Log Output

```
{
  "items": [
    {
      "value": {
        "status": "MainPID=20148,LoadState=loaded,ActiveState=active",
        "enabled": "enabled"
      },
      "action": "task",
      "object": "service",
      "status": "success",
      "target": "foreman.local"
    },
    {
      "value": {
        "status": "MainPID=103902,LoadState=loaded,ActiveState=active",
        "enabled": "enabled"
      },
      "action": "task",
      "object": "service",
      "status": "success",
      "target": "puppet.local"
    }
  ],
  "elapsed_time": 61,
  "target_count": 2
}
```



OpenBolt

Tasks?!

Plans?!

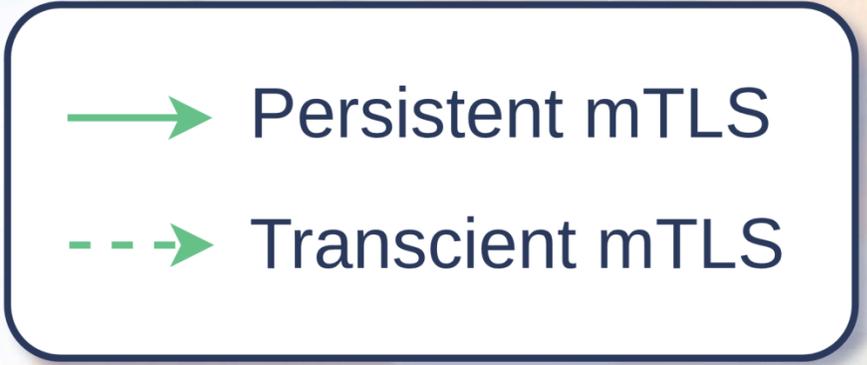
Foreman?!

Choria?!

Client

Broker

Server



- Choria Orchestration System

OpenBolt

Tasks?!

Plans?!

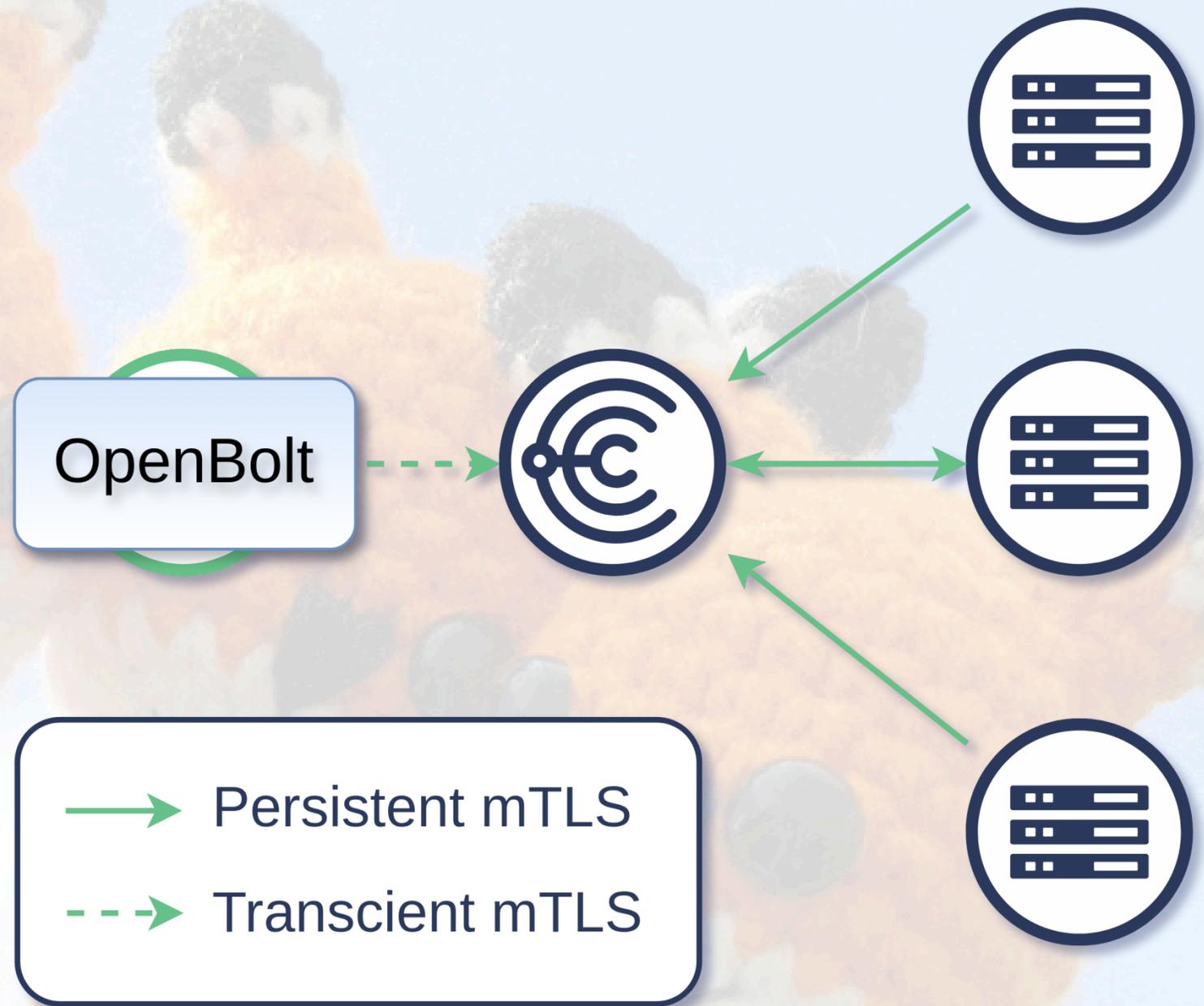
Foreman?!

Choria?!

Client

Broker

Server



- Choria Orchestration System



Conclusion

- OpenBolt is a great addition to the Foreman ecosystem
 - Makes it easy to reuse existing Tasks (and soon Plans)



Conclusion

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- Choria provides almost infinite scaling and opposite firewalling



Conclusion

- OpenBolt is a great addition to the Foreman ecosystem
 - Makes it easy to reuse existing Tasks (and soon Plans)
- Choria provides almost infinite scaling and opposite firewalling
- Please join our [IRC/Slack](#) to provide feedback
- For feedback: [basteɫfreak](#) on IRC/ Slack or tim@bastelfreak.de
- This talk and previous ones: github.com/bastelfreak/talks

Thanks for your attention!

