# Puppet Labs: by the numbers

<table>
<thead>
<tr>
<th></th>
<th>Jan 2012</th>
<th>Jan 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employees</strong></td>
<td>55</td>
<td>110</td>
</tr>
<tr>
<td><strong>Customer Countries</strong></td>
<td>29</td>
<td>42</td>
</tr>
<tr>
<td><strong>Office Space</strong></td>
<td>836 m² 9,000 ft²</td>
<td>2,232 m² 25,000 ft²</td>
</tr>
</tbody>
</table>
Weekly Company Lunch

Awesome Espresso & Tea

Photos by Gary Larizza

Friday, March 1, 13
We’re Hiring!

Future Opportunities - Internships
Future Opportunities - Other Departments
VMware Alliance Manager (San Francisco)
Professional Services Engineer (USA)
Professional Services Manager (London)
Professional Services Manager (Portland, OR/West Coast)
Sales Engineer (New York Based)
Sales Engineer (UK, London Based)
Support Engineer
Support Team Lead
Engineering Intern (Analytics)
Engineering Intern (PuppetDB)
Future Opportunities - Software Development
Lead Developer

QA Toolsmith
Release Engineer
Technical Integration Engineer
GL Accountant
HR Coordinator
Events Marketing Manager
Front-End Engineer
Future Opportunities - Product Management
Managing Editor
Technical Marketing Manager
Future Opportunities - Sales
Training Sales Specialist
Technical Operations Engineer
Who uses Puppet?

FINANCIAL
Bank of America
NYSE Euronext
London Stock Exchange
TransUnion

TELECO/SP
Verizon
Motorola
Rackspace

INTERNET
Google
Zynga
PayPal
Constant Contact

TECH
Cisco
McAfee
Qualcomm
Apple

GOVERNMENT
NASA
U.S. Department of Energy
National Institutes of Health

DEFENSE
Lockheed Martin
Northrop Grumman
Los Alamos National Laboratory

EDUCATION
Harvard University
Cal

MANUFACTURING
General Electric
Boeing
Hershey’s
Nike

RETAIL
Barnes & Noble Booksellers
REI

MEDIA
Disney
HBO
Condé Nast
Puppet Labs
## Strong Community (Jan 2013)

<table>
<thead>
<tr>
<th>Forum</th>
<th>Members</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>puppet-users list</td>
<td>5255</td>
<td>1029</td>
</tr>
<tr>
<td>puppet-dev list</td>
<td>952</td>
<td>127</td>
</tr>
<tr>
<td>ask.puppetlabs.com</td>
<td>205</td>
<td>383</td>
</tr>
<tr>
<td>#puppet</td>
<td>938</td>
<td></td>
</tr>
<tr>
<td>Redmine</td>
<td>3839</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Repository</th>
<th>Forks</th>
<th>Watchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puppet</td>
<td>466</td>
<td>1145</td>
</tr>
<tr>
<td>MCollective</td>
<td>149</td>
<td>103</td>
</tr>
</tbody>
</table>
How can you take part in the Puppet Community?

- Help with Documentation
- Ask/Answer questions
  - [http://ask.puppetlabs.com](http://ask.puppetlabs.com)
  - mailing lists
  - IRC
- Help with bug triage
- Contribute code
- Contribute modules on the Forge
- Visit [https://puppetlabs.com/community](https://puppetlabs.com/community) to learn more
Puppet?
Puppet is not ...

DIY System Management

```bash
#!/bin/sh
USER=$1; GROUP=$2; HOME=$3

if [ 0 -ne $(getent passwd $USER > /dev/null)? ]
then useradd $USER --home $HOME --gid $GROUP --n; fi

OLDGID=`getent passwd $USER | awk -F: '{report $4}'`
OLDGROUP=`getent group $OLDGID | awk -F: '{print $1}'`
OLDHOME=`getent passwd $USER | awk -F: '{print $6}'`

if [ "$GROUP" != "$OLDGID" ] && [ "$GROUP" != "$OLDGROUP" ]
then usermod --gid $GROUP $USER; fi

if [ "$HOME" != "$OLDHOME" ]
then usermod --home $HOME $USER; fi
```
user { 'elmo':
  ensure => present,
  gid    => 'sysadmin',
  home   => '/mnt/home/elmo',
  managehome => true,
}
Defining a Desired State

Convergence

- `gid` => 'sysadmin',
- `home` => '/mnt/home/elmo',

Node State

```yaml
user { 'elmo':
  ensure => present,
  gid    => 'staff',
  home   => '/home/elmo',
}
```

Desired State

```yaml
user { 'elmo':
  ensure => present,
  gid    => 'sysadmin',
  home   => '/mnt/home/elmo',
  ...
}
```

Drift
Maintaining Desired State

- Provision a Node
- Describe how it should look
- Let Puppet manage it
Puppet Enterprise?
Puppet Enterprise
GUI for Puppet

**High level status for nodes**

- 10 Unresponsive
- 0 Failed
- 0 Pending
- 6 Changed
- 20 Unchanged
- 2 Unreported
- 38 All

**Detailed node status to pinpoint specific issues**

**Time-based display for insight into rate of change**

<table>
<thead>
<tr>
<th>Export nodes as CSV</th>
<th>Latest report</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Node</td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td>Failed</td>
</tr>
<tr>
<td>Unresponsive</td>
<td></td>
<td>Pending</td>
</tr>
<tr>
<td>Changed</td>
<td></td>
<td>Changed</td>
</tr>
<tr>
<td>Unchanged</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Friday, March 1, 13
PE Live Management

Choose nodes to clone to ensure consistency

Browse for managed nodes in your infrastructure

Preview the impact before you clone nodes
VM/Cloud Provisioning

1. Create VM node capacity
   using VMware vSphere or AWS

2. Automatically install
   the Puppet Agent on new nodes

3. Configure nodes
   using existing definitions
PE Compliance

- Establish baseline of desired state
- Visualize changes to desired baseline
- Accept or reject changes to baseline
Recent Features

- Certificate Signing from the GUI
- Authentication with LDAP and oAuth
Resources for Success

Services & Support

The Forge

Training
Puppet Happenings
Puppet 3 Developments

- Removal of dynamic scoping
- Extensions loaded from gems
- Full Ruby 1.9.3 support
- Pluginsync by default
- Data Separation with data binding
- Performance improvements
- Better version numbers
- More platform support
- Code loading improvements
- Even more documentation
Scope

# dynamic scoping is gone

class parent {
    $var = "from parent"
    include included
}

class included {
    notify { $var: }  ## NOT GONNA WORK
    notify { $parent::var: } ## YUP
}
Data Binding

class ntp($server = hiera(ntp_server, ‘time.apple.com’)) {
    ...
}

# can be changed to
class ntp($ntpserver = ‘time.apple.com’) {
    ...
}
Performance Gains

**Graph 1:**
- *puppet - Load Average*
- Time frame: From 2012/09/11 17:08:00 to 2012/09/22 00:48:00
- Key:
  - 1 Minute: Current: 0.18
  - 5 Minutes: Current: 0.21
  - 15 Minutes: Current: 0.21

**Graph 2:**
- *Puppet Runtime on Puppet 3 nodes*
- Key functions:
  - `movingAverage(puppet.lan.puppetlabs.clippy.puppet.Total_time, 100.0)`
  - `movingAverage(puppet.lan.puppetlabs.medi;puppet.Total_time, 100.0)`
  - `movingAverage(puppet.lan.puppetlabs.yo.puppet.Total_time, 10.0)`
CHANGES?

SEMVER ALL THE SOFTWARE!
Puppet 3 moving on from 2.7

2.7.0 Release

3.1.0 Release

3.0.0 Release

Friday, March 1, 13
Module: Puppet::Parser::Functions

Overview
A module for managing parser functions. Each specified function is added to a central module that then gets included into the Scope class.

Constant Summary

Class Method Summary

+ (Integer) arity(name)
Return the number of arguments a function expects.

+ initialize_settings(args = [])

This method returns an undefined value.

Initialize puppet's settings. This is intended only for use by external tools that are not built off of the Faces API or the Puppet::Util::Application class. It may also be used to initialize state so that a Face may be used programatically, rather than as a stand-alone command-line tool.

Parameters:
- args (Array<String>) (defaults to: []) — the command line arguments to use for initialization

[View source]
Transparency in plans
Forge Happenings
The Puppet Module Forge

- Repository of modules
- Written by the community
- Written for the community
- Identify the best ones out there
- Great place to contribute your own modules
## By the Numbers

<table>
<thead>
<tr>
<th>Modules</th>
<th>Jan 2012</th>
<th>Jan 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modules</td>
<td>260</td>
<td>750+</td>
</tr>
<tr>
<td>Users</td>
<td>930</td>
<td>2000+</td>
</tr>
<tr>
<td>Daily Downloads</td>
<td>500</td>
<td>2200</td>
</tr>
</tbody>
</table>
What changed?

- Dedicated team
- Show download counts
- More visible documentation

Module description

Puppet Razor module will perform the installation of Razor on Ubuntu Precise and RHEL/CentOS system. See blog post.

It is considered part of the overall Project Razor infrastructure, so you can get help using the module or enhancing it over at the main Project Razor site on GitHub.
MCollective Happenings
The Marionette Collective

- Framework to build server orchestration
- Parallel job execution
- Real-time discovery of resources
- Target only the systems you want
Continuous Release

- Agents in packages, real packages
- MCO does it, so you can make them too
- Continuously built, continuously released

<table>
<thead>
<tr>
<th>S</th>
<th>W</th>
<th>Name</th>
<th>Last Success</th>
<th>Last Failure</th>
<th>Last Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MCO FileMgr Plugin Spec</td>
<td>1 mo 0 days (#3)</td>
<td>N/A</td>
<td>1 min 44 sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCO Iptables Plugin Spec</td>
<td>18 days (#3)</td>
<td>1 mo 0 days (#1)</td>
<td>1 min 51 sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCO NRPE Plugin Spec</td>
<td>18 days (#33)</td>
<td>1 mo 7 days (#21)</td>
<td>1 min 14 sec</td>
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<tr>
<td></td>
<td></td>
<td>MCO Puppet Plugin Spec</td>
<td>1 day 16 hr (#13)</td>
<td>19 days (#6)</td>
<td>1 min 47 sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCO Service Plugin Spec</td>
<td>11 days (#7)</td>
<td>12 days (#4)</td>
<td>1 min 57 sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCO Trigger Build</td>
<td>1 day 16 hr (#21)</td>
<td>1 mo 0 days (#1)</td>
<td>1.2 sec</td>
</tr>
</tbody>
</table>
Usability

- Better docs
- More Complete applications
- Out of the box usability
- But still the framework it always was
- Full integration into puppet training
PuppetDB
Happenings
PuppetDB

- Central storage for catalogs and facts that are part of your puppet infrastructure
- Incredibly fast replacement for existing ActiveRecord storeconfigs
- Easily deployed via a puppet module from the Forge
Better Query, More Storage

- PuppetDB 1.1 released
- Enhanced Query API for facts, subqueries, regular expressions
- Report Storage
- Report Query in an experimental API
Razor Happenings
Razor Provisioning

- Rules-based provisioning for bare metal hardware and virtual servers
- Developed in cooperation with EMC
- Easily deployed via a puppet module from the Forge
- Automatically brings the new server into your puppet infrastructure
- Open, pluggable, and programmable
Razor Present and Future

- Security audits, fixes in the 0.8.0 release
- Working on making releases for yum and apt
- Not yet ready for prime time
- Help us get it there
- File bugs, contribute to the community
Training & Certification
Training by Country
Puppet Education: Training and Certification Track

Track

<table>
<thead>
<tr>
<th>Foundation Course</th>
<th>System Admin</th>
<th>Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track-specific Courses</td>
<td></td>
<td>Puppet Fundamentals for System Administrators</td>
</tr>
<tr>
<td>(Certification Exams) &amp; Puppet Credentials</td>
<td>(PPT-201) Puppet Professional</td>
<td>(PPT-301) Puppet Developer</td>
</tr>
<tr>
<td>Continuing Education</td>
<td></td>
<td>Advanced Puppet for Puppet Masters</td>
</tr>
</tbody>
</table>
Questions?
Thank You!

Learn More:
http://puppetlabs.com
http://puppetlabs.com/community
http://puppetlabs.com/puppet/puppet-enterprise/