



The Foreman

FOSDEM 2011
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Why is your infrastructure special?



Automate as many processes as possible,
using best practice where available, and act
as the glue between the gaps

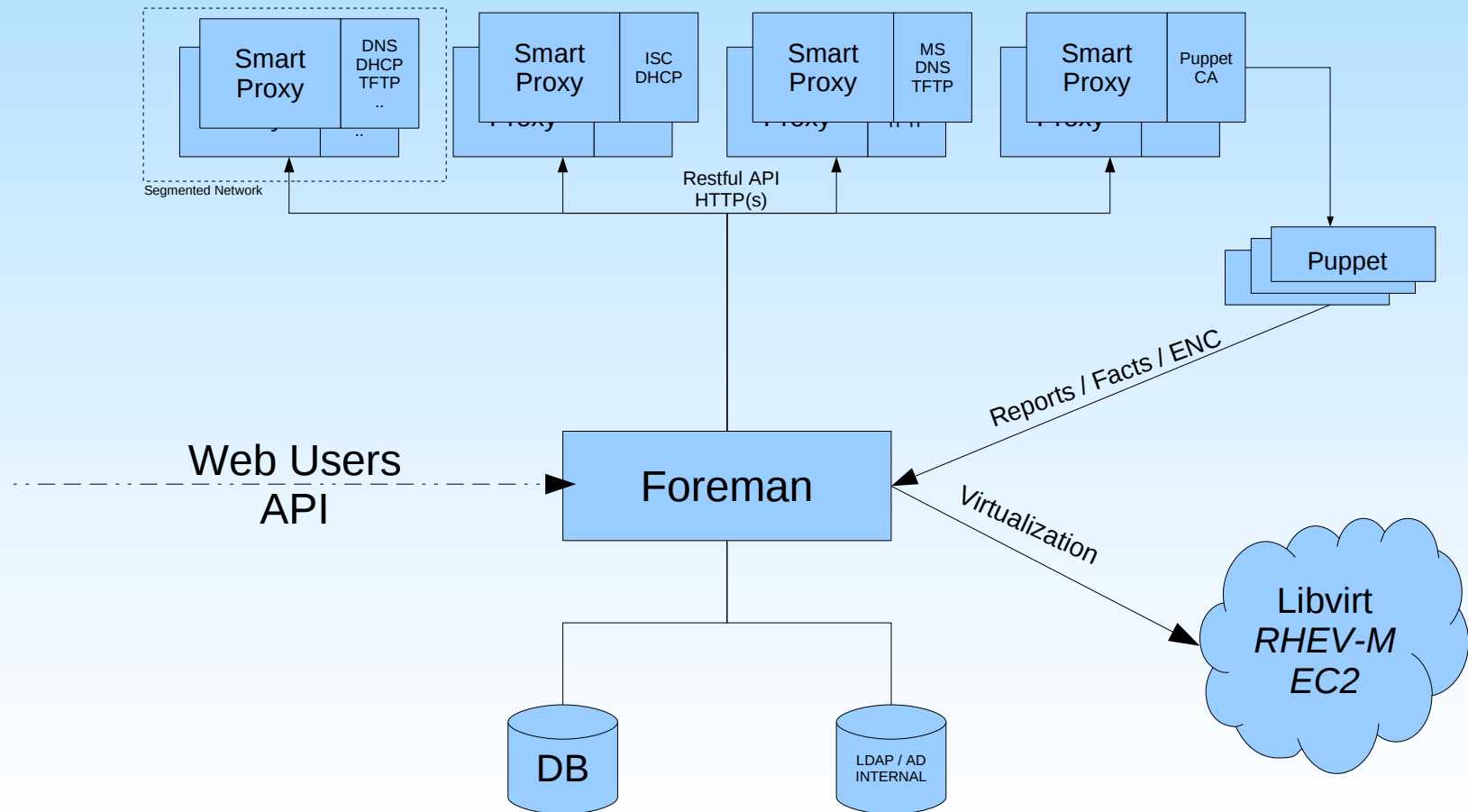


The Foreman Realm

- Provisioning
- Configuration Management – Puppet
- Inventory and Activity Reporting
- One (simple) interface/console/API for your infrastructure



Foreman Architecture





Provisioning





JeOS

Just Enough OS



Template Engine

- Kickstart, Preseed, Jumpstart
- Managed per group of hosts (role, environment and OS)
- Snippets, (g)PXE, PXE Menus, grub..
- We don't really care what we render but we do it safely



Smart Proxies

- DHCP, DNS, TFTP, Puppet(CA)...
- Restful interface to network services
- Easily extended
- Runs on Linux/Windows
- Allows each service to run on a different host
- One(Foreman) to Many(Proxies) relationship
- Uses SSL for Encryption and Authentication
- Could be used as a standalone service



Virtualization Integration

- **One process to create virtual machines regardless if its in your private or public cloud**
- We currently support libvirt
- RHEV-M, EC2... is in the works



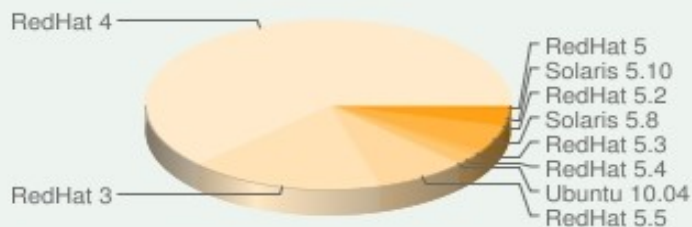
Configuration Management with Puppet



Inventory

- Automatically collects your Puppet based inventory (including your custom facts)
- Easy to browse and search through your inventory
- Facts can be used as a permission filter to your hosts

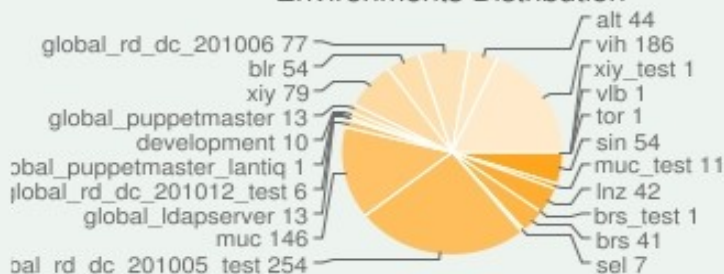
OS Distribution



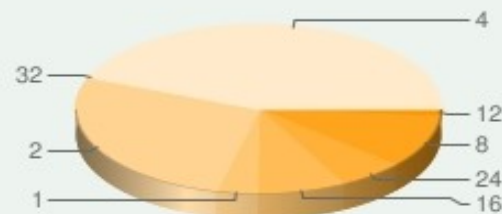
Architecture Distribution



Environments Distribution



Num of Cpu's



Hardware



Class Distribution



Average memory usage





Node Classifier

- Simple UI to associate hosts with puppet classes
- Multiple Puppet Environment support
- Allows you to group your hosts
- Variable inheritance (split the variables from the manifests)
- Update many hosts at once

New Hostgroup

Name

Secret Sauce

Puppet classes

Included classes

-  [varnish::example42](#)
-  [rsync](#)
-  [rails](#)
-  [puppet::example42::server](#)

Available classes

- | | | |
|-----------------------------|-----------------------------|------------------------------|
| activemq | monitor | rsync |
| apache | munin | rsyslog |
| autofs | mysql | samba |
| backup | nagios | sarg |
| bind | network | selinux |
| clamav | nfs | sendmail |
| cobbler | nrpe | smolt |
| collectd | ntp | snmpd |
| concat | ntpdate | spamassassin |
| controltier | opendap | sqlgrey |
| cron | openntpd | squid |
| dashboard | openssh | squirrelmail |
| dovecot | openvpn | ssh |
| drupal | oracle | ssmtp |
| exim | pam | synbak |
| foo | php | sysctl |
| foreman | phpsyslogng | sysklogd |
| git | portmap | syslog-ng |
| hardening | postfix | tftp |
| hosts | psad | timezone |
| iptables | psick | trac |
| keymaster | puppet | users |
| lighttpd | puppi | varnish |
| logrotate | rails | vsftpd |
| mailscanner | repo | xinetd |
| mailx | resolver | yum |
| mcollective | rootmail | zip |
| monit | rmbuild | |

Parameters

Name

Value



[Add a parameter](#)

New Hostgroup

Name

Puppet classes

Included classes

-  [varnish::example42](#)
-  [rsync](#)
-  [rails](#)
-  [puppet::example42::server](#)

Available classes

-  [activemq](#)
-  [apache](#)
-  [autofs](#)
-  [backup](#)
-  [bind](#)
-  [clamav](#)
-  [cobbler](#)
-  [collectd](#)
-  [absent](#)
-  [backup](#)
-  [backup::absent](#)
-  [backup::example42](#)
-  [collectd](#)
-  [collection](#)
-  [debug](#)
-  [disable](#)
-  [disableboot](#)
-  [example42](#)
-  [firewall](#)
-  [firewall::absent](#)
-  [monitor](#)
-  [monitor::absent](#)
-  [monitor::example42](#)
-  [params](#)
-  [plugins](#)
-  [redhat](#)
-  [concat](#)
-  [controltier](#)
-  [cron](#)
- [dashboard](#)
-  [monitor](#)
-  [munin](#)
-  [mysql](#)
-  [nagios](#)
-  [absent](#)
-  [backup](#)
-  [backup::example42](#)
-  [cleanup](#)
-  [debug](#)
-  [disable](#)
-  [disableboot](#)
-  [example42](#)
-  [extra](#)
-  [firewall](#)
-  [link](#)
-  [monitor](#)
-  [monitor::example42](#)
-  [nagios](#)
-  [params](#)
-  [plugins](#)
-  [target](#)
-  [network](#)
-  [nfs](#)
-  [nrpe](#)
-  [ntp](#)
-  [ntpdate](#)
-  [openldap](#)
-  [openntpd](#)
- [openssh](#)
-  [rsync](#)
-  [rsyslog](#)
-  [samba](#)
-  [sarg](#)
-  [selinux](#)
-  [disabled](#)
-  [enforcing](#)
-  [permissive](#)
-  [selinux](#)
-  [sendmail](#)
-  [smolt](#)
-  [adbsent](#)
-  [disable](#)
-  [enable](#)
-  [smolt](#)
-  [snmpd](#)
-  [spamassassin](#)
-  [sqlgrey](#)
-  [squid](#)
-  [squirrelmail](#)
-  [ssh](#)
-  [ssmtp](#)
-  [synbak](#)
-  [sysctl](#)
-  [syslogd](#)
- [syslog-ng](#)

Click to add smolt::disable



Reporting

- Dashboard for all of your puppet hosts
- Detailed Log for what Puppet did
- Simple Search through the logs (show me all hosts/reports with yum related activities)
- Audit Log
- Summary Emails
- Alerting (API, Email etc)

Overview

Generated at 31 Jan 13:13

Good Host Reports in the last 30 minutes 746 / 1048 hosts (71%)

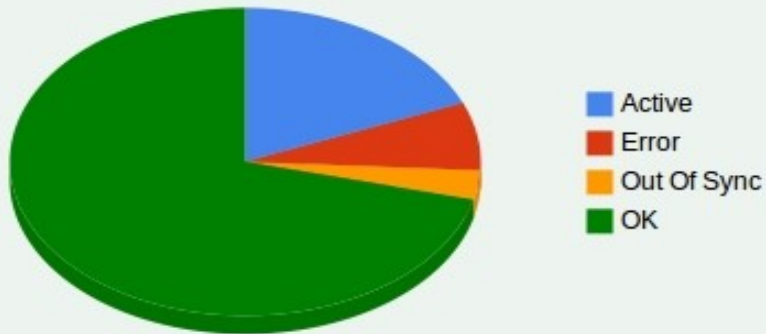
Hosts that had performed modifications [197](#)

Out Of Sync Hosts [32](#)

Hosts in Error State [75](#)

Hosts With Alerts Disabled [0](#)

Puppet Clients Activity Overview



Run Distribution in the last 30 minutes





More Puppet integrations

- PuppetCA management
- Trigger Puppet runs
- Puppetdoc integration
- Can work with your existing storeconfigs
- Support multiple Puppetmasters

[Search](#) [Reset](#)Module **activemq**

In: `/home/olevy/git/puppet-modules/activemq/manifests/redhat.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/absent.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/monitor.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/example42.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/monitor/example42.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/disable.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/conf.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/init.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/backup.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/disableboot.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/params.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/firewall.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/backup/example42.pp`
`/home/olevy/git/puppet-modules/activemq/manifests/debug.pp`

Puppet module: [activemq](#)

Written by Lab42 # [www.Example42.com](#)

Licence: GPLv3

DESCRIPTION: This module can be used to install ActiveMQ. It's mostly oriented to the setup of a [mcollective](#) infrastructure so should be heavily customized in order to use it for other purposes. The installation implies the use of an "activemq" package (specifically the one provided on the Mcollective site and the relevant dependencies) so you have to make sure you have it in your repos. In the `activemq::redhat` class some dependency packages are installed, check them out if their conflict with existing packages you manage with Puppet (ie the `openjdk` rpm)

You can find RPMs for RedHat 5 here: [marionette-collective.org/activemq/](#) This module has been tested on Centos 5.

USER VARIABLES: `$activemq_admin_user` (default: admin) - Username of the admin user (member of admins group) `$activemq_admin_password` (default: admin) - Password of the admin user

The `activemq.xml` configuration file used in this module uses also various variables set in the Example42 [mcollective](#) module. Refer to the [mcollective](#) README and the `activemq.xml.erb` template for more info.

USAGE: # Standard Classes include [activemq](#) # Install and run [activemq](#)



Restful API

- Simple API to collect hosts (and their associated data)
 - Can be used by scripts
 - Can be used within Puppet as an alternative to storeconfigs
- CRUD operations on most objects



User Management

- Internal and External (LDAP/AD) user authentication
- RBAC (Role Based Access Control)
 - Per host group, domain, fact etc
 - Dynamic groups (AD like)
- Can be used to CRUD and restrict to "your" set of hosts – self service



Too many options?

- You're not required to use every feature
- Foreman has 3 modes of operation
 - Provisioning + Puppet
 - Puppet
 - Provisioning



Final words

- About 1.5 years old
- 20+ Contributors
- Largest installation =~ 4000 active hosts
- Homepage – <http://theforeman.org>
- Irc - #theforeman on freenode
- Usergroup -
<http://groups.google.com/group/foreman-users> (&dev)



Questions ?



More Demo?