

Foreman - A seamless Automation Tool

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NSLS-II

A fast growing facility



Foreman

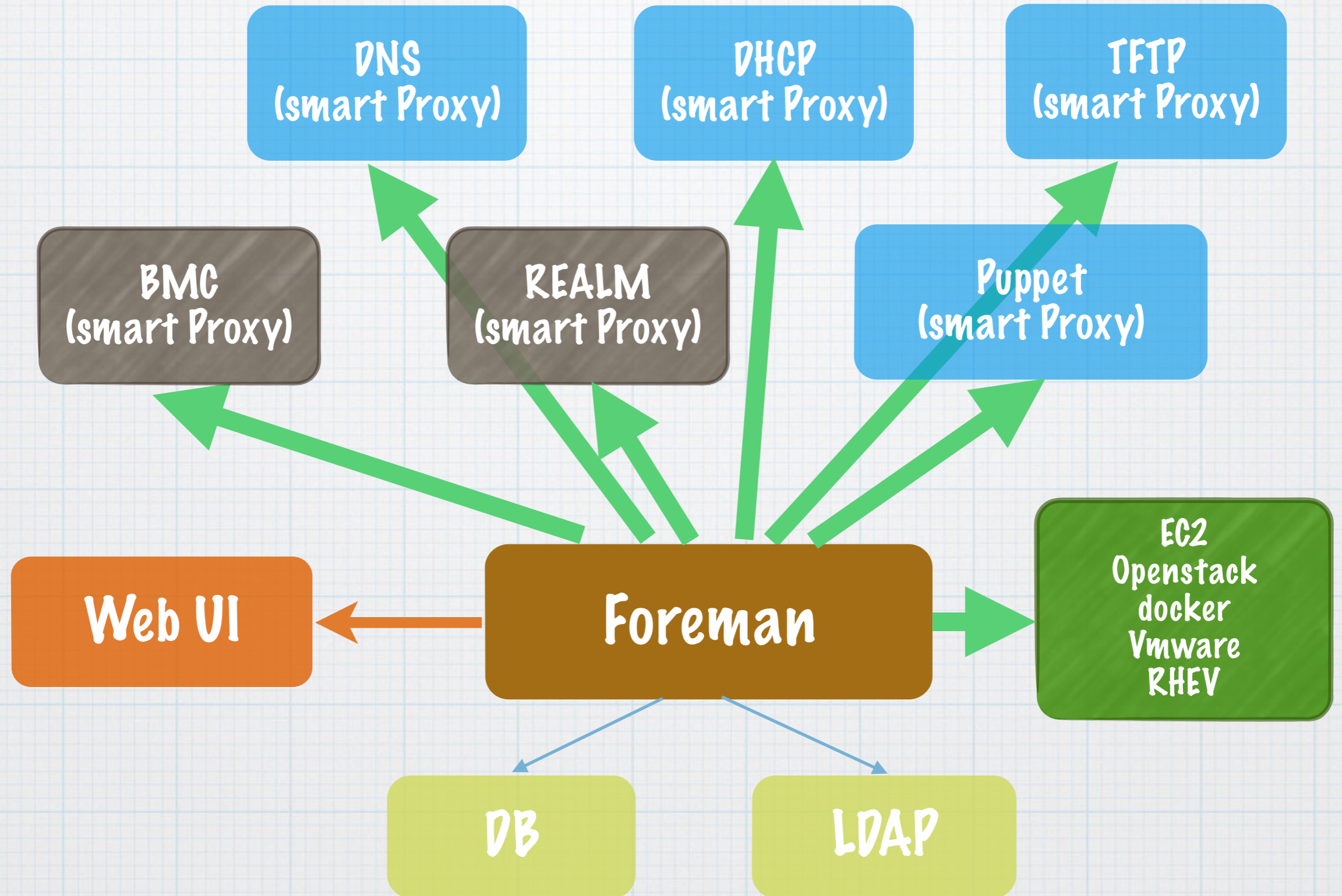
- * Started in 2009
- * Officially sponsored by Redhat
- * Actively under development. Within recent 2 years, 3-4 releases/year.
- * Now supports cloud based resources such as EC2, Google compute engine, Openstack, Docker.



Seamless Automation

- * **Provisioning:**
Cobbler, Razor, RHEV, Vmware
- * **Config Management:**
Puppet, Cf-engine, Chef, Salt

Architecture



Provisioning

- * PXE-based unattended install through managed DHCP, DNS, TFTP.
- * Virtual by connecting to the hypervisors. Supports RHEV, VMWare
- * Image based install. Supports Docker, Openstack, Rackspace, EC2, Google compute engine.

Configuration

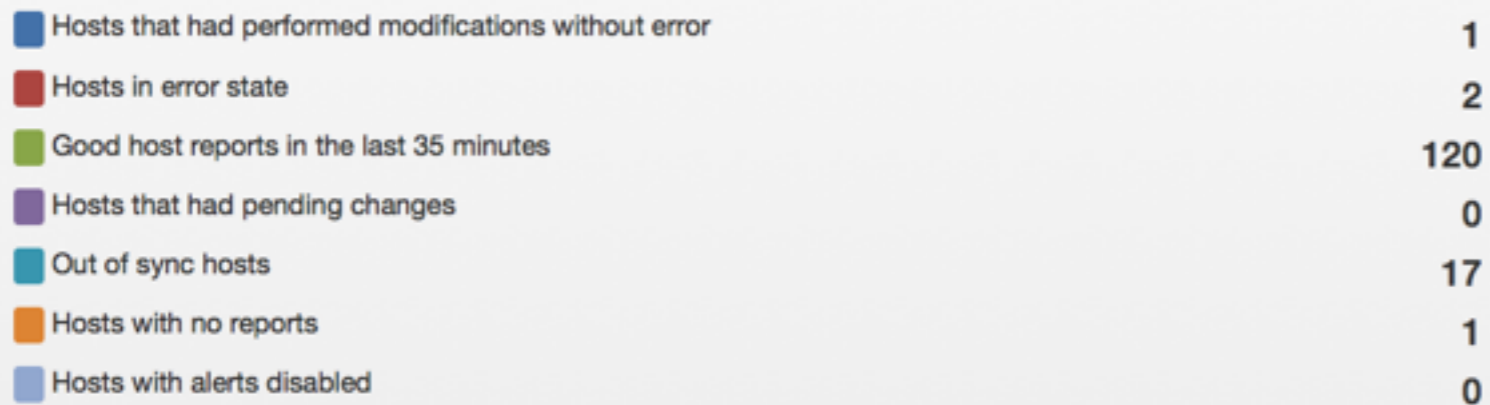
- * Automate repetitive tasks, deploy applications and manage changes to deployed servers.
- * ENC with rich parameter selections.
- * Config Groups & Host Groups
- * CA assignment and revoke

Other Features

- * Reporting (Dashboard, Statistics and Monitoring)
- * Facts (Asset Management)
- * History, Audit
- * Users, Roles
- * CLI(hammer), Robust RESTful API

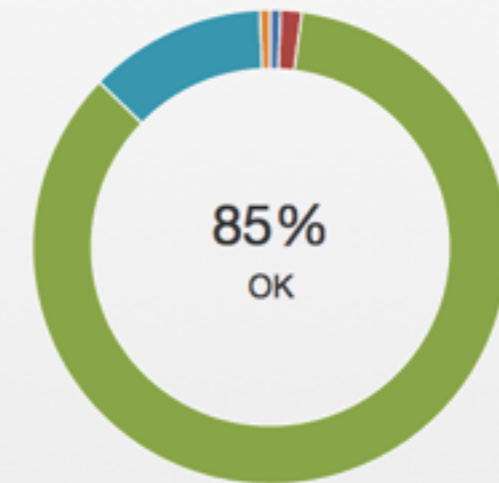
Dashboard

Host Configuration Status



Total Hosts: 141

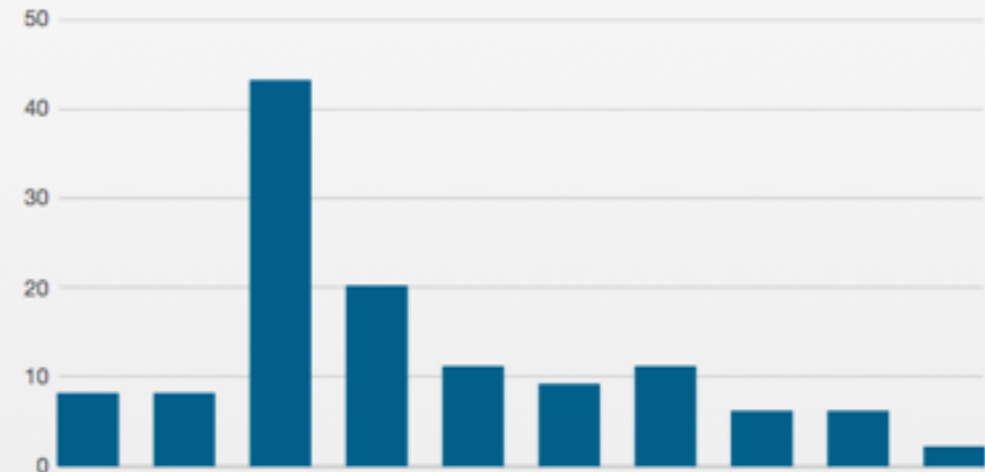
Host Configuration Chart



Latest Events

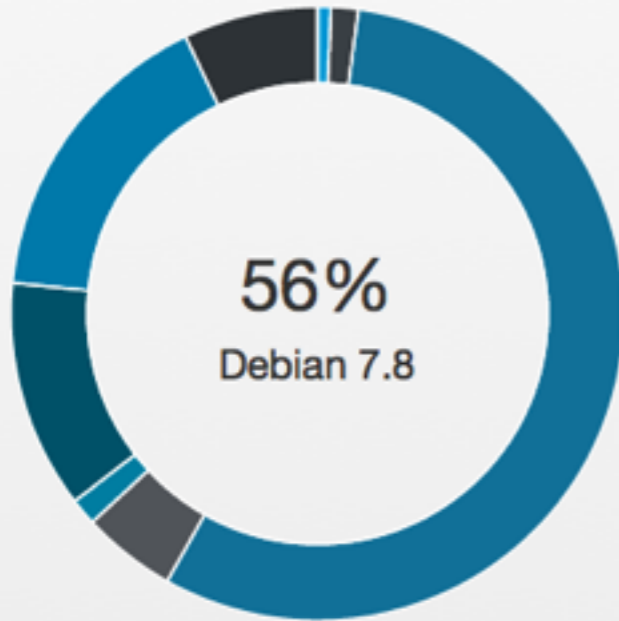
Host	A	R	F	FR	S	P
xf17id1a-io...	0	0	0	0	6	0
diagioc-c17...	0	0	0	0	6	0
diagioc-c01...	0	0	0	0	6	0
xf03idc-dis...	0	0	0	0	6	0
xf03idc-dis...	0	0	0	0	6	0
xf08ida-loc...	0	0	0	0	6	0

Run distribution in the last 30 minutes

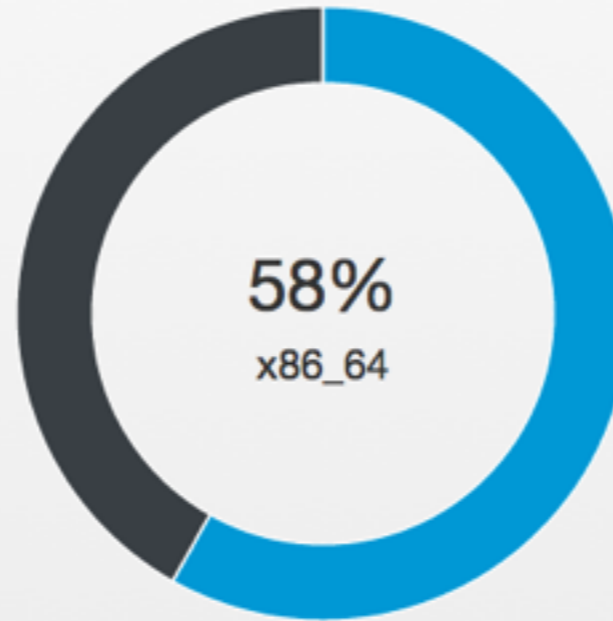


Statistics

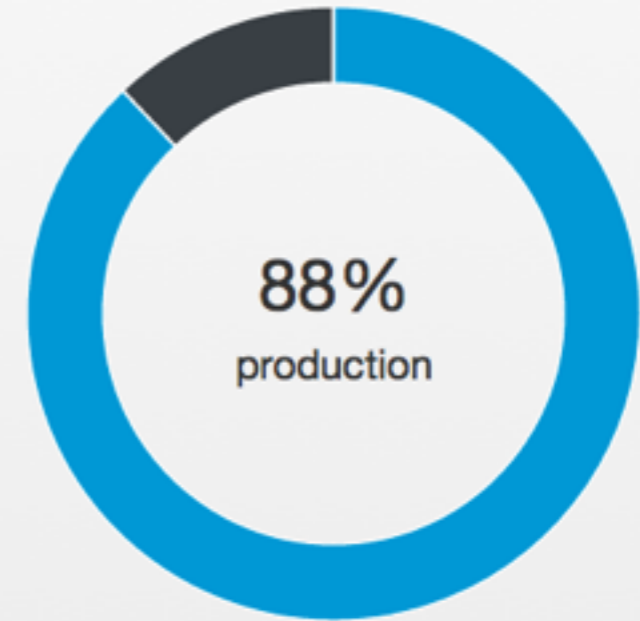
OS Distribution



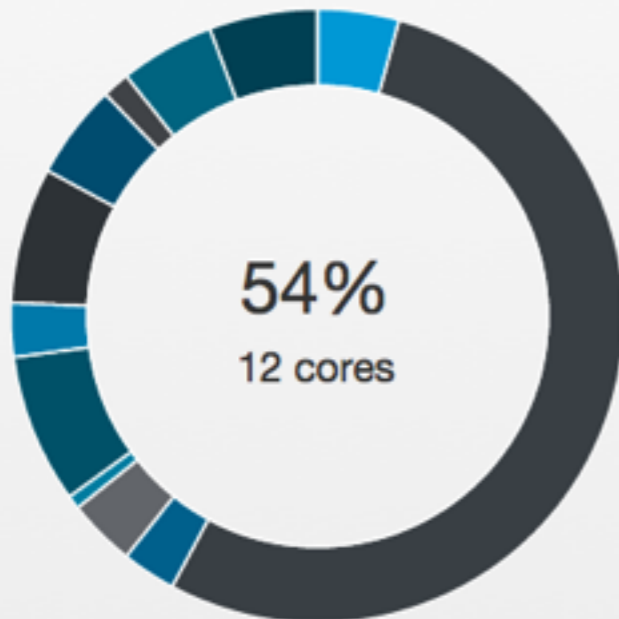
Architecture Distribution



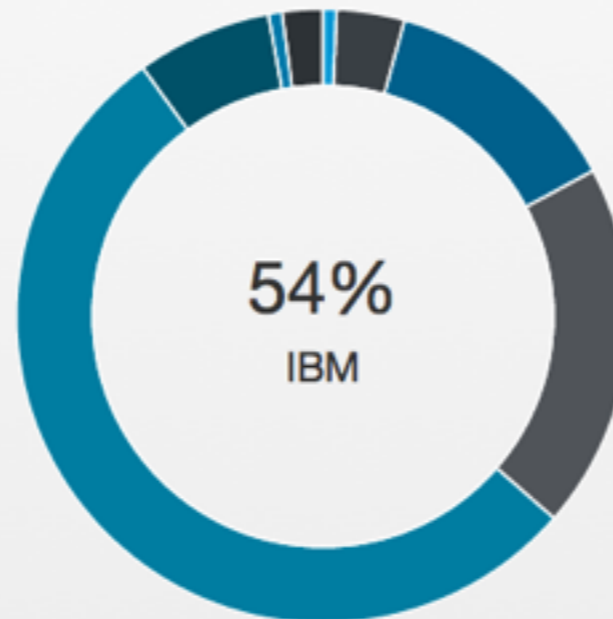
Environments Distribution



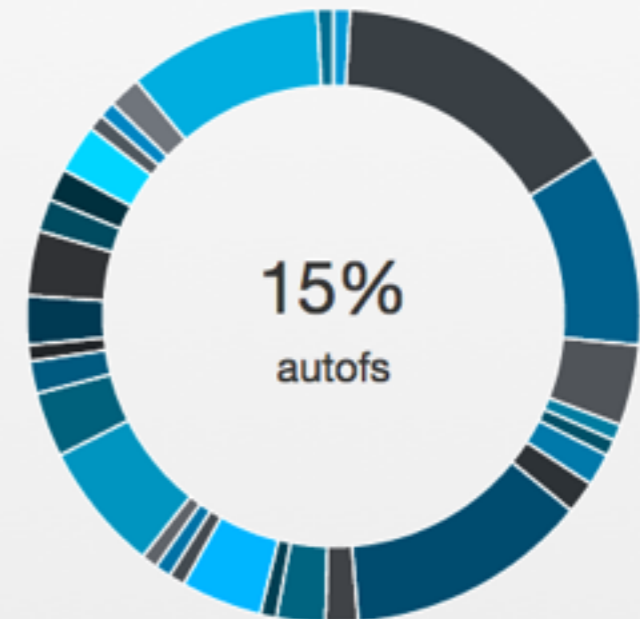
Number of CPUs



Hardware

















Class Distribution



Reports

Host	Last report	Applied	Restarted	Failed	Restart Failures	Skipped	Pending	
cpu-005.cs.nsls2.local	about 21 hours ago	1	0	0	0	0	0	Delete
psioc-c29.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
psioc-c26.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
tomcat.cs.nsls2.local	about 21 hours ago	0	0	3	0	0	0	Delete
psioc-c14.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
diagioc-c30.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
psioc-c23.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
diagioc-c10.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
xf11id-ca.cs.nsls2.local	about 21 hours ago	1	0	0	0	0	0	Delete
xf08id-srv2.cs.nsls2.local	about 21 hours ago	1	0	0	0	0	0	Delete
xf08id-srv1.cs.nsls2.local	about 21 hours ago	1	0	0	0	0	0	Delete
psioc-c28.cs.nsls2.local	about 21 hours ago	1	0	0	0	6	0	Delete
cpu-007.cs.nsls2.local	about 21 hours ago	1	0	0	0	0	0	Delete

Facts

st	Name	Value	Reported at	
3id-ws5.cs.nsls2.local	kernelversion	3.16.0	10 minutes ago	 Chart
b02.cs.nsls2.local	kernelversion	3.16.0	25 minutes ago	 Chart
st.cs.nsls2.local	kernelversion	3.16.0	3 months ago	 Chart
yter.cs.nsls2.local	kernelversion	3.16.0	2 days ago	 Chart
1id-srv1.cs.nsls2.local	kernelversion	3.16.0	27 minutes ago	 Chart
ntrolsweb04.cs.nsls2.local	kernelversion	3.16.0	about 1 month ago	 Chart
3idc-ws2.cs.nsls2.local	kernelversion	3.16.0	28 minutes ago	 Chart
0id-ws3.cs.nsls2.local	kernelversion	3.16.0	30 minutes ago	 Chart
3idc-ws1.cs.nsls2.local	kernelversion	3.16.0	23 minutes ago	 Chart
1id-ca.cs.nsls2.local	kernelversion	3.16.0	5 minutes ago	 Chart
t1.cs.nsls2.local	kernelversion	3.16.0	about 1 month ago	 Chart
5idd-ioc-det1.cs.nsls2.local	kernelversion	3.16.0	25 minutes ago	 Chart
u-001.cs.nsls2.local	kernelversion	3.16.0	27 minutes ago	 Chart
u-001.cs.nsls2.local	kernelversion	3.16.0	8 minutes ago	 Chart

As a result



Whoa!

Towards the future...

- * Foreman for container based provision (Docker, EC2, etc)
- * Decouple Foreman & Puppet
- * Foreman Upgrade + PuppetServer4.x?

