



Operating Jenkins at Scale

Ryan Campbell & Robert Sandell

CloudBees Inc.

www.cloudbees.com

October 23, 2014

#jenkinsconf

CloudBees in a Minute



- Provide support for Jenkins
- Enterprise plugins
- Jenkins Operations Center
- Hosted Jenkins: DEV@cloud



CONGRATULATIONS



Monitoring



- Is Jenkins Healthy?
 - Available, functional & performant
- Why not?
 - Disk, load, memory, errors/bugs
- Analytics
 - What is the business value of Jenkins?
 - What are the trends in usage?
 - How is Jenkins being used?

State of the Art - DIY

- Stats collection - collectd
- Graphing – graphite
- Notifications - Nagios



Collectd – Graphite - Nagios



collectd

Nagios

Nagios

General

Home
Documentation

Current Status

Tactical Overview

Map

Hosts

Services

Host Groups

Summary

Grid

Service Groups

Summary

Grid

Problems

Services (Unhandled)

Hosts (Unhandled)

Network Outages

Quick Search:

Reports

Availability

Trends

Alerts

History

Current Network Status
Last Updated: Wed Oct 22 21:54:58 UTC 2014
Updated every 90 seconds
Nagios Core™ 3.5.0 - www.nagios.org
Logged in as cloudbees

View History For All hosts
View Notifications For All Hosts
View Host Status Detail For All Hosts

Display Filters:

Host Status Types: All

Host Properties: Any

Service Status Types: All Problems

Service Properties: Any

Limit Results: 100

Host **

Service **

Status **

Last Check **

Duration **

Attempt **

Status Information

Host **

Service **

Status **

Last Check **

Duration **

Attempt **

Status Information

Host **

Service **

Status **

Last Check **

Duration **

Attempt **

Status Information

Host **

Service **

Status **

Last Check **

Duration **

Attempt **

Status Information

Host **

Service **

Status **

Last Check **

Duration **

Attempt **

Status Information

Host **

Service **

Status **

Last Check **

Duration **

Attempt **

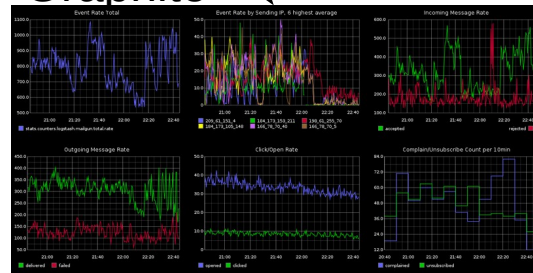
Status Information

Host Status Totals
Up 151 4 0 0
Down 4 0 0 0
Unreachable 0 0 0 0
Pending 0 0 0 0
All Problems All Types
4 155

Service Status Totals
OK 2654 9 0 28 23
Warning 9 0 28 23
Unknown 0 0 0 0
Critical 0 0 0 0
Pending 0 0 0 0
All Problems All Types
37 2714

Service Status Details For All Hosts

Graphite



Jenkins Metrics Plugin



- Exposes/Uses (DropWizard) Metrics
- Provides abstractions for standard metrics:
 - Counter – monotonically increasing value
 - Gauge – value which goes up and down
 - Histogram – max,min,avg,stddev,quantiles
 - Timer – time a piece of code or the beginning/end of some event
 - Meter – the rate at which something is happening
- Integrates with graphite
- Nagios can poll the metrics servlet



JOC Monitoring Demo

As your Jenkins grows larger and critical...



- Division of responsibility

Who is responsible for what? IT, your team, someone else?

- Automate your maintenance

Choose your weapon: bash/perl/python, VM, docker, chef/puppet etc.

- Backup
 - Having enough disk space
 - Keeping master and slaves sane/detecting insanity
 - Upgrades
- Select core and plugins with care
- Use a staging environment

Adding more masters



- One more master?

Too many jobs, experimenting with plugins, a new team?

- You'll be fine, just copy all scripts and maintenance jobs over to the new master and run with the wind.
 - Maybe put all your scripts in SCM and pull down first thing in the job *If you haven't already...*

- More masters!

One for each department, skunk-work projects etc.

- Maintenance is multiplying fast
- Rewrite all the scripts
- People working solely on Jenkins





Jenkins Operations Center Bulk Operations Demo

Running maintenance jobs on your masters in bulk...

Thank You To Our Sponsors

Platinum



Gold



Silver



Corporate

