

# Science in Systems Administration



- Systems Administrators are Town Guards, while programmers are part of the Fire Brigade
- An approximation of an approximation of reality
- The dark ages and Renaissance in Systems Administration

# Determining Normal and Problem States

- I. Crowdsourcing: If people get robbed, they usually complain
- II. Automated Monitoring: Dogs bark when burglars try and get in, Geese also work.
- III. Log Analysis: Cameras record history and given an approximation of what happened
- IV. Usage: Walk through your house and make sure there are no burglars inside

# Philosophy

- Approximately right is better than absolutely wrong
- Logs are an approximation of reality
- Sampling logs is an approximation of an approximation of reality
- Sometimes an approximation is better because all of the data is overwhelming
- Inference is an important tool in systems administration

# Why Linux Gets Administration Right



- Text based logs
- Native Centralization
- Gratuitous access to scripting
- Many web applications
- Many testing frameworks

# ¶etit

- Log analysis tool written in python
- Simple to use
- Removes unwanted (understood) data
- Can graph over time (basic statistics)

# Scriptlog

- Check cron jobs and provide alert on failure
- Can be used on a semi-automated jobs
- Allows for acknowledgment of errors, and clears them
- Provides log to be analyzed in problem situations

# Racecar

```
tate
File Edit View Scrollback Bookmarks Settings Help
Object Requests by Type
#####
Type      Count   Percent  Bandwidth    Kbps
#####
200       61544   86%      156052K      558Kbps
304       7929    11%      60541K       216Kbps
400        18      0%        0K           0Kbps
500       1988    2%        0K           0Kbps
non200    9982    13%      60552K       216Kbps

Object Requests by Type
#####
Type      Count   Percent  Bandwidth    Kbps
#####
html      27      0%        8K           0Kbps
pl        51525   72%      52934K       189Kbps
css       600     0%       980K         3Kbps
js         0      0%        0K           0Kbps
txt        0      0%        0K           0Kbps
jpg       752     1%      15350K       54Kbps
gif      18514   25%      87965K       314Kbps
png        0      0%        0K           0Kbps
flv        0      0%        0K           0Kbps
swf        0      0%        0K           0Kbps

Duplicate Object Requests by Type (from same client)
#####
Type      Count   Percent  Bandwidth    Kbps
#####
html      0      0%        0K           0Kbps
pl       32140   44%      30914K       110Kbps
css       15      0%        46K          0Kbps
js         0      0%        0K           0Kbps
txt        0      0%        0K           0Kbps
jpg        46     0%       1108K        3Kbps
gif      1665    2%      10500K       37Kbps
png        0      0%        0K           0Kbps
flv        0      0%        0K           0Kbps
swf        0      0%        0K           0Kbps
[root@tate ~]#
```

# DejaClick

- Very easy to use add-on for Firefox
- Exports XML config files
- Can upload to AlertSite servers for automated and geographic testing

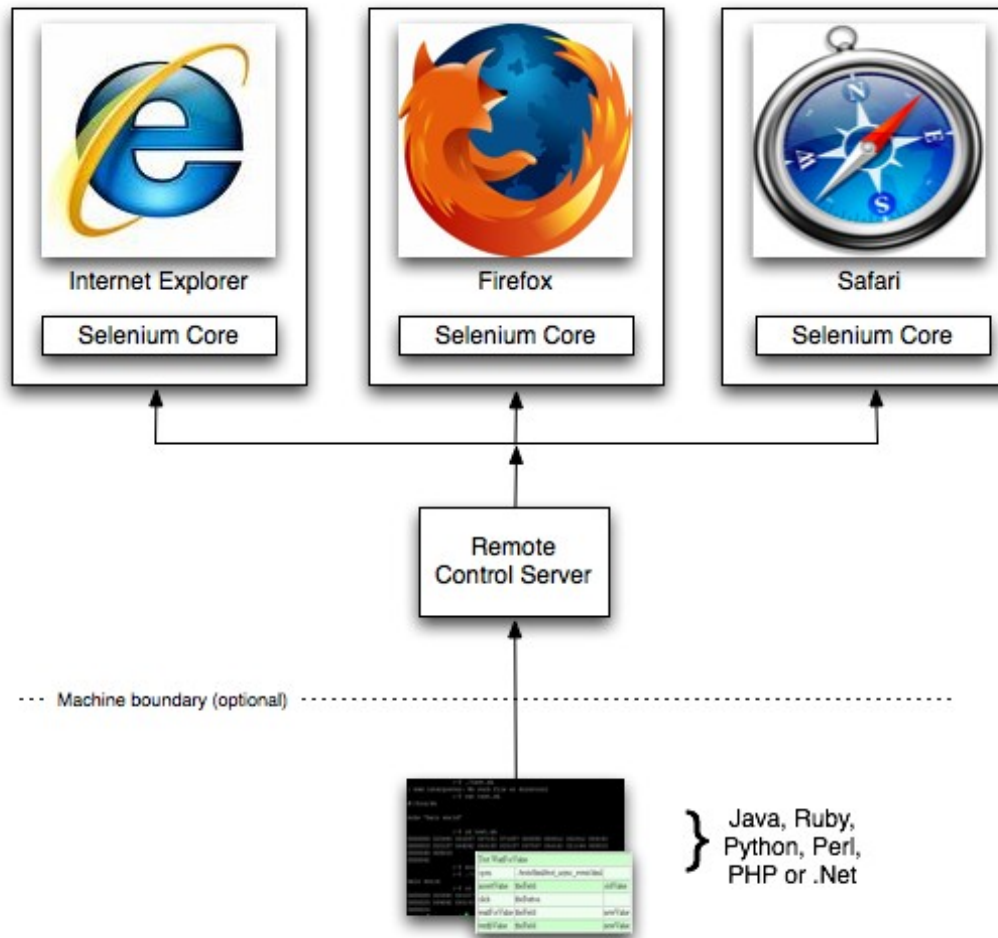


# Selenium

- Opensource integration testing for web applications
- Allows complex scripting in many languages including Ruby, Python, Perl, Java and others
- Harder to setup
- Can be deployed on your own hardware

# Selenium: Continued

Windows, Linux, or Mac (as appropriate)...



# Final

- [opensource.eyemg.com](https://opensource.eyemg.com)
- Automation is your friend
- Sampling & statistics are your friends
- The Good: Town Guards get to beat peasants, while the Fire Brigade can only put out fires
- The Bad: People like the Fire Brigade much better than town guards
- Log Analysis is good for warm fuzzy feelings
- Usage or Integration testing is good for warm fuzzy feelings