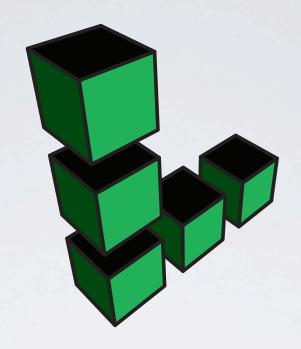
"In startup for keep devops sharp we have contest of cause outage in Web site and bring back to normal fast. Best time so far is 26 hours"

-- @DevOpsBorat

"In devops we have rules of thumb: if bash script is length more than 30 line, is time of reach for Erlang!"
-- @DevOpsBorat

"If not, enjoy Pittsburgh and being packet of tiny room with entirely too many people, alright. Talk to you later."

-- Google Voice Transcript



DEVOPS WITH PERL @LINODE

Mike Greb
Senior Systems Developer @ Linode.com
@mikegrb
mgreb@linode.com



Robert Blackwell

11 days until coffee, code, and comradery. You know it as Pittsburgh Perl Workshop, http://pghpw.org/. Hope to see you there.



The Pittsburgh Perl Workshop pahpw.org.



♣ Like · Comment · Share · September 27 at 8:50pm near Pittsburgh, PA (a)





Michael Greb I guess I should make my slides :p September 27 at 9:49pm · Like

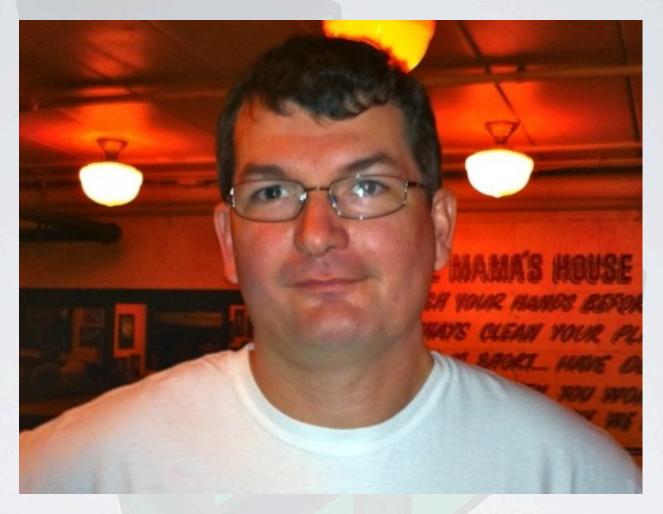


Robert Blackwell Seems early to be making slides.

September 27 at 9:51pm · Like

COMPLAINTS ABOUT QUALITY?

Talk to Robert



Robert Blackwell @rblackwe

WHO IS LINODE

- Linux Virtual Servers
- Launched June 2003, One of the First Linux Virtual Private Server Providers
- Present in 6 Data Centers in 3 Countries
- 24/7 Phone & Ticket Support
- Comprehensive Learning Library
- Full API with Perl Bindings

INTERESTING STATS

- 50,000 Customers in 131 Countries
- 5,700,000 Host Jobs
- 200,000 Logins/month to members.linode.com
- 12,000 CPUs 30,000Ghz
- 8,000 TB Raw Storage
- 6.0 Gbit/sec Average Traffic

STAFF

- President
- Vice President
- 4* Developers / Sysadmins
- 2 Hardware Operations
- I Documentarian
- ∞ Support Staff

STAFF

- President
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- 4* DevOps
- 2 Hardware Operations
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The Practice of System and Network Administration

HOW?

The Complete April Fools' Day RFCs







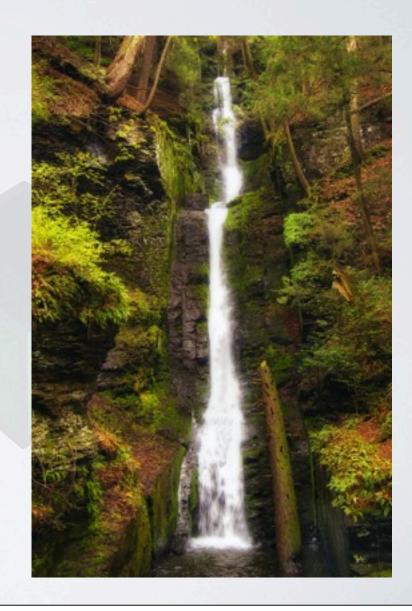
Extensive Automation

DEPLOYMENT

- Sending files to many hosts
- Executing commands across many hosts
- Auditing files in place across many hosts to verify conformity

DEPLOYFILE.PL

- Net::CascadeCopy
 - enables exponential deployments to large number of hosts
 - supports groups of hosts*



SENDTO.PL

- · Started as a shell script with variable for max host number
- Maintenance Issue -> Perl script that gets hosts from DB
 - · Cached When things are broken uses local cache of host list
- Lots of host == Long Execution Time
 - Multi-threaded, multiple hosts in parallel
- Lots of hosts == Lots of Output to Read
 - Smart Output Options
- Time::Progress for progress bar on STDERR

HOST_AUDIT.PL

- Generates a Manifest Based on Current Host
- Compares Current Host to Given Manifest
- Verify Host Network
 Connection by Comparing
 CDP packet to DB



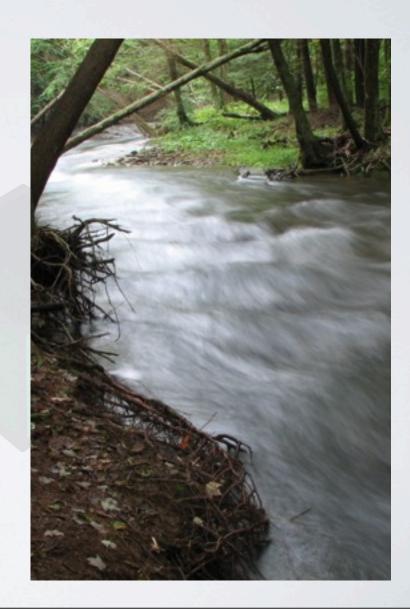
NOTIFICATIONS

- Streaming Notifications
- Alert Notifications

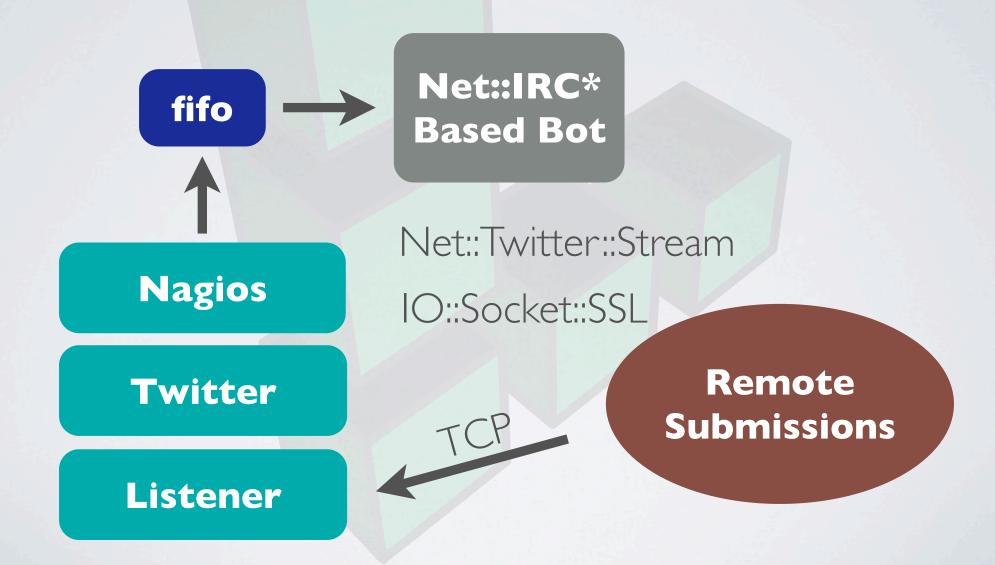


STREAMING NOTIFICATIONS

- Things you only care about if you happen to see them, the pulse.
- Real time stream of signups, tickets being opened, tweets, etc.
- Quickly spot trends.
- Catches network issues only affecting a few providers or specific geographic regions.



DELIVERING STREAMING NOTIFICATIONS VIA IRC



OTHER STREAMING NOTIFICATIONS



Asterisk::Manager

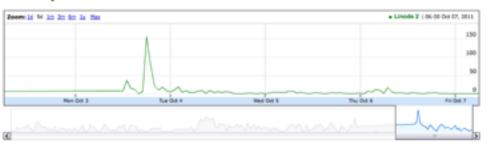


Mojolicious::Light

OTHER STREAMING NOTIFICATIONS

Net::Twitter::Stream

Tweets per Hour



100 Most Recent Tweets

Apr	Who	Fol.	Tweet
8m	DrookitMunter	105	Winode Thinking about signing up how about a cheeky promotion code? Go on, I'll be your best friend forever
441	n ChrisStumph	164	Holy crap, I'll have a little plastic money card again in a few days. Rackspace or Linode?
1h	Emper	1375	Configurando y poniendo a punto nuestro primer nodo de @linode es una gozadat /cc @dext_Es
3h	Eering	29957	假期出去玩的那几天有人 DoS 我的 Linode VPS, 跨了不少流量。还好中间登上来处理了一下。 否刻 跨流量也会跑出来不少费用。
40	JasPareser	367	@THEseanwaish Go sign up for a linode, I'll send you my step by step instructions to get ACF or Railo running on it.
5h	jp2domain	112	Find domain ip address Linode.com Forum :: Avoid reverse IP domain lookups? Posted: Sun May 27, 2007 9:43 pm P http://t.co/bkqMxSny
6h	choss	230	jesus h christ @linode is having issues and @twitter all at once
9h	keithint1234	97	@tspivey UhAo Allinaccess disappeared? Wonder what brought that change about. It was you who hooked me into Linode somewhat.
9h	tspirey	211	@keithint1234 I don't have my linode anymore, but when I get another one it'll probably still be deblan
101	mke3s	1808	@DreamHostCare it also happened at macmegasite.com, which I moved unchanged to linode.cor where it no longer happens
108	keithint1234	97	Otspivey You ever goigntto use Arch as a server operating system? Maybe you should rebuild you Linode and use Arch.
118	perusio	225	Playing along with bitbucket private git repos "novelty". Really cool. Now there's no more creating private repos on Linode. The #bitbucket
119	Helgapolop	49	Linode VPS is my favorite - Web Hosting Talic VPS Hosting Virtual private server discussion and vps hosting solu http://t.co/YOb39RYq
118	Blancajecti	35	Linode VPS is my favorite - Web Hosting Talk http://t.co/mARIvnRa

ALERT NOTIFICATIONS

- Something is broken, wake someone up
- Week long on call rotation
 - Switch on Tuesdays, lots of Monday holidays



PAGERDUTY

- · Requires positive confirmation of working on problem
- API for schedule
 - Generate per person .ical files with Data::ICal
 - Code available on GitHub
- WWW::Mechanize & Mojo::DOM to see who is on call right now
 - Sent to IRC topic



MONITORING

- Primarily passive checks for scalability
- Two contact groups
 - page
 - sent to PagerDuty via API
 - no-page
 - non critical things monitored by Nagios that need to eventually get fixed

DAILY EMAIL

- Status of problems that need to be fixed but can wait until morning or issues that you need to be aware of
- Simple text based report
- Nagios::StatusLog

Host	Service	Status	Age	Details
newark263	BBU	WARNING	1m19s	Fault - Weak Voltage
dallas133	BBU	WARNING	1m19s	Fault - Weak Voltage

BACKUP NAGIOS

- Who is watching the watcher?
- Nagios CGI also verifies the Nagios daemon is running normally
- Simple HTTP check verifies host is up, networking functions, Nagios is running
- Submit alerts to PagerDuty direct to MX via AnyEvent::SMTP
 - eliminates duplicate alerts when backup DC has connectivity issues

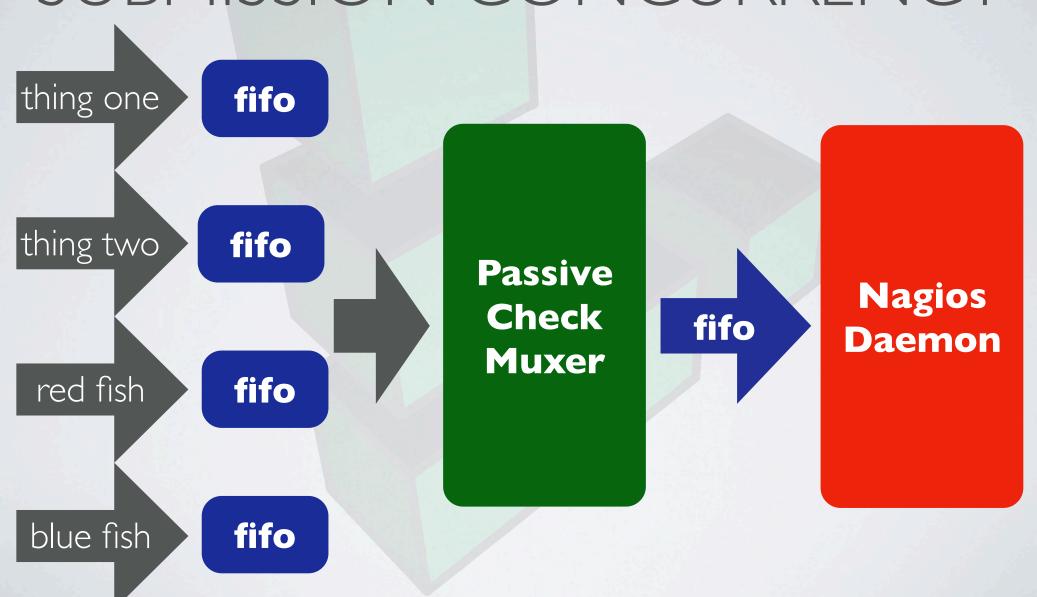
NAGIOS EXTERNAL COMMAND INTERFACE

- Implemented with a FIFO
- Very simple to write to
 - echo "[\$(date +%s)] ACKNOWLEDGE_HOST_PROBLEM;host1;1;1;1;urmom;it's broken" > /path
- Concurrency Issues :<
 - (unlike urmom)

NAGIOS PASSIVE CHECK SUBMISSION CONCURRENCY



NAGIOS PASSIVE CHECK SUBMISSION CONCURRENCY



PASSIVECHECKD

- Very simple, 75 lines with lots of vertical white space
- Implemented using POE::Wheel::ReadWrite
- TCP interface planned
 - get rid of active checks using the Nagios SSH plugin

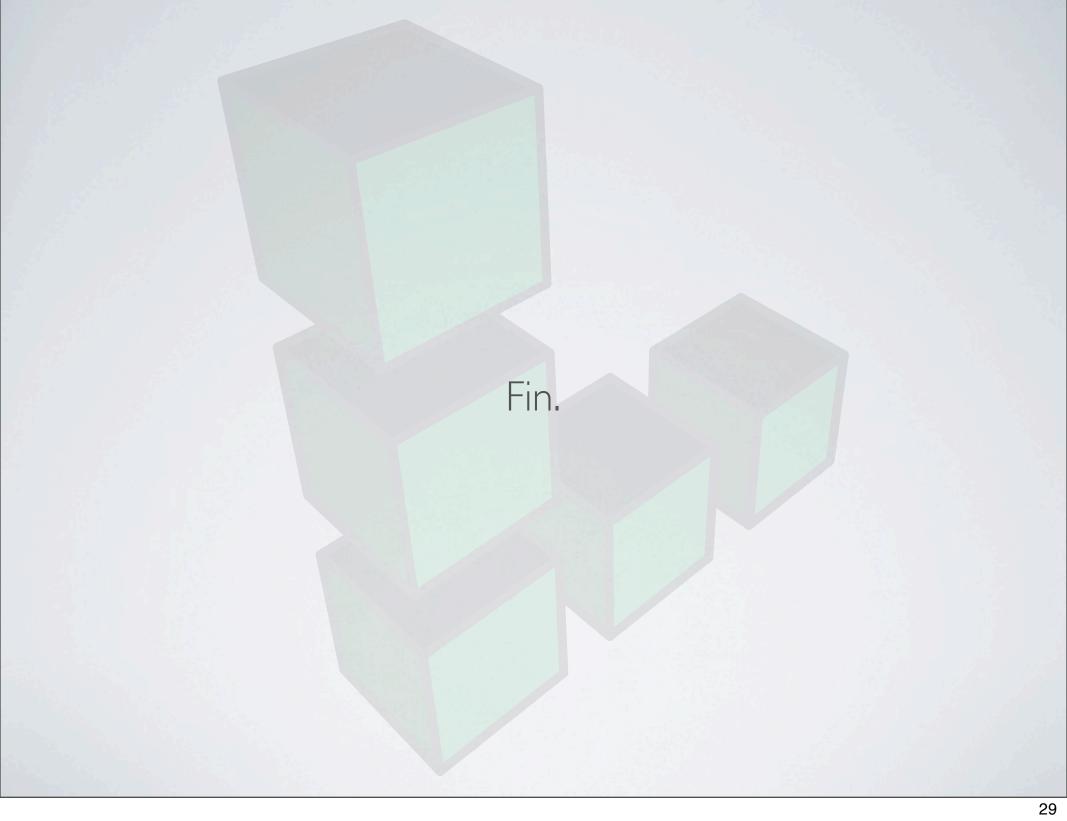
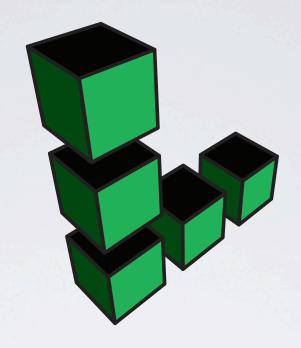




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DEVOPS WITH PERL @LINODE

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