

"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"

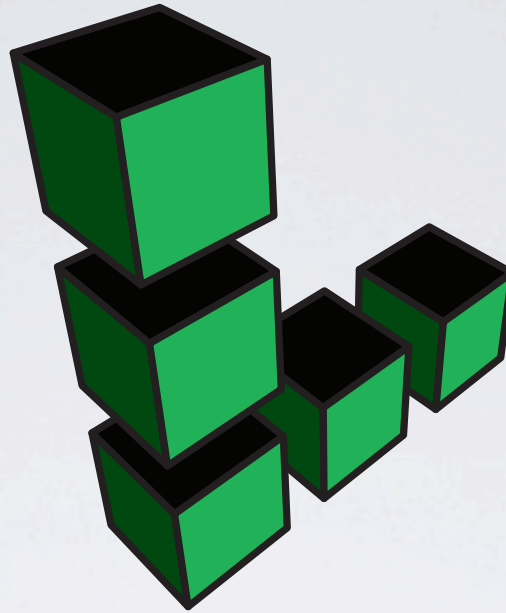
-- @DevOpsBorat

"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.



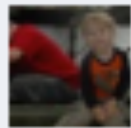
The Pittsburgh Perl Workshop
pghpw.org.



Like · Comment · Share · September 27 at 8:50pm near Pittsburgh, PA ·



Steve Scaffidi likes this.



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
- 1 Documentarian
- ∞ Support Staff

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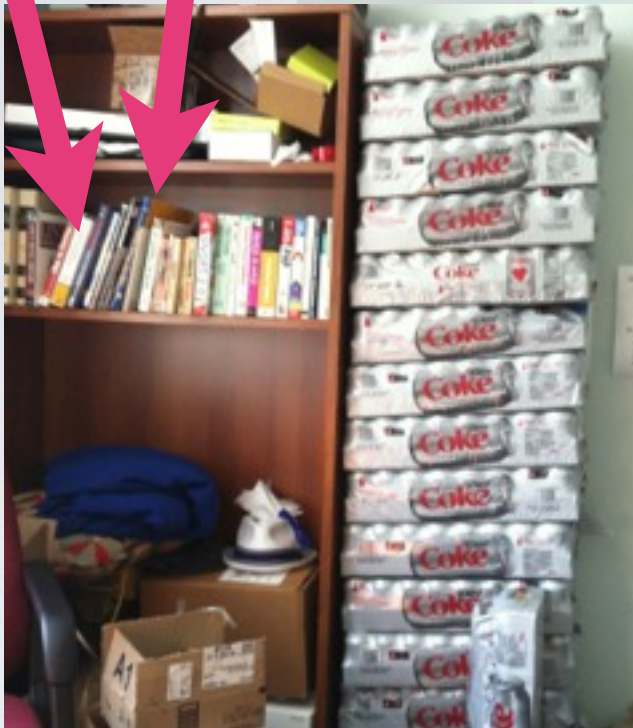
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The Practice of System and Network Administration

HOW?

The Complete April Fools' Day RFCs



Massive Caffeine
Intake



Extensive
Automation

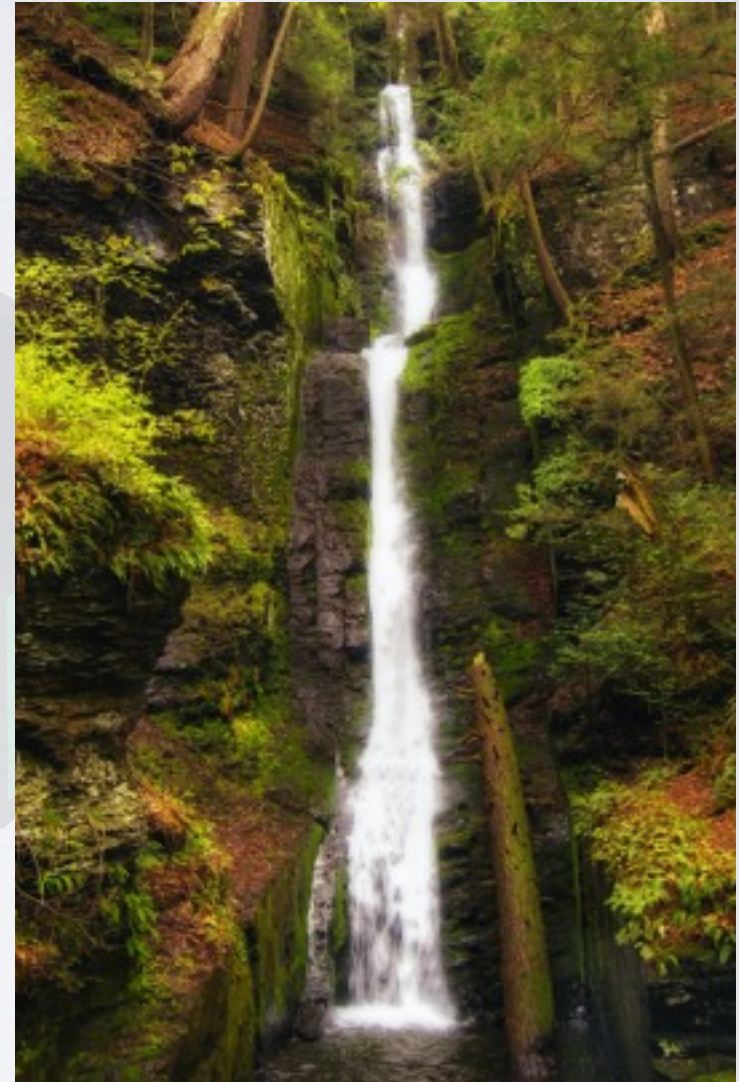
DEPLOYMENT



- 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



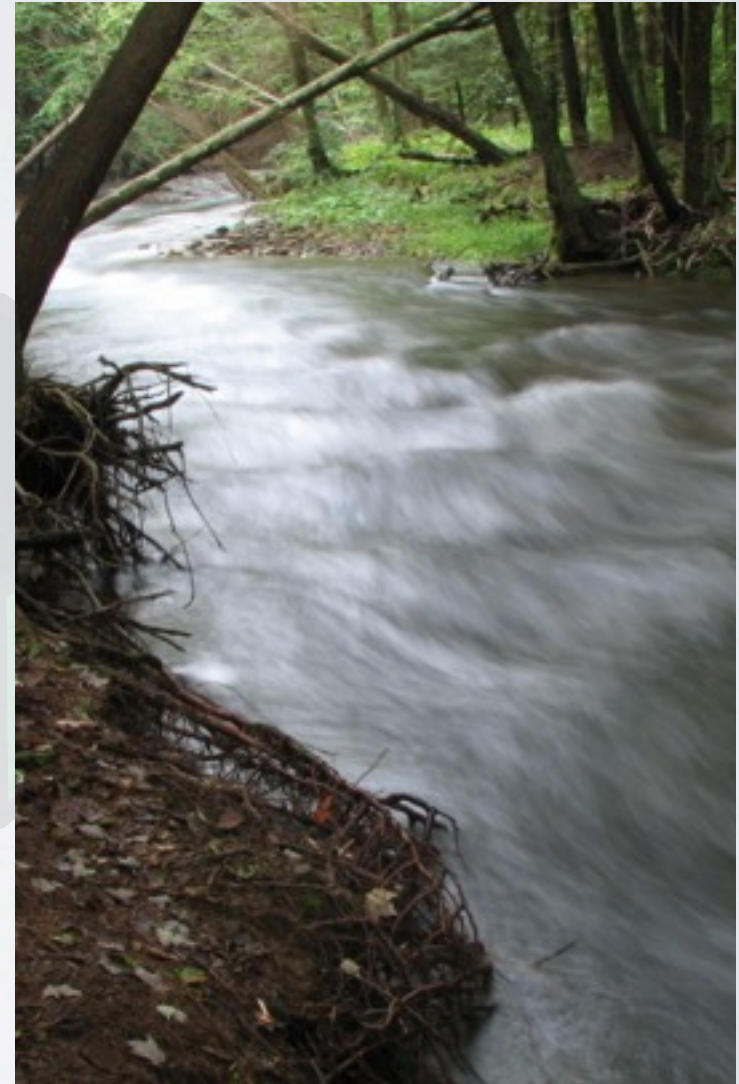
NOTIFICATIONS

- Streaming Notifications
- Alert Notifications

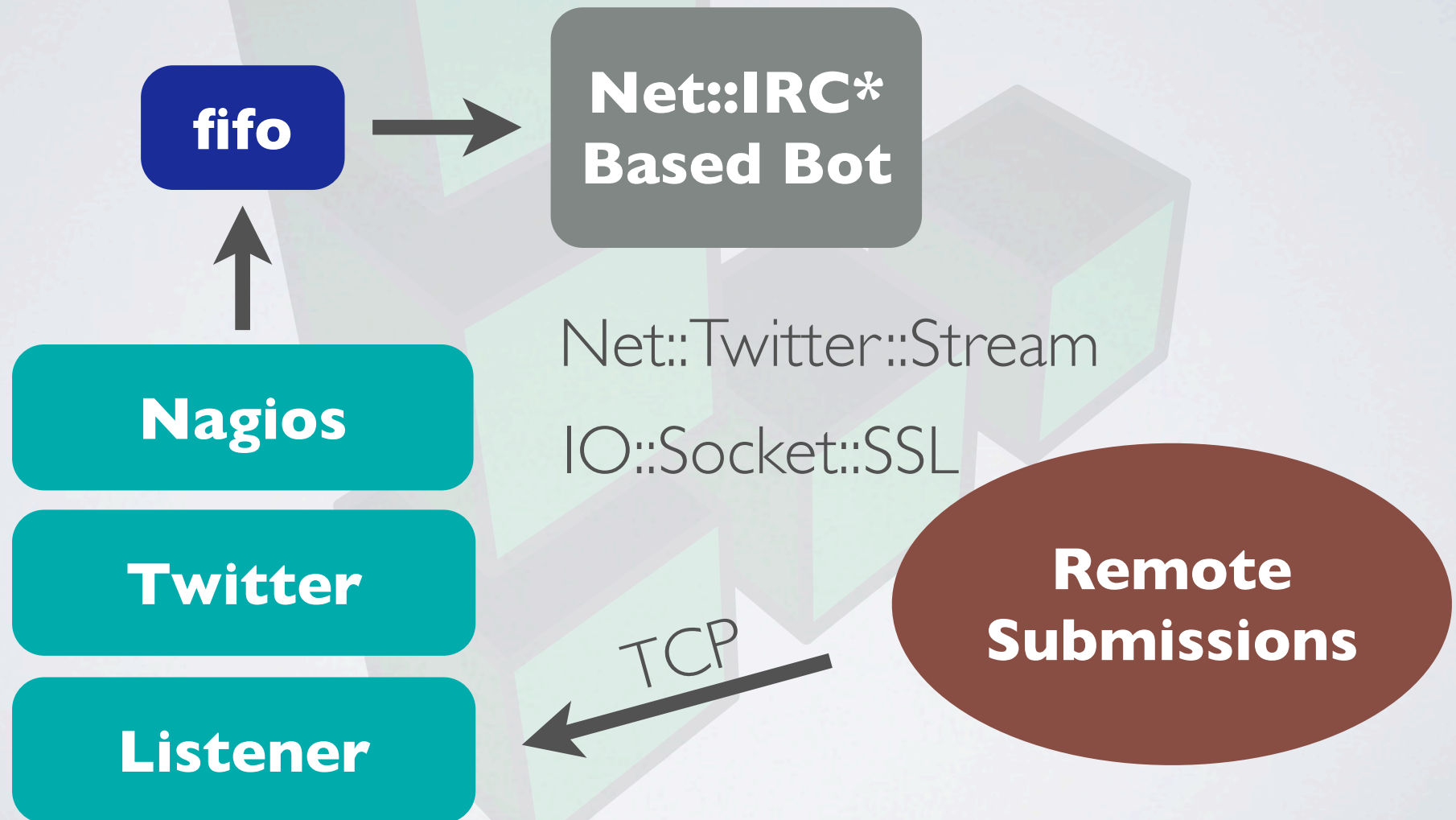


STREAMING NOTIFICATIONS

- 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



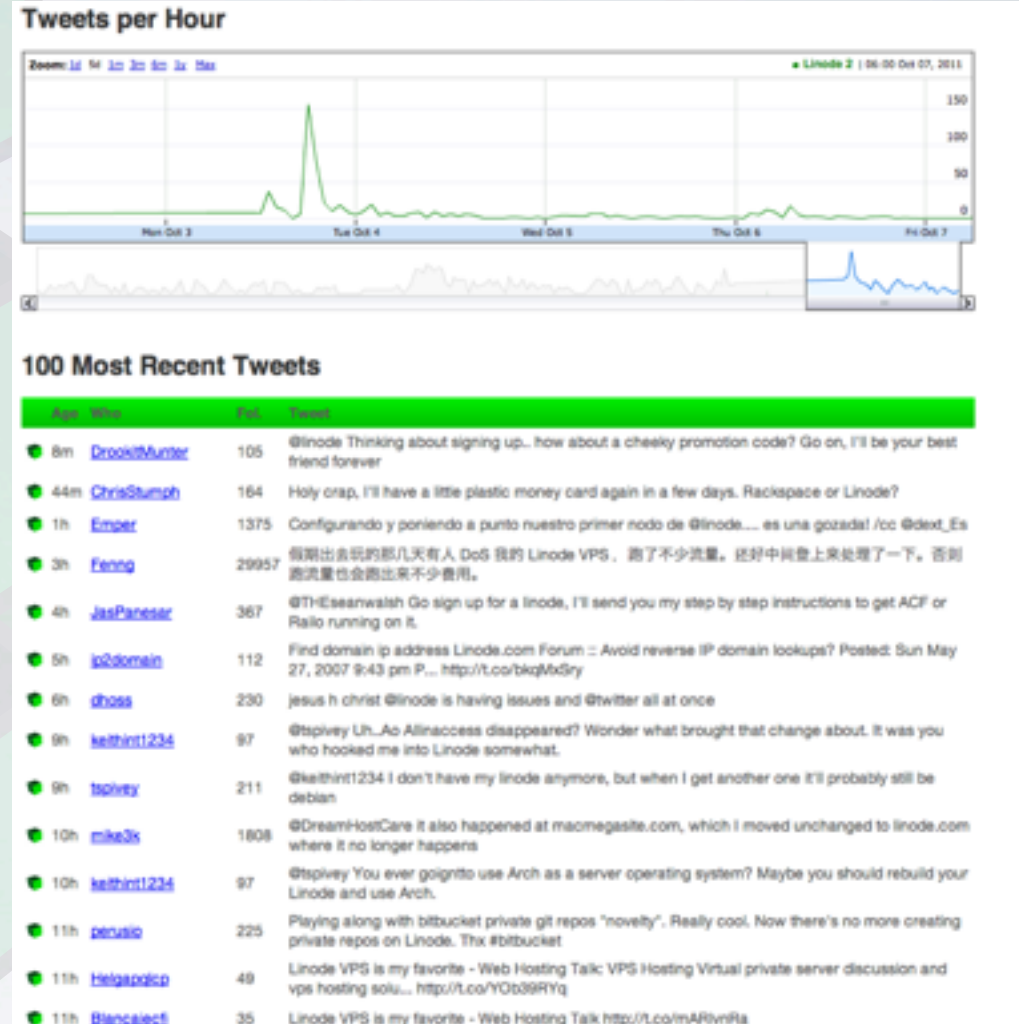
Asterisk::Manager



Mojolicious::Light

OTHER STREAMING NOTIFICATIONS

Net::Twitter::Stream



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

PAGERDUTY

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

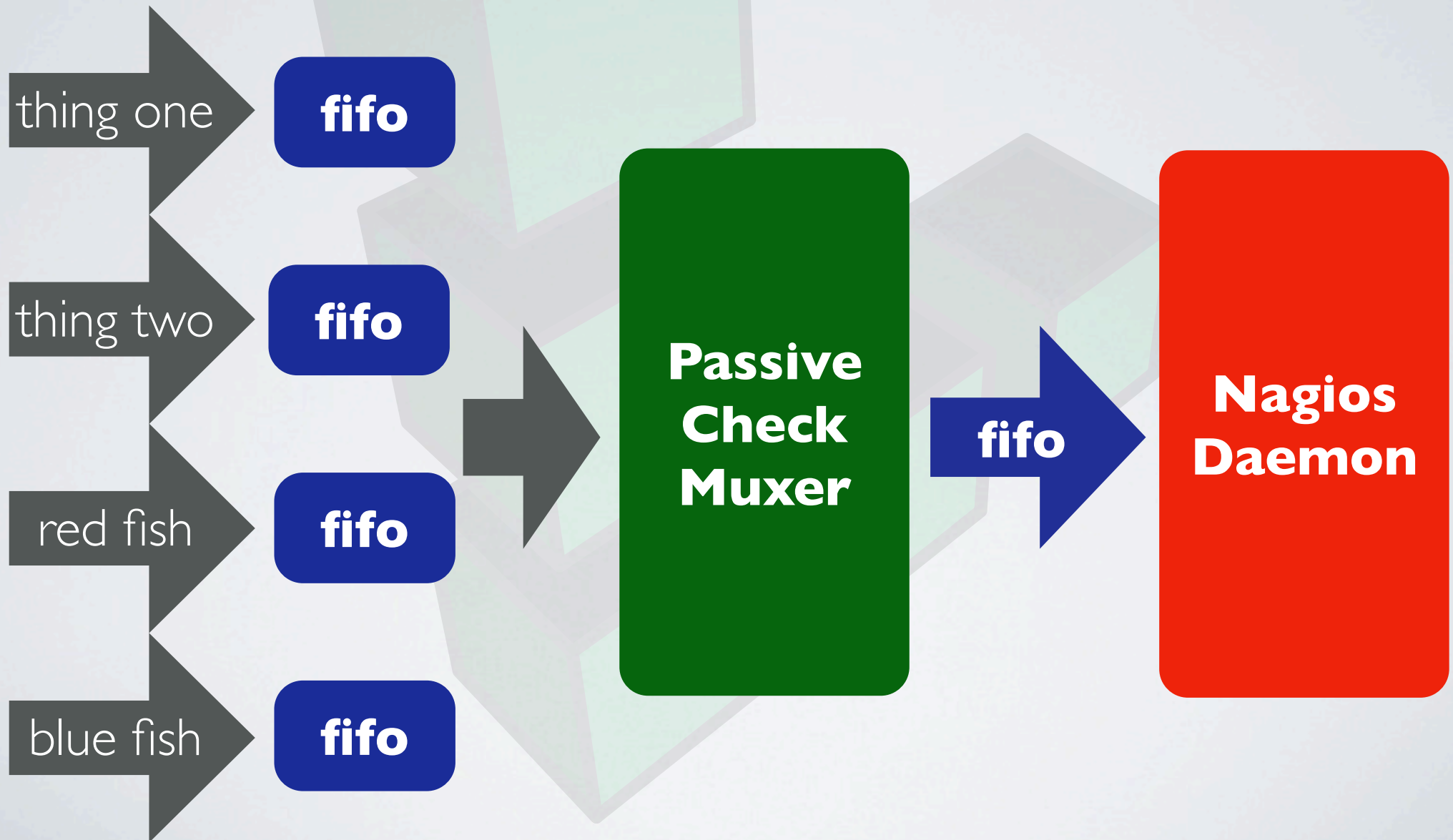
NAGIOS EXTERNAL COMMAND INTERFACE

- 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

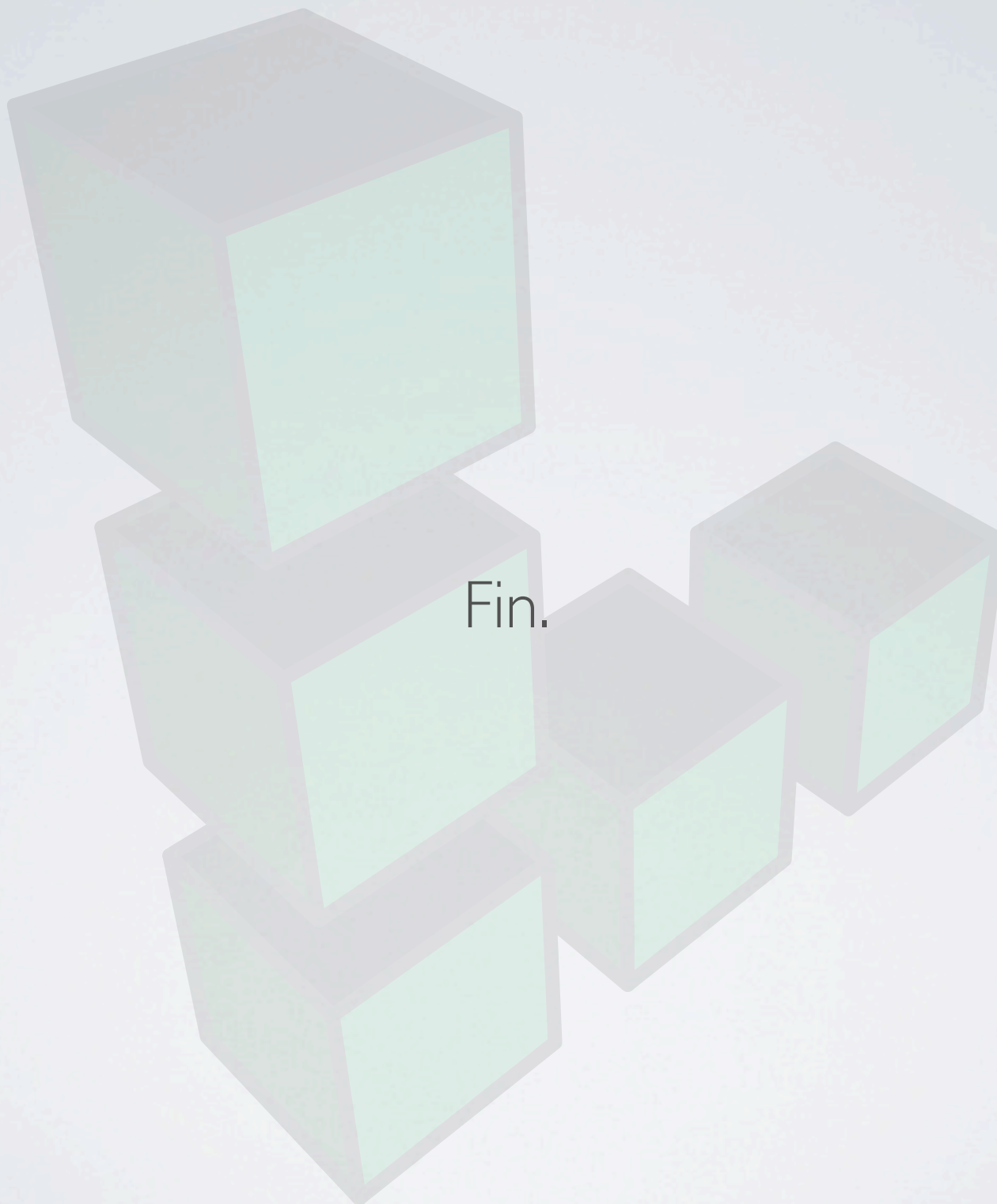


NAGIOS PASSIVE CHECK SUBMISSION CONCURRENCY



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



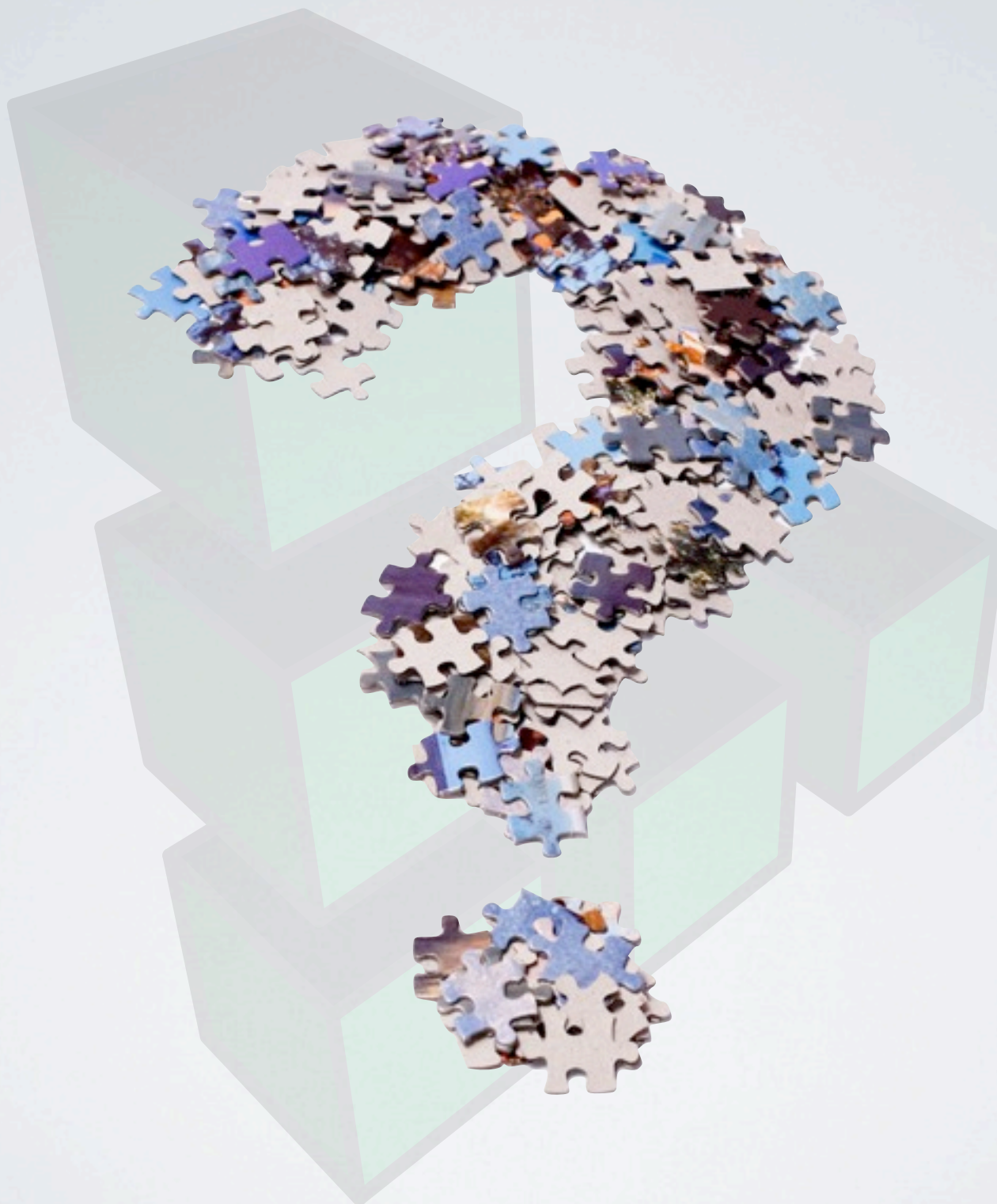
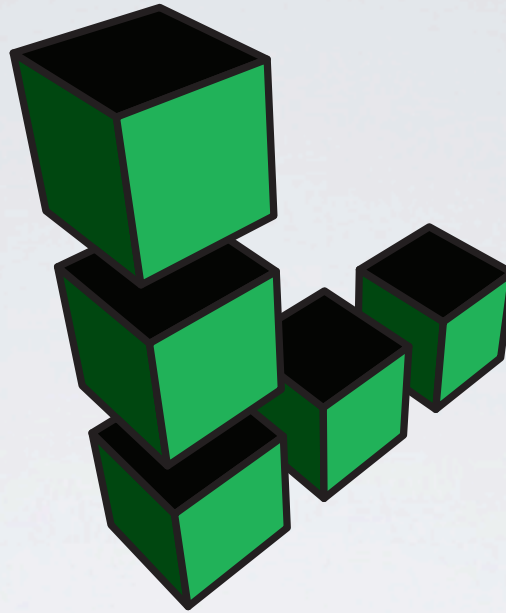


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