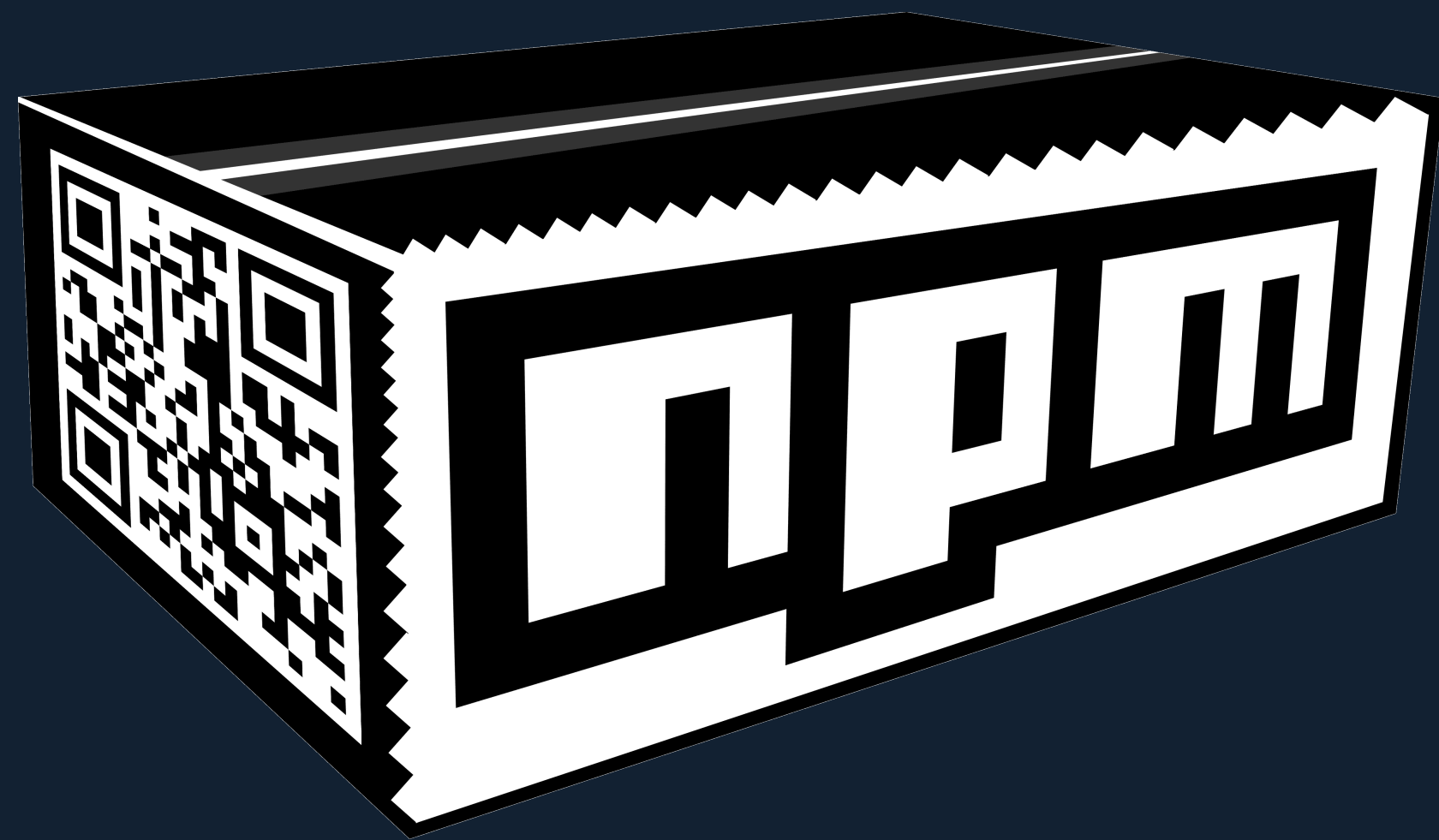




**STABILIZING
THE REGISTRY**

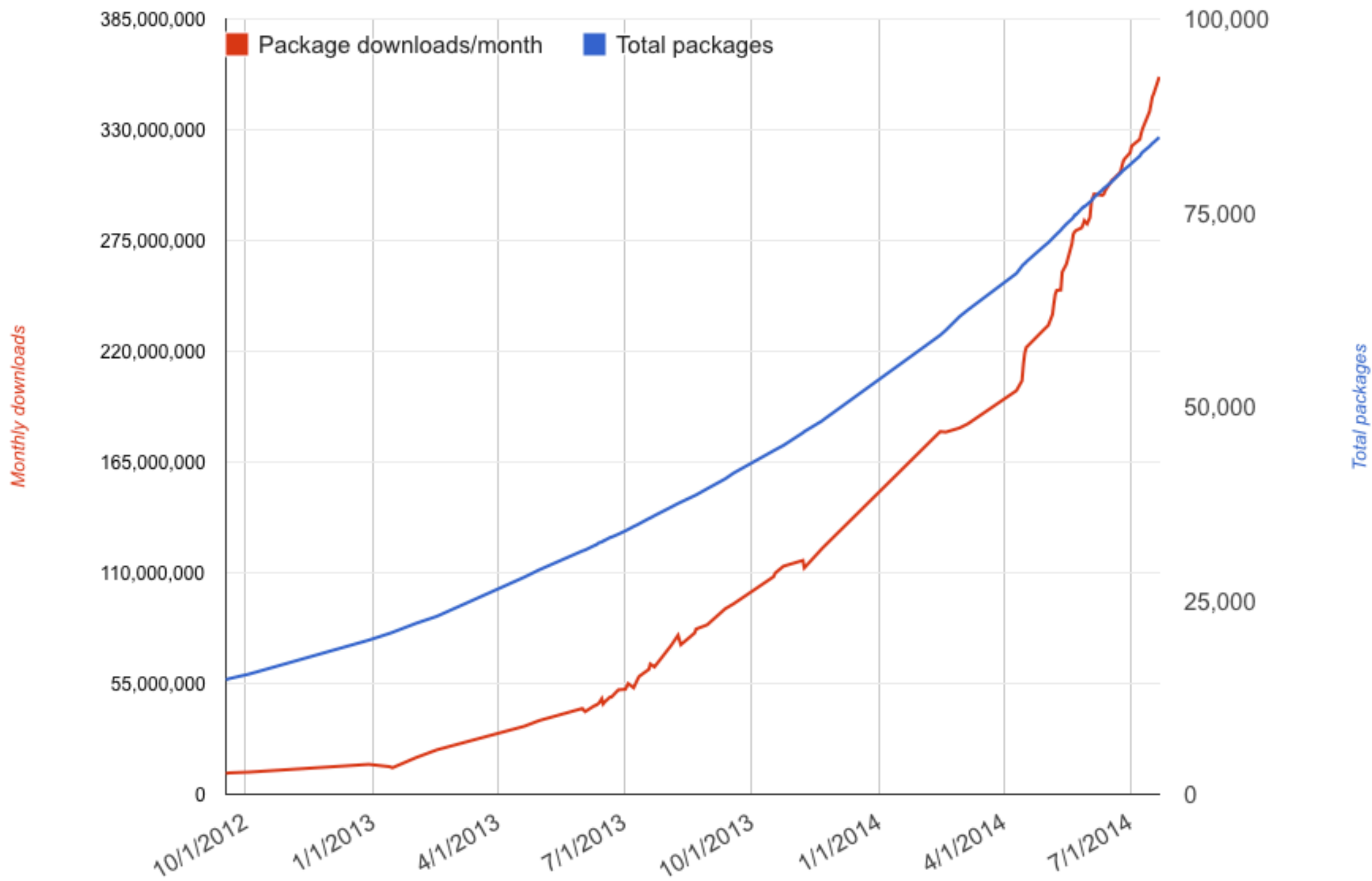


C J SILVERIO
DEVOPS AT NPMJS.COM
@CEEJBOT



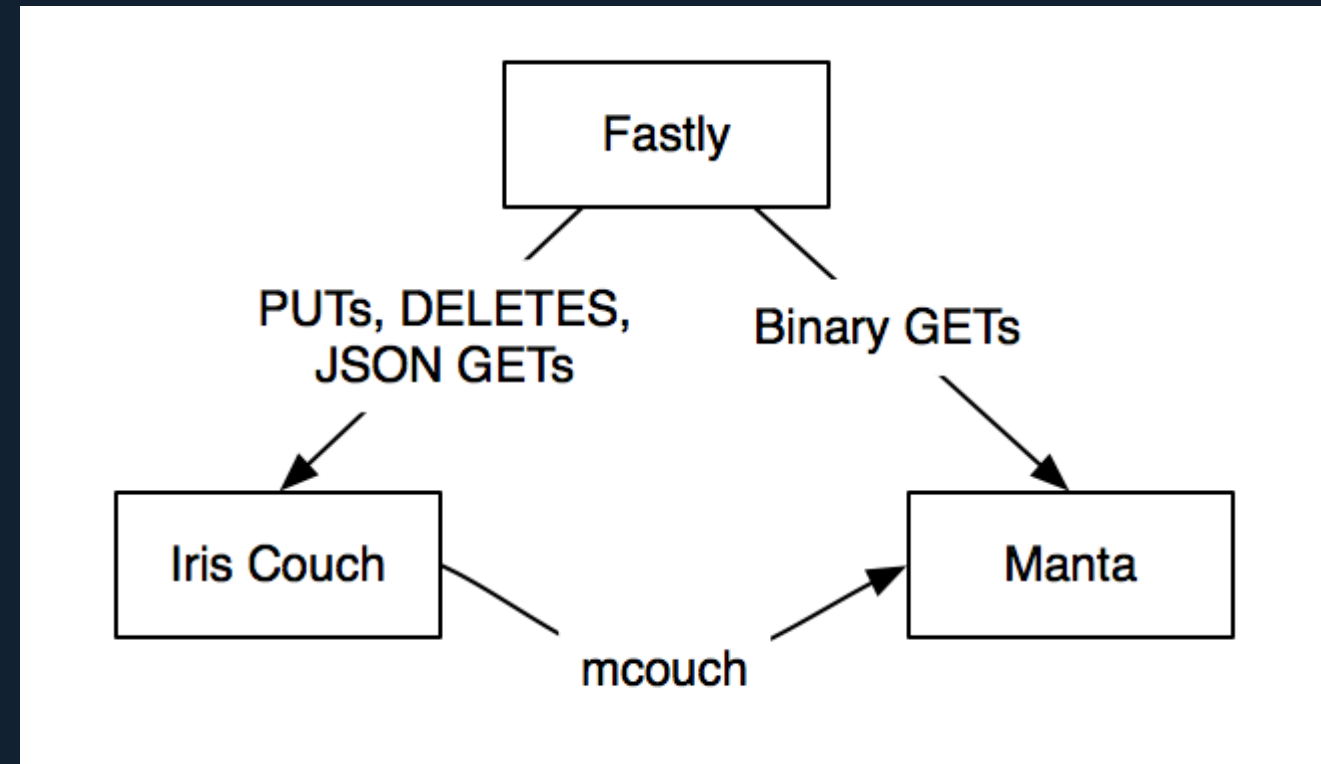
**SIDE PROJECT
100% COUCHDB
DONATED HOSTING
IRISCOUCH**



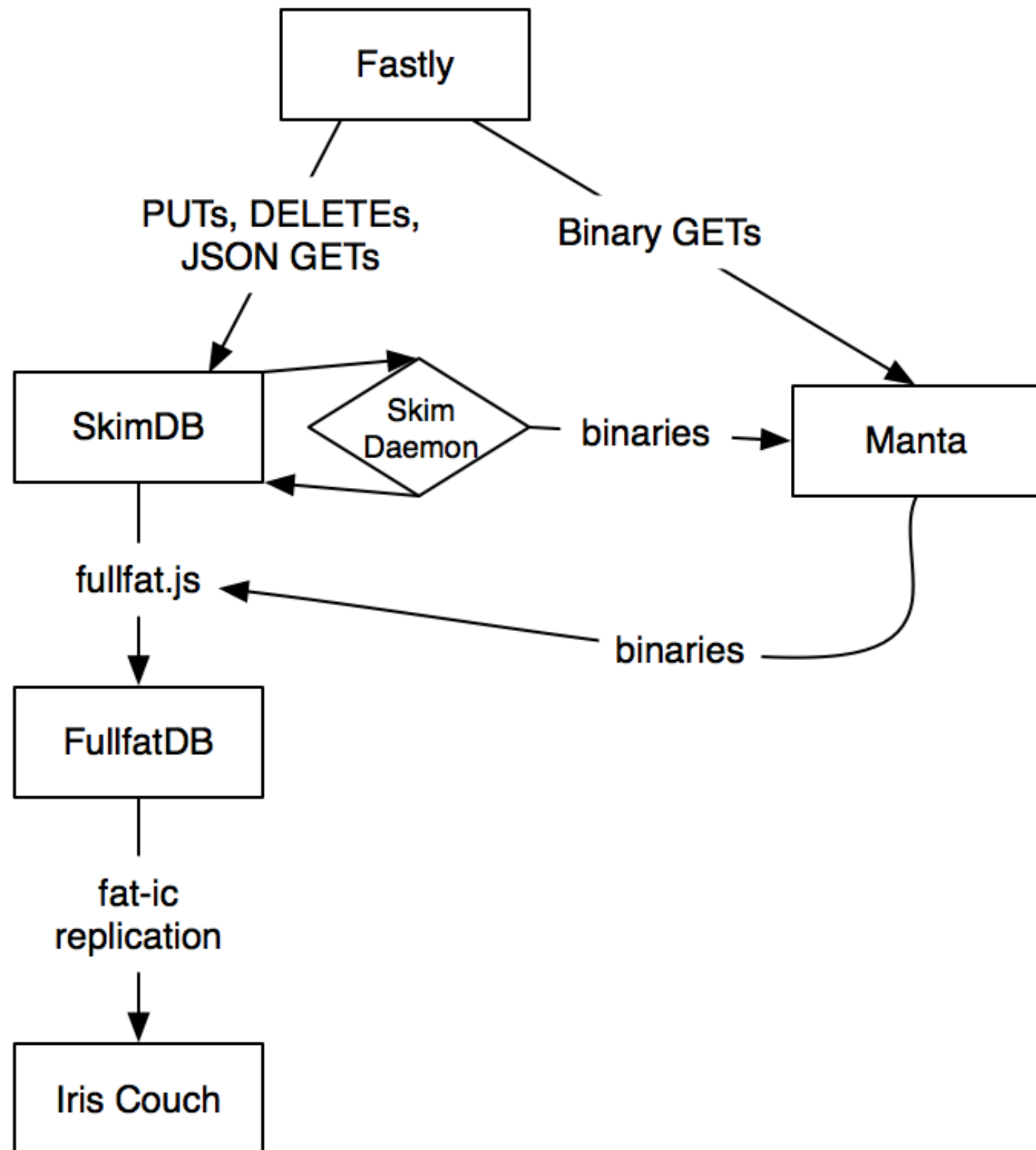


A photograph of a severe car accident. A dark-colored sedan is involved in a collision, with its front end crumpled and its rear end engulfed in large, intense orange and yellow flames. Thick white smoke billows from the burning vehicle. In the background, a large group of people, mostly men in light-colored shirts, are gathered on a street, watching the scene. Some individuals appear to be in motion, possibly running or shouting. The setting is an urban street with buildings and a sign that says "LIFT" visible in the background. The overall atmosphere is one of chaos and emergency.

server's down



DECEMBER 2013



JANUARY 2014

FEBRUARY 2014

- » company founded & funded
- » 100% hosted on Joyent
- » several skimdb's load-balanced by Fastly
- » hand-built CouchDB + Spidermonkey
- » automation by bash
- » Twitter tells us when we're down

THIS IS WHEN I ARRIVE.

(funding means you can hire!)

- » PagerDuty account: first thing I did
- » Nagios all hooked up & monitoring basic host health
- » we have maybe 10 hosts total driving the registry

**FUNDING ALSO MEANS ATTENTION
FROM BOUNTY-HUNTERS.**



SECURITY AUDIT

STABILIZATION STAGE 1

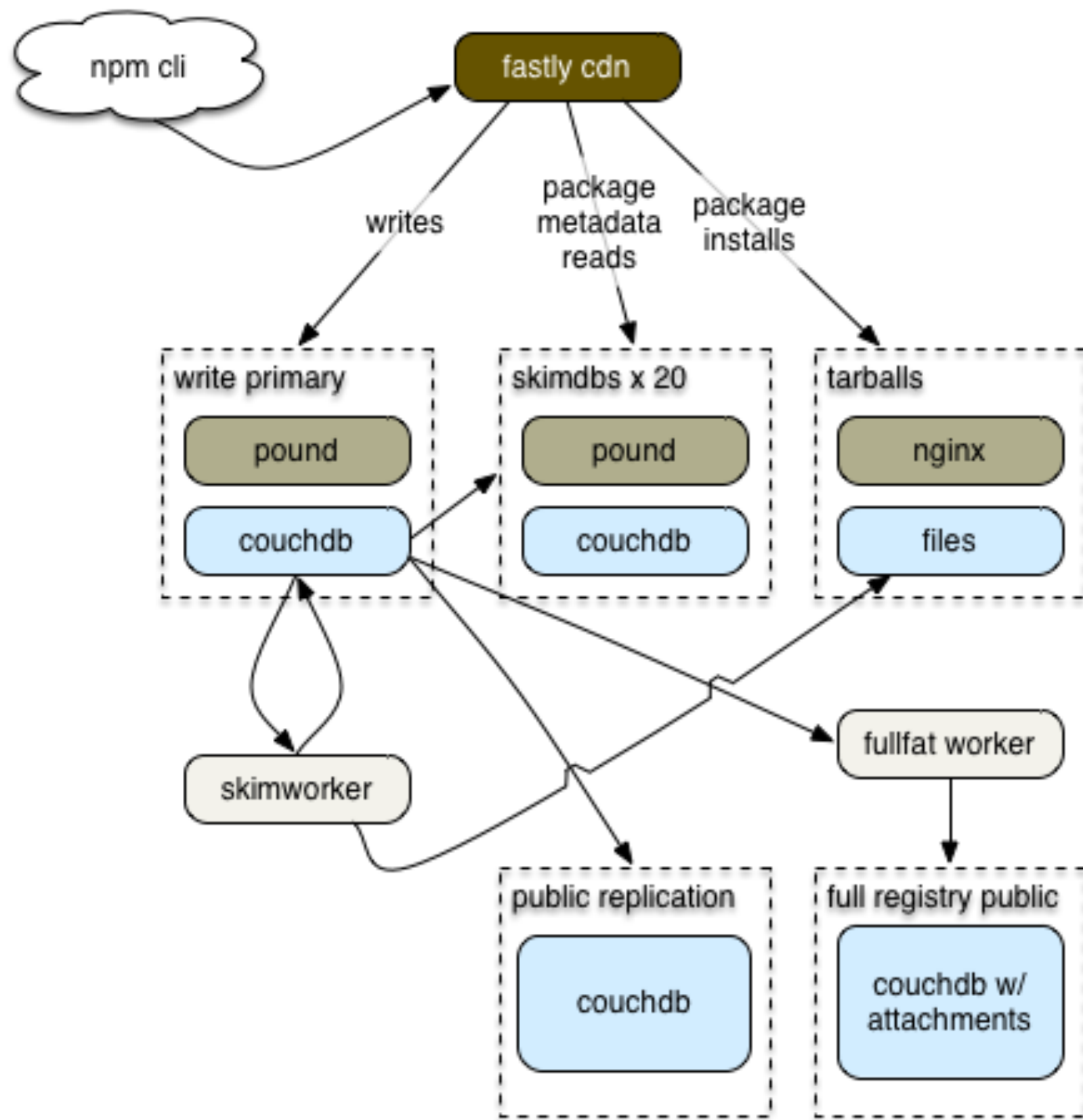
REACTIVE

- » monitor everything more deeply
- » methodically identify & monitor causes of outages
- » react quickly to fix problems
- » Twitter is no longer telling us when we're down

STABILIZATION STAGE 2

PROACTIVE

- » our second devops person: Ben Coe
- » recurring problems fixed in the apps
- » monitoring checks self-heal
- » redundancy everywhere
- » automation!
- » our night shift is bored!



JUNE 2013
SUPERFICIALLY
SIMILAR.

MAJOR CHANGES

100% on AWS

Ubuntu Trusty

70/30 split between us-west-2 & us-east-1

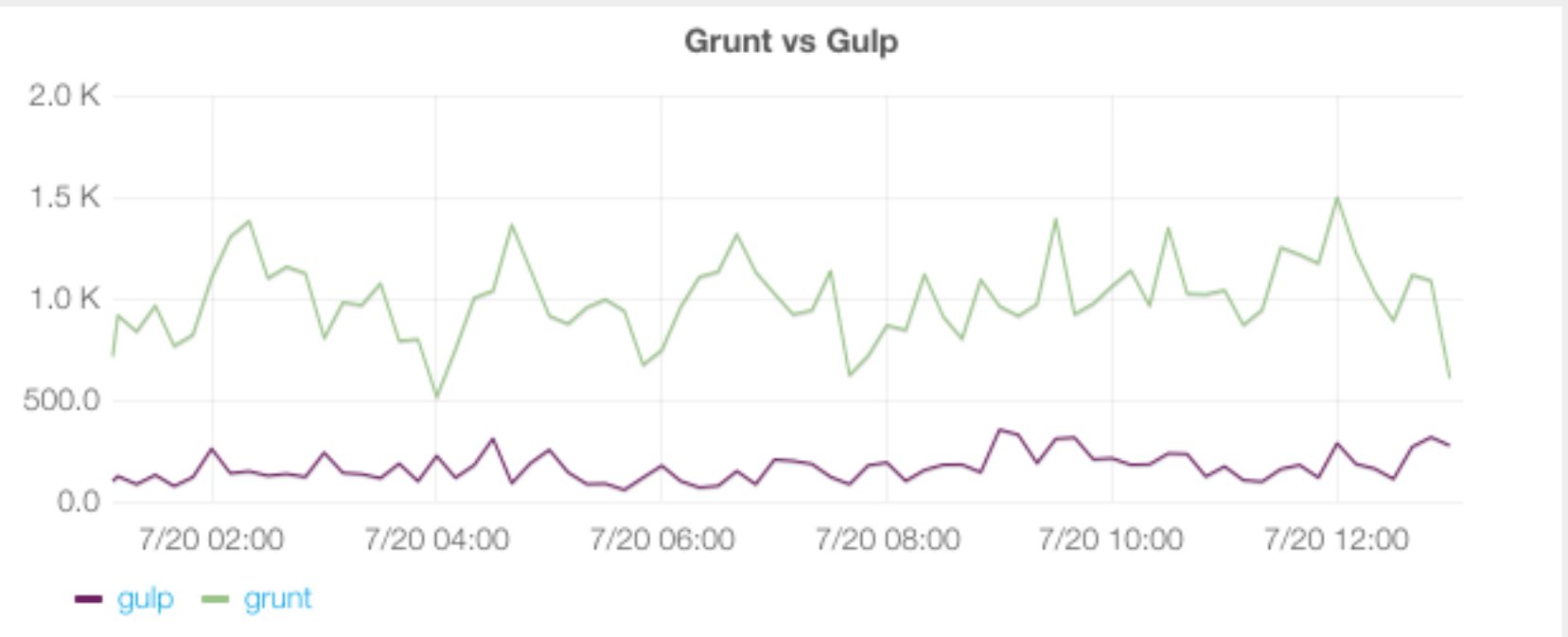
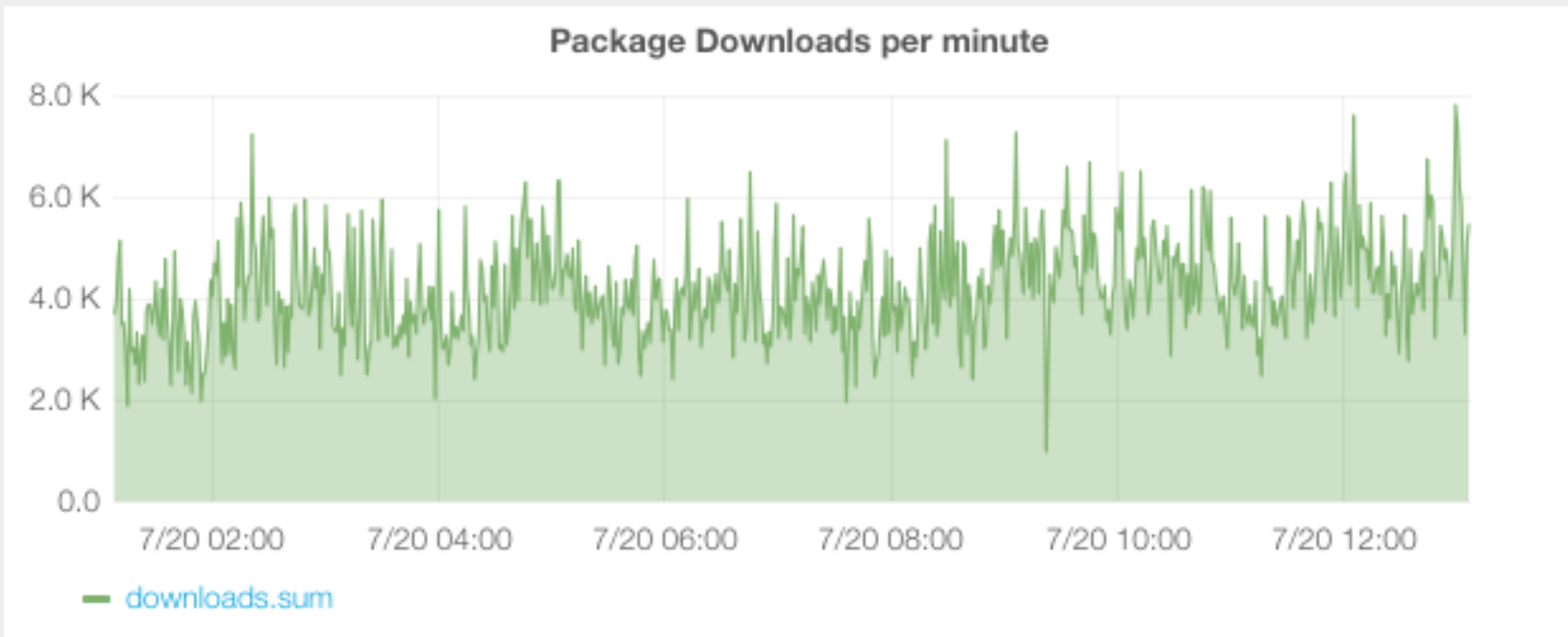
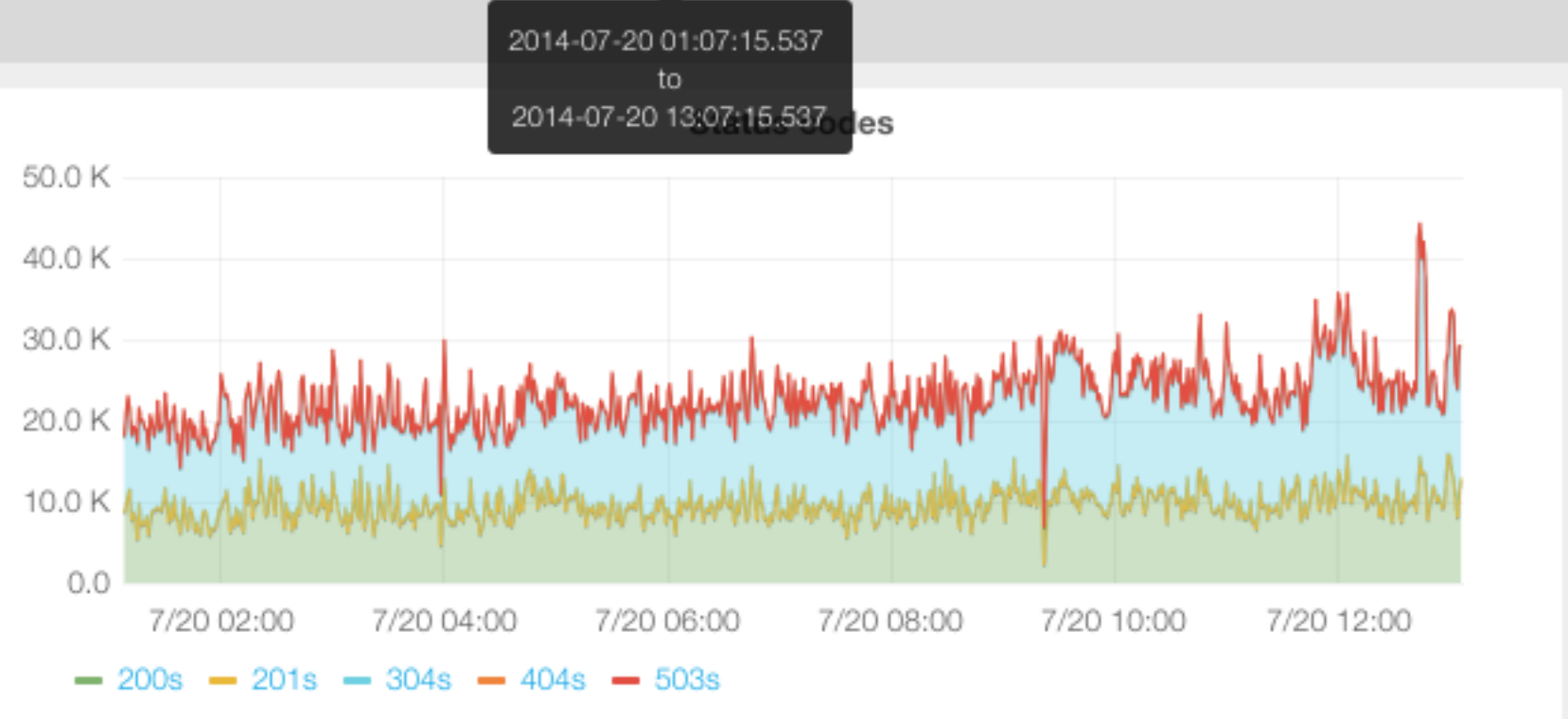
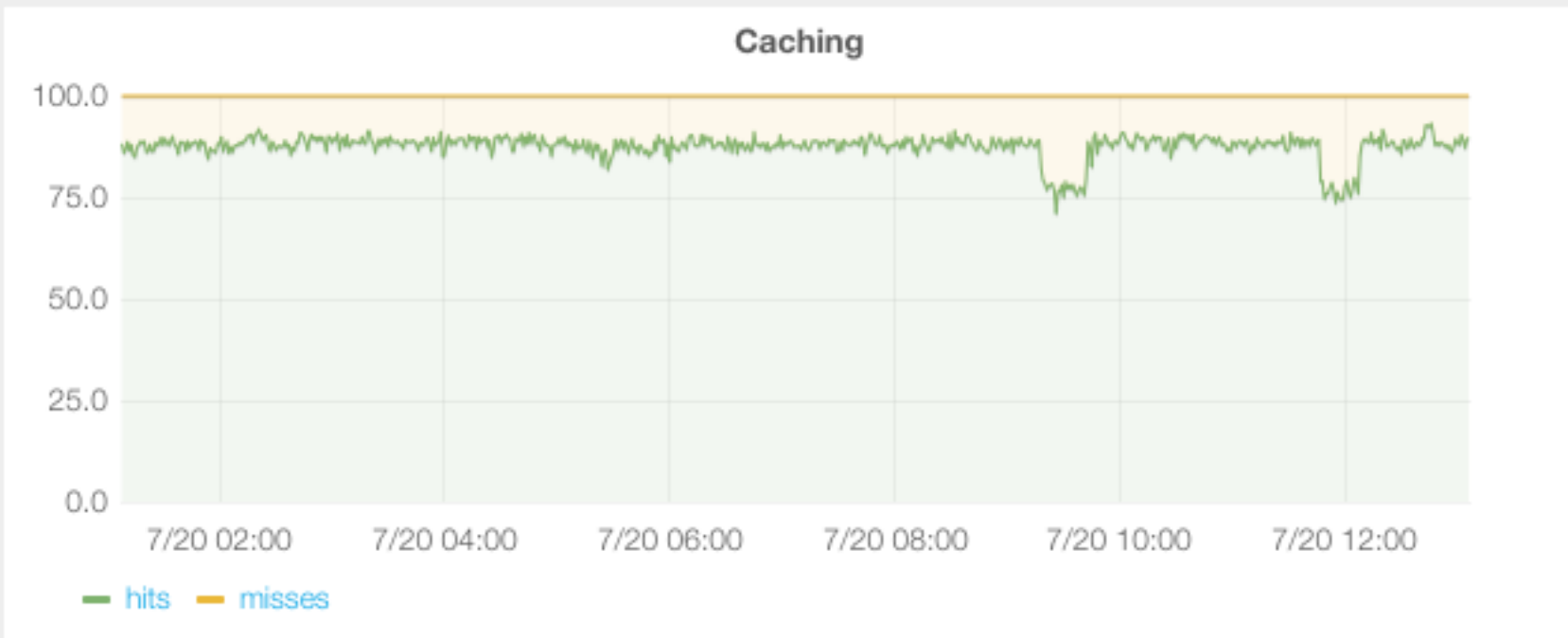
100% automated with ansible

52 running instances, variable

THE STACK

- » Fastly CDN for Varnish cache & geolocation
- » nginx to serve static files
- » pound to terminate TLS
- » CouchDB for package metadata & app logic
- » nagios + PagerDuty for monitoring
- » InfluxDB + Grafana for metrics
- » Tarsnap for backups

FILTERING: ANNOTATIONS:




```
ansible-playbook playbooks/metrics-collectors.yml -i new-hosts
```

```
PLAY [skimdb] *****
```

```
  TASK: [gather facts] *****
```

```
    ok: [skimdb-26-west.internal.npmjs.com]
```

```
    ok: [skimdb-25-west.internal.npmjs.com]
```

```
    ok: [skimdb-24-west.internal.npmjs.com]
```

```
  TASK: [npm.metrics-collectors | create emitters directory] *****
```

```
    ok: [skimdb-24-west.internal.npmjs.com]
```

```
    ok: [skimdb-26-west.internal.npmjs.com]
```

```
    ok: [skimdb-25-west.internal.npmjs.com]
```

```
  TASK: [npm.metrics-collectors | checkout metrics repo] *****
```

```
    changed: [skimdb-24-west.internal.npmjs.com]
```

```
    changed: [skimdb-26-west.internal.npmjs.com]
```

```
    changed: [skimdb-25-west.internal.npmjs.com]
```

```
  TASK: [npm.metrics-collectors | npm install] *****
```

```
    changed: [skimdb-26-west.internal.npmjs.com]
```

```
    changed: [skimdb-25-west.internal.npmjs.com]
```

```
    changed: [skimdb-24-west.internal.npmjs.com]
```

```
  TASK: [npm.metrics-collectors | npm update] *****
```

```
    changed: [skimdb-25-west.internal.npmjs.com]
```

```
    changed: [skimdb-26-west.internal.npmjs.com]
```

```
    changed: [skimdb-24-west.internal.npmjs.com]
```

```
  TASK: [npm.metrics-collectors | copy collector config] *****
```

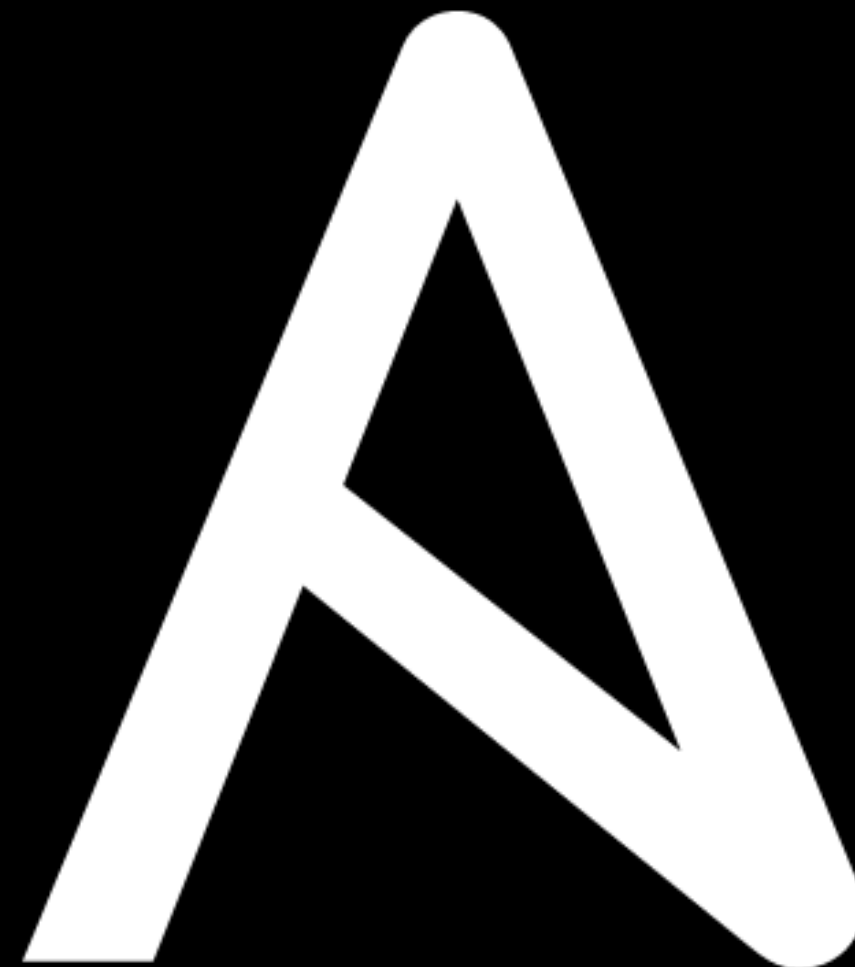
```
    ok: [skimdb-26-west.internal.npmjs.com]
```

```
    ok: [skimdb-24-west.internal.npmjs.com]
```

```
    ok: [skimdb-25-west.internal.npmjs.com]
```

```
  TASK: [npm.metrics-collectors | install upstart config] *****
```

```
    ok: [skimdb-26-west.internal.npmjs.com]
```

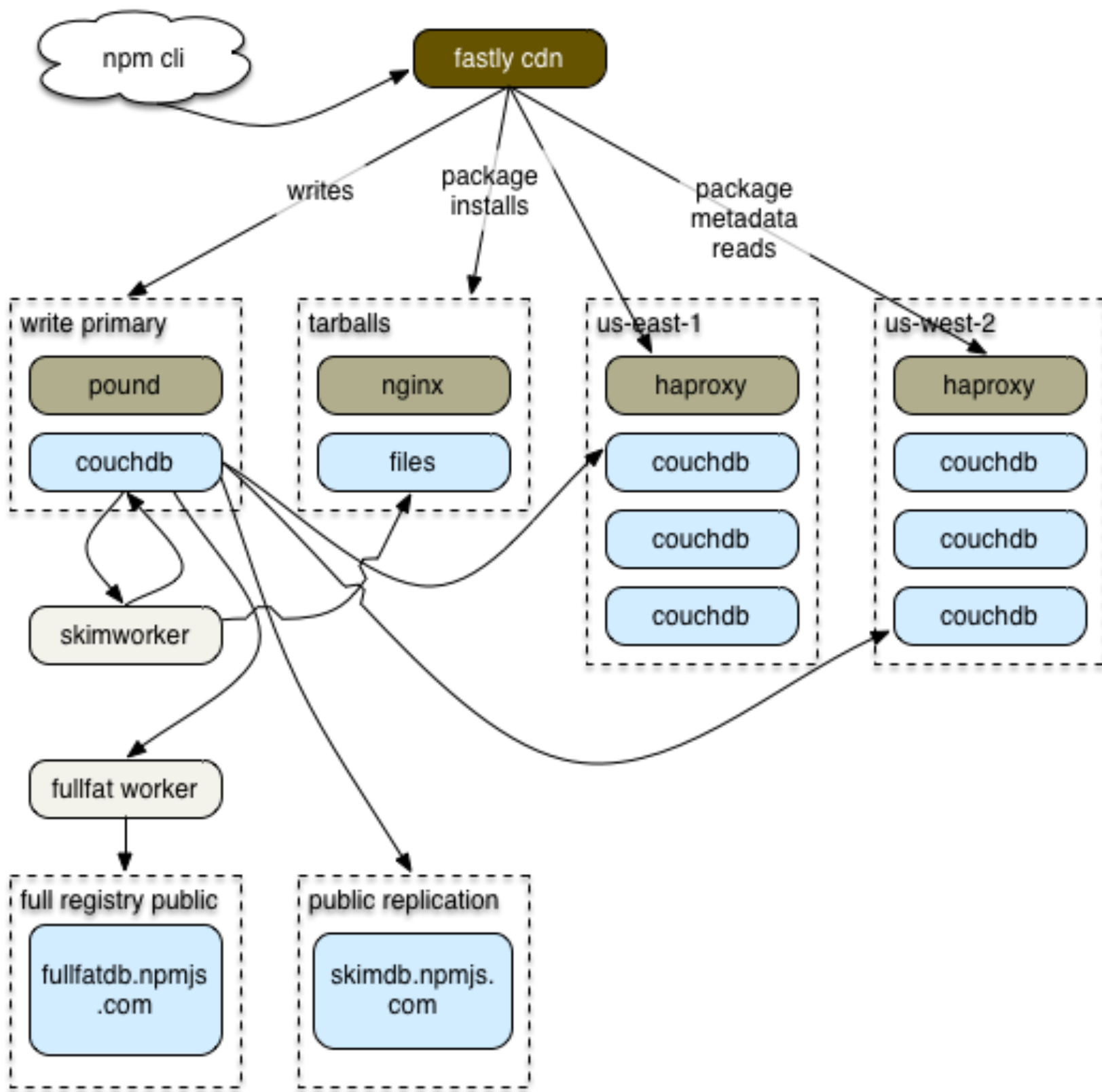


WEAK POINTS

- » single points of failure: Fastly, write primary
- » still looking for an off-AWS backup
- » expensive to run: too many couchdb's
- » too entangled with couchdb
- » complex in odd places: the skimworker, for example

**I NOW PRAISE
COUCHDB**

**MY NEXT GOAL:
MAKE IT CHEAP**



BY NEXT WEEK
HAPROXY
50-50 REGION BALANCE
CHEAPER BY FAR

**MY LONG-TERM GOAL:
NPM AS RELIABLE
UTILITY**