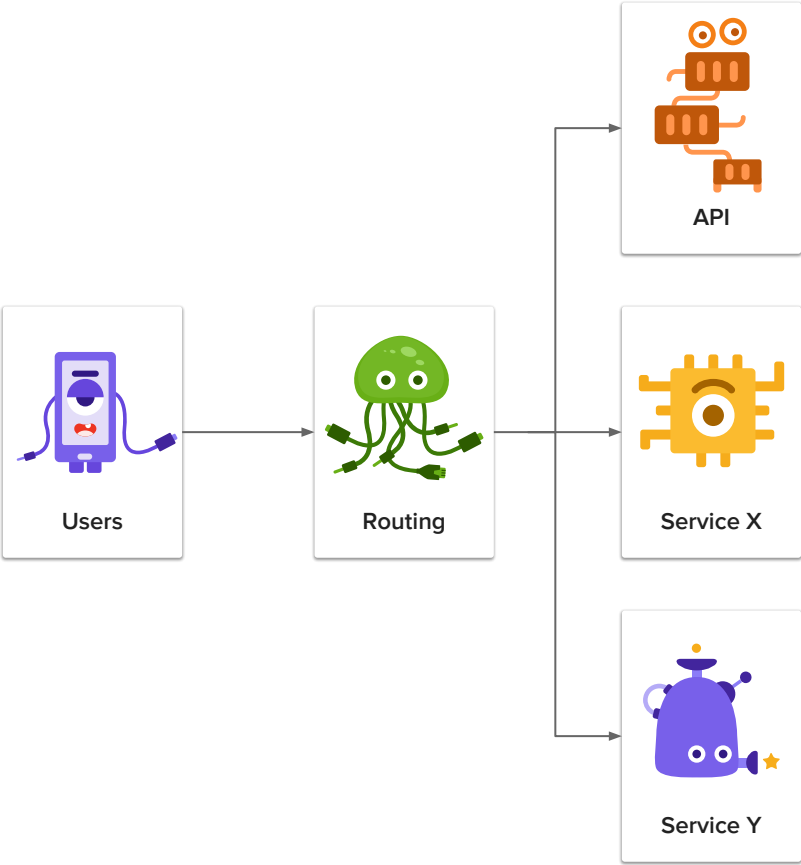


# This 'hack' saved \$60k a year



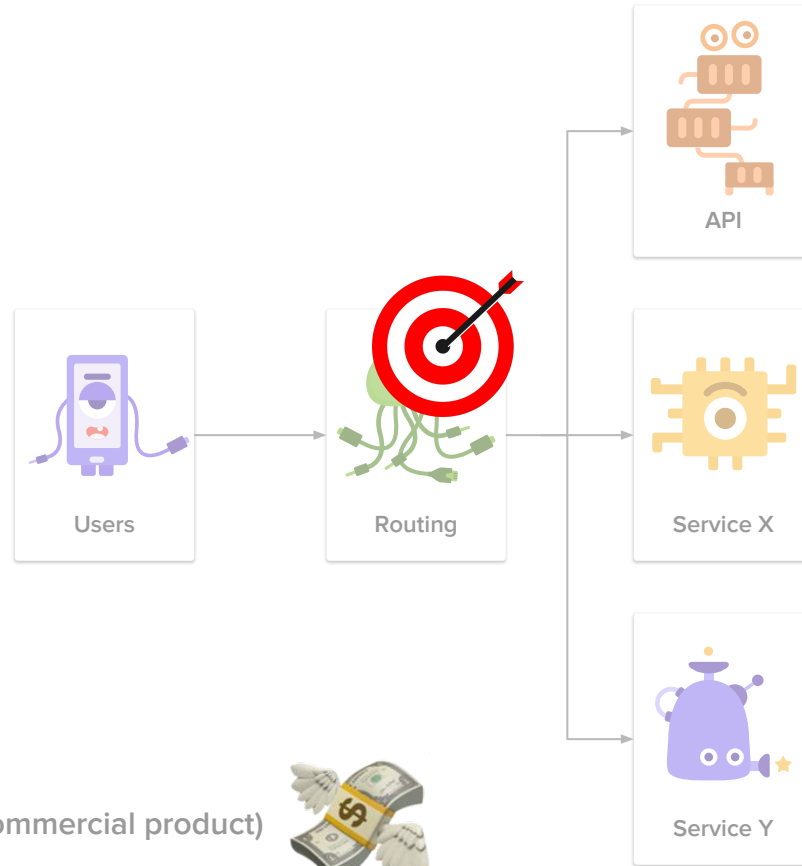
---

# Wait, wat?!



---

# Problem?



Routing == NGINX+ (a commercial product)



---

# Solution?



Replace **NGINX+** with **NGINX** (open-source version)

---

# Daily Progress

- Day 1:

- implement changes 

- Day 2:

- fix bugs 
- deploy canary to production 

- Day 3

- observability (dashboards and monitors) 

- Day 4

- go live 



+ Logs



---

# Log analysis yields more data than NGINX+

## Upstreams (5xx)

38.00	app_feeds_api
36.00	site_component_api
19.00	site_component_api: 172.22.21.121:443
18.00	site_component_api: 172.22.22.209:443
15.00	site_component_api: 172.22.23.81:443
13.00	user_pager: 172.22.23.167:443
7.00	user_pager: 172.22.21.185:443
7.00	webapp

## Upstreams (4xx)

459.00	bpager
315.00	news_bpager
157.00	user_pager
116.00	tasty_pager
45.00	feedpager
15.00	site_component_api
12.00	video_pager
3.00	obiwan

## Upstreams (3xx)

10.27K	site_component_api
2.79K	tasty_pager
1.10K	bpager
0.71K	feedpager
0.47K	user_pager
0.35K	bf_reviews
0.13K	app_feeds_api
0.09K	news_bpager

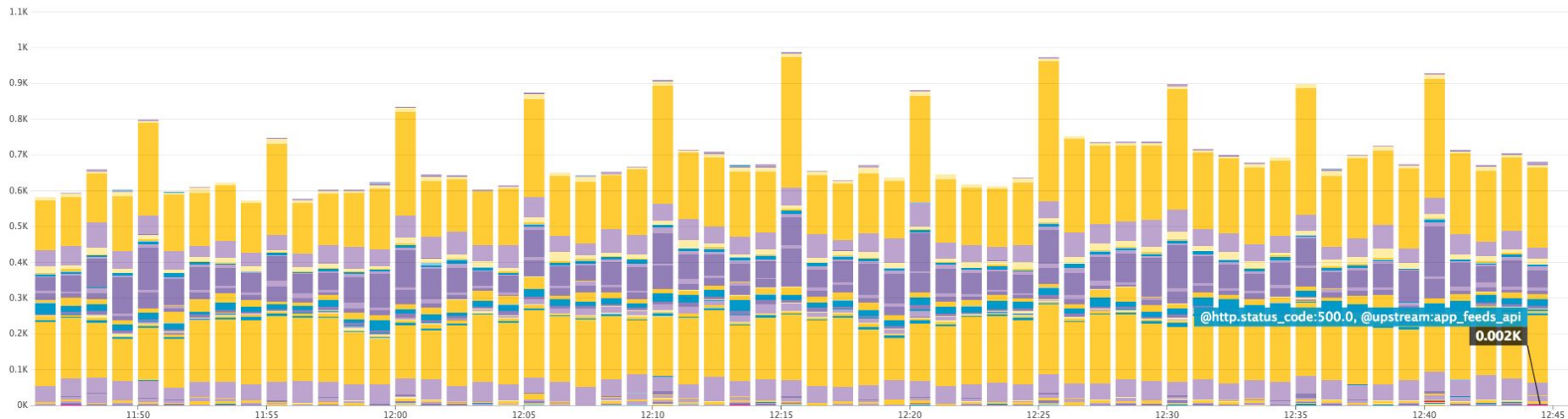
## Most Popular Routes



13.35K	site_component_api: components
12.72K	bpager: articles
3.31K	tasty_pager: catch-all
1.49K	user_pager: user pages
1.29K	bpager: amp
1.27K	feedpager: components
1.26K	feedpager: homepage
1.17K	site_component_api

# Status Codes (per minute)

Show 1h The Past Hour



- 0.003K
- 0K
- 0K
- 0.015K
- 0K
- 0K
- 0.006K
- 0K
- 0K
- 0.00027K
- 0K
- 0.002K
- 0.002K
- 0.001K
- 0K
- 0K
- 0.002K
- 0K
- 0K

- Avg: 0.00093K
- Avg: 0.000051K
- Avg: 0.000017K
- Avg: 0.0074K
- Avg: 0.000017K
- Avg: 0.00066K
- Avg: 0.0052K
- Avg: 0.000051K
- Avg: 0.00027K
- Avg: 0.002K
- Avg: 0.0026K
- Avg: 0.00019K
- Avg: 0.000017K
- Avg: 0.00025K
- Avg: 0.00066K
- Avg: 0K
- Avg: 0.000017K

- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
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- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]
- LogQuery@[rig.service.canary @rig.cluster:"web-public/site\_router"]

- @{http.status\_code:304.0,@upstream:webapp}
- @{http.status\_code:401.0,@upstream:bpager}
- @{http.status\_code:401.0,@upstream:webapp}
- @{http.status\_code:404.0,@upstream:bpager}
- @{http.status\_code:404.0,@upstream:buzz\_url\_from\_id}
- @{http.status\_code:404.0,@upstream:feedpager}
- @{http.status\_code:404.0,@upstream:news\_bpager}
- @{http.status\_code:404.0,@upstream:obivan}
- @{http.status\_code:404.0,@upstream:site\_component\_api}
- @{http.status\_code:404.0,@upstream:tasty\_pager}
- @{http.status\_code:404.0,@upstream:user\_pager}
- @{http.status\_code:404.0,@upstream:video\_pager}
- @{http.status\_code:404.0,@upstream:webapp}
- @{http.status\_code:405.0,@upstream:bpager}
- @{http.status\_code:500.0,@upstream:app\_feeds\_api}
- @{http.status\_code:500.0,@upstream:archive\_service}
- @{http.status\_code:500.0,@upstream:bpager}

@http.status\_code:500.0, @upstream:app\_feeds\_api

0.002K



---

# Trade-offs?

- **Metrics:**
  - nginx open-source provides 90% less metrics than nginx commercial
  - but nginx does send structured logs
  - so we use datadog log analysis as a replacement
- **Monitoring:**
  - current site router monitors are driven by metrics no longer available
  - but datadog allows monitors to be driven by log data
  - so we can still utilise monitors <sup>†</sup>

<sup>†</sup> although it's expected that individual services will have their own monitors configured.

---

# Thanks

- **Raymond:**
  - for giving my presentation while I'm out at GopherCon UK
  - for his usual amazing technical support and knowledge
- **Mullers:**
  - for setting up the canary deploy and explaining how it all works
- **Hines:**
  - for reviewing, giving feedback and debugging my silly mistakes, like...



Yup, I removed `COPY . /app`



**paul** 5:44 PM

Who needs the app anyway tho