

~~Troubleshooting with monitoring~~

~~Testing in production~~

~~DevOps monitoring~~

[something] **testing** [something]
monitoring [something] **in**
production

Leon Fayer

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WHO AM I?

- engineer for 20+ years
- professional cynic
- @OmniTI
- build and operate big systems
- we are **hiring!**
 - omniti.com/is/hiring



THAT'S ME

- ❖ @papa_fire
- ❖ leon@omniti.com
- ❖ fayerplay.com
- ❖ slideshare.net/LeonFayer1

I HATE TESTING



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testing is required



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testing is not enough



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> unit testing

> functional testing

> resilience testing

> performance testing

> ...

testing can give a false
sense of security

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testing is deterministic



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data problem

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- > quantity of data
- > frequency of data
- > quality of data

example

Wolfe+585



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example

Hubert Blaine Wolfeschlegelsteinhausenbergerdorffwelchevoralternwaren-
gewissenhaftschaferswessenschafewarenwohlgepflegteundsoorgfaltigkeitbe-
schutzenvorangreifendurchihrraubgierigfeindewelchevoralternzwolfhundert
tausendjahresvorandieerscheinenvonderersterdemenschderraumschiff
genachtmittungsteinundsiebeniridiumelektrischmotorsgebrauchlichtalsseinur-
sprungvonkraftgestartseinlangefahrthinzwischensternartigraumaufdersuchen
nachbarschaftdersternwelchegehabtbewohnbarplanetenkreisedrehensichundwo
hinderneuerassevonverstandigmenschlichkeitkonntefortpflanzenundsicher
freuenanlebenslanglichfreudeundruhemitnichtefurchtvorangreifenvor
andererintelligentgeschopfvonhinzwischensternartigraum, Sr.

user problem



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Users (n) - distributed fault injection
test suite for production

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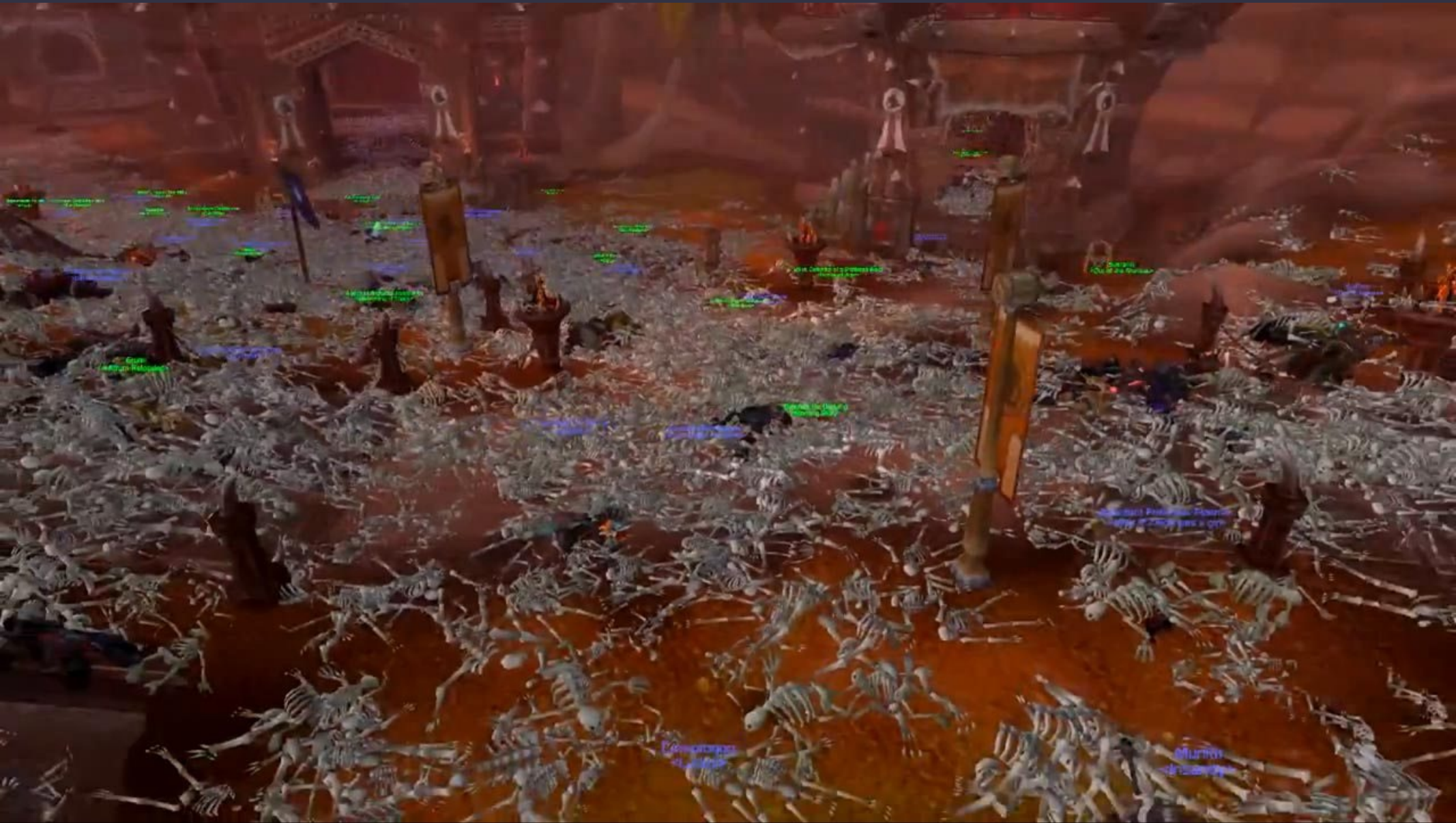
example

Corrupted Blood bug



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example



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other factors



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- > lack of foresight
(Y2K bug)
- > too many use-cases
(female Tauren bug)
- > change to assumptions

testing is great for
“known knowns”

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testing is **ok** for
“known unknowns”

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testing is bad for
“unknown unknowns”

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enter monitoring



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why monitor?



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because testing isn't
enough



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- > software is never perfect
- > systems are complex
- > external dependency worry
- > proactive is better than reactive
- > ...

because things change



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because things change
in production



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what to monitor?

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in God we trust all others
we monitor



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- > systems
- > databases
- > applications
- > integration points
- > performance
- > user behavior
- > ...

is it enough?



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is it too much?



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what is important?

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A stylized graphic of fire in shades of brown and orange, located in the bottom-left corner of the slide.

what is important?
(i.e. what to alert on)

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example

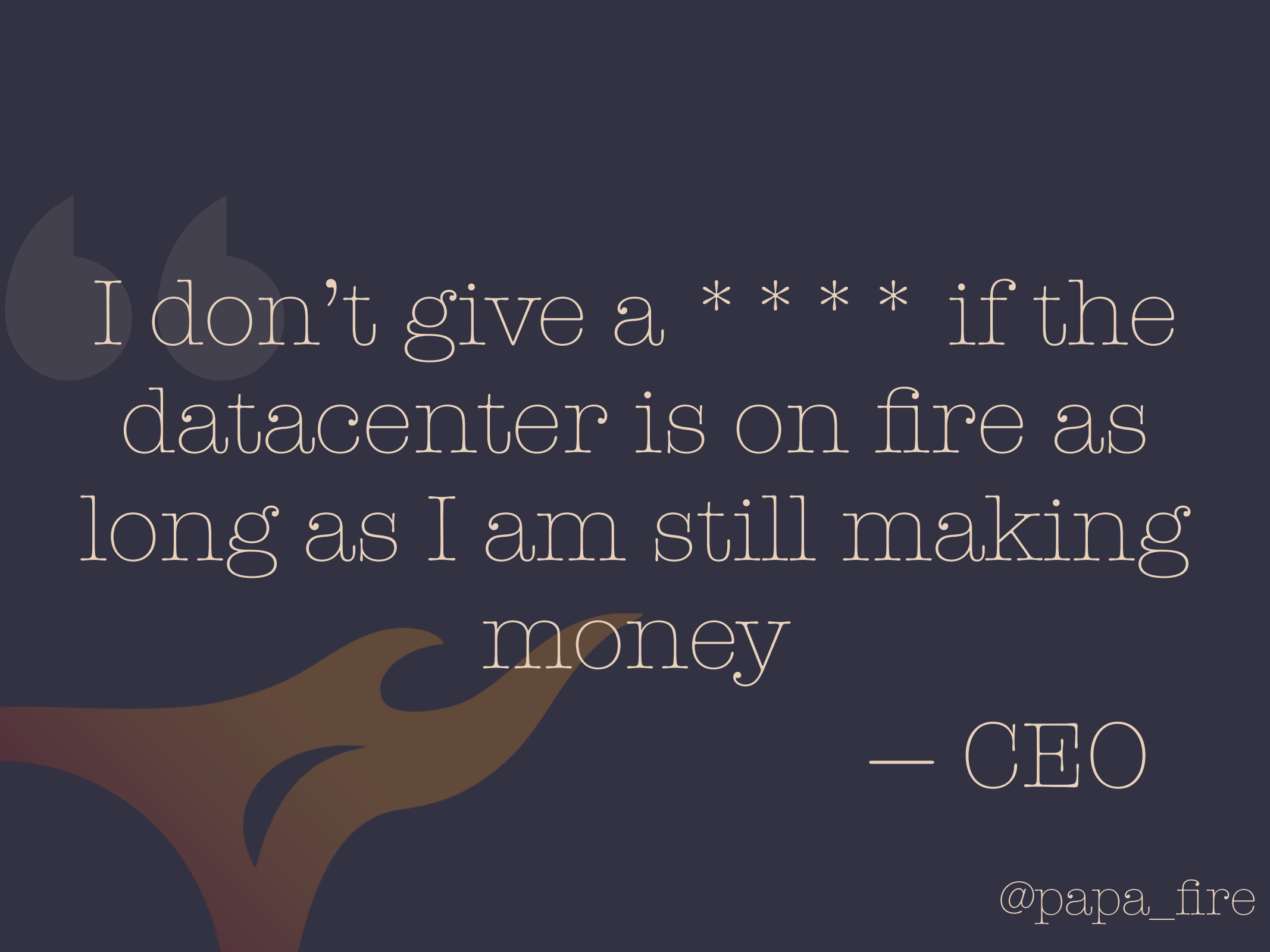


- > servers up and running
- > HTTP checks return 200
- > tweets are lost

s/system checks/unit tests/



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A stylized graphic of fire in shades of brown and orange, with flame-like shapes rising from the bottom left and spreading across the bottom of the frame. The background is a dark blue-grey color.

I don't give a * * * * if the
datacenter is on fire as
long as I am still making
money

— CEO

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we monitor because things
change



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changes effect business



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top-down approach

- > understand business
- > define baseline
- > correlate data

example

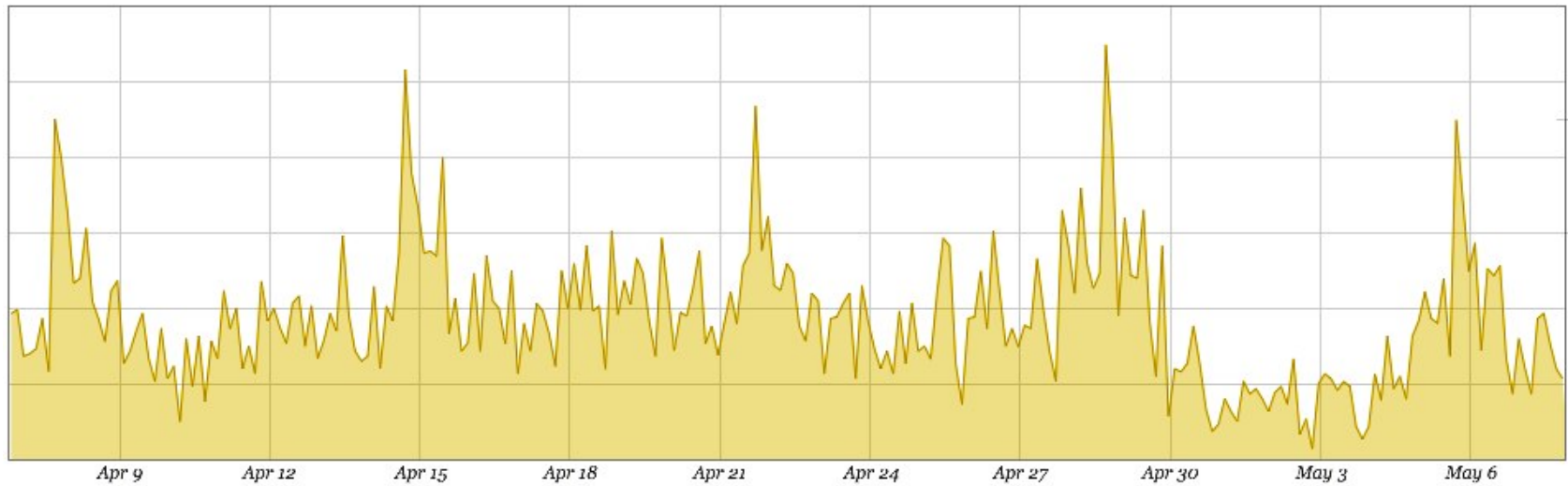
- online marketing company
- major e-commerce component
- ~ 100 million users
- 1 billion emails/month
- 300,000 lines of code
- 5600+ metrics collected

it all starts with a call ...

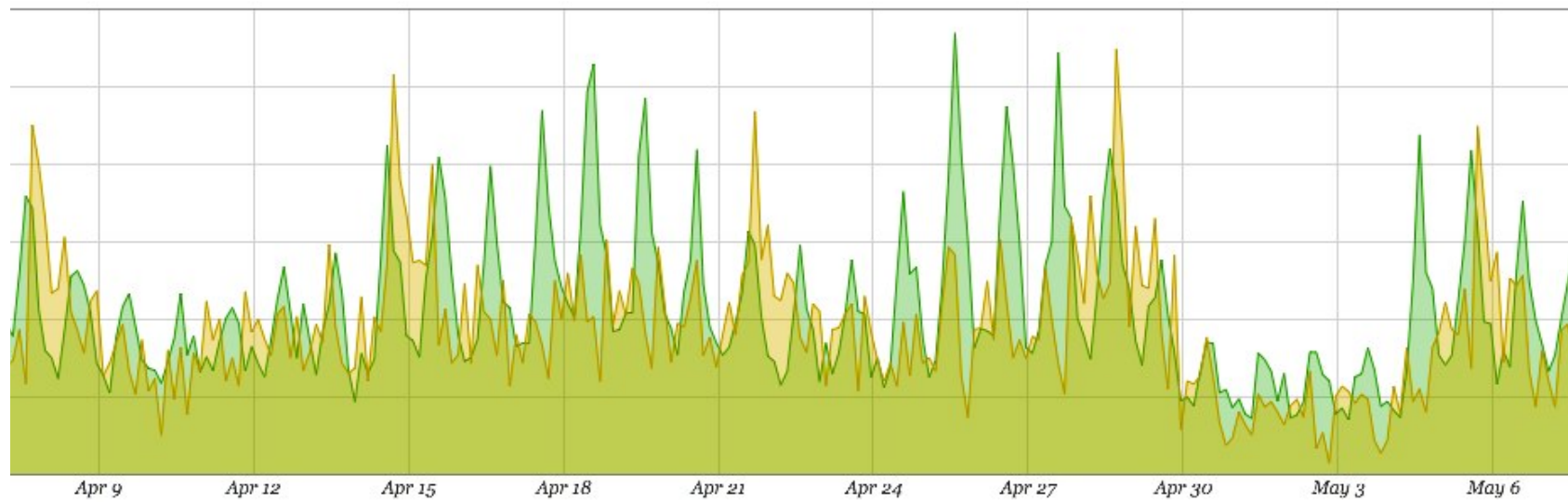


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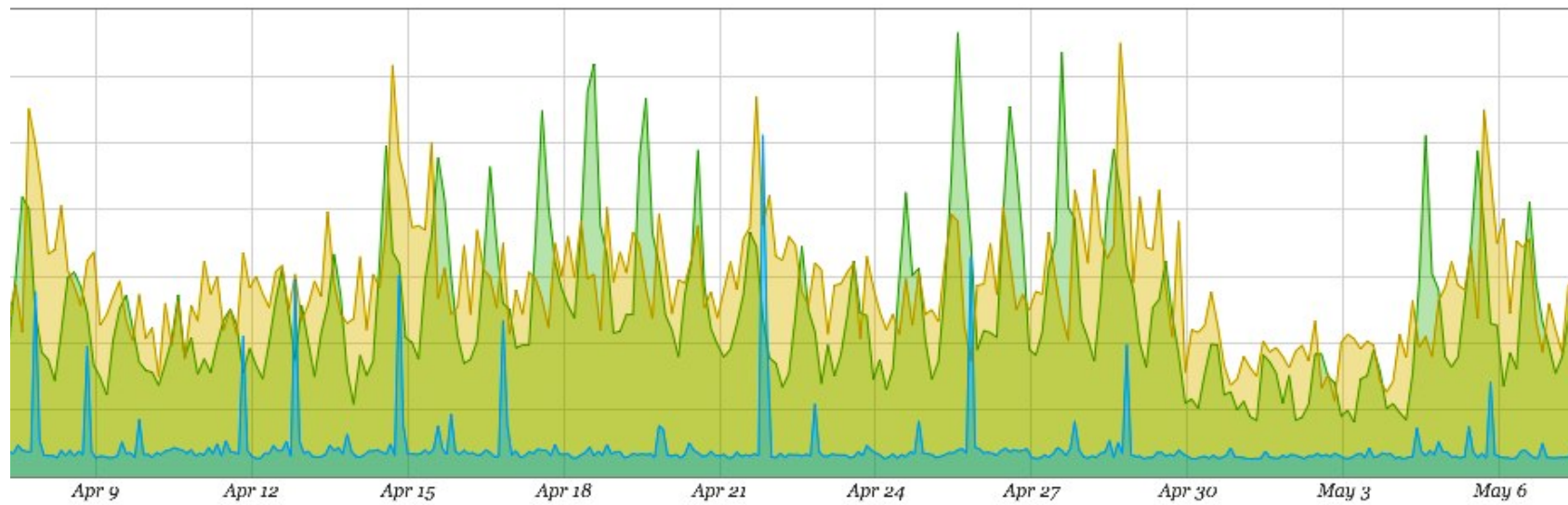
revenue



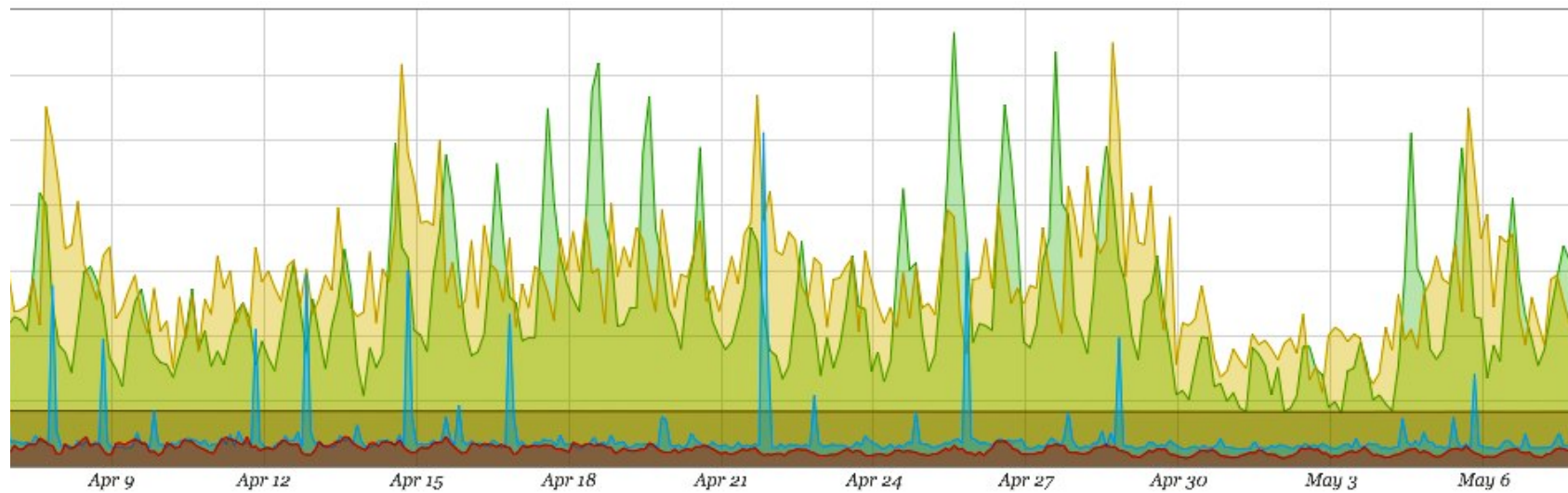
revenue + traffic



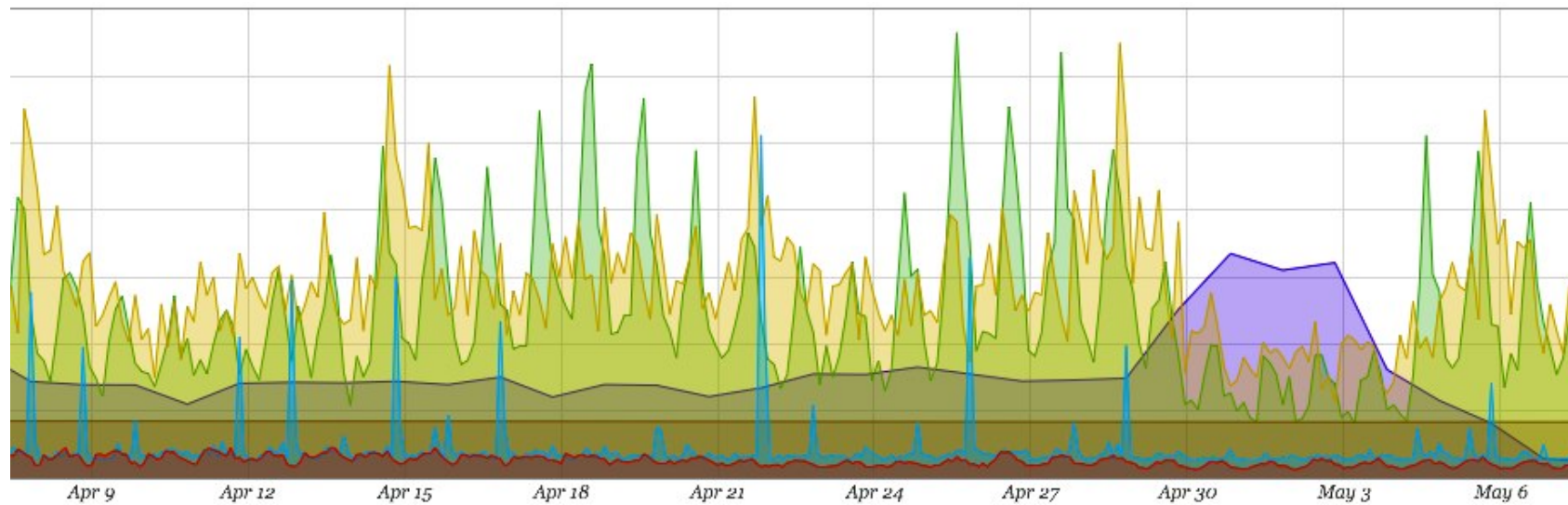
revenue + traffic + load time



revenue + traffic + load time + db



revenue + traffic + load time + db + email



what if ...

... email wasn't monitored?



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what if ...

... email wasn't monitored?
(it would be after this)

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instrumentation
is never done

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example

- > same symptoms
- > higher decline rates
- > all metrics are within norm



example

- > same symptoms
- > higher decline rates
- > all metrics are within norm

AmEx blocked

tl;dr



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testing and monitoring
not
testing or monitoring

understand the business



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continuous improvement



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{ also bad at conclusions }



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THANK YOU

questions?



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