Never Gonna Give Sentry Down

A Story About Sadness, Eternity, Nuisance and Trying
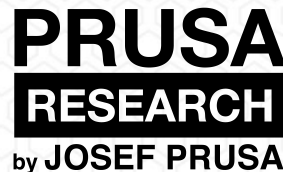
Pavel Strobl / Prusa Research / pubel.dev / v0.2.3

whoami

- Platform Engineer at Prusa Research
- Cloud Native Prague co-organizer
- Observability and platform
- Homebrewer 🍺
- Plays with hardware and software
    - 3D printers
    - Cars
    - Embedded

Pavel Strobl

PRUSA RESEARCH by JOSEF PRUSA

cat agenda

- Quick reminder what Sentry is
- Self-hosted vs. SaaS
    - Main difference between them
    - Why to self-host
    - Why not
- Getting started
- Running
- Takeaways from self-hosting Sentry

What is ~~Love~~ Sentry?

What is Sentry?

- Exception handling
- APM
    - Profiling
    - Tracing
- Uptime monitoring
- Cron monitoring
- Session replays
- Whew
- That's a lot of stuff

Self-hosted vs. SaaS

Self-hosted

- You don't send data "to the cloud"
    - Yeah, technically
- It's open-source so it is **"free"**
    - Oh sweet summer child
- Can run on a single computer
    - If you really hate yourself
- Can be integrated within your stack
    - Docker, K8s you have it all
    - …
    - Right?

Self-hosted

- You don't send data "to the cloud"
    - Only a bit valid reason
- It's open-source so it is **"free"**
    - If you don't count employees and compute power
- Can run on a single computer
    - Don't
- Can be integrated within your stack
    - Officially only docker-compose
    - Unofficially helm chart ❤️

SaaS

- You can actually use Sentry
    - Much less time consumed by just running it
- Pretty expensive
    - If your usage is enormous
        - After that less expensive
- Same libraries as for on-premise version
- Easy migration from on-premise version 👋

SaaS

- Calculation can be pretty confusing
    - Transactions
    - Errors
    - Session Replays
    - Attachments
- Easy budgeting per team
    - If budget is drained then team is basically blind for the rest of the month

Or both

- A project that knows how to behave
    - can be leveraged to SaaS
    - improve their quality of life for developers
- Others
    - self-hosted
    - millions of errors can be handled locally
        - preventing *AWS-like invoice*

Just deploy it already

Kubernetes it is

- Using helm chart
    - Easiest way
- Not officially supported
    - And it's sometimes like that
- Running Sentry
    - In Kubernetes
        - Is far from ideal
- Best option for us
    - Bare-metal
    - docker-compose

A lot of components

This is going to be long

- MemcacheD
- PostgreSQL
- Clickhouse
- Kafka
- Redis
- Zookeeper
- Billing Metrics Consumer
- Cron
- Generic Metrics Consumer

A lot of components

- Ingest Consumer Attachments
- Ingest Consumer Events
- Ingest Consumer Transactions
- Ingest Monitors
- Ingest Occurrences
- Ingest Profiles
- Ingest Replay Recordings
- Issue Occurrences Consumer
- Metrics Consumer

A lot of components

- Post Process Forward Errors
- Post Process Forward Issue Platform
- Post Process Forward Transactions
- Relay
- Sessions Consumer
- Snuba API
- Snuba Consumer
- Snuba Generic Metrics Counters Consumer
- Snuba Generic Metrics Counters Consumer

A lot of components

- Snuba Generic Metrics Sets Consumer
- Snuba Group Attributes Consumer
- Snuba Metrics Consumer
- Snuba Outcomes Billing Consumer
- Snuba Outcomes Consumer
- Snuba Profiling Functions Consumer
- Snuba Profiling Profiles Consumer
- Snuba Replacer
- Snuba Replays Consumer
- Snuba Spans Consumer

A lot of components

- Snuba Subscription Consumer Events
- Snuba Subscription Consumer Metrics
- Snuba Subscription Consumer Transactions
- Snuba Transactions Consumer
- Subscription Consumer Events
- Subscription Consumer Generic Metrics
- Subscription Consumer Metrics
- Subscription Consumer Transactions
- Symbolicator API

A lot of components

- Vroom
- Web
- Worker
- Worker Events
- Worker Transactions
- I forgot **RabbitMQ** in the beginning

- And that's all folks

A lot of components

- As I said - It takes time
- Configuration hell
- Easy to forget something
- Easy to misconfigure something
- Upgrading
    - gl hf
- Issues with Sentry
- Issues with Helm chart
    - It takes about 40 minutes to deploy
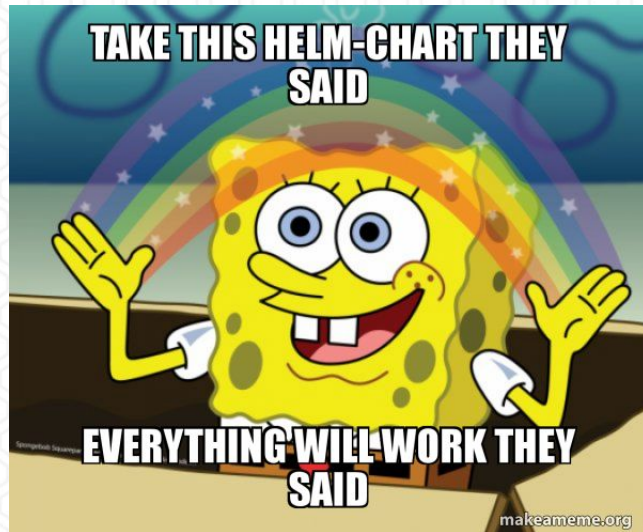
The path to success

- After loooooong configuring
    - And deploying
- It's online!
- SSO runs fine - with one domain*
- Projects are being added
- Errors flows

- Everything seemed nice and cosy

*or more if you know how

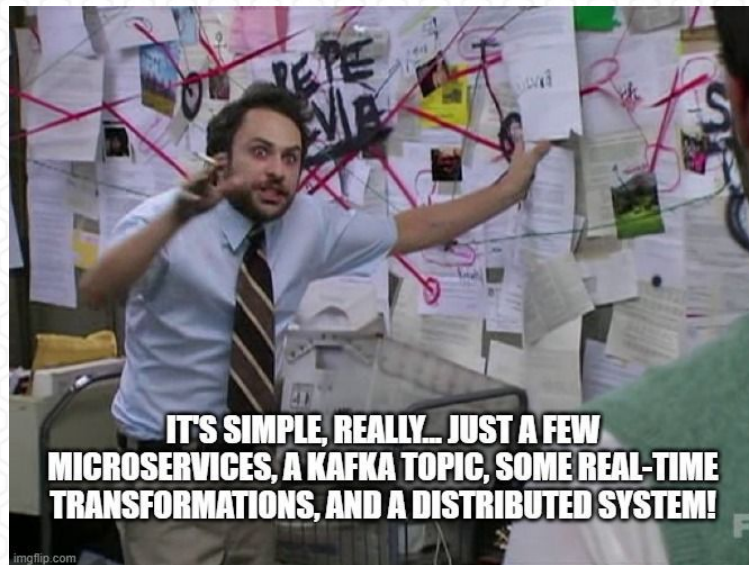# The story of how I used to have long hair

The pain

- Running it in Kubernetes
    - Not so optimized
- Even as a code it's pain
- Upgrades
    - Just don't
    - Only when needed
- Very difficult to cost-optimized
- Very expensive

The pain

- Heavy load
    - Can lead to unforeseen consequences
- Up to 1 million transactions per month
    - Rookie numbers
- Other components started failing
- Pressured hard drives
    - Yes, we had PV
- Noisy neighbor
    - Kafka I'm looking at you

IT'S SIMPLE, REALLY... JUST A FEW MICROSERVICES, A KAFKA TOPIC, SOME REAL-TIME TRANSFORMATIONS, AND A DISTRIBUTED SYSTEM!

imgflip.com

The pain

- Heavy load
- Issue
    - Reasoning with developers
        - Sending 100% of data is not a good idea
    - Sentry is designed for 1 million transactions per month
        - We did 1 million per hour
            - Very nice and beautiful indeed

We couldn't find any issues that matched your filters.
Get out there and write some broken code!

I can verify that that will indeed happen.

The pain

- After heavy load
- Sentry PSQL
    - 2 Ti
- Clickhouse
    - 3x 600 Gi + Broken sharding
- Still enormous compute load
    - Even when "idling"
- Until recently - constantly broken Kafka topics
- My missing hair

The definition of insanity

- Sentry took almost ⅓ of my time last year
- At this moment it's finally stable
  - kinda - occasional OOM is still prevalent
    - still issues with topics but they are restarting automatically
- Still a lot of transactions into Sentry
- Upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading… upgrading…

The definition of insanity

- Upgrading is hell
    - Even Doomguy would retreat
- Reverting is almost impossible
- Migrations works sometimes
    - If clickhouse migration stopped working you are cooked
        - More than from Gordon Ramsay
    - Errors with no solutions 🤌
- Solution?

The definition of insanity

- Just not upgrade right?
  - Right?
- But developers wants more features
  - More features almost certainly equals more broken Sentry
- So you upgrade Sentry
  - It does not work
    - So you are working on fix
      - And developers complains that Sentry is down
        - And you're starting to get PTSD from Slack
        And then you try to

Takeaway

Takeaway

- Don't

TAKE ME

AWAY

makeameme.org
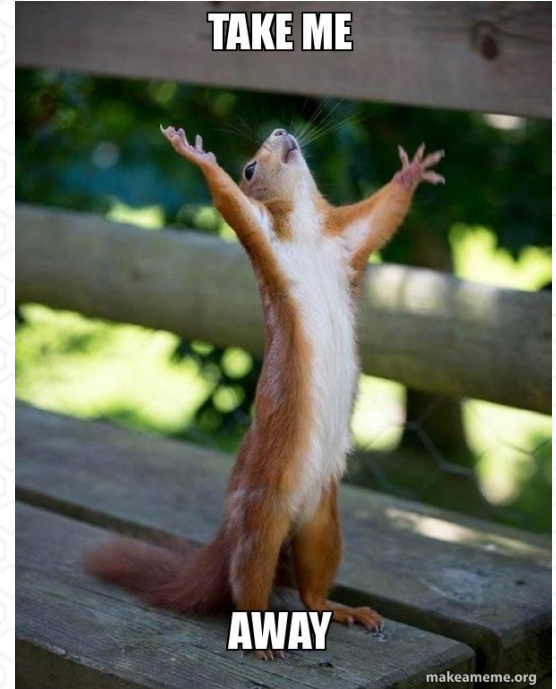
Takeaway

- Self-hosted when you have extreme load
    - So the pricing is unreasonable
- You need to allocate up to one person
    - Even more if you don't have
      Mr. Know-It-All
- Alternatives?
    - GlitchTip…
- An experience I never wanted to have

I'm 30 years old.

One more thing

We are hiring!

DevOps Engineer

- Prometheus
- Grafana
- OpenTofu
- ArgoCD
- Gitlab
- Kubernetes (GKE)
- 3D printers
- And much much more ❤️

Q & A

The end