

Service Level Agreements - a Tool For Making *Everyone* Happy.

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Uber

Despite sounding like a key element of a corporate, process-oriented nightmare it turns out Service Level Agreements can be used in a positive way. They sometimes even make people smile.

Why talk about SLAs

What is an SLA?

“A service-level agreement (**SLA**) is a commitment between a service provider and a client. Particular aspects of the service – quality, availability, responsibilities – are agreed between the service provider and the service user.”

https://en.wikipedia.org/wiki/Service-level_agreement

A couple of problems with this definition...

Problems

- It sounds corporate
- It sounds boring
- It sounds formal
- It sounds difficult
- It sounds hostile



We can do better ...

And that's what this presentation is about.



<https://giphy.com/gifs/cartoon-rainbow-spongebob-SKGo6OYe24EBG>

What do you mean “everyone”?

Really, it's everyone:

- Customers
- Engineers
- QA
- Your team
- Other teams
- Engineering managers
- Product managers
- Middle management
- CTO/CEO/...
- Your future employees
- Your future self
- Your sleeping self
- Your family
 - And everyone's above family



<https://giphy.com/gifs/mfw-everything-reddit-oYtVHSxngR3lC>

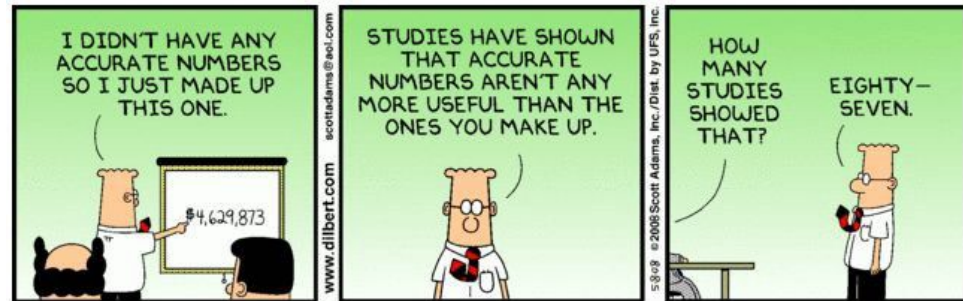
What do you mean ... ?



<https://giphy.com/gifs/producthunt-shut-up-and-take-my-money-3oKIPa2TdahY8LAAxy>

What is an SLA again?

- It's a formalisation of implicit agreements you already have
 - This could be both product (funnel conversion rate) and engineering (latency)
- It's anything you care about
 - So anything your customers care about
- It's quantifiable!



How do I do it?

- **Service Level Indicator (SLI)** is a particular metric you measure
 - Funnel conversion rate
 - Latency of a particular interaction
- **Service Level Objective (SLO)** is the target you're trying to achieve
 - 80%
 - 0.5s
- **Service Level Agreement (SLA)** is what you'll do if you miss it
 - External: Pay someone 5,000,000\$
 - Internal: Divert an engineer from product to reliability work



Don't have to be actual SLAs, but SLOs on paper are useful

Story time

Let's go through a story

The team



Alice

Bob



Charlie

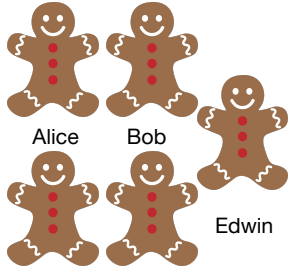
Daenerys



The app

Beginning

The team



Alice

Bob

Edwin

Charlie Daenerys



The app

Backoffice

Growth

A team



Alice

Bob



Frodo

Daenerys



The app

Users

Another team

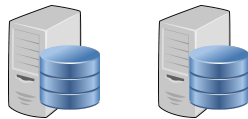


Charlie

Edwin



Charlie



Comms

Backoffice

More growth

A team



Alice Bob Gandalf



Frodo Daenerys



The api Users



Products

Another team



Charlie Edwin



Charlie Hal



Comms Backoffice



Tracking

Responsibility split

Front end



Alice2 Indiana Gandalf



Frodo Daenerys



The api

Users



Products

Some team



Charlie Edwin



Charlie Hal



Comms

Backoffice



Tracking

Infrastructure



Charlie Edwin



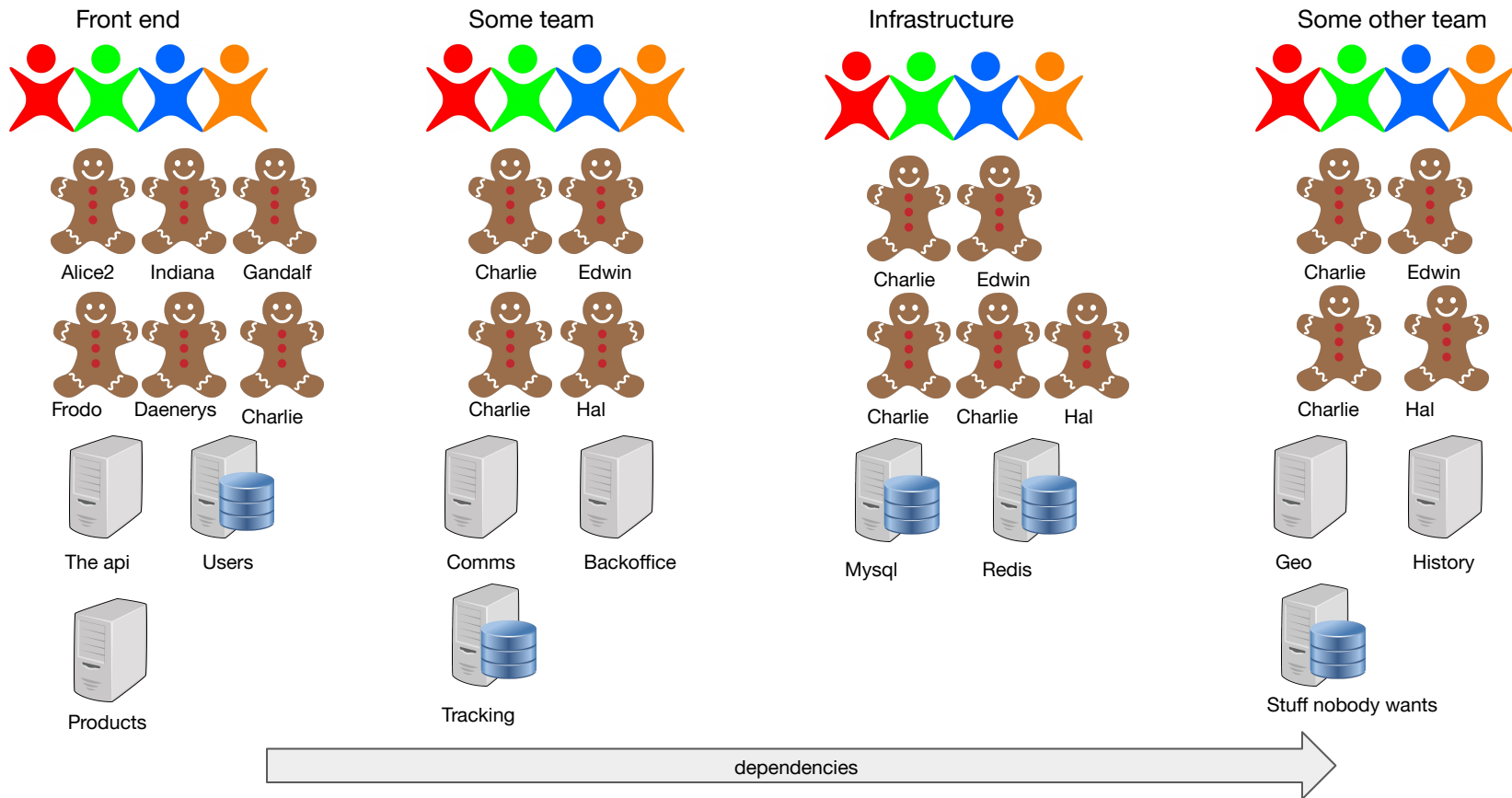
Charlie



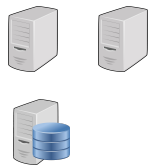
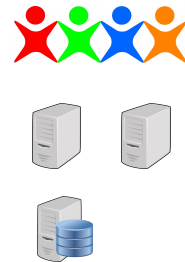
Mysql

Redis

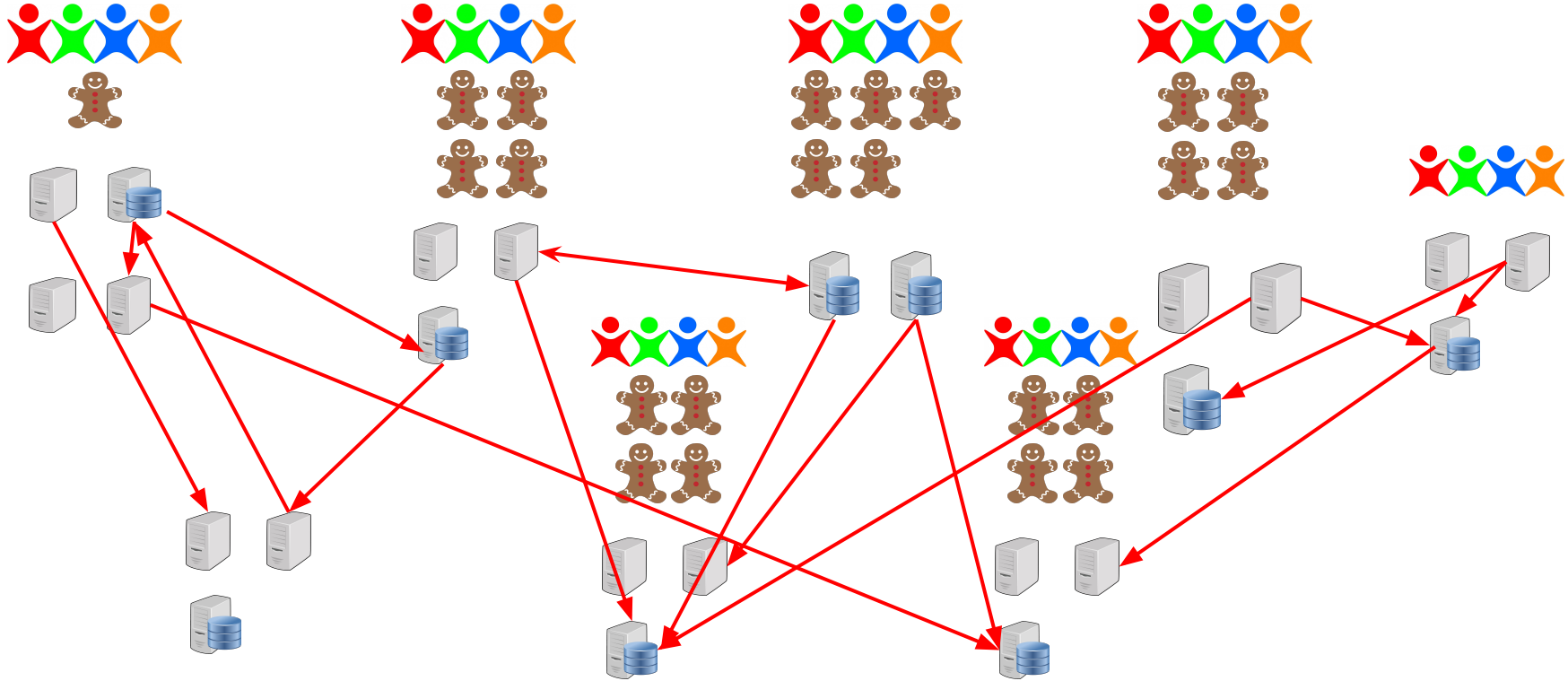
Keeps getting worse



Eventually ...



... chaos



End result



<https://giphy.com/gifs/cheezburger-cars-chaoshour-mciMfMijRXIfm>

What happened there again?

- People join/leave
- Teams split
- Existing components move to different teams
- Components get re-written/split

Possible results:

- Operational creep
- “What does this service do again?”
 - Funny enough, it’s “the best” stable services that get there
- Not understanding your dependency graph
- Nobody knows what’s happening

Imagine you had SLOs

A documented, agreed on expectation of how your system should behave.



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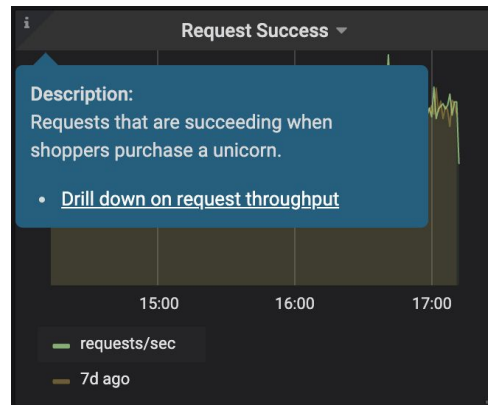
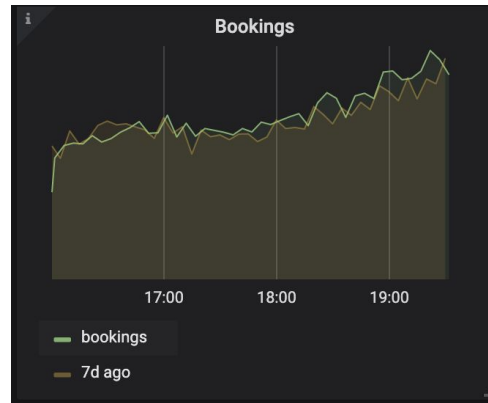


<https://giphy.com/gifs/mfw-everything-reddit-oYtVHSxngR3lC>

How to do it?

- This will take time, people naturally oppose documenting things
- Just measuring might improve the numbers
- You can predict the emergencies before they happen
- KISS
 - Start simple, look what you can measure, iterate
 - A dashboard or a script can be good enough

Reporting period	Result	Target	Hit
Dec 2018	99.372403	99.9%	N
Jan 2019	99.922987%	99.9%	Y
Feb 2019	99.893321%	99.9%	N



“Algorithms to Live By”

Our lives are based on SLAs!



Regulation (EC) No 261/2004

European Union regulation

Title	Regulation establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights
Made by	European Parliament and Council of the European Union
Made under	Art. 79(2) TEC
Journal reference	L46, pp. 1–7 ↗

Summary: have SLAs

Questions

Or try pawel@uber.com



<https://pixabay.com/illustrations/end-guy-cinema-strip-movie-theater-812226/>

Uber

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