

Scaling SRE Organizations

The journey from 1 to many teams

**Wait! I don't
have an SRE
team yet.
Zero. Nada.**

Please read [Do you have an SRE
team yet?](#)



Let's start a conversation via
[#sre_across_companies](#) on the
[SRECon slack](#).

\$ whoami

Customer Reliability Engineer
(CRE) at Google

**Gustavo
Franco, aka
stratus**

11 years at Google
6 years on this subject

Scaling SRE Organizations

All things SRE but also
changing how you do work,
splitting, creating new
teams, merging, ...

A set of two or more
SRE teams.

Questions

(Don't be shy! I won't call you out)

Who's been a member of a brand new SRE team?

Who's participating in a new team, split, move or merge at the moment?

Why are we here?

Before an answer, think of a system

Boundaries are unknown

Workload is unbounded

It's a monolith

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SLOs

o11y

Systems Design

Automation

Incident Response

....

Why are we here?

Think of an **SRE team** where

Boundaries are unknown

Workload is unbounded

It's a monolith

~~SLOs~~

~~e11y~~

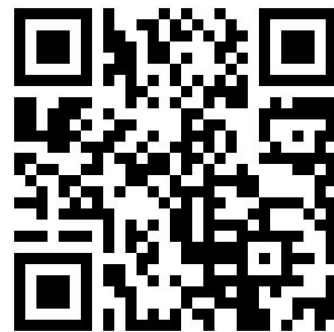
~~Systems Design~~

~~Automation~~

~~Incident Response~~

~~...~~

Your SRE team is likely to fail
if your implementation and
scope aren't written down
and agreed upon



SLO with consequences

Team charter with goalposts



Agenda

Assumptions

Do you need a new team?

SRE Implementations

Scope changes

Load categories

Example

Talk with your leaders

Lessons I've learned



Assumptions

CxO/VP buy in

Funding

Healthy relationship with developers

Your organization is growing

Do you need a new team?

while True:

- Evaluate current team(s) **implementation**
- Look for recent or upcoming **scope** changes
- Assess current **load**



SRE Implementations

How teams are organized and approach their work

SRE Implementations

01

Consulting

02

Embedded

03

Tools or Infra

04

Slice

05

Kitchen Sink

SRE Implementations

01

Consulting

Self explanatory.
Usually not many
code or config
changes, no
oncall.

02

Embedded

03

Tools or Infra

04

Slice

05

Kitchen Sink

SRE Implementations

01

Consulting

02

Embedded

Similar to consulting but with oncall, code and config changes

03

Tools or Infra

04

Slice

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SRE Implementations

01

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Tools or Infra

Service owners
for tools or
infrastructure

04

Slice

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SRE Implementations

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Slice

Service owners
for a slice of the
product(s) or
workflows

05

Kitchen Sink

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Scope is everything. First SRE team for many companies

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Service owners
for a slice of the
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workflows

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Kitchen Sink

Scope is
everything. First
SRE team for
many companies

SRE Implementations - Tiers

01

Consulting

Usually not applicable

02

Embedded

-

03

Tools or Infra

T1: **Consulting**

3

T2: **Projects**

T3: **Oncall**

04

Slice

Same as Tools or Infra

05

Kitchen Sink

Same as Tools or Infra

SRE Implementations - Size and Oncall

01

Consulting

Generally not a concern for both

02

Embedded

Generally not a concern in terms of size

May participate in the dev rotation

03

Tools or Infra

Very company specific

04

Slice

-

05

Kitchen Sink

-

SRE Implementations - Main Risks

01

Consulting

May be perceived as hands-off

02

Embedded

May suffer from lack of knowledge sharing

03

Tools or Infra

Scope may be too narrow

04

Slice

Same as tools, also it's costly to run many slices

05

Kitchen Sink

Tends to move from deep engagement to shallow as scope and load grows

SRE Implementations

We are Company SRE (Kitchen Sink)

We have a team charter [and SLOs]

We are happy with our implementation (no tiers)

Do you need a new team?

while True:

- ~~Evaluate current team(s) implementation~~
- Look for recent or upcoming **scope** changes
- Assess current **load**



Scope Changes

How the subject matter may change for any given team

Scope Changes (Examples)

Infrastructure

Services

Products

Scope Changes (Examples)

Infrastructure

Services

Products

Migrations

Running legacy and new
infra post migration

Scope Changes (Examples)

Infrastructure

Migrations

Running legacy and new infra
post migration

Services

Brand new services or
simply new to SRE

Products

Scope Changes (Examples)

Infrastructure

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Running legacy and new infra
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Brand new services or simply
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Products

Brand new products or
new to SRE

Tends to require
establishing new inter
team relationships

Scope Changes (Examples)

Infrastructure

Migrations

Running legacy and new
infra post migration

Services

Brand new services or
simply new to SRE

Products

Brand new products or
new to SRE

Tends to require
establishing new inter
team relationships

Scope Changes

We are Company SRE

We have a team charter [and SLOs]

We are happy with our implementation (no tiers)

Yeah, we've had some major changes in scope recently (partial cloud migration and a new product)

Do you need a new team?

while True:

- ~~Evaluate current team(s) implementation~~
- ~~Look for recent or upcoming scope changes~~
- Assess current load



Starting a new SRE team
due to growth of tickets or
pages may be
counter-productive

Load Categories

Implementation and scope enable work to get to your team.

Load is what you are **carrying** at any given moment.

Load Categories

Project

Toil

Cognitive

Load Categories

Project

Engineering reliability into services

It can be indirectly (consulting)

Toil

Cognitive

Load Categories

Project

Engineering reliability into services

It can be indirectly (consulting)

Toil

Some kinds of operational work

Cognitive

Load Categories

Project

Engineering reliability into services

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Some kinds of operational work

Cognitive

The cost to SRE grows faster as systems and problem spaces diverge

Load Categories

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Some kinds of operational work

Cognitive

The cost to SRE grows faster as systems and problem spaces diverge

Cognitive Overload Outcomes

Informal oncall split

Always one SRE per project*

High attrition rate

Insecurities about the unknown

Reactive projects

Long recruiting pitch

Cognitive overload is
usually a positive indicator
for a team split

Do you need a new team?

while True:

- ~~Evaluate current team(s) implementation~~
- ~~Look for recent or upcoming scope changes~~
- ~~Assess current load~~



Example

We are Company SRE

We have a team charter [and SLOs]

We are happy with our implementation

Yeah, we've had some major changes in scope recently

We see all signs of cognitive overload

Example

We are Company SRE

We have a team charter [and SLOs]

We are happy with our implementation

Yeah, we've had some major changes in scope recently

We see all signs of cognitive overload

**Company SRE will split in Slice SRE and
Infra SRE...**

Example: Company SRE Split

Comms

Staffing

Team

Example: Company SRE Split

Comms

Inform team and key partners ASAP

Staffing

Recruit as needed

Team

Draft team charters

Compile a longer version of this list

Get team charters reviewed

Example: Company SRE Split

Comms

Inform team and key partners ASAP

Establish recurring comms about split

Staffing

Recruit as needed

Get additional leadership in place

Team

Draft team charters

Compile a longer version of this list

Get team charters reviewed

Shard project work

@stratus

Example: Company SRE Split

Comms

Inform team and key partners ASAP

Establish recurring comms about split

...



Staffing

Start recruiting

Get additional leadership in place

...

Team

Draft team charters

Compile a longer version of this list

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@stratus

...

Example: Company SRE Split

Company SRE is now an organization.
It has Slice SRE and Infra SRE as teams.

“Slice and Infra SRE teams are doing so well. We need SRE support for even more services!”

“Slice and Infra SRE teams are doing so well. We need SRE support for even more services!”

Maybe

Evaluate impact of scope changes on existing teams load

Can we establish tiers?

No

It is out of bounds based in our teams charters

Talk with your leaders

Debug

Debug your team with them as you go

Charters

Peers buy-in

Talk with your leaders

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Charters

Changes to implementation and scope should require their approval

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Get peer leaders to buy-in on any changes as well

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Lessons I've learned

Consider a
project
manager

Lessons I've learned

Consider a
project
manager

**Evaluate
change
coupling**

Lessons I've learned

Consider a project manager

Evaluate change coupling

Avoid Flip Flop

Lessons I've learned

Consider a project manager

Evaluate change coupling

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Private meetings before team-wide announcements

Lessons I've learned

Consider a project manager

Evaluate change coupling

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Private meetings before team-wide announcements

Organization and teams identity may diverge

Recap

Set goalposts

Team charter with goalposts

Self Eval

Evaluate implementation details and impact of scope changes

Evaluate implementing tiers of service

Safety first

Establish Psychological safety, e.g formalize project sharding first



THANKS!

@stratus



Contributors

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Google Cloud