Rust governance

Kuba Beránek

Kuba Beránek

github.com/kobzol

github.com/kobzol

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- PhD student, teacher @ VSB-TUO

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- PhD student, teacher @ VSB-TUO
- Researcher @ IT4Innovations

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- HPC, distributed systems, code optimization, machine learning,...

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- PhD student, teacher @ VSB-TUO
- Researcher @ IT4Innovations
- HPC, distributed systems, code optimization, machine learning,...
- Rust user & contributor

Compiler performance working group

Improving rustc compilation performance (build times)

Members

Mark Rousskov

GitHub: Mark-Simulacrum

Team leader

Jakub Beránek

GitHub: Kobzol

Rémy Rakic

GitHub: lqd

Michael Woerister

GitHub: michaelwoerister

Nicholas Nethercote

GitHub: nnethercote

Felix Klock

GitHub: pnkfelix

Parallel rustc working group

Making parallel compilation the default for rustc

Members

Camille Gillot

GitHub: cjgillot

Team leader

bjorn3

GitHub: bjorn3

Jakub Beránek

GitHub: Kobzol

Nicholas Nethercote

GitHub: nnethercote

Sparrow Li

GitHub: SparrowLii

Binary size working group

Improving the binary size of Rust programs and libraries

Members

Mara Bos

GitHub: m-ou-se

Team leader

David Wood

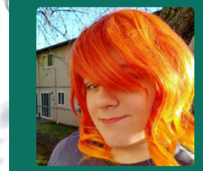
GitHub: davidtwco

Jakub Beránek

GitHub: Kobzol

Nicholas Nethercote

GitHub: nnethercote



Jubilee

GitHub: workingjubilee

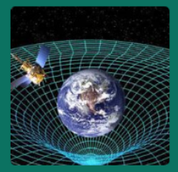
Thom Chiovoloni

GitHub: thomcc

Team leader

h1467792822

GitHub: h1467792822



Gary Guo

GitHub: nbdd0121

Wayne Wu

GitHub: wain303009

Infrastructure team

Managing the infrastructure supporting the Rust project itself, including CI, releases, bots, and metrics

Members

Jan David Nose

GitHub: jdno

Team leader

Jake Goulding

GitHub: shepmaster

Team leader

kennytm

GitHub: kennytm

Jakub Beránek

GitHub: Kobzol

Mark Rousskov

GitHub: Mark-Simulacrum

Pietro Albini

GitHub: pietroalbini

What is governance?

What is governance?

Decision-making process

What is governance?

Decision-making process
designed to evolve <X>

Governance modes for languages

Governance modes for languages

- Company-backed - Kotlin, C#

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- Design by committee - C, C++

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- BDFL - ex-Python, Ruby

Governance modes for languages

- Company-backed - Kotlin, C#
- Design by committee - C, C++
- BDFL - ex-Python, Ruby
- Open RFC process - Rust, Python

Rust governance history

2006

Started as a personal project
by Graydon Hoare (@Mozilla)

2006

Started as a personal project
by Graydon Hoare (@Mozilla)

> “
> I think I named it after fungi…
> that is "over-engineered for survival".
>
> Graydon Hoare ”

Project Servo

Technology from the past
come to save the future
from itself

Mozilla Annual Summit, July 2010
<graydon@mozilla.com>

Project Servo

Technology from the past
come to save the future
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Mozilla Annual Summit, July 2010
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Patrick Walton, Niko Matsakis join Graydon

Patrick Walton, Niko Matsakis join Graydon
Communication on mailing lists, later IRC

Graydon steps down as BDFL

Graydon steps down as BDFL

Core team is created

RFC process created (inspired by PEP)

- Start Date: 2014-03-11
- RFC PR: rust-lang/rfcs#1
- Rust Issue: rust-lang/rust#8122

Summary

This is an RFC to make all struct fields private by default. This includes both tuple structs and structural structs.

- Start Date: 2014-03-11
- RFC PR: rust-lang/rfcs#2, rust-lang/rfcs#6
- Rust Issue: N/A

Summary

The "RFC" (request for comments) process is intended to provide a consistent and controlled path for new features to enter the language and standard libraries, so that all stakeholders can be confident about the direction the language is evolving in.

Rust 1.0 released

RFC #1068: introduction of (sub)teams

- Feature Name: not applicable
- Start Date: 2015-02-27
- RFC PR: rust-lang/rfcs#1068
- Rust Issue: N/A

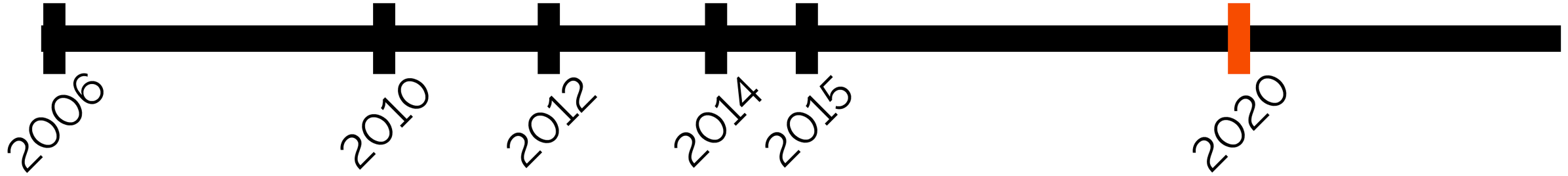
Summary

This RFC proposes to expand, and make more explicit, Rust's governance structure. It seeks to supplement today's core team with several *subteams* that are more narrowly focused on specific areas of interest.

Thanks to Nick Cameron, Manish Goregaokar, Yehuda Katz, Niko Matsakis and Dave Herman for many suggestions and discussions along the way.

Initial subteams:

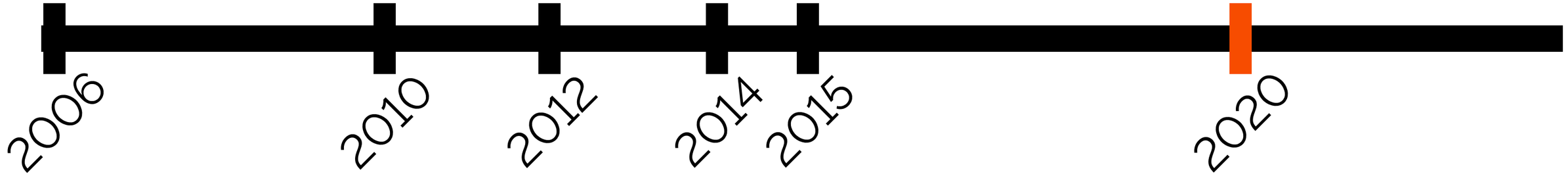
- Language
- Library
- Compiler
- Tooling and infrastructure
- Moderation



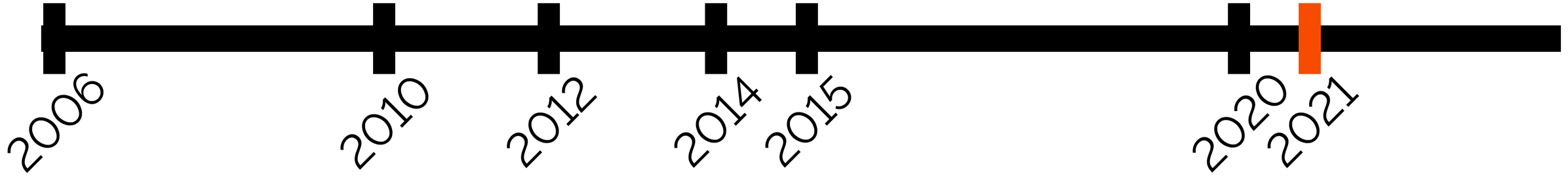
LEADERSHIP

Changing World, Changing Mozilla

AUGUST 11, 2020 MITCHELL BAKER



Core team plans to create a Rust Foundation

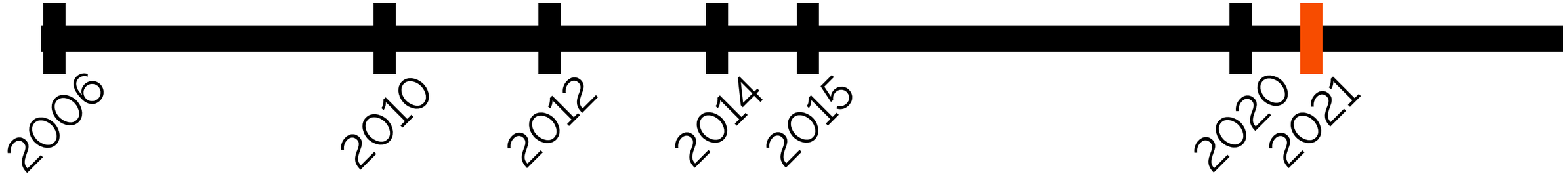


Hello World!

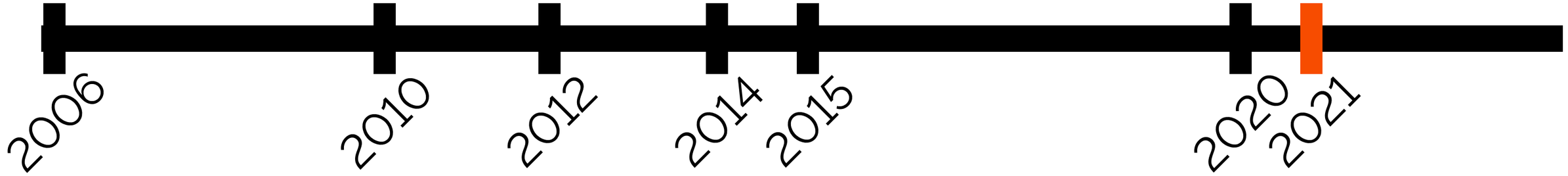
Announcing the Rust Foundation to the World

by Ashley Williams, Interim Executive Director, Core Team Member

08 Feb 2021

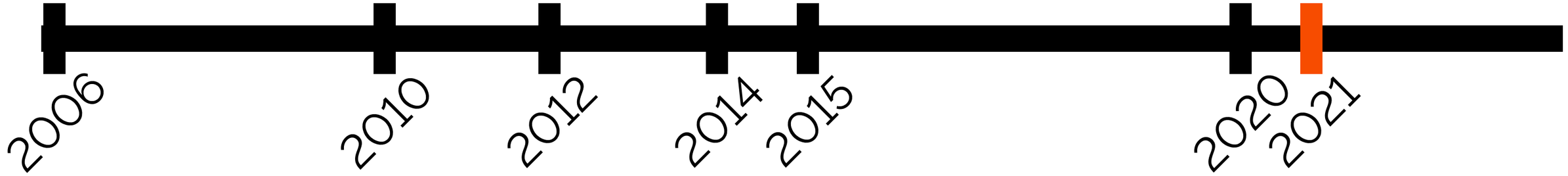


Rust Foundation goals:



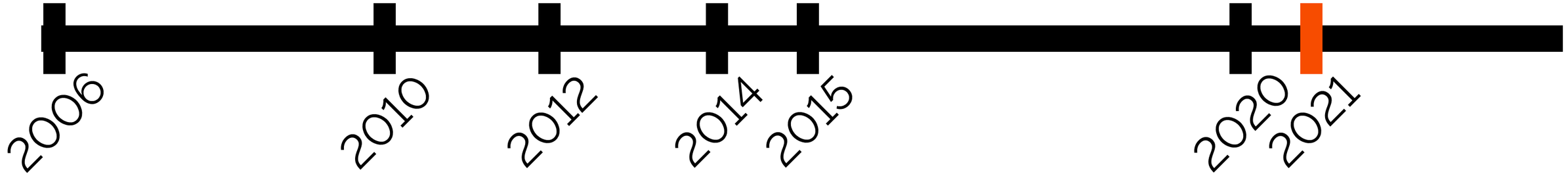
Rust Foundation goals:

- Create an official Rust entity



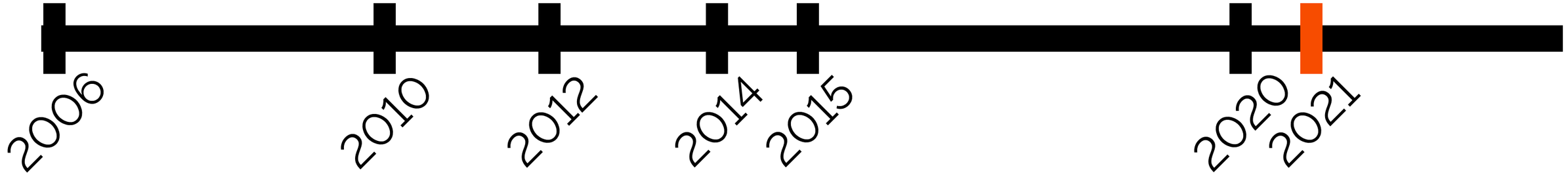
Rust Foundation goals:

- Create an official Rust entity
- Legal, bank account, domain ownership, ...



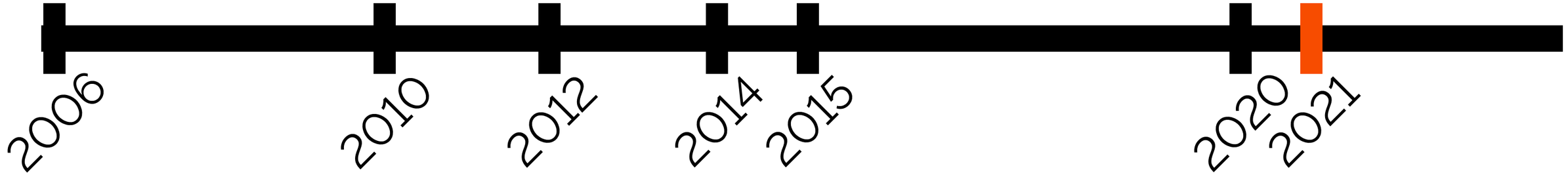
Rust Foundation goals:

- Create an official Rust entity
- Legal, bank account, domain ownership, ...
- Support maintainers



Rust Foundation goals:

- Create an official Rust entity
- Legal, bank account, domain ownership, ...
- Support maintainers
- Facilitate sponsorship



Rust Foundation goals:

- Create an official Rust entity
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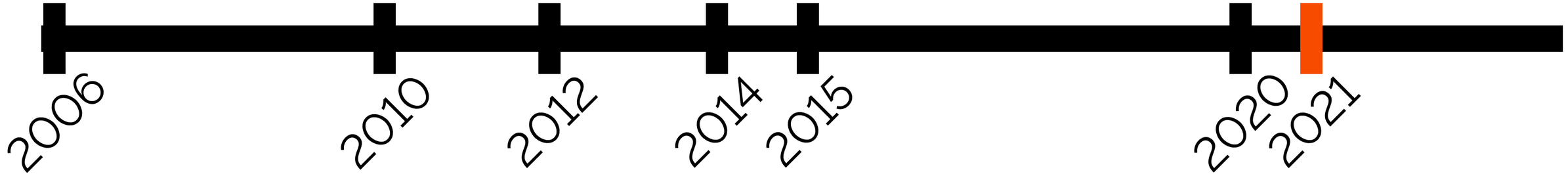
- Support maintainers
- Facilitate sponsorship
  - Mozilla, Google, AWS, Microsoft, Huawei



mod team resignation #671

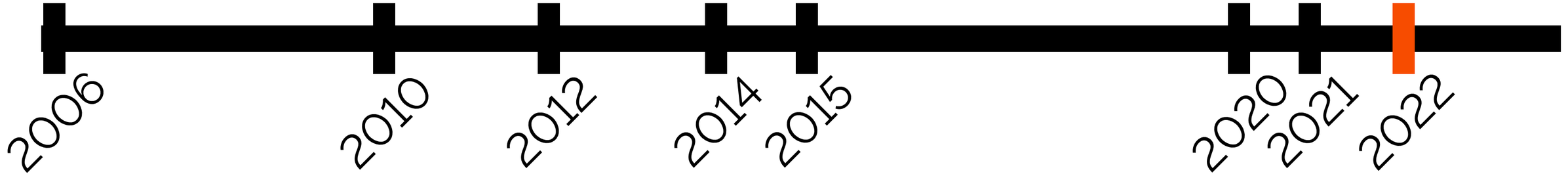
Merged

aidanhs merged 1 commit into `rust-lang:master` from `BurntSushi:ag/mod-team-update`
on Nov 22, 2021

Conversation 10 | Commits 1 | Checks 0 | Files changed 1

BurntSushi commented on Nov 22, 2021 • edited ▾ Member •••

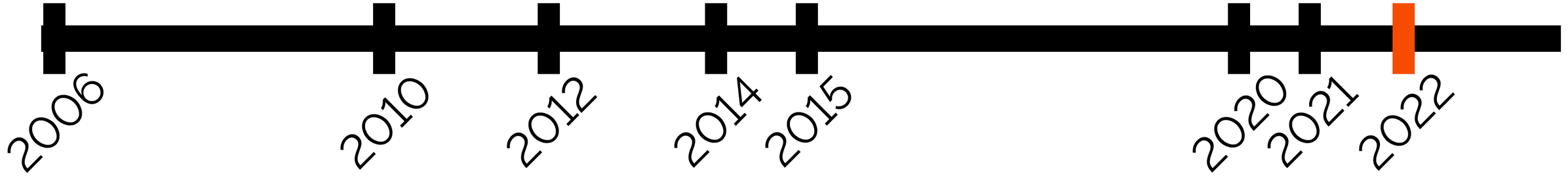
The entire moderation team resigns, effective immediately. This resignation is done in protest of the Core Team placing themselves unaccountable to anyone but themselves.



Governance Update

May 19, 2022 · Ryan Levick and Mara Bos

Last month, the core team, all the leads of top-level teams, the moderators, and the project representatives on the Rust Foundation board jointly sent out an update to all Rust project members on investigations happening into improvements to the governance of the Rust project.



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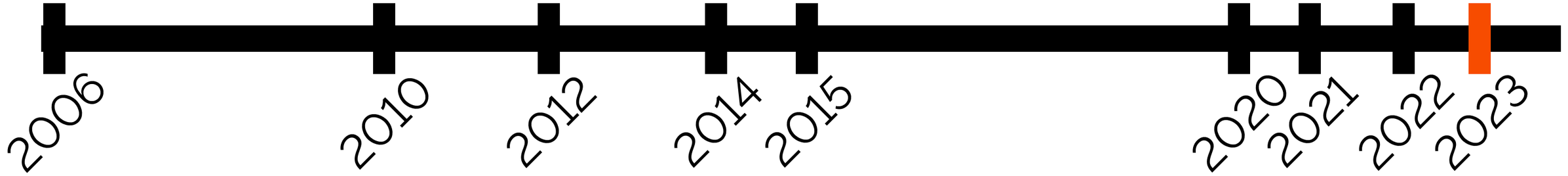
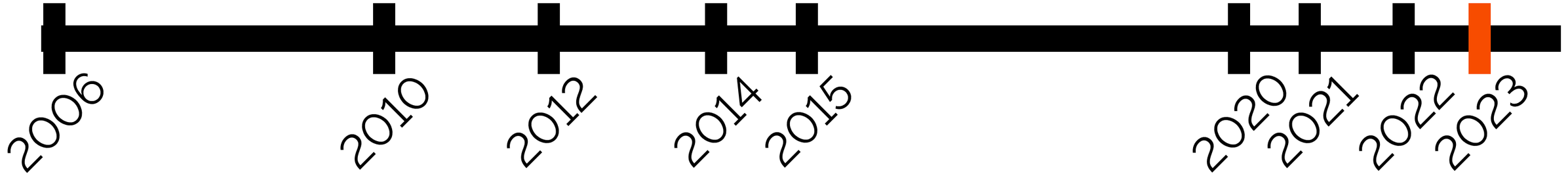
Created a private "leadership chat" to solve the issues



Rust Foundation so sorry for scaring the C out of you with trademark crackdown talk

Should have wrapped proposed rules on name and logo use in unsafe {} ?

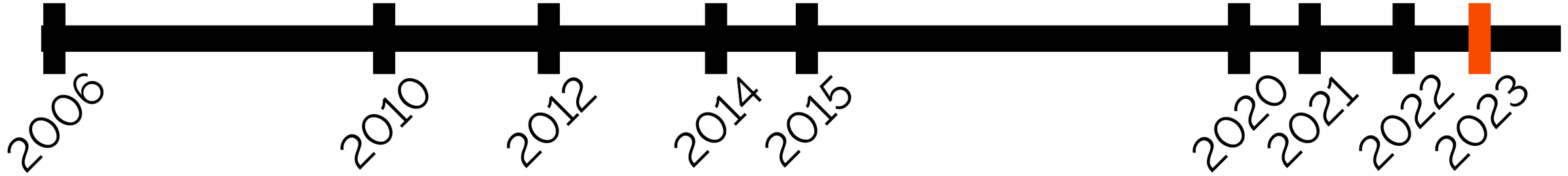


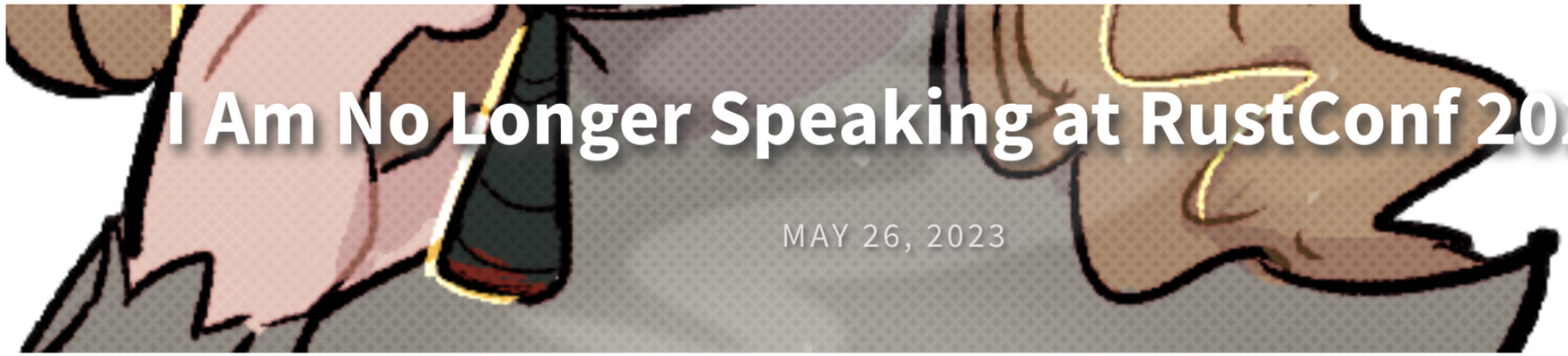
CrabLang

Home Discord Twitter GitHub

The Official Home of CrabLang!

A community fork of a language named after a plant fungus. All of the memory-safe features you love, now with 100% less bureaucracy!

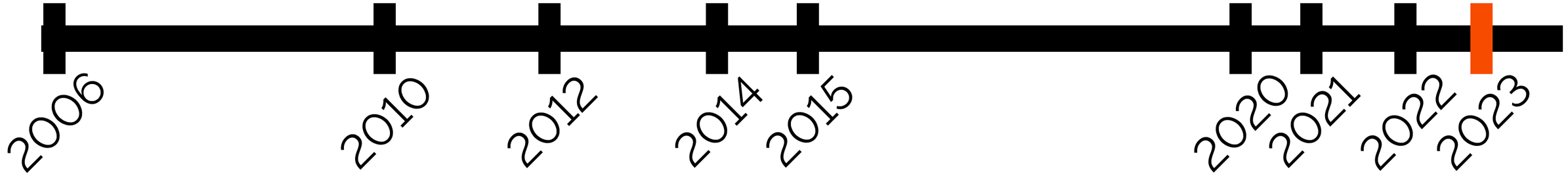




I Am No Longer Speaking at RustConf 2023

MAY 26, 2023

I will no longer be speaking at RustConf 2023 about A (Possible) Future for Compile-Time Programming.

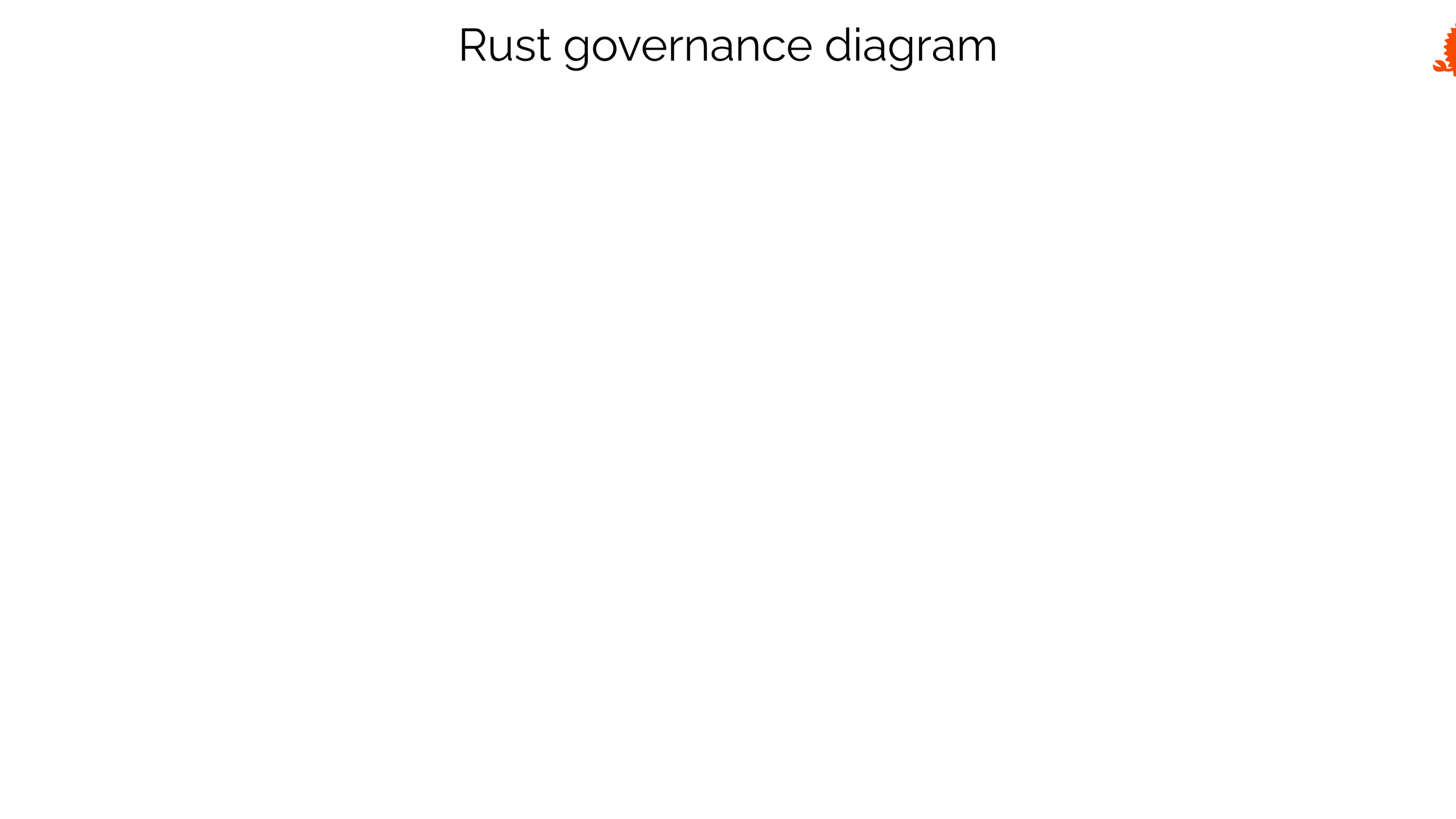


Introducing the Rust Leadership Council

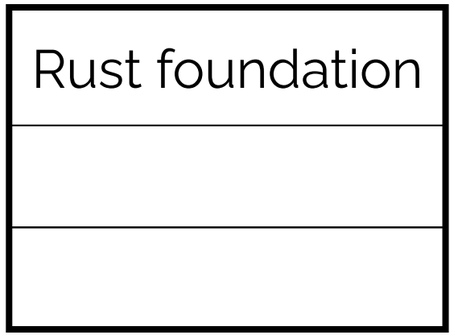
June 20, 2023 · Leadership Council on behalf of Leadership Council

As of today, RFC 3392 has been merged, forming the new top level governance body of the Rust Project: the Leadership Council. The creation of this Council marks the end of both the Core Team and the interim Leadership Chat.

Rust governance diagram



Rust governance diagram



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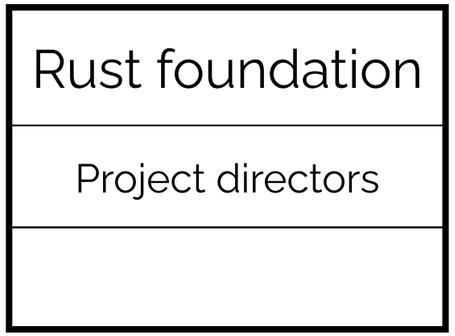

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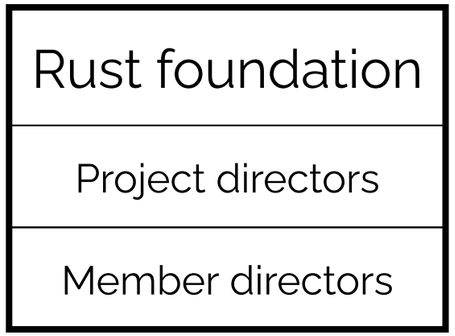

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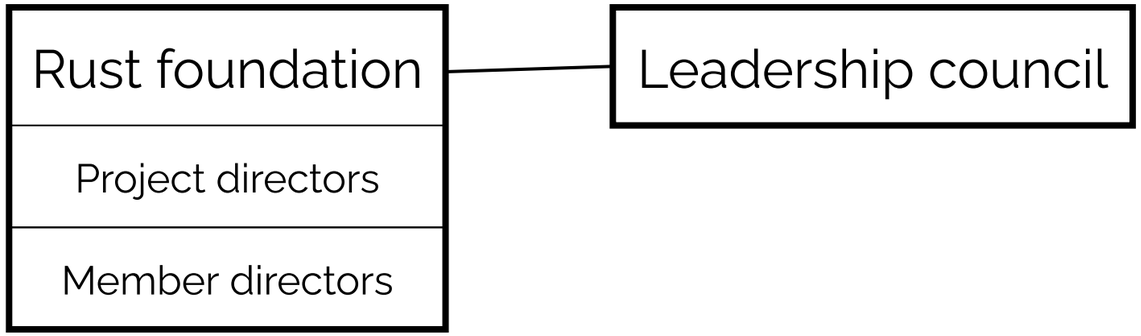

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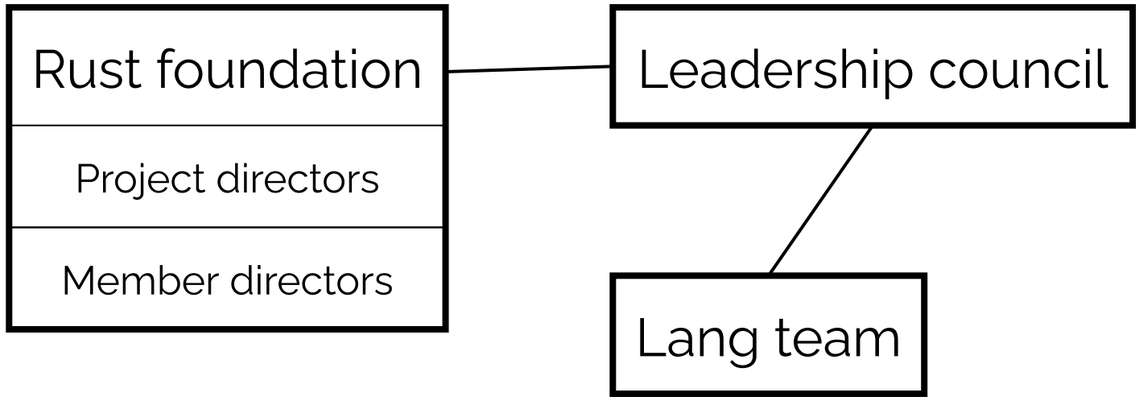

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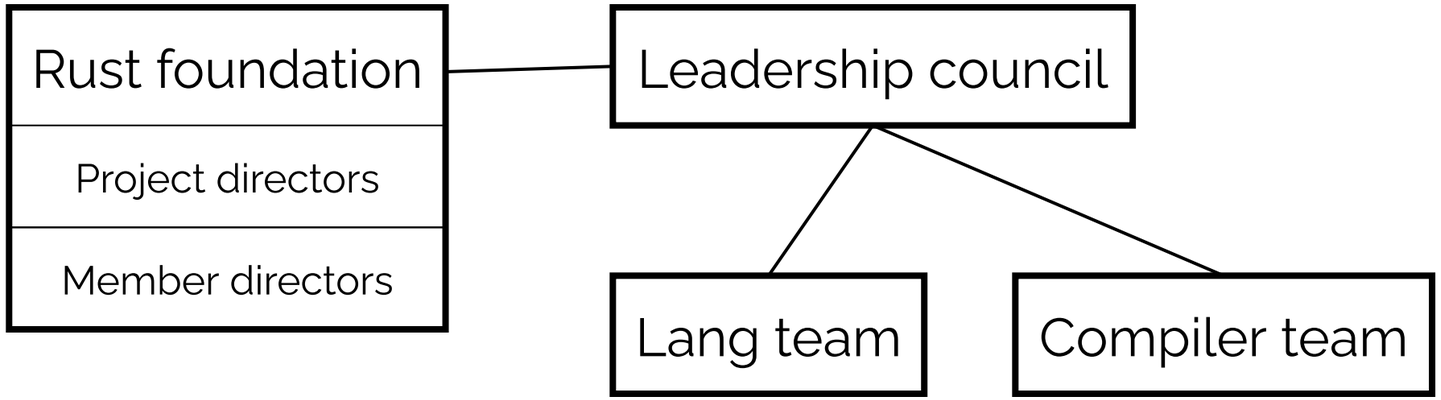

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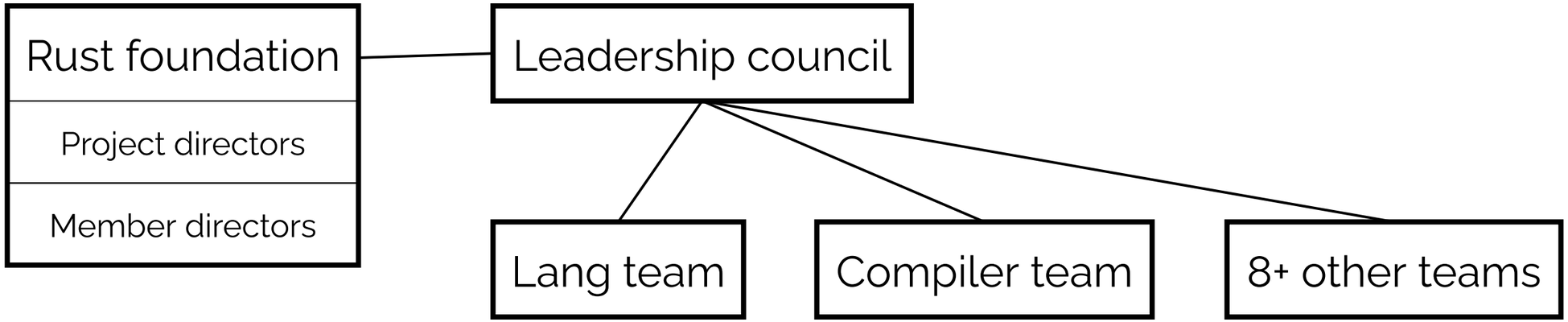

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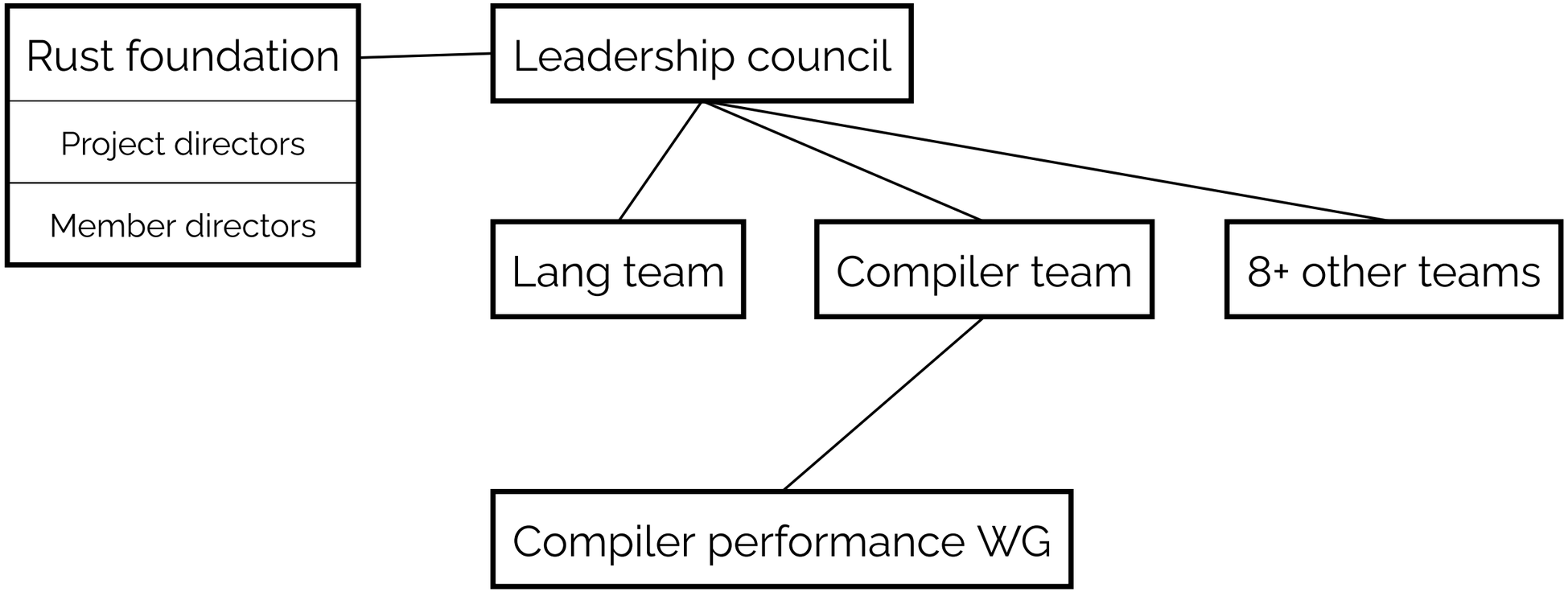

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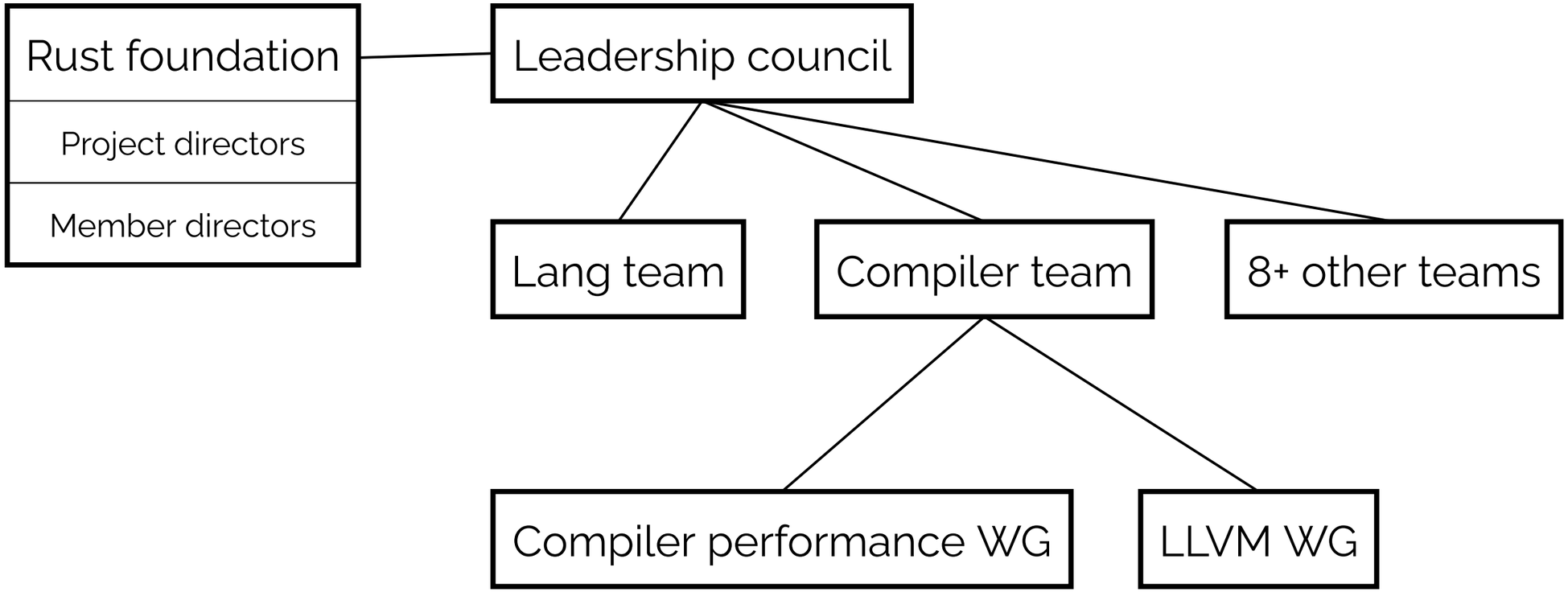

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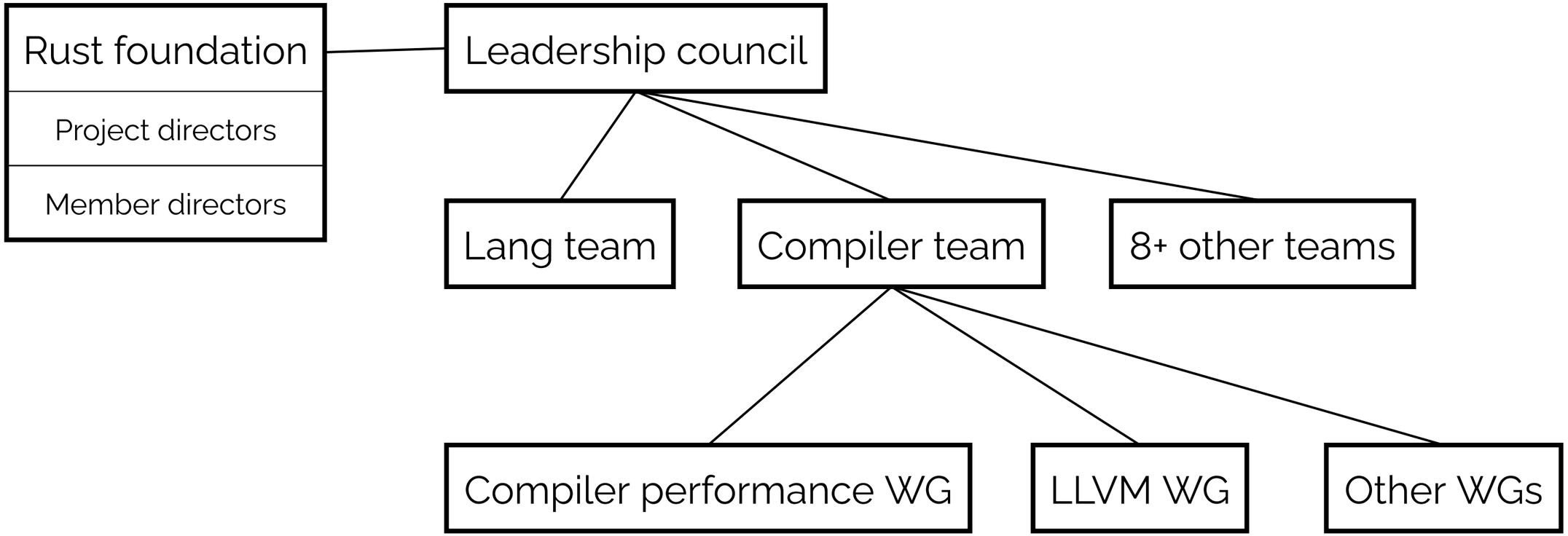

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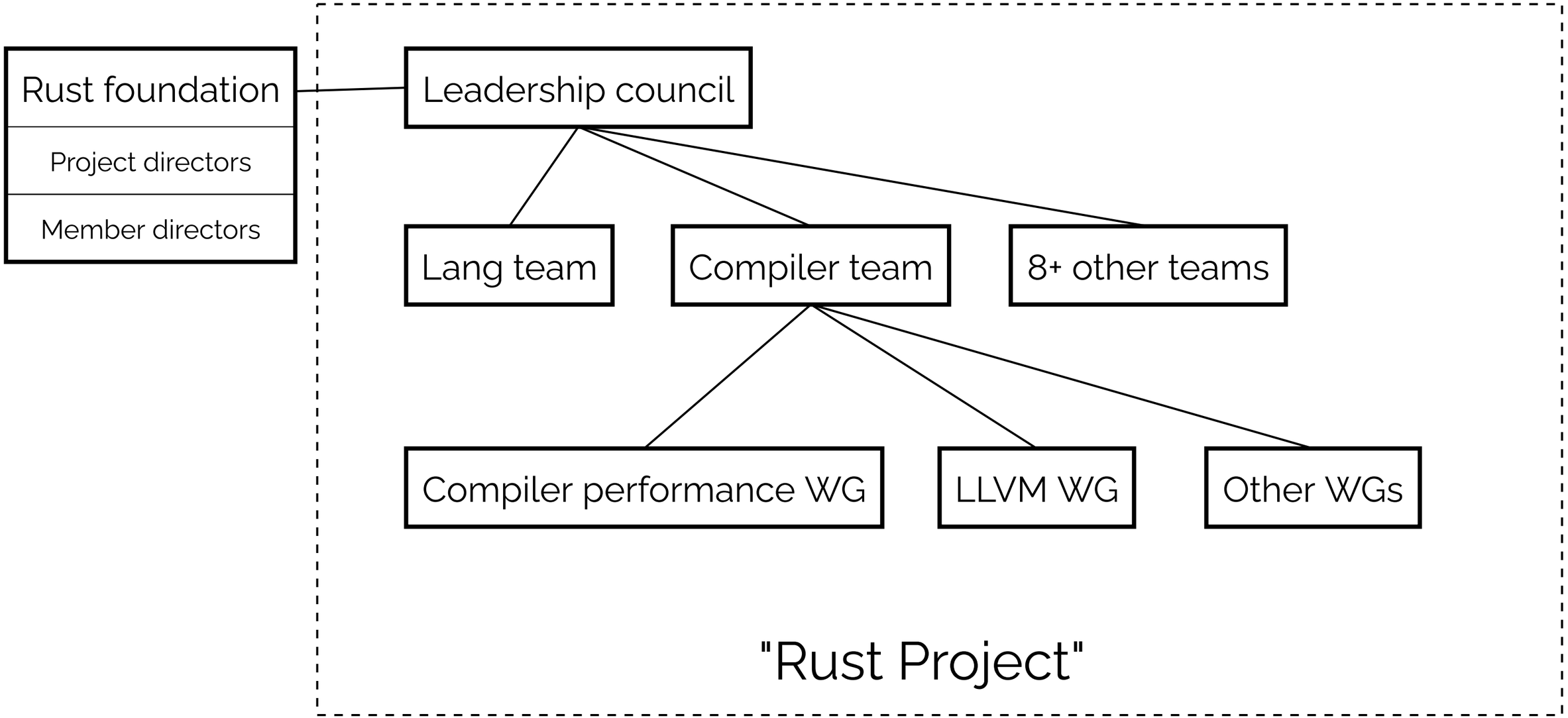

Leadership council

Charged with the success of the Rust Project as whole, consisting of representatives from top-level teams

MEMBERS & CONTACTS

Compiler team

Developing and managing compiler internals and optimizations

MEMBERS & CONTACTS

Crates.io team

Managing operations, development, and official policies for crates.io

MEMBERS & CONTACTS

Dev tools team

Contributing to and creating the Rust development tools

MEMBERS & CONTACTS

Infrastructure team

Managing the infrastructure supporting the Rust project itself, including CI, releases, bots, and metrics

MEMBERS & CONTACTS

Language team

Designing and helping to implement new language features

MEMBERS & CONTACTS

Library team

Managing and maintaining the Rust standard library and official rust-lang crates

MEMBERS & CONTACTS

Moderation team

Helping uphold the code of conduct and community standards

MEMBERS & CONTACTS

Release team

Tracking regressions and stabilizations, and producing Rust releases

MEMBERS & CONTACTS

140 teams

140 teams
46 working groups

140 teams
46 working groups
480+ team/WG members

Automating team member permissions

https://github.com/rust-lang/team

Automating team member permissions

https://github.com/rust-lang/team

arm.toml	Split Arm team to distinguish maintainers.	3 months ago
bootstrap.toml	make `onur-ozkan` co-lead of bootstrap team	5 months ago
cargo.toml	Add devtools alumni (#1137)	last month
clippy.toml	Backfill all currently listed alumni's teams (#1134)	last month
cloud-compute.toml	Give `dev-desktop` permission to t-libs	2 months ago

Automating team member permissions

https://github.com/rust-lang/team

```toml
name = "wg-compiler-performance"
subteam-of = "compiler"
kind = "working-group"

[people]
leads = ["Mark-Simulacrum"]
members = [
    "wesleywiser", "Mark-Simulacrum", "rylev",
    "tgnottingham", "pnkfelix", "michaelwoerister",
    "Kobzol", "lqd", "nnethercote",
]

[permissions]
perf = true
bors.rust.try = true
bors.measureme.review = true
```

Automating team member permissions

`https://github.com/rust-lang/team`

How do changes happen?

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- MCP (Major Change Proposal)

How do changes happen?

- MCP (Major Change Proposal)
- ACP (API Change Proposal)

How do changes happen?

- MCP (Major Change Proposal)
- ACP (API Change Proposal)
- FCP (Final Comments Period)

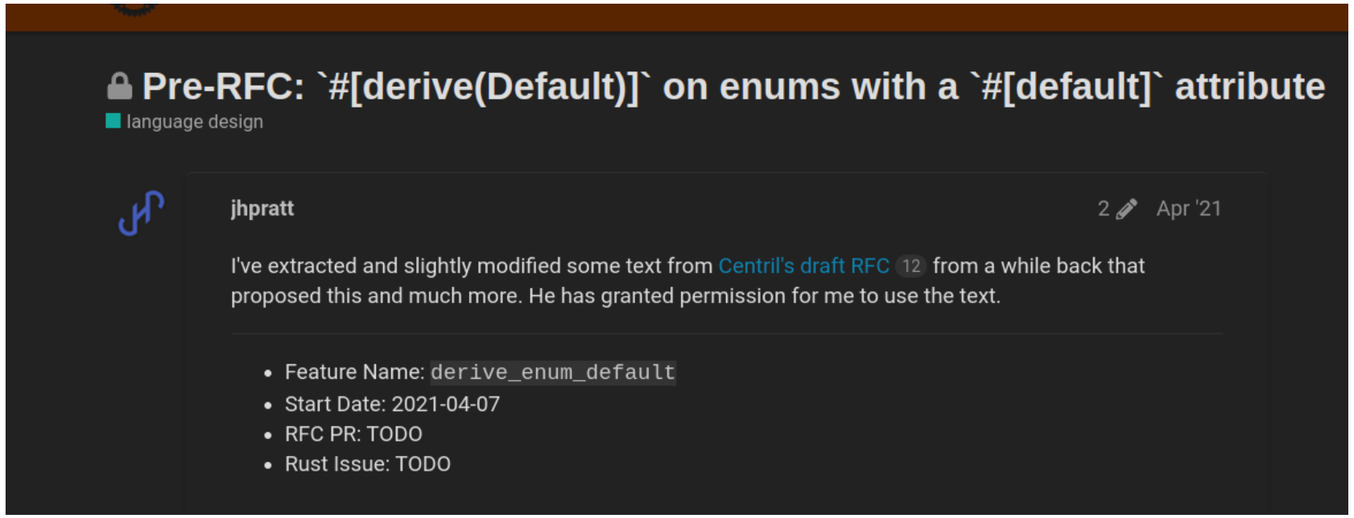
How do changes happen?

- MCP (Major Change Proposal)
- ACP (API Change Proposal)
- FCP (Final Comments Period)
- **RFC (Request For Comments)**

RFC process

RFC process

1. Discuss on Zulip/Rust forum

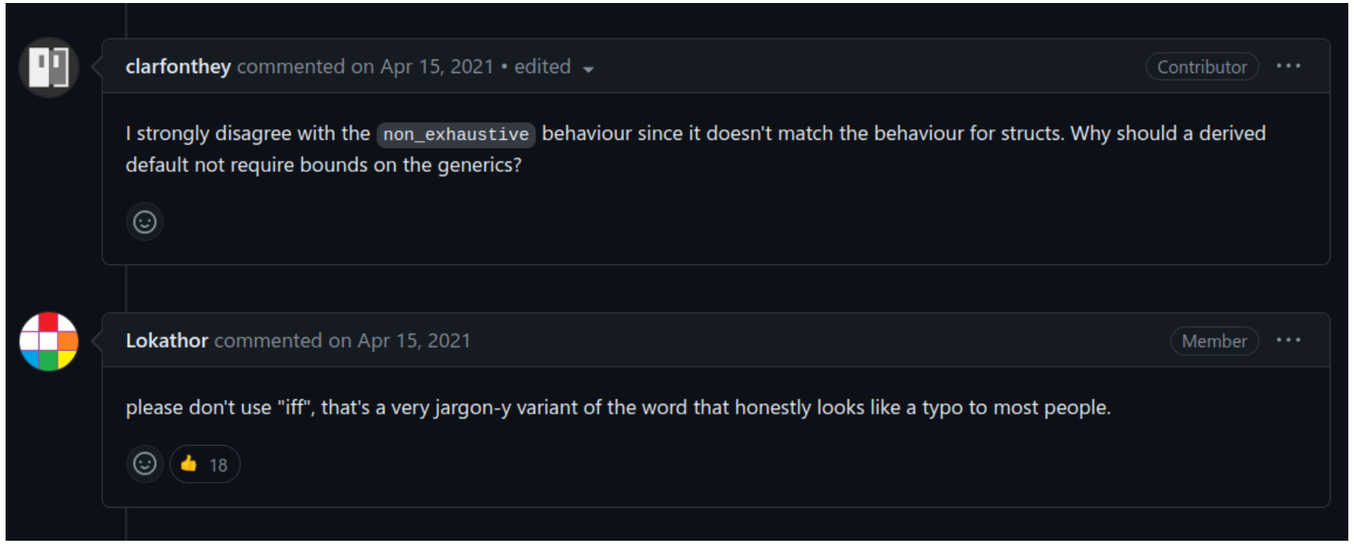


RFC process

1. Discuss on Zulip/Rust forum
2. Write RFC

RFC process

1. Discuss on Zulip/Rust forum
2. Write RFC
3. Receive comments



RFC process

1. Discuss on Zulip/Rust forum
2. Write RFC
3. Receive comments
4. Modify RFC

RFC process

1. Discuss on Zulip/Rust forum
2. Write RFC
3. Receive comments
4. Modify RFC
5. If concerns, goto 3.

RFC process

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6. Vote

RFC process

1. Discuss on Zulip/Rust forum
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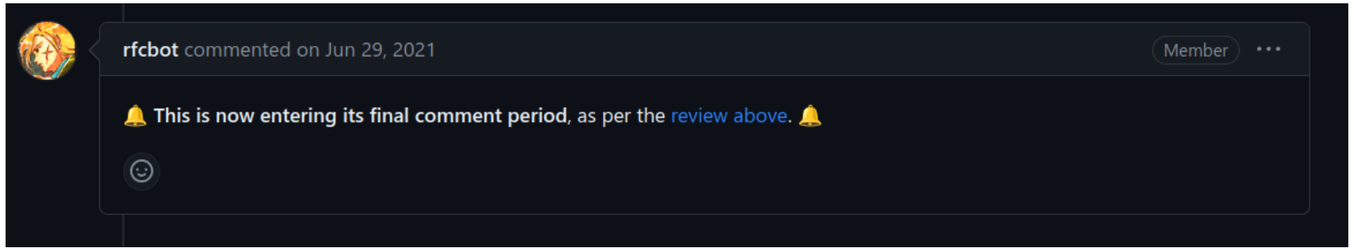
5. If concerns, goto 3.
6. Vote
7. FCP (Final Comment Period)



RFC process

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4. Modify RFC
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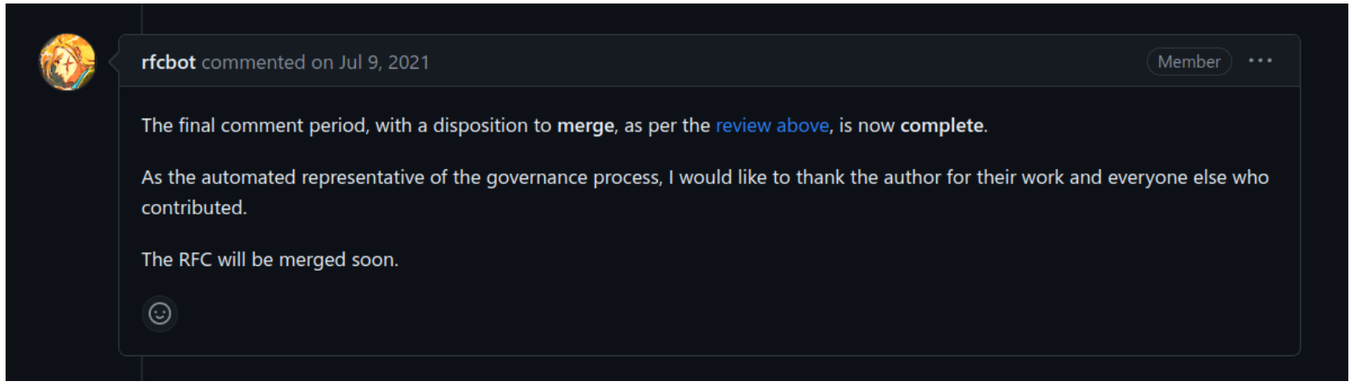
6. Vote
7. FCP (Final Comment Period)
8. Wait 10 days



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6. Vote
7. FCP (Final Comment Period)
8. Wait 10 days
9. Implement the feature

RFC process

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6. Vote
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8. Wait 10 days
9. Implement the feature
10. Stabilize the feature

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11. ????

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11. ????
12. Profit

RFC process

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RFC acceptance: 4 months

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11. ????
12. Profit

—— Implementation + approval: 1 month

RFC process

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8. Wait 10 days
9. Implement the feature
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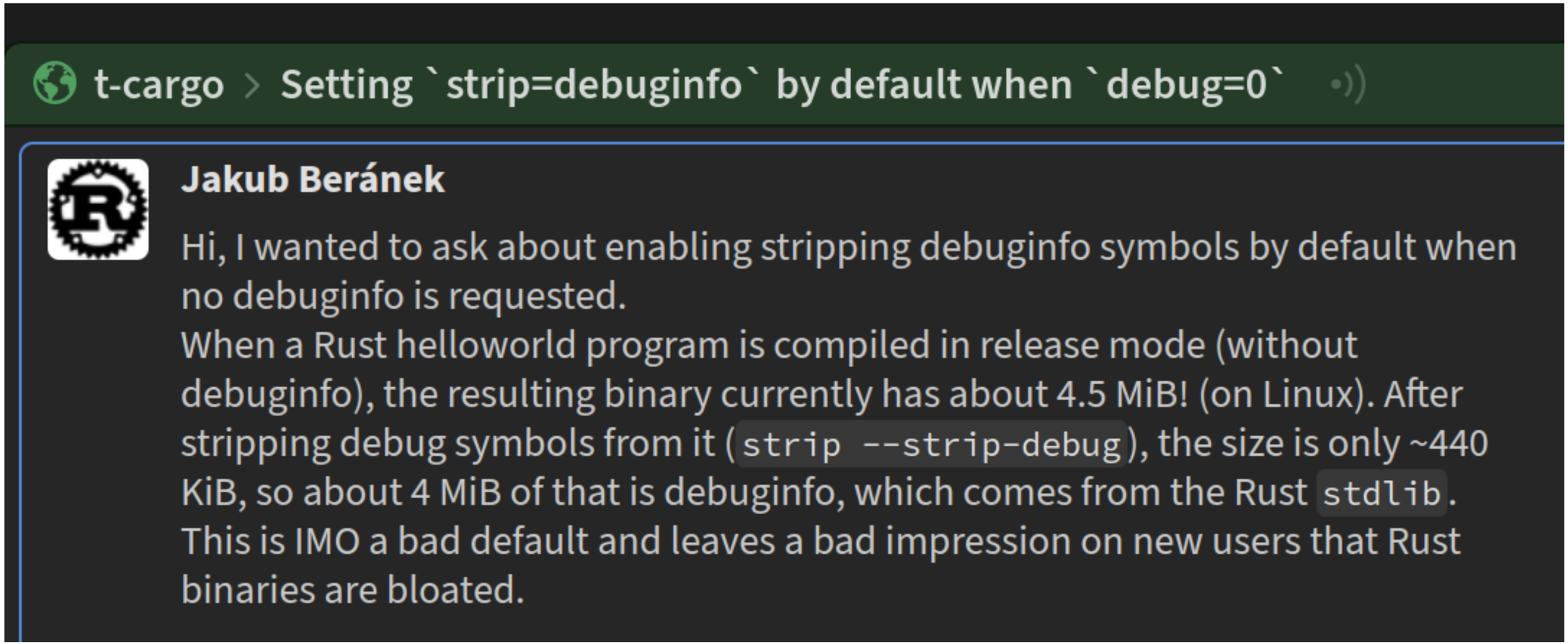
11. ????
12. Profit

—— Stabilization: 9 months

Changing Cargo defaults (FCP)



Changing Cargo defaults (FCP)

Kobzol commented 3 weeks ago • edited

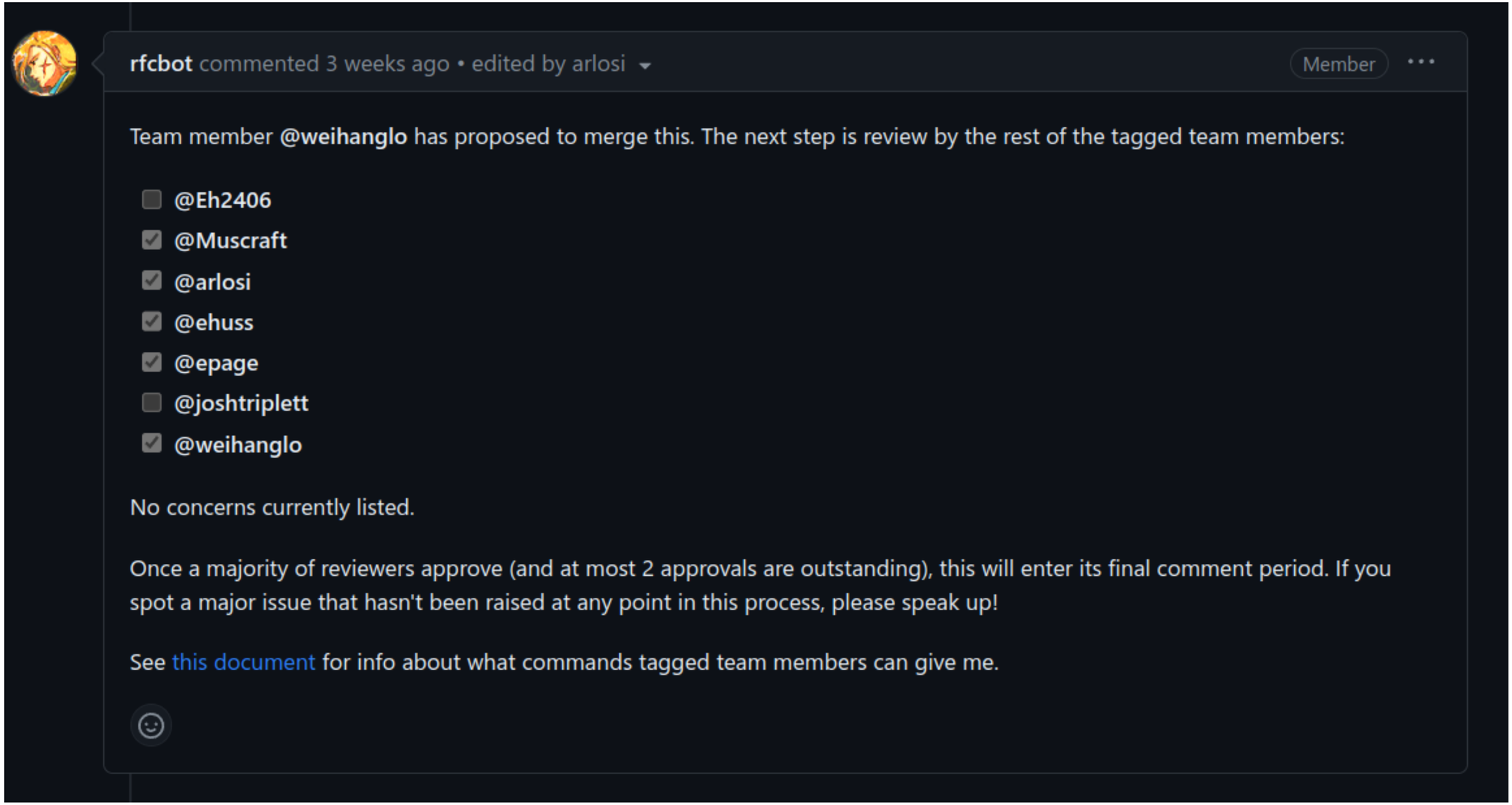
Member

I would like to propose to change Cargo defaults so that `debug = 0` implies `strip = "debuginfo"`. This has been discussed on Zulip several times, most recently here.

Motivation

Currently, when `debug = 0` is used in a Cargo profile, Cargo promises that there will be no debuginfo in the resulting binary. However, this is not true, because the standard library contains debuginfo, and this debuginfo is propagated into the resulting binary by default, unless it is stripped.

Changing Cargo defaults (FCP)



rfcbot commented 3 weeks ago • edited by arlosi

Member

Team member **@weihanglo** has proposed to merge this. The next step is review by the rest of the tagged team members:

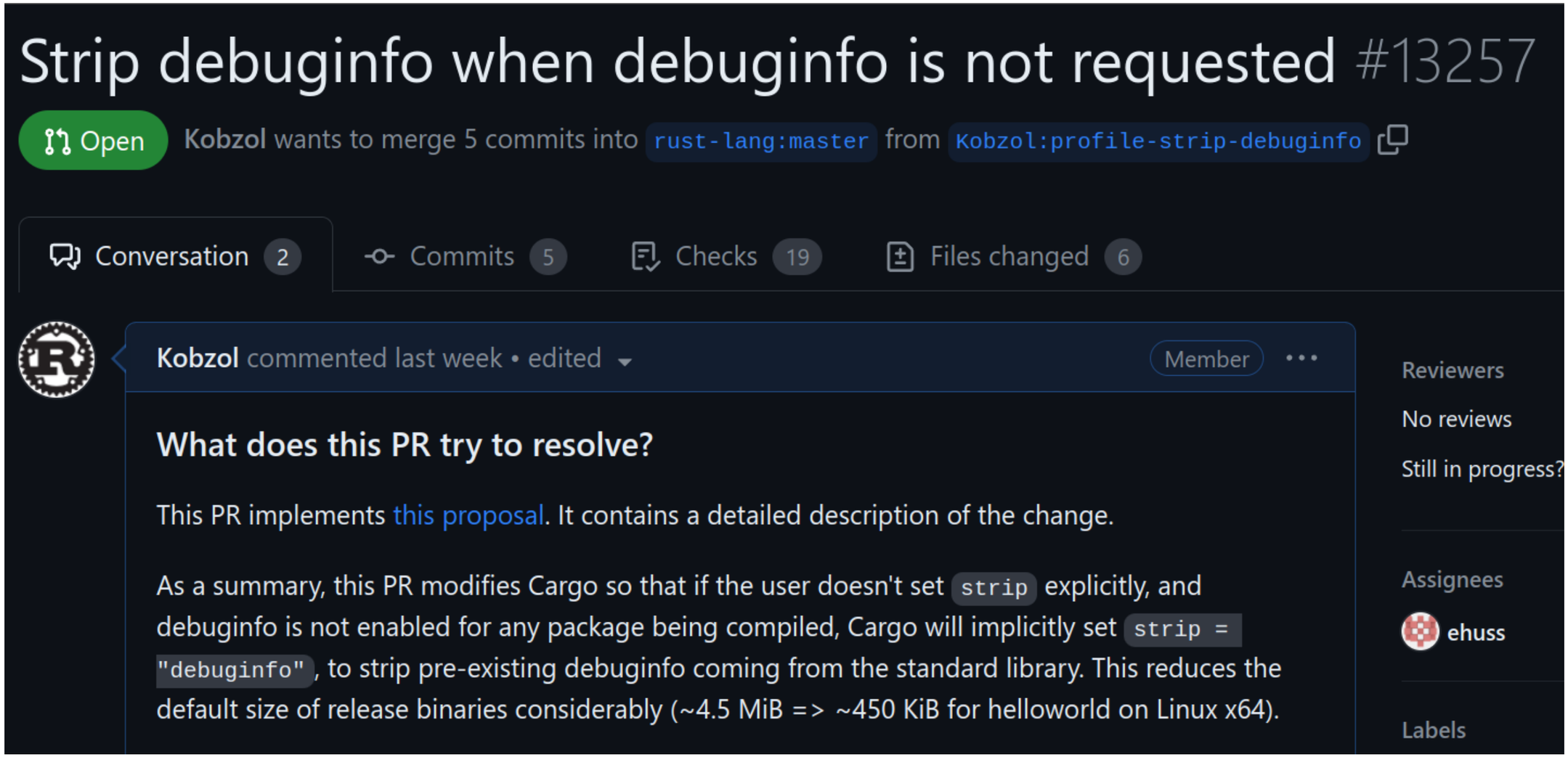
- [ ] **@Eh2406**
- [x] **@Muscraft**
- [x] **@arlosi**
- [x] **@ehuss**
- [x] **@epage**
- [ ] **@joshtriplett**
- [x] **@weihanglo**

No concerns currently listed.

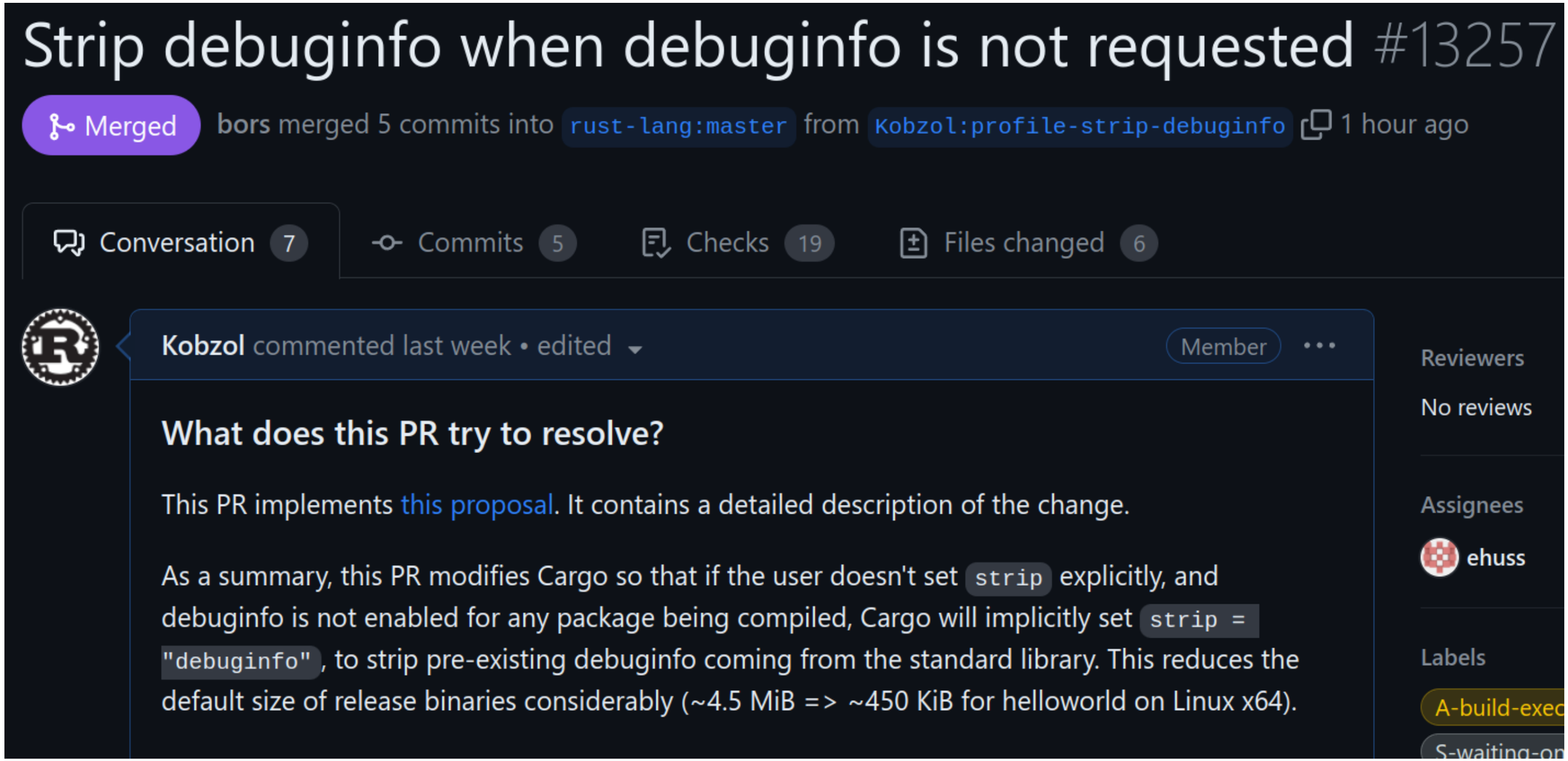
Once a majority of reviewers approve (and at most 2 approvals are outstanding), this will enter its final comment period. If you spot a major issue that hasn't been raised at any point in this process, please speak up!

See this document for info about what commands tagged team members can give me.

Changing Cargo defaults (FCP)



Changing Cargo defaults (FCP)



Changing Cargo defaults (FCP)

Less than a month

Changing Cargo defaults (FCP)

Primary benchmarks ⬇

	Benchmark	Profile	Scenario	Backend	% Change	Significance Threshold ?	Significance Factor ?
▶	helloworld	opt	full	llvm	-88.92%	0.17%	509.82x
▶	helloworld	opt	incr-unchanged	llvm	-88.92%	0.17%	508.90x
▶	helloworld	opt	incr-full	llvm	-88.92%	0.17%	508.90x
▶	helloworld	opt	incr-patched: println	llvm	-88.92%	0.17%	508.90x
▶	serde_derive-1.0.136	opt	incr-unchanged	llvm	-60.61%	0.11%	559.85x
▶	serde_derive-1.0.136	opt	incr-full	llvm	-60.61%	0.11%	559.85x
▶	serde_derive-1.0.136	opt	incr-patched: println	llvm	-60.52%	0.11%	555.62x
▶	serde_derive-1.0.136	opt	full	llvm	-59.51%	0.16%	376.52x
▶	bitmaps-3.1.0	opt	incr-full	llvm	0.06%	0.00%	31.75x
▶	bitmaps-3.1.0	opt	incr-unchanged	llvm	0.06%	0.00%	31.50x
▶	bitmaps-3.1.0	opt	incr-patched: println	llvm	0.06%	0.00%	31.50x
▶	bitmaps-3.1.0	opt	full	llvm	0.06%	0.00%	20.62x

Changing Cargo defaults (FCP)

Primary benchmarks ⤵

	Benchmark	Profile	Scenario	Backend	% Change	Significance Threshold ?	Significance Factor ?
▶	helloworld	opt	incr-unchanged	llvm	-47.35%	0.50%	95.05x
▶	helloworld	opt	full	llvm	-45.97%	0.51%	89.66x
▶	helloworld	opt	incr-patched: println	llvm	-45.72%	0.54%	84.36x
▶	helloworld	opt	incr-full	llvm	-43.68%	0.60%	72.38x
▶	serde_derive-1.0.136	opt	incr-unchanged	llvm	-7.59%	0.13%	60.08x
▶	serde_derive-1.0.136	opt	incr-patched: println	llvm	-1.54%	1.20%	1.28x
▶	serde_derive-1.0.136	opt	incr-full	llvm	-0.66%	0.24%	2.77x

How to handle conflicts?

Great int debate (2014)

Great int debate (2014)

> “We have been reading these threads and have also done a lot of internal experimentation, and we believe we’ve come to a final decision on the fate of integers in Rust.
>
> Core team (2014) ”

No new rationale

No new rationale

decisions must be made only on the basis of rationale already debated in public (to a steady state)

`Await`ing a solution (2018/2019)

Awaiting a solution (2018/2019)

```
await!(fut);
await fut;
await { fut };
fut.await;
fut.await();
fut.await!;
fut@await;
```

Resolve `await` syntax #57640

Closed **cramertj** opened this issue on Jan 15, 2019 · 512 comments

cramertj commented on Jan 15, 2019 • edited by scottmcm Member

Before commenting in this thread, please check #50547 and try to check that you're not duplicating arguments that have already been made there.

arthureroberer Apr '19

the Orthogonality argument convinced me

im now on the postfix camp

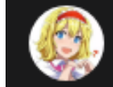
7

D

drwwlkr Apr '19

The orthogonality argument feels really unconvincing since it requires breaking what people have already learned about field access syntax.

Having magical implicit fields feels strictly worse than having to type extra parens.



Darksonn · 4 yr. ago

tokio · rust-for-linux

I also remember someone making a survey asking people which syntax they wanted, and the Rust team decided to not follow the majority of that survey. I am happy they took the decision to do that.

203 Reply Share ···

othermike · 4 yr. ago

Yeah, I'm not sure surveys of the general userbase are that useful in language design. I can remember plenty of examples of younger-me voting for a faster horse.

138 Reply Share ···

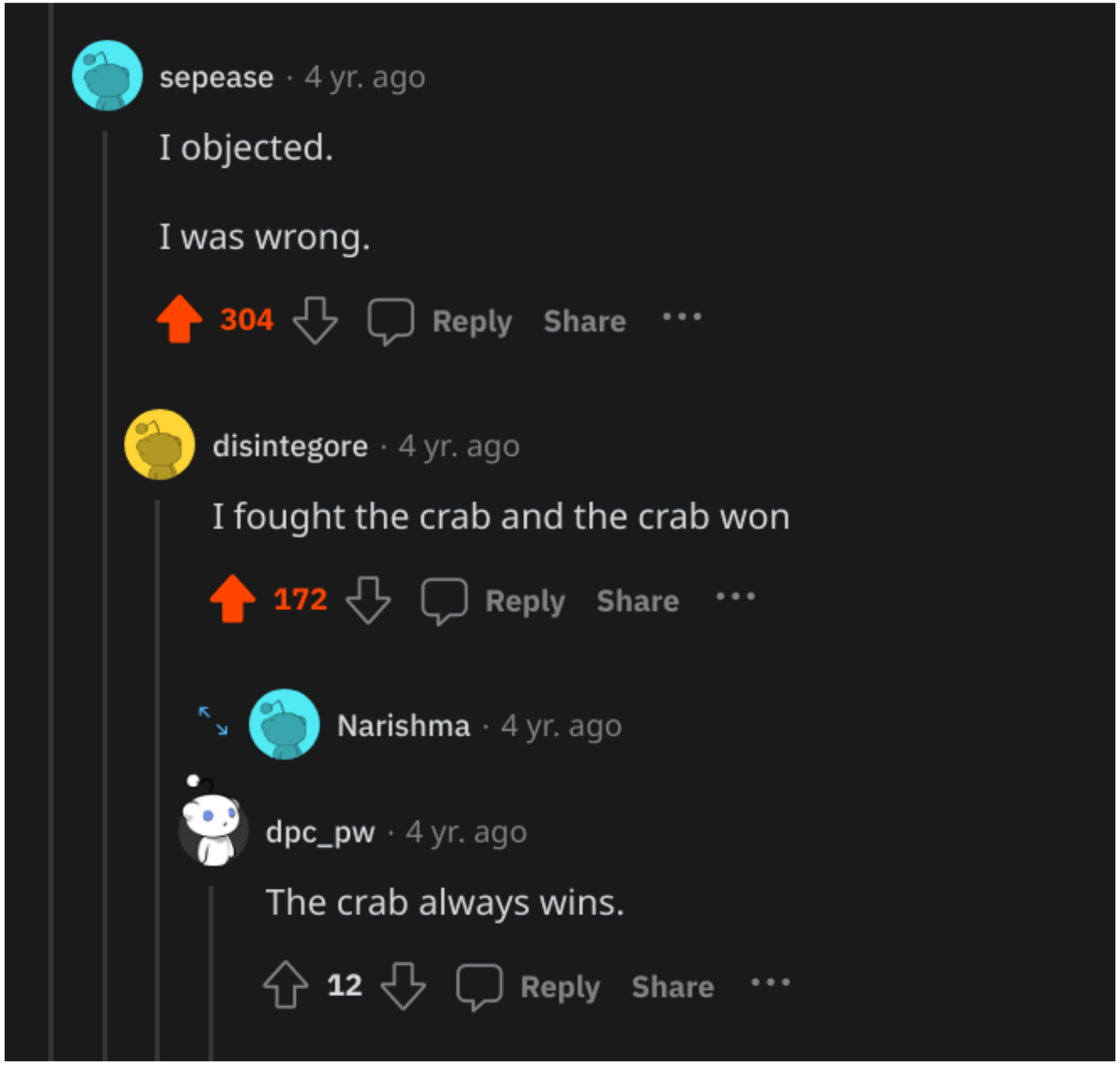
crabbytag · 4 yr. ago

> a faster horse

I googled this. It's based on a quote attributed to Henry Ford

> If I had asked people what they wanted, they would have said faster horses.

114 Reply Share ···


sepease · 4 yr. ago
I objected.
I was wrong.
304
Reply
Share
disintegore · 4 yr. ago
I fought the crab and the crab won
172
Reply
Share
Narishma · 4 yr. ago
dpc_pw · 4 yr. ago
The crab always wins.
12
Reply
Share

Unresolved conflicts

Unresolved conflicts

- Burnout

Unresolved conflicts

- Burnout
- One party leaves

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- Most work done => most voting rights?

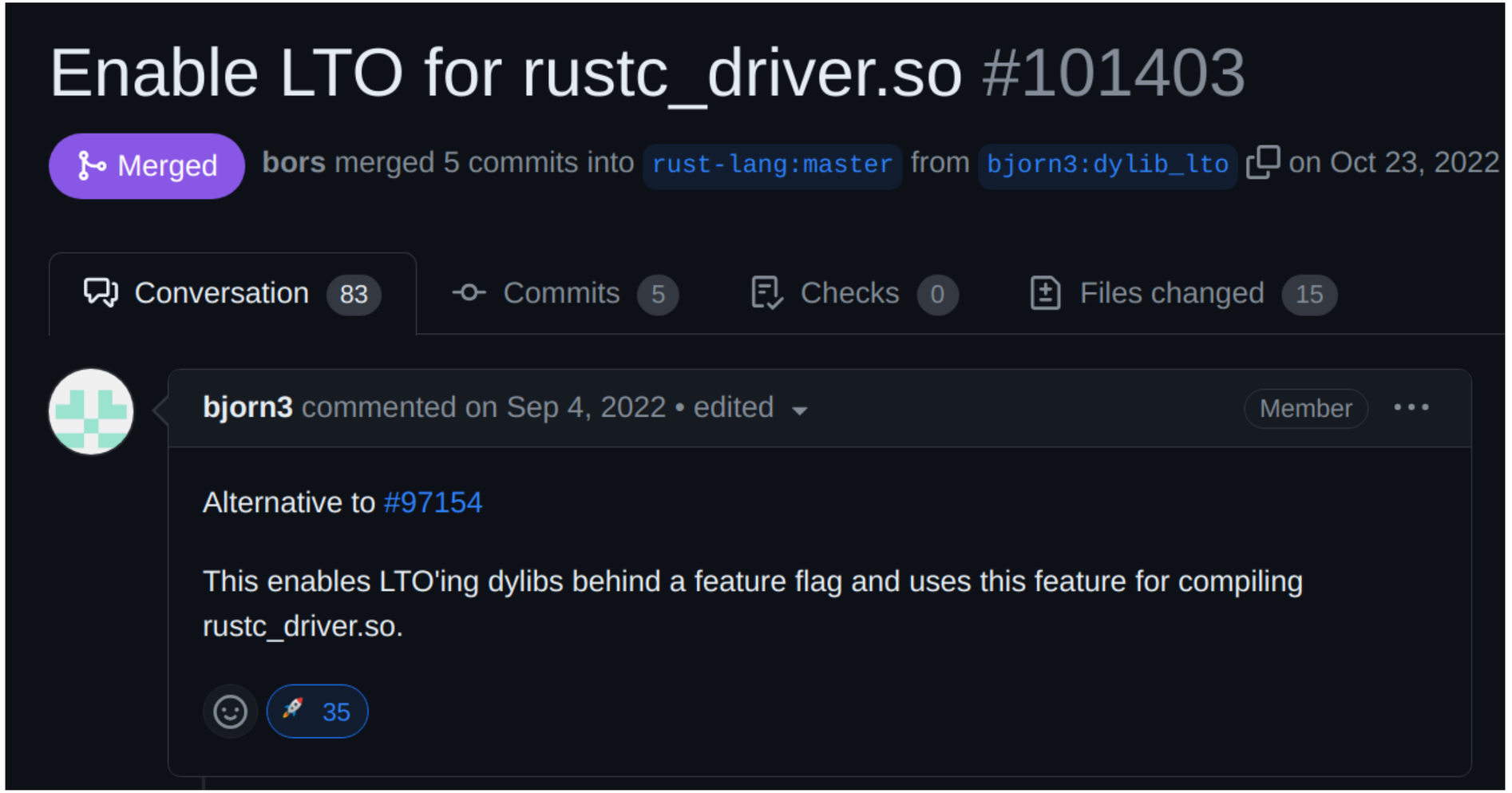
Unresolved conflicts

- Burnout
- One party leaves
- Most work done => most voting rights?
- Transparency

How to get something done?

- Poke someone to do it

How to get something done?



How to get something done?

Instruction count

This is a highly reliable metric that was used to determine the overall result at the top of this comment.

	mean[1]	range	count[2]
Regressions ❌ (primary)	-	-	0
Regressions ❌ (secondary)	-	-	0
Improvements ✅ (primary)	-4.2%	[-9.6%, -0.4%]	230
Improvements ✅ (secondary)	-4.0%	[-9.5%, -0.4%]	257
All ❌✅ (primary)	-4.2%	[-9.6%, -0.4%]	230

How to get something done?

- Poke someone to do it
- Summarize the current state

How to get something done?

CHANGED PŘED 9 MĚSÍCI

Like 4 Bookmark Subscribed

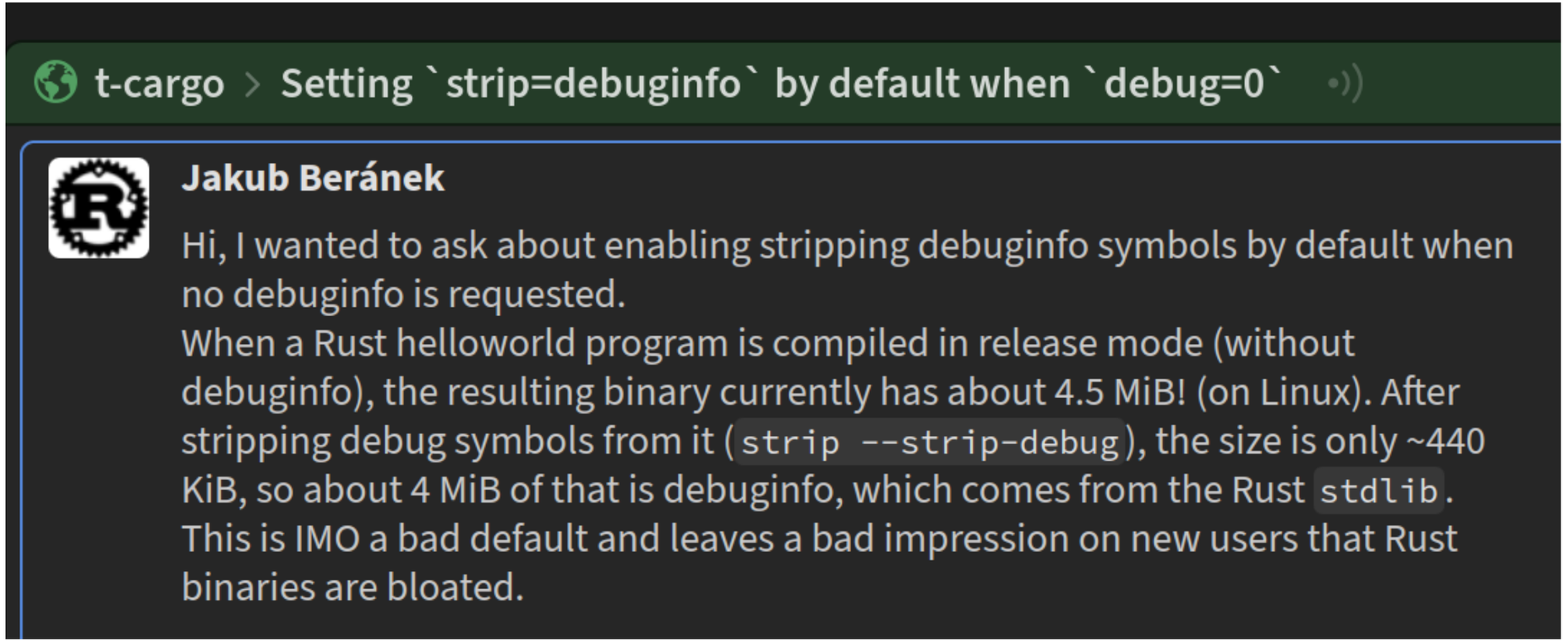
Better support of Docker layer caching in Cargo

This document serves as a summary of motivation, existing workarounds, prior art and possible solutions for the Cargo issue #2644 (dubbed "original issue" in the rest of the document), which is currently the most commented and upvoted issue on the Cargo repository. The original statement of the issue is "provide a Cargo command for building only the dependencies of a project", however this description does not adequately describe the primary problem, therefore I will mostly talk about "**modifying Cargo to better support Docker layer caching**", which is the primary use-case, as described below.

How to get something done?

- Poke someone to do it
- Summarize the current state
- Do it :-)

How to get something done?



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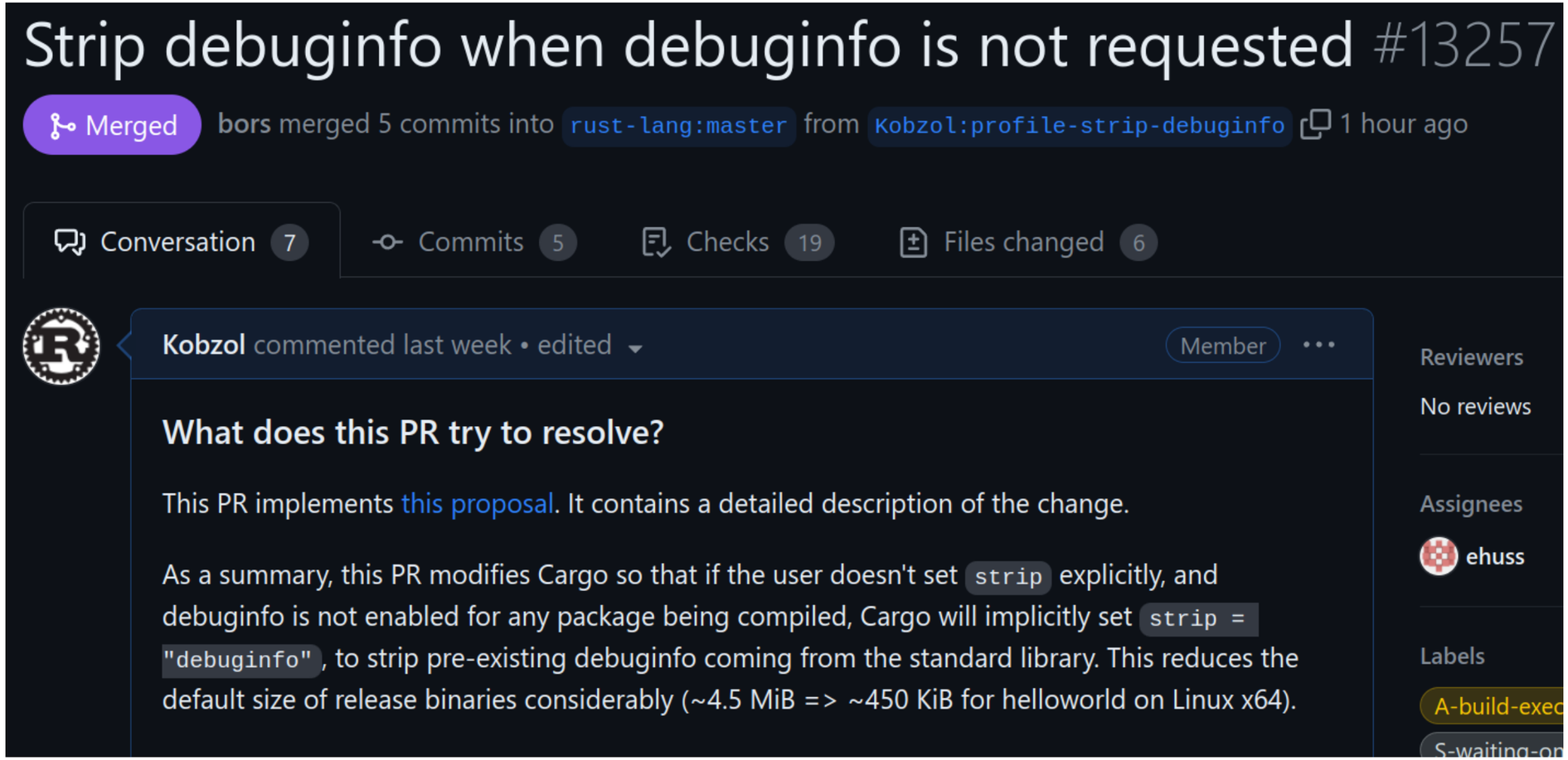

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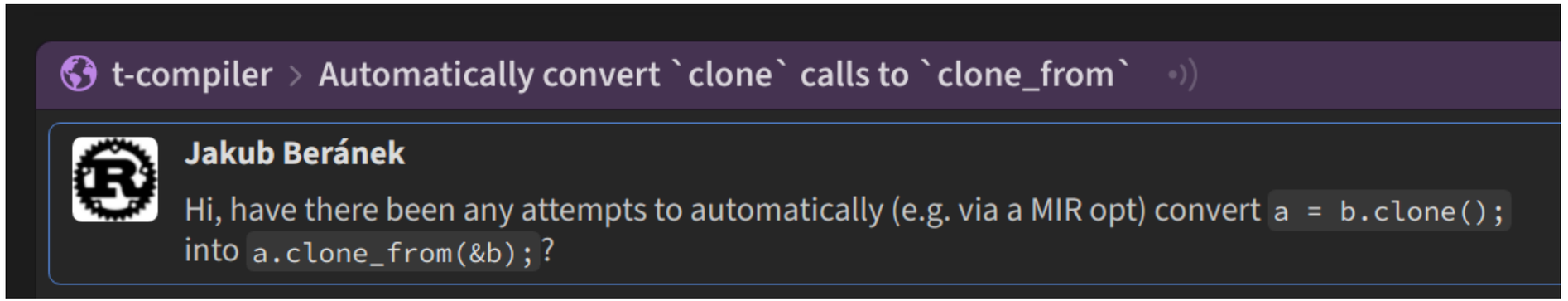

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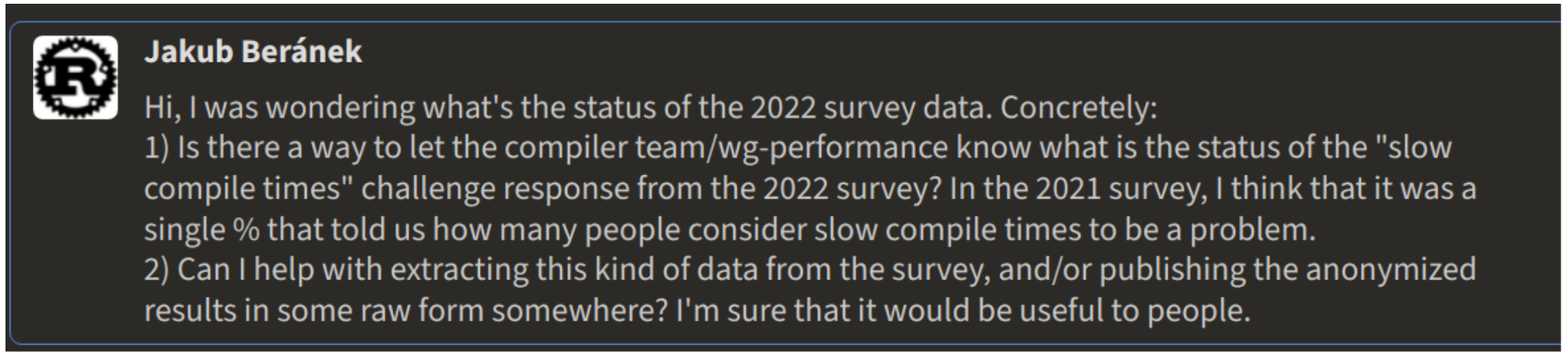

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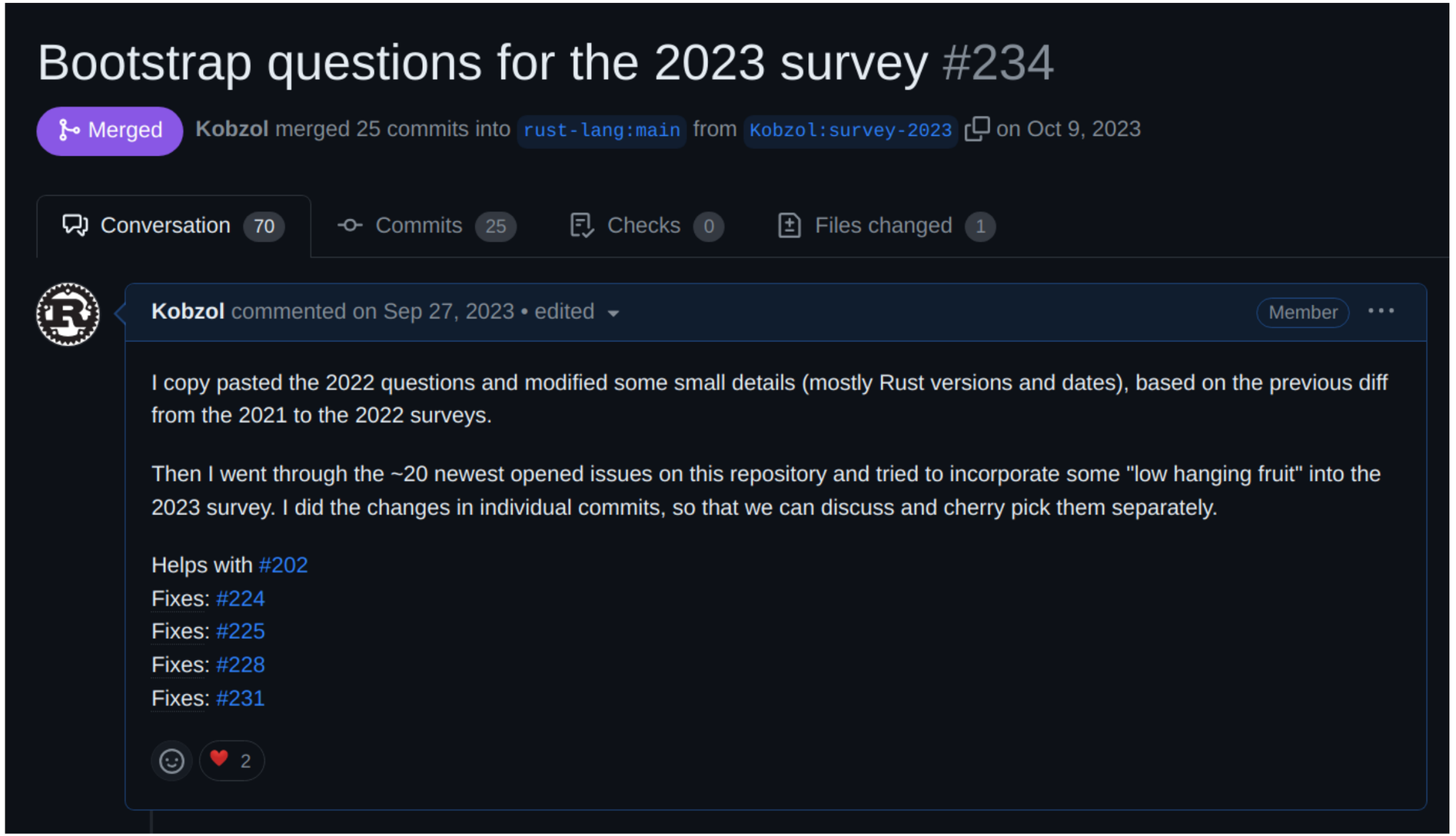

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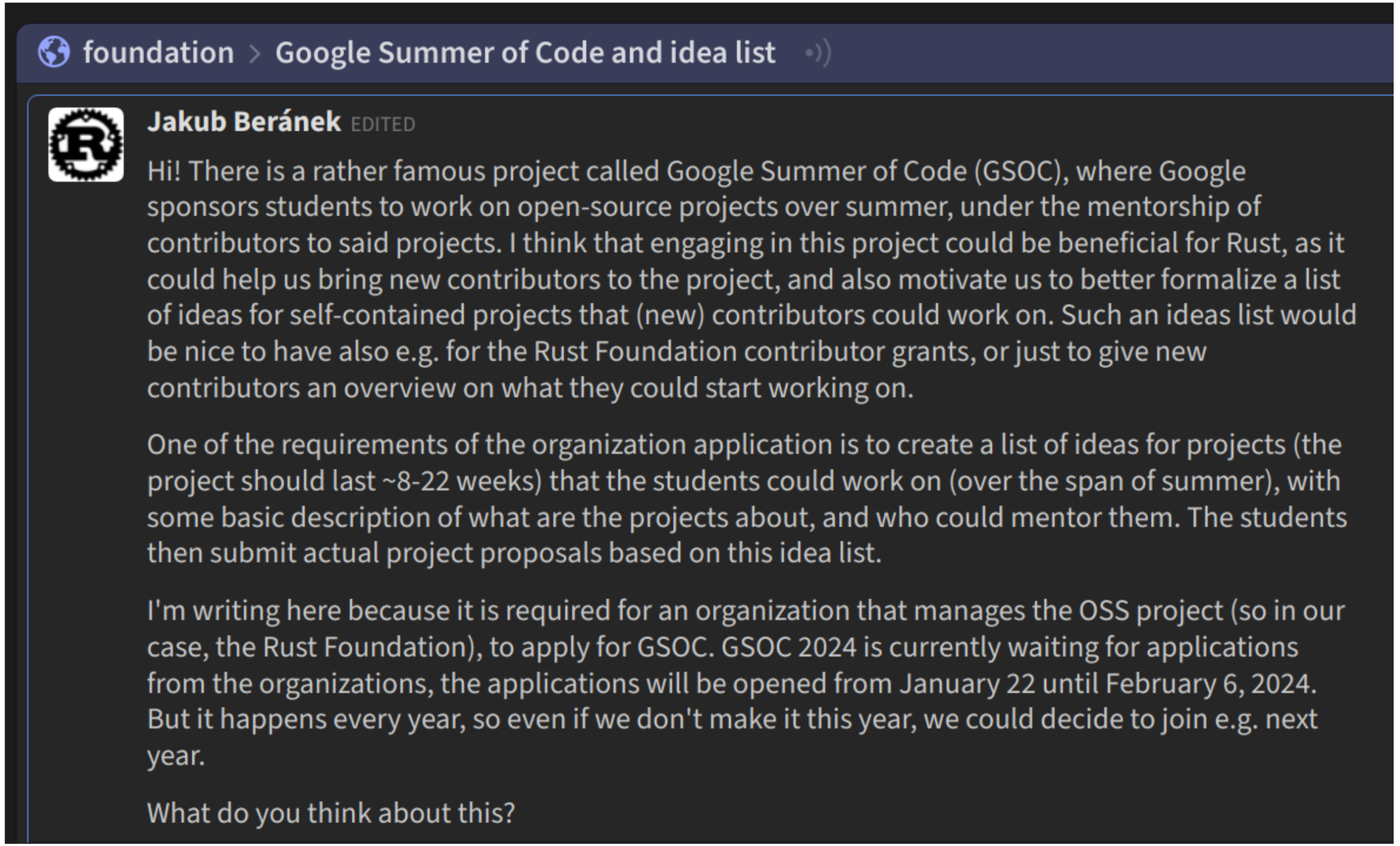

How to get something done?

OWNED THIS NOTE CHANGED PŘED 2 DNY Like Bookmark Subscribed

Rust GSoC 2024 project list

This document contains a list of projects offered by the Rust Project for Google Summer of Code (2024).

The project list should be prepared by 22. 01. 2024.

GSOC mentions that at least 4 ideas should be in the list. Optimal number is 8-10+. Note that the projects serve as inspiration for the students. They will actually write down and propose their own project topic (that could be heavily inspired by something from our list). The main thing is having a mentor available for the project.

How to join the fray?

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- Lurk, observe, engage @ Zulip
  - `https://rust-lang.zulipchat.com`

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  - Forge: `https://forge.rust-lang.org/`
  - Rustc dev guide: `https://rustc-dev-guide.rust-lang.org/`

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  - Rustc dev guide: `https://rustc-dev-guide.rust-lang.org/`
  - Stdlib dev guide: `https://std-dev-guide.rust-lang.org/`


THE RUST
PROJECT NEEDS YOU
imgflip.com

Thank you for your attention

Slides are available here:

Slides were created with `github.com/spirali/elsie`