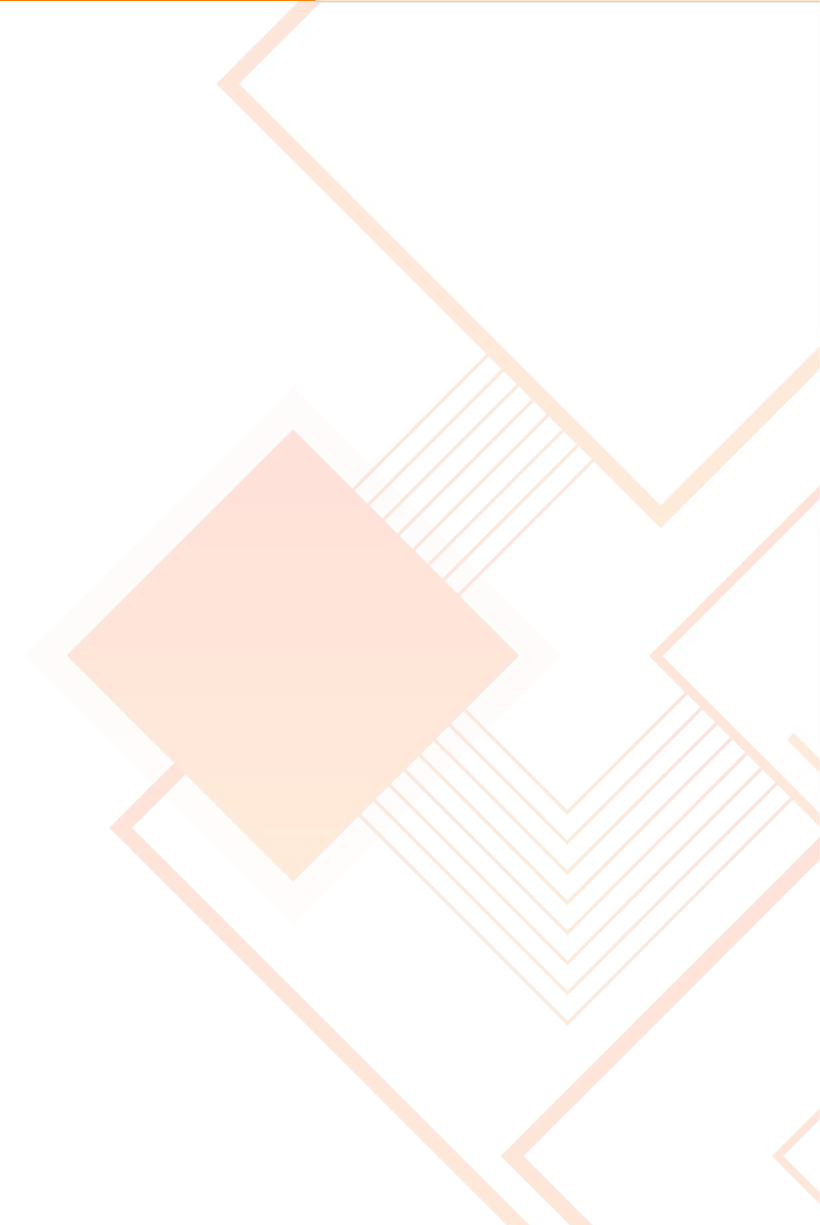# katacontainers

State of the Union
Summer 2023

Fabiano Fidêncio

Architecture Committee Member
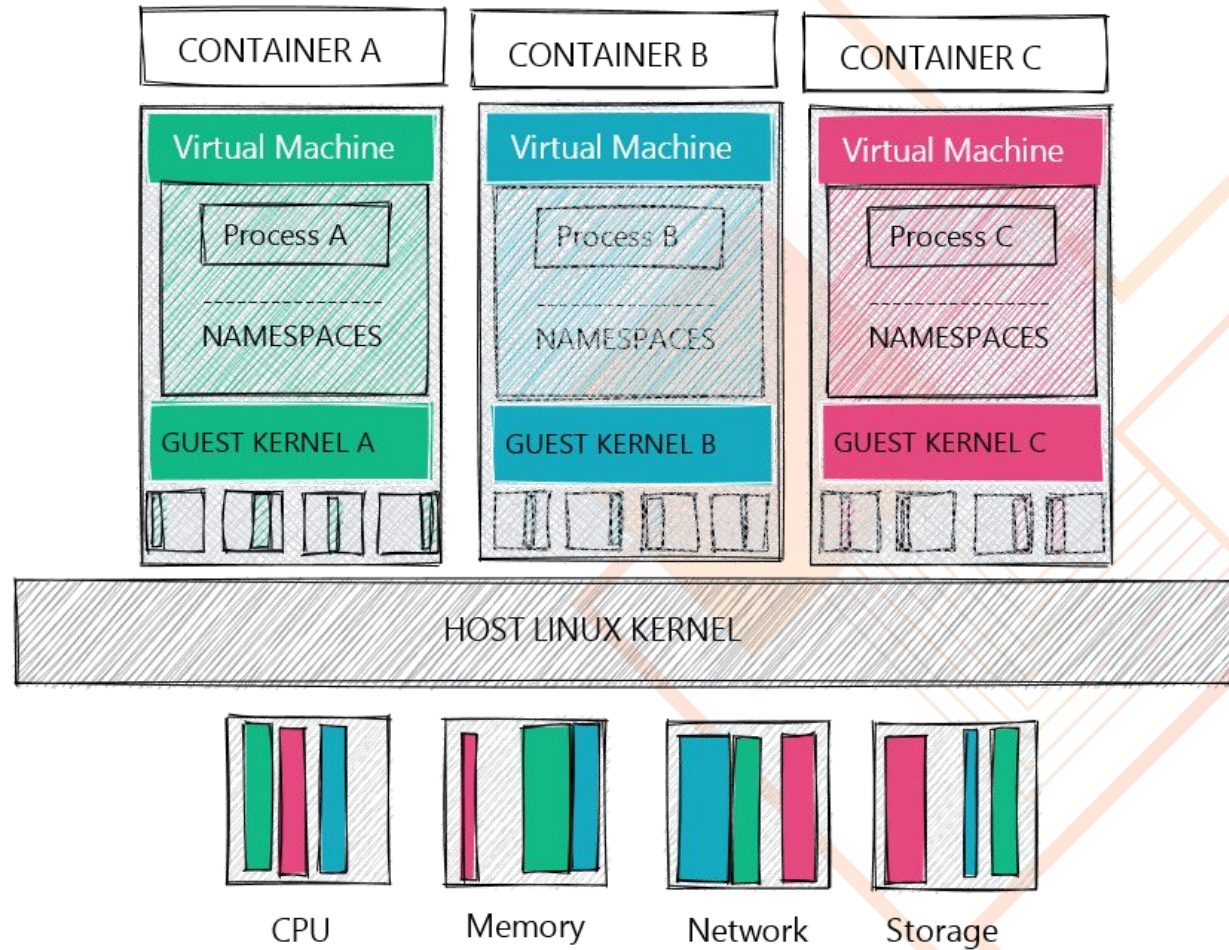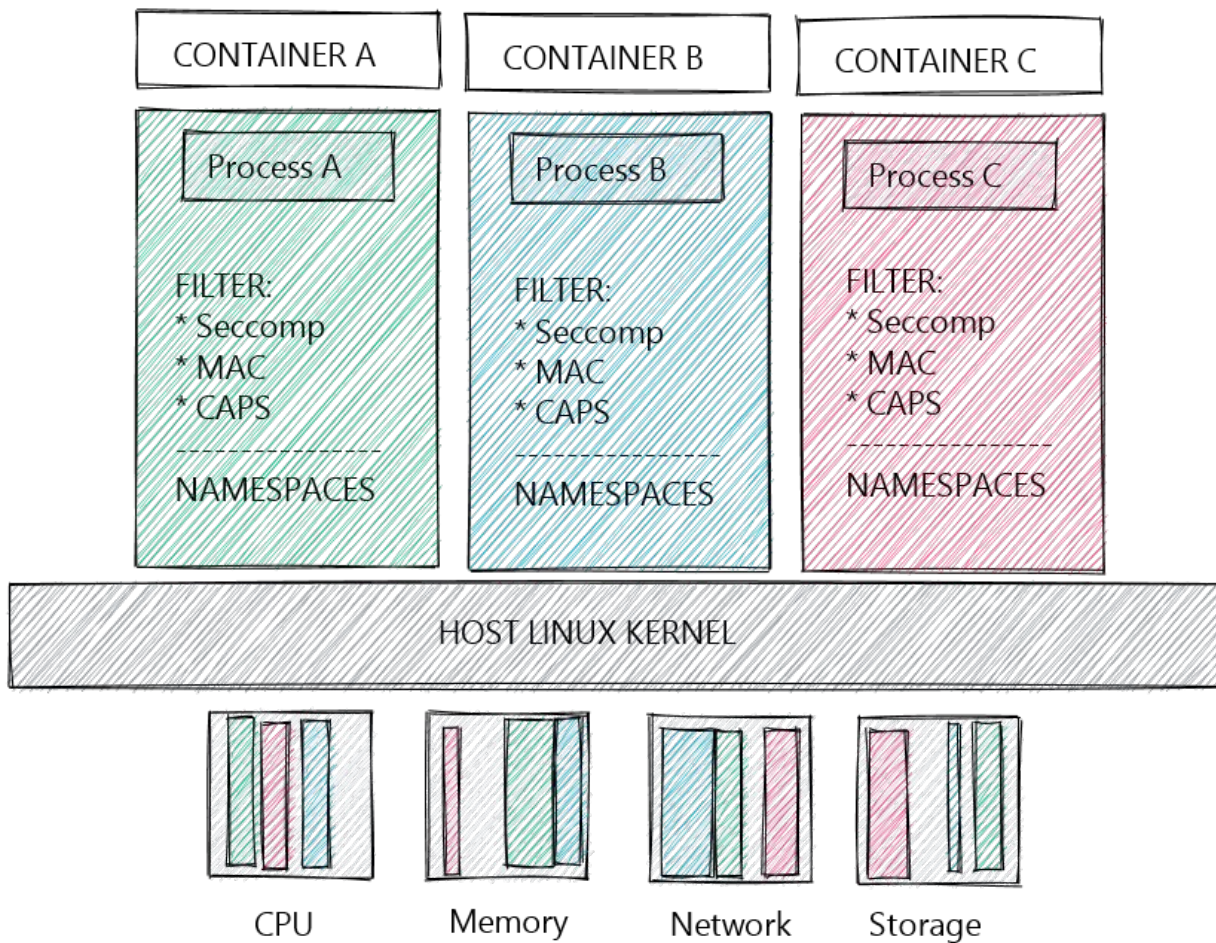
AGENTA

- A brief overview of the project

- A bunch of numbers
  - showing the project's activeness
  - showing the project's diversity

- Milestones achieved

- What we're currently working on

- Plans for the future

- Ways to get involved

- Takeaways

Traditional Containers

Kata Containers

HOW WAS 2022 FOR YOU?

kata containers

*110
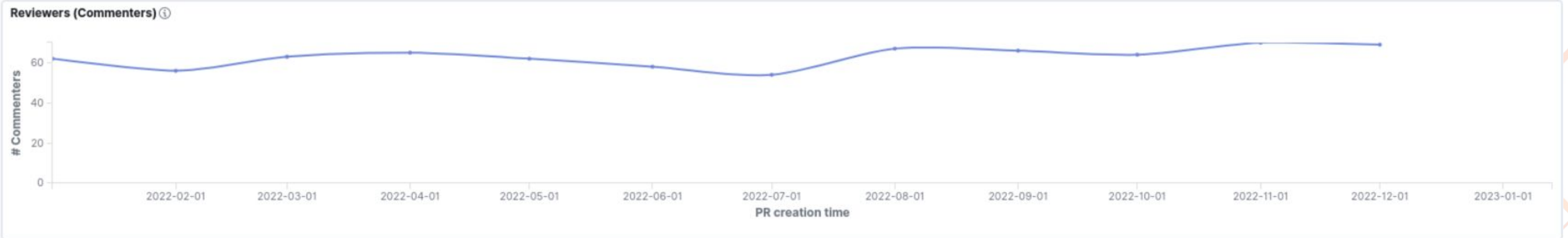
153
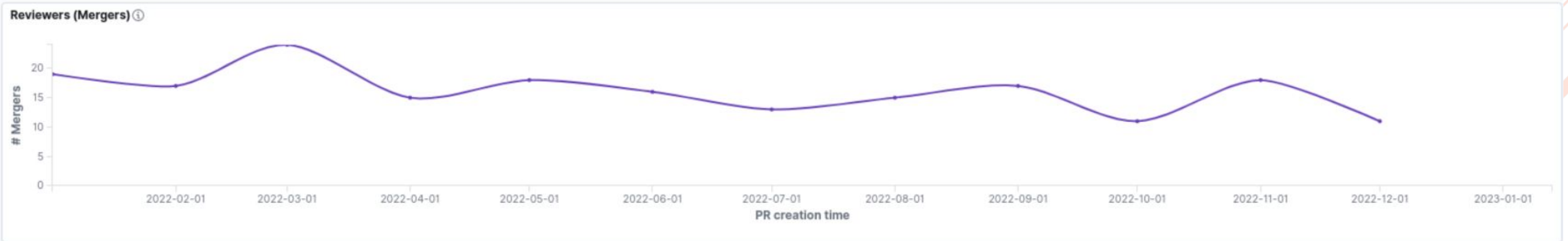# Commit Authors
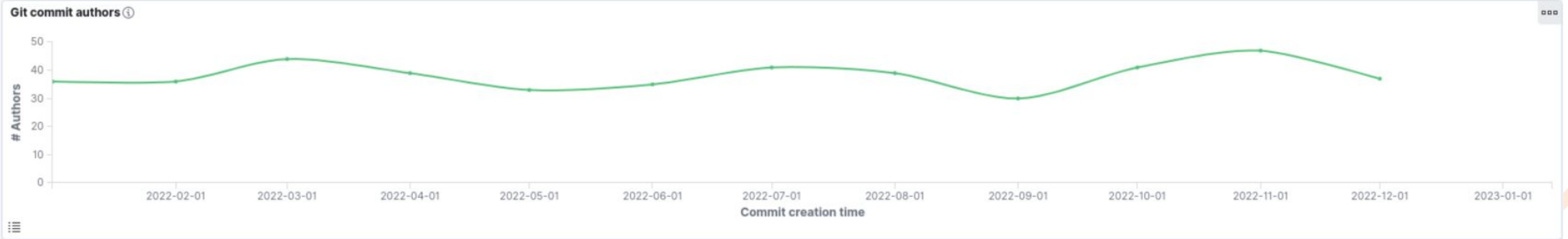
Git commit authors ⓘ

*148

202
PR Commenters

Reviewers (Commenters) ⓘ

*27

37
PR Mergers

Reviewers (Mergers) ⓘ

https://katacontainers.biterg.io/app/dashboards#/view/f68c3c00-ff9c-11ed-a419-9ff68c833570

HOW WAS 2022 FOR YOU?

katacontainers

24 *32
Organizations

Number of Contributions ⓘ

- Intel
- Unknown
- Ant Financial
- Red Hat
- IBM
- Alibaba
- Apple
- Sony
- Databricks
- ARM
- AMD
- EasyStack
- Inspur
- Bushel
- NetEase
- Nubificus
- Microsoft
- ZTE Corporation
- Sina Corporation
- 99Cloud Inc.
- NTT
- Cloudbase Solution...
- Huawei Technologie...
- Mirantis

Details ⓘ

⤓
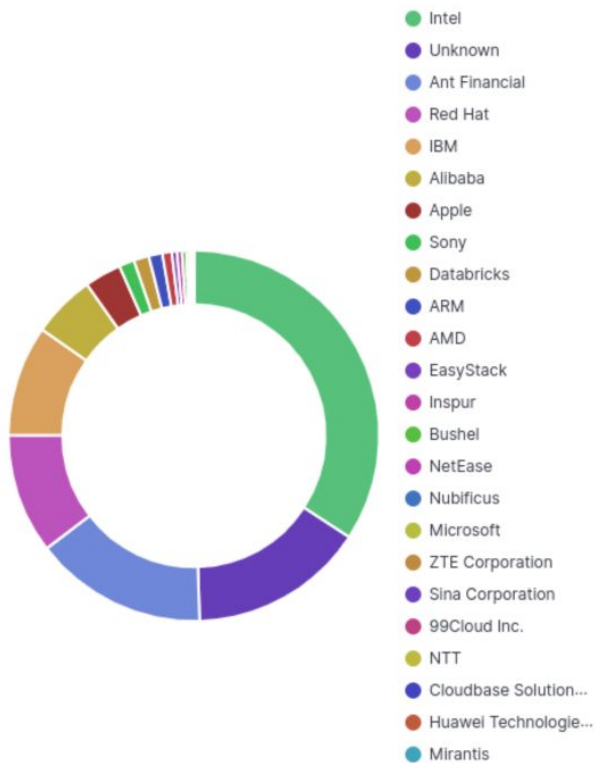
Organization	⌄	Contributions	⌄	Contributors	⌄	First Activity on	⌄
Intel		3,428		25		Jan 3, 2022 @ 08:23:36.000	
Ant Financial		1,524		6		Jan 4, 2022 @ 03:35:45.000	
Unknown		1,523		243		Jan 3, 2022 @ 13:33:47.000	
Red Hat		1,054		17		Jan 2, 2022 @ 10:02:38.000	
IBM		975		13		Jan 4, 2022 @ 10:15:09.000	
Alibaba		554		9		Jan 6, 2022 @ 17:19:49.000	
Apple		324		4		Jan 5, 2022 @ 02:16:39.000	
Sony		135		1		Jan 12, 2022 @ 11:41:05.000	
Databricks		134		2		Jan 5, 2022 @ 20:26:57.000	
ARM		119		1		Jan 4, 2022 @ 02:59:07.000	
AMD		83		2		Jan 26, 2022 @ 23:42:51.000	
EasyStack		45		2		Jan 6, 2022 @ 10:16:14.000	
Inspur		45		2		Jan 11, 2022 @ 07:50:38.000	
Bushel		37		1		Jan 24, 2022 @ 05:51:05.000	
NetEase		26		1		Apr 27, 2022 @ 12:10:16.000	
Nubificus		10		1		Jun 13, 2022 @ 17:36:43.000	
Microsoft		9		1		Oct 18, 2022 @ 19:16:46.000	
ZTE Corporation		9		1		Feb 16, 2022 @ 10:21:57.000	
Sina Corporation		5		1		Jan 11, 2022 @ 08:10:06.000	
99Cloud Inc.		2		1		Mar 14, 2022 @ 16:20:36.000	

https://katacontainers.biterg.io/app/dashboards#/view/d3bf5630-ff97-11ed-a419-9ff68c833570

‹ 1 2 ›

HOW WAS 2022 FOR YOU?

kata containers
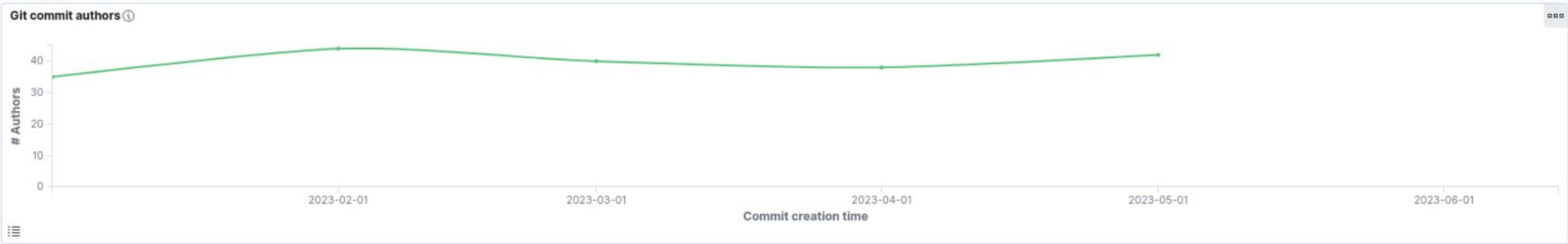
- A new major release (3.0.0) was released!

- Rustify everything!
  - runtime-rs has been introduced (not yet enabled by default)
    - single process shim-v2 + VMM
    - will still support other VMMs (such as Cloud Hypervisor, Firecracker and QEMU)

- Internship programs
  - thanks to all the students and mentors involved

- A shift to confidentiality
  - Confidential Containers spin-off
    - v0.1.0 release in September 2022

- Direct assigned volumes, Intel TDX, Nydus (image lazy loading), static sandbox resource management, switch to the rust version of virtiofsd, runk, SELinux, io_uring for QEMU, support for accelerators, and a lot of bug fixes! :-)

HOW WAS 2022 FOR YOU?

- [Red Hat officially released OpenShift Sandboxed Containers](#)
  - Their product based on Kata Containers

- A new Architecture Committee board
  - Eric Ernst (Apple)
  - Fabiano Fidêncio (Intel)
  - Gerry (Jiang Liu) (AliBaba)
    - Thanks Archana M. Shinde for the time served!
  - Samuel Ortiz (RivOS)
  - Tao Peng (Ant Financial)

- A new community manager!
  - Welcome, Treva Williams! :-)
  - Sunny Cai, thanks for all the help!
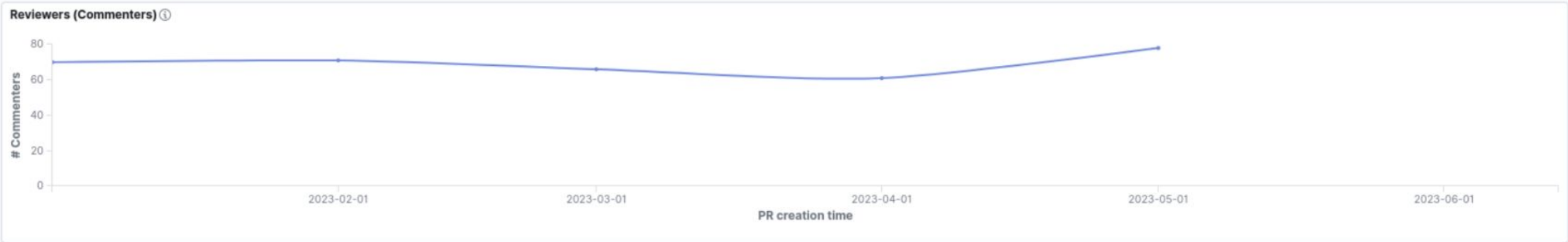
HOW HAS 2023 BEEN SO FAR?
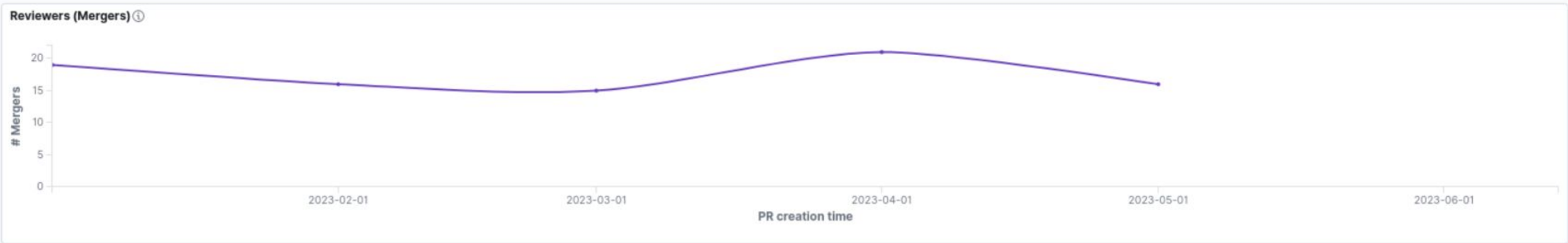

*153

95
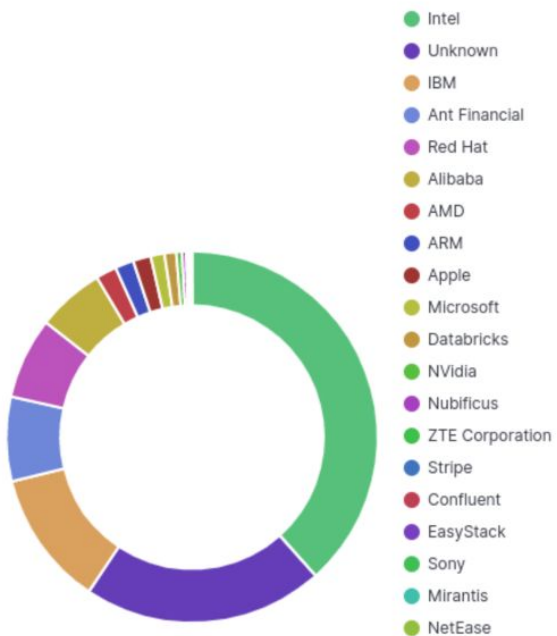# Commit Authors

*202

148
PR Commenters

*37

29
PR Mergers

https://katacontainers.biterg.io/app/dashboards#/view/f68c3c00-ff9c-11ed-a419-9ff68c833570

HOW HAS 2023 BEEN SO FAR?

20 *24
Organizations

Number of Contributions ⓘ

- Intel
- Unknown
- IBM
- Ant Financial
- Red Hat
- Alibaba
- AMD
- ARM
- Apple
- Microsoft
- Databricks
- NVidia
- Nubificus
- ZTE Corporation
- Stripe
- Confluent
- EasyStack
- Sony
- Mirantis
- NetEase

Details ⓘ

Organization	Contributions	Contributors	First Activity on
Intel	2,233	27	Jan 2, 2023 @ 09:52:41.000
Unknown	1,210	187	Jan 2, 2023 @ 10:13:24.000
IBM	685	20	Jan 3, 2023 @ 10:29:06.000
Ant Financial	427	7	Jan 3, 2023 @ 07:58:45.000
Red Hat	412	18	Jan 3, 2023 @ 08:49:34.000
Alibaba	340	14	Jan 1, 2023 @ 04:18:59.000
AMD	105	5	Jan 3, 2023 @ 18:16:02.000
ARM	94	1	Jan 5, 2023 @ 07:15:52.000
Apple	90	5	Jan 3, 2023 @ 20:32:15.000
Microsoft	70	3	Jan 26, 2023 @ 23:58:55.000
Databricks	59	1	Jan 10, 2023 @ 18:20:04.000
NVidia	29	1	Mar 13, 2023 @ 14:45:14.000
Nubificus	21	1	Feb 20, 2023 @ 21:40:24.000
ZTE Corporation	13	1	Feb 2, 2023 @ 11:41:55.000
Stripe	4	1	May 15, 2023 @ 16:03:33.000
Confluent	3	1	Jan 31, 2023 @ 18:48:49.000
EasyStack	3	1	Apr 26, 2023 @ 12:07:41.000
Sony	3	1	Jan 13, 2023 @ 07:25:25.000
Mirantis	2	1	Jan 5, 2023 @ 18:55:28.000
NetEase	1	1	Jan 16, 2023 @ 14:05:08.000

https://katacontainers.biterg.io/app/dashboards#/view/d3bf5630-ff97-11ed-a419-9ff68c833570

‹ 1 ›

- runtime-rs is getting closer to be enabled by default
  - And other support to other VMMs are landing
    - Cloud Hypervisor and Firecracker have seen a quite good progress

- AMD SEV / SNP support has been added

- GPU support has been largely improved
  - NVIDIA artefacts being shipped as part of the release

- A truly multi-arch release, for the very first time!

- The `Confidential Containers` branch started being merged into the `main` branch

- Modernising the CI
  - Switching to using GitHub actions, instead of relying on Jenkins
    - Ask me how I feel about this one in 3 months from now. :-)

HOW HAS 2023 BEEN SO FAR?

- More internship programs
  - Again, thanks to all mentors and students involved!

- Kata Containers adoption on Azure!

- And the Architecture Committee got expanded
  - Eric Ernst (Apple)
  - Fabiano Fidêncio (Intel)
  - Feng Wang (Confluent)
  - Gerry (Jiang Liu) (AliBaba)
  - Samuel Ortiz (RivOS)
  - Steve Horsman (IBM)
  - Tao Peng (Ant Financial)

AND WHAT'S ON THE HORIZON?
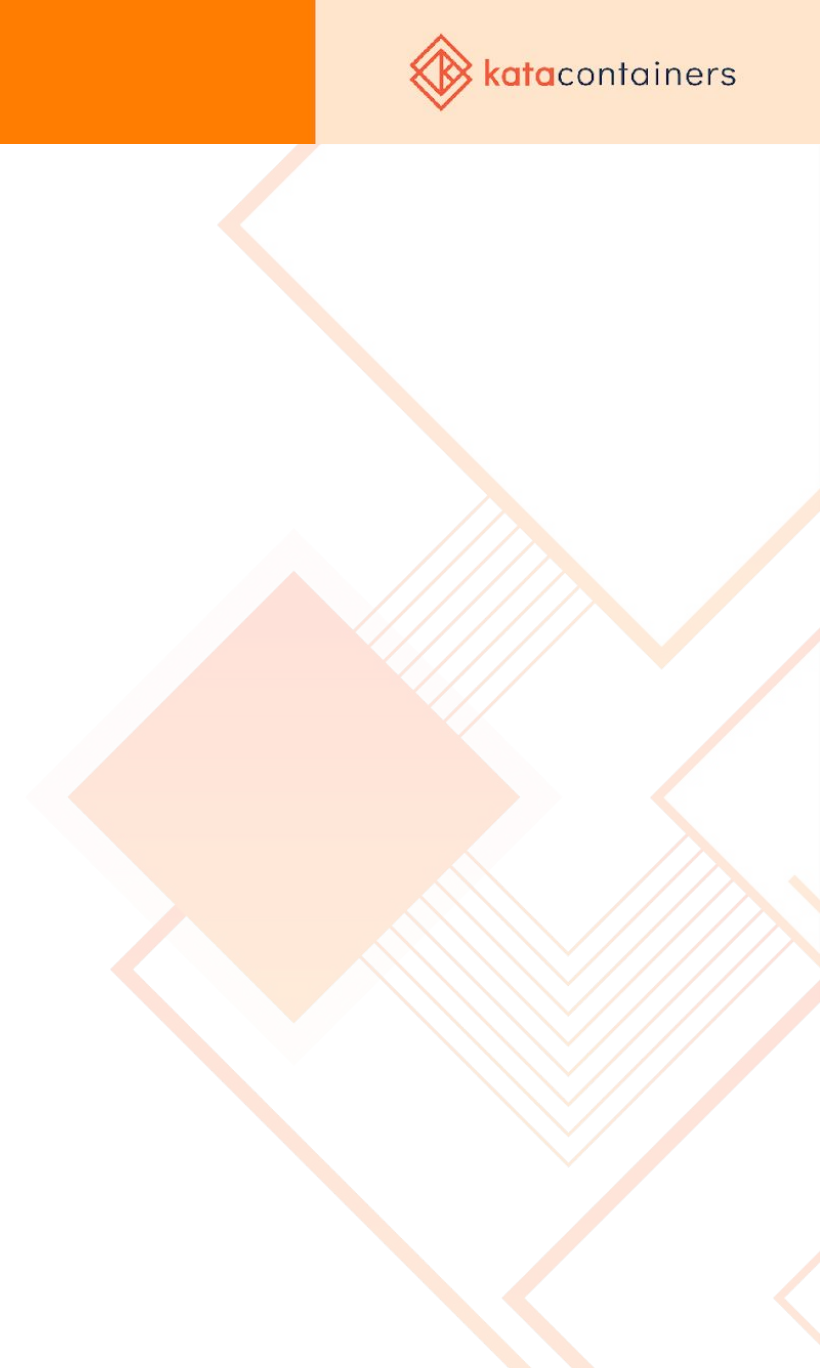
- [WASM support!](#)

- [containerd Sandbox API](#)
  - Let's make things simpler and improve our footprint with this one

- ["Remote Hypervisor" support to be added to the `main` branch](#)

- More GPU improvements are coming

- Community meetings in a better time for members based in Asia

- **4.0.0 coming on 2024's fall! :-)**

- **Your contributions!**
  - How can you contribute to the project?

CONTRIBUTING

Please, take a look at
- https://katacontainers.io/community/

Remember …

**While ideas are always welcome,
hands-on contributions are even better!**

Community | Join to contribute code, documentation, and use cases

Kata Containers is open source, which means it relies on contributors like you! All areas of Kata Containers are open for contribution. Here is some useful information.

How to Contribute

Installation Guides: View the docs
GitHub Repo: github.com/kata-containers
Onboarding Deck: View the presentation
Overview One Pager: View the PDF

Kata Containers contributor metrics are available at KataContainers.Biterg.io

Communications

Slack: Kata Slack

Mailing Lists: lists.katacontainers.io/cgi-bin/mailman/listinfo
E-mail: info@katacontainers.io
Twitter: @katacontainers

TAKEAWAYS

- We are a healthy community

- We have been growing

- We follow an Open Governance

- There's a lot of work to be done

- There's a lot of areas to be improved

- We would like to have **You** as part of the Kata Containers contributors

Thank You!

Fabiano Fidêncio
on behalf of the Architecture Committee