



From zero to developer: my one year serendipity journey with OpenTelemetry

Diana Todea - DX Engineer
VictoriaMetrics

“Everyone is a volunteer!”



OTel member and contributor

Cloud Native Days Romania organizer

CNCF Merge-Forward Neurodiversity co-lead



Diana Todea
DX@VictoriaMetrics | Observability
SME | OpenTelemetry docs localizatio...



Journeys start with a grain of curiosity

Linux Foundation community call for observability SMEs

Creating the first ever certification and exam for OpenTelemetry

OTel exam developer



CERTIFICATION

OpenTelemetry Certified Associate (OTCA)

As cloud native systems grow more complex, the demand for professionals who can leverage telemetry data is growing rapidly. Open new career paths – prove your expertise in OpenTelemetry – the industry standard for tracing, metrics & logs.

OTCA includes:

- ✓ 12-months to schedule & take the exam
- ✓ Two exam attempts

Practice makes it better

Create a POC: validate OTel in orgs with fragmented o11y

PROs: vendor neutrality, standard for OSS only

To be improved: docs, manual instrumentation, count for overhead

Limited: customize OSS visualization/dashboards

Not available: support in production

OTel considers profiling and instrumenting as a different scope!



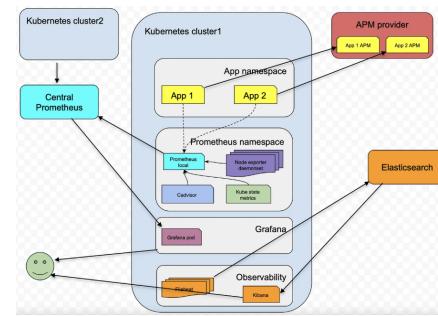
 Diana Todea · 4 min read · Jan 7, 2022



As mentioned in my previous [article](#), in 2024 I had the opportunity to work on an observability project where I wrote a proof of concept on [OpenTelemetry](#). As an SRE I saw the window to experiment with one of the most popular CNCF projects on distributed tracing and provide an open source alternative to monitor the performance of my client's applications. I had the chance to give a more in depth talk on this topic at [KCD Accra Ghana](#) as well as at [OSMC 2024](#). You can access my presentations directly on my [Github](#) repo.

Architecture

This particular observability architecture was mainly composed of **Prometheus metrics**, **Victoria Metrics**, **Grafana** for visualizations and alerting, **ELK** for logging and a commercial APM vendor. A fragmented observability architecture leads to a confusing developer and user experience, working in observability for almost 5 years now it's easy to say that most people prefer having a unified monitoring pane of glass, which is easier to onboard and manage.

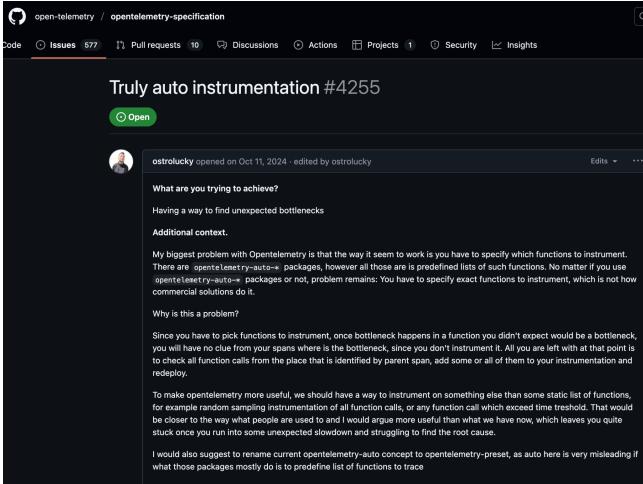


Observability architecture explaining how the K8s clusters ship metrics, traces and log



Provide developer feedback

<https://github.com/open-telemetry/opentelemetry-specification/issues/4255>



This screenshot shows a GitHub issue page for a specification repository. The issue is titled "Truly auto instrumentation" and has been opened by user "ostrolucky". The description discusses the current state of auto-instrumentation, mentioning that while there are "opentelemetry-auto-*" packages, they require specifying functions to instrument. It suggests a more dynamic approach where the tool finds unexpected bottlenecks and instruments them automatically.

Truly auto instrumentation #4255

ostrolucky opened on Oct 11, 2024 · edited by **ostrolucky**

What are you trying to achieve?

Having a way to find unexpected bottlenecks

Additional context.

My biggest problem with OpenTelemetry is that the way it seem to work is you have to specify which functions to instrument. There are `opentelemetry-auto-*` packages, however all those are are predefined lists of such functions. No matter if you use `opentelemetry-auto-` packages or not, problem remains: You have to specify exact functions to instrument, which is not how commercial solutions do it.

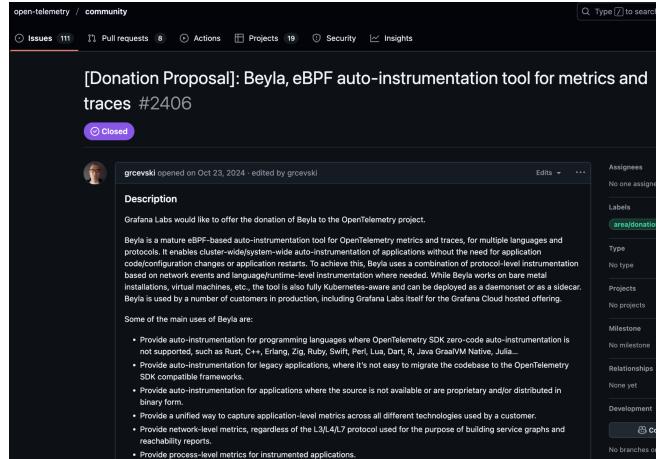
Why this is a problem?

Since you have to pick functions to instrument, once bottleneck happens in a function you didn't expect would be a bottleneck, you will have no clue from your spans where is the bottleneck, since you don't instrument it. All you are left with at that point is to check all function calls from the place that is identified by parent span, add some or all of them to your instrumentation and redeploy.

To make opentelemetry more useful, we should have a way to instrument on something else than some static list of functions, for example random sampling instrumentation of all function calls, or any function call which exceed time threshold. That would be closer to the way what people are used to and I would argue more useful than what we have now, which leaves you quite stuck once you run into some unexpected slowdown and struggling to find the root cause.

I would also suggest to rename current `opentelemetry-auto` concept to `opentelemetry-preset`, as `auto` here is very misleading if what those packages mostly do is to predefine list of functions to trace

<https://github.com/open-telemetry/community/issues/2406>



This screenshot shows a GitHub issue page for a community repository. The issue is titled "[Donation Proposal]: Belya, eBPF auto-instrumentation tool for metrics and traces" and has been closed by user "grcevski". The description explains that Grafana Labs would like to offer the donation of Belya to the OpenTelemetry project. Belya is described as a mature eBPF-based auto-instrumentation tool for OpenTelemetry metrics and traces, supporting multiple languages and protocols. It enables cluster-wide/system-wide auto-instrumentation of applications without the need for application code/configuration changes or application restarts. The tool uses a combination of protocol-level instrumentation based on network events and language/runtime-level instrumentation where needed. It is designed to be fully Kubernetes-aware and can be deployed as a daemonset or as a sidecar. Some of the main uses of Belya are listed in the description.

[Donation Proposal]: Belya, eBPF auto-instrumentation tool for metrics and traces #2406

grcevski opened on Oct 23, 2024 · edited by **grcevski**

Description

Grafana Labs would like to offer the donation of Belya to the OpenTelemetry project.

Belya is a mature eBPF-based auto-instrumentation tool for OpenTelemetry metrics and traces, for multiple languages and protocols. It enables cluster-wide/system-wide auto-instrumentation of applications without the need for application code/configuration changes or application restarts. To achieve this, Belya uses a combination of protocol-level instrumentation based on network events and language/runtime-level instrumentation where needed. While Belya works on bare metal installations, virtual machines, etc., the tool is also fully Kubernetes-aware and can be deployed as a daemonset or as a sidecar. Belya is used by a number of customers in production, including Grafana Labs itself for the Grafana Cloud hosted offering.

Some of the main uses of Belya are:

- Provide auto-instrumentation for programming languages where OpenTelemetry SDK zero-code auto-instrumentation is not supported, such as Rust, C++, Erlang, Zig, Ruby, Swift, Perl, Lua, Dart, R, Java GraalVM Native, Julia...
- Provide auto-instrumentation for legacy applications, where it's not easy to migrate the codebase to the OpenTelemetry SDK compatible frameworks.
- Provide auto-instrumentation for applications where the source is not available or are proprietary and/or distributed in binary form.
- Provide a unified way to capture application-level metrics across all different technologies used by a customer.
- Provide network-level metrics, regardless of the L3/L4/L7 protocol used for the purpose of building service graphs and reachability reports.
- Provide process-level metrics for instrumented applications.



Individual Contributor in Cloud Native

Not org
dependent

Code
NO Code
contribution

Multiple
OSS
projects

Local communities

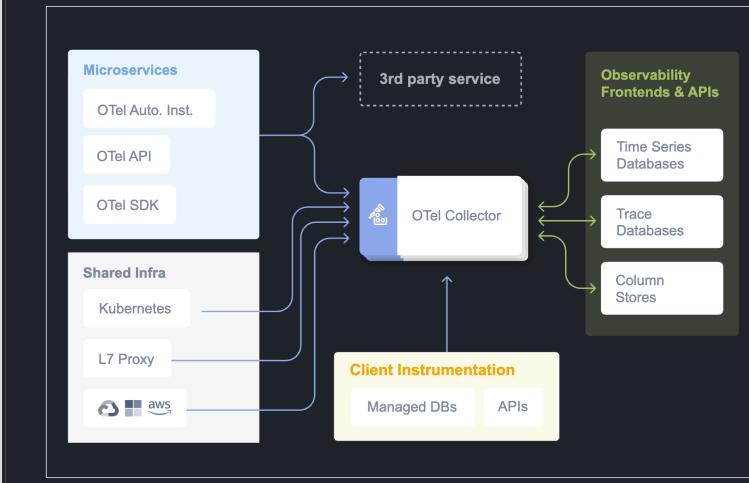
#otel-docs-localization
#otel-localization-es
#cloud-native-valencia
#cnd-romania



Documentation

OpenTelemetry, also known as OTel, is a vendor-neutral open source [Observability](#) framework for instrumenting, generating, collecting, and exporting telemetry data such as [traces](#), [metrics](#), and [logs](#).

As an industry-standard, OpenTelemetry is [supported by more than 90 observability vendors](#), integrated by many [libraries, services, and apps](#), and adopted by [numerous end users](#).



বাংলা (Bengali)

Français

Українська (Ukrainian)

Español

Português

Română (Romanian)

日本語 (Japanese)

中文 (Chinese)

Localization



NO Code
contributions

= **HUGE IMPACT**



Empower OTel localization

Submit an issue, create a first PR
Build a community around localization
New SIG: #otel-localization-ro

Adding Romanian as new docs localization language #7626

[Open](#)

didiViking opened last month · edited by svrmn

Edits · Member · ...

Language info:
◦ ISO 639-1 language code: RO
◦ Language name: Romanian

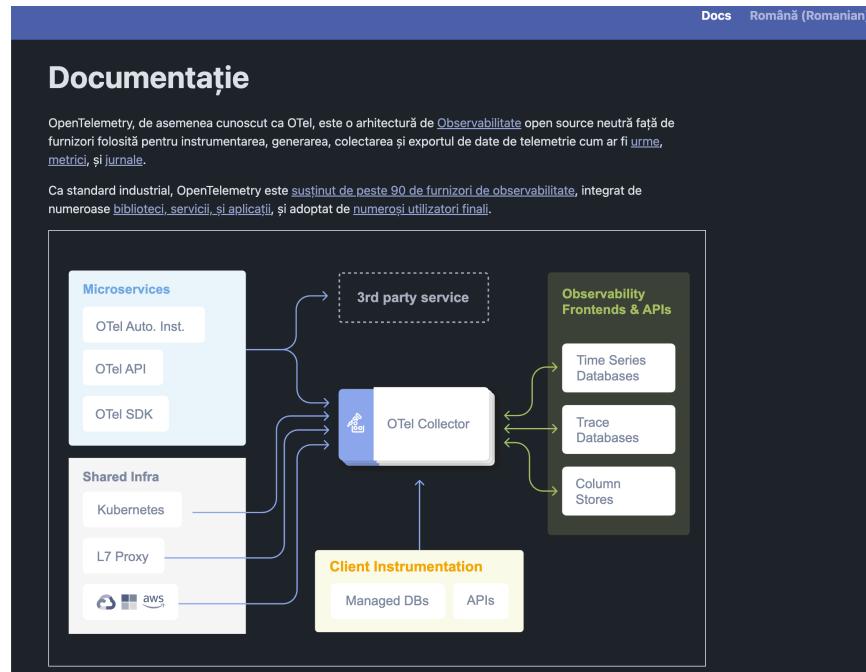
Locate team info:
◦ Locale mentor: [@didiViking](#)
◦ Contributors: [@victorvarza](#)

Read through [Localization](#) and all other pages in the Contributing section

Localize site homepage to Romanian [I+ feat: \[ro\] Create content/ro/_index.md #7626 #7628](#)

OTel maintainers:
◦ Update hugo.yaml
◦ Configure cSpell and other tooling support
◦ Create an issue label for lang:RO
◦ Create org-level group for RO - approvers

Update components owners for content/RO



Share with larger audiences



Developer Experience contributions



DIANA TODEA

Developer Advocate at Aircall

Sessions

From zero to developer: my one year serendipity journey with OpenTelemetry

Go back

OSMC

SUMMIT D'ATELIER

FROM ZERO TO DEVELOPER: MY ONE YEAR SERENDIPITY JOURNEY WITH OPENTELEMETRY

Becoming a contributor to an open-source project is a transformative step in any developer's career. This session explores the journey from first-time contributor to active developer, covering best practices for navigating project communities, understanding codebases, and making meaningful contributions. Learn strategies for selecting the right project, mastering collaboration tools, and embracing the culture of open-source development. The audience will be inspired by my one year journey with the open source project OpenTelemetry, how I have built a proof of concept for it and achieved developer status for this project. By the end of the talk, the public will gain insights into the tools to become a better developer and how to build more engagement with the community.

SPEAKER

Diana Todea
Aircall

5-6 MAY 2025

Cloud Native Days Romania

The CloudNative & CloudNative community will gather at the Bucharest Convention Center for a two-day technical event loaded with exciting talks and networking opportunities. Cloud Native Days Romania is aimed at developers, system administrators, and other professionals with an interest in cloud-native technologies.



From zero to developer: my one year serendipity journey with OpenTelemetry

Cloud Native Santo Domingo

[Online] Women in Cloud Era @ Cloud Native Kuala Lumpur Meetup - September 2025



From zero to developer: my one year serendipity journey with OpenTelemetry

2025-06-19 15:05—15:30, Grote Zaal

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Virginia Diana Todea

Diana is a Developer Advocate and a Senior Site Reliability Engineer. She is passionate about observability, machine learning and open source projects. She is an OpenTelemetry contributor and loves sharing her knowledge with the community by participating to tech conferences and writing articles.

Open ObservabilityCon + Tel Community Day

June 26

Denver, Colorado

#OpenO11yCon #OTelDay



VictoriaMetrics

Simple, Reliable, Efficient Monitoring

victoriametrics.com

Educate through written content

Cloud Native Days Romania 2025-tales from the field

Diana Todea · 4 min read · May 8, 2025



I had the honor to participate at Cloud Native Days Romania's 2nd edition, hosted in Bucharest, Romania, on the 5th and 6th of May and honestly I was amazed. Meeting with a vibrant open source community, talented organizers and an overall curious audience that made me feel that I belonged, what a dream come true.



Formerly known as Kubernetes Community Days Romania, CND Romania has reinvented itself this year adding an extra day for workshops. From CI/CD pipelines with Dagger, to GitOps with FluxOperator, Ray and Kubernetes for ML projects, Istio Service Mesh and many other exciting topics, no wonder the workshop day reached its full capacity.

Why feedback matters for open source

Diana Todea · 3 min read · Jan 7, 2025



My 2024 has been a year where I finally immersed myself in the open source realm. It has been on my mind for a while to start contributing to an open source project, however I wanted to pick the right project that resonated with my current on-going work.

Putting doubts aside, I was really impressed with OpenTelemetry's popularity and the fact that so many organizations already adopted it into their production environments. When I started drafting my GenerativeAI talk, I interacted with OpenTelemetry, APM and Elastic's Observability stack. Seeing how everything blended together was a great experience, so when the chance opened up to contribute to OpenTelemetry project, I jumped right into it.

OTCA certification from Linux Foundation has been released on the market just very recently. It is the first exam and certification covering the OpenTelemetry topic at its foundational level. I got the chance to contribute as a developer to OTCA exam, writing questions, double checking the documentation sources and putting myself in the shoes of a person who wants to get certified on OpenTelemetry. For me it has been the perfect opportunity to get closer to an open source project I admired from afar and interacting with the open source community.

OpenTelemetry project has a vast documentation with a tendency to get complicated really fast. Some parts are still developing and definitely are in need of developers' constant feedback. It's hard to perceive OpenTelemetry's level of difficulty from afar, you actually have to put your working gloves and deploy it. Later on in 2024, I had the chance to get my hands "dirty" with such an observability project and build the proof of concept for OpenTelemetry with several SDKs, documenting my experience in this article.

OpenObservabilitySummit and OTEL Community Day 2025 recap

Diana Todea · 6 min read · Jun 30, 2025



Last Thursday in Denver, US, OTEL Community Day event took place as part of the Open Observability Summit and it was a blast. I had the chance to participate with a lightning talk and learn about all the latest releases within the Open Observability realm.

Below, you can find the summary based on the sessions I participated at, the official videos will be released on the CNCF YouTube channel in a couple of weeks. The OTEL Community Day had two parallel tracks and some of the presentations are already uploaded on the schedule page.

Make your own journey!

- Your motivation is your super power!
- Diversify your contributions
-  code-no-code contributions
- Pair up and mentor





We seek to empower underrepresented groups to become more visible and active community members.

- ➔ The "new home" for Community Groups
- ➔ **#merge-forward** on the CNCF Slack

Join us!

Merge Forward Groups

- ◆ Deaf and Hard of Hearing
- ◆ Blind and Visually Impaired
- ◆ Stuttering and Speech Diversity
- ◆ Neurodiversity
- ◆ Deep Roots
- ◆ Women in Cloud Native
- ◆ Friends of Dorothee



community.cncf.io/merge-forward/



Resources

[I played with OTel and I liked it](#)

[Why feedback matters for Open Source](#)

<https://opentelemetry.io/blog/2025/devex-survey>

<https://opentelemetry.io/community/>

<https://opentelemetry.io/blog/2025/contribex-survey-results/>

<https://training.linuxfoundation.org/certification/opentelemetry-certified-associate-otca/>

<https://www.cncf.io/people/ambassadors/application-process/>



Danke!

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X: @dianavtodea

Github: @didiViking/Conferences_Talks

LinkedIn: @diana-todea-b2a79968



VictoriaMetrics Community