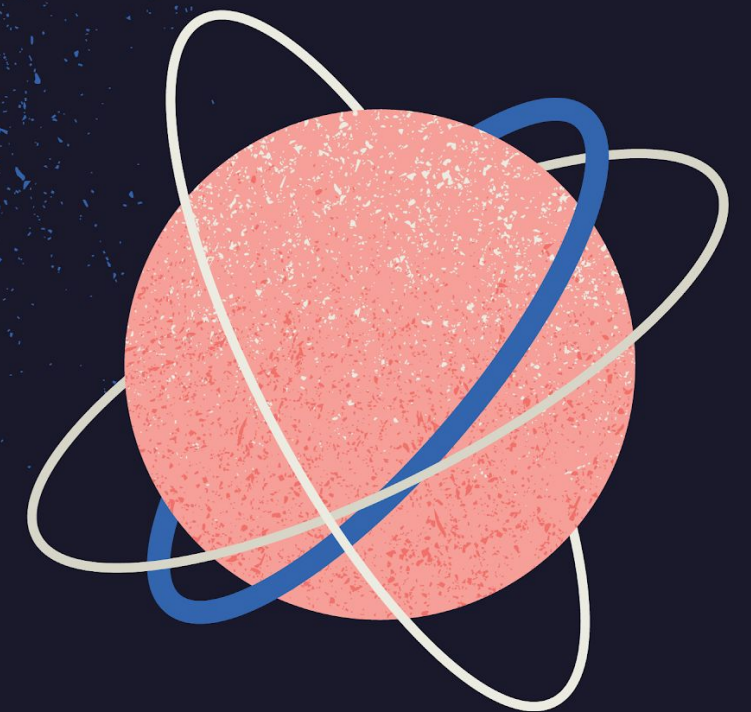


**FORUM**PHP  
PARIS2022

# OpenTelemetry

Vers un standard pour surveiller  
vos applications

@b\_viguier  
platform.sh





# STANDARD

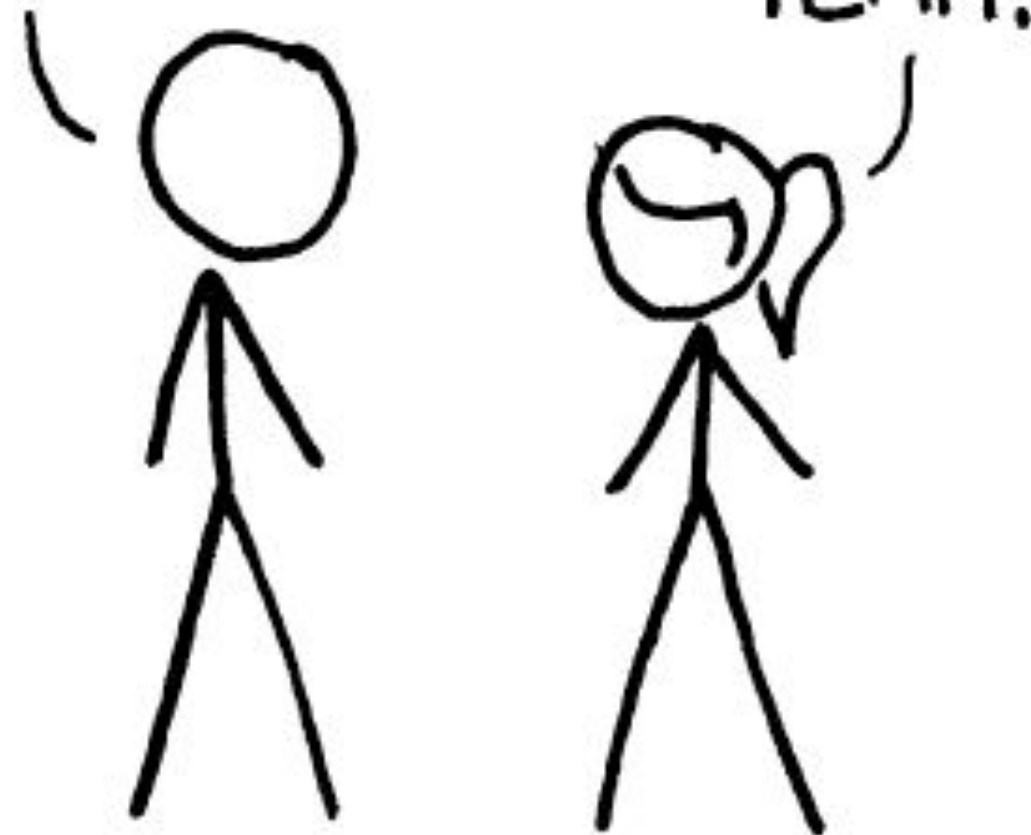


# HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION:  
THERE ARE  
14 COMPETING  
STANDARDS.

14?! RIDICULOUS!  
WE NEED TO DEVELOP  
ONE UNIVERSAL STANDARD  
THAT COVERS EVERYONE'S  
USE CASES.



SOON:

SITUATION:  
THERE ARE  
15 COMPETING  
STANDARDS.

<https://xkcd.com/927/>



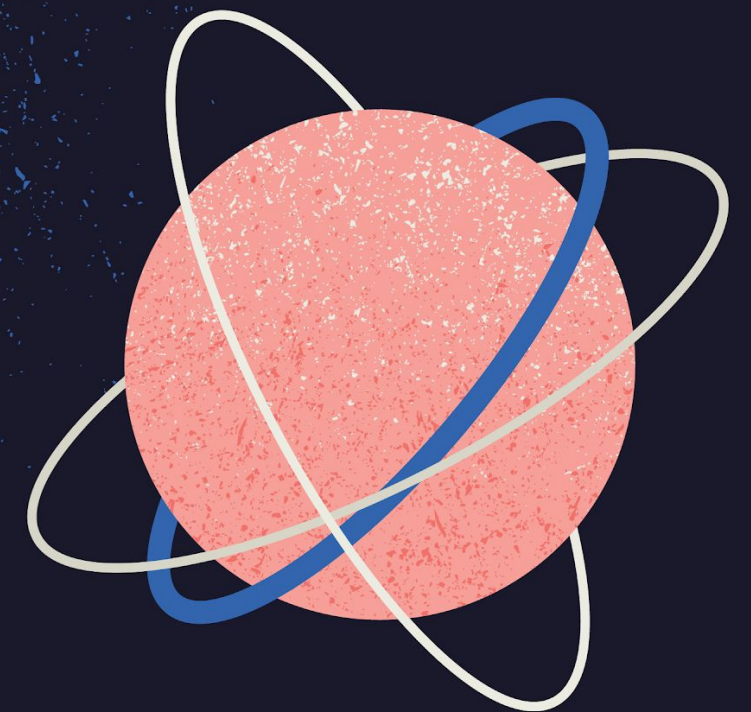
# blackfire.io

A Platform.sh product

# Le *Monitoring*

De quoi parle-t-on ?


@b\_viguiet  
platform.sh







Est ce que  
ça marche ?



**Pourquoi**  
**ça ne marche**  
**pas ?**



FLIGHT  
AXI

1847  
GMT LOC  
ET / CHR  
0000  
30

DATE  
LA  
MT  
ET

ELEVATOR TRIM  
SHUT OFF

TERRAIN  
INHIBIT

COURSE

NAV SOURCE

HDG

ALT

ALT SEL

NODE DN

NODE UP

HDG

NAV

APPR

BC

STBY

IAS

VS

VNAV

ALT

ALT SEL

HDG

NAV SOURCE

COURSE

1847  
GMT LOC  
ET / CHR  
0000  
30

DATE  
LOC  
LA  
MT  
ET

ELEVATOR TRIM  
SHUT OFF

TERRAIN  
INHIBIT

HGS

TERR ON

MSG

108

12

014  
002

TAS GS

TCAS STBY

DME1 1.2 NM

DME2 1.2 NM

PFC

SPOTLERS

RUD

L ELEV

R ELEV

STD

1016 hPa

60

40

20

0

10

10

20

30

40

50

60

CAGE

BARO

29.99 In

TRQ

NH

0.0

PROP

0

ITT

17

19

NL

0

OIL

17

PSI

0

FUEL

2270

2330

+17

+19

SAT +20 °C

OIL

17

PSI

0

LEFT

NOSE

RIGHT

LANDING GEAR

DN

UP

LOCK RELEASE

HORN MUTE

TEST

GPWS

LANDING FLAP

HYDRAULIC CONTROL

STBY HYD PRESS

PTU CNTRL

HYD #3 ISOL VLV

TERR ON

FMS2 029°

600

0.7 NM

014  
002

TAS GS

TCAS STBY

DME1 1.3 NM

DME2 1.3 NM

FLAP

5

10

15

35

HYD PRESS

1

2

3

4

5

HYD QTY

1

2

3

4

5

AIRCRAFT STATUS

CAT III

INIT 1/1

DATE

18-MAY-19

TIME

18:46:44

NAV DATABASE EXPIRES

23-MAY-19

DATA

NAV

VNAV

DTG

LIST

PREV

1

2

3

TANK 1 AUX PUMP

TANK 2 AUX PUMP

FUEL CONTROL

TR/ER

TO TANK 1

TO TANK 2

ENGINE CONTROL

EVENT MARKER

RDC TOP

TRO

RESET

DEC

MTOP

RDC LG

MCL

MCR

#1 ALT FTNR

PROPELLER CONTROL

AUTOFEATHER

#2 ALT FTNR

NAV

1/3

FR KPD

TO

HDG029

NX (VECTOR)

XTK(T)

R0.00

GS

WND

T/

ANP

0.03

DATA

NAV

VNAV

DTG

LIST

PREV

1


2

3





**Avez-vous**  
**besoin de**  
***Monitoring ?***



**Combien de temps  
votre application  
peut-elle rester  
en panne ?**

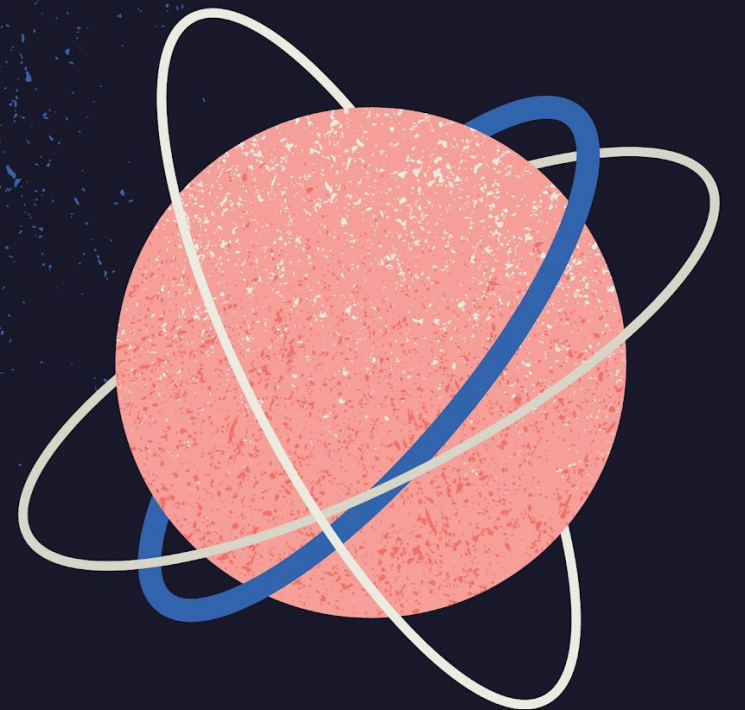


# Par où commencer ?

Quelques pistes

@b\_viguier  
platform.sh

**FORUM**PHP  
PARIS2022



# **Solution *Analytics***

**Le plus connu**



matomo

DashboardAll WebsitesTag Manager⚙️🔗

🔍

▼ WIKIMINI

📅 2020-12-29

🏠 ALL VISITS

▼ DASHBOARD

NEW UPDATE: MATOMO 4.1.0 ⓘ

⬆️

Dashboard

Dashboard

👤 Visitors

🔔 Behaviour

📅 Acquisition

🎯 Goals

Visits in Real-time

DATE	VISITS	ACTIONS
Last 24 hours	10,921	20,296
Last 30 minutes	409	784

Wednesday, December 30, - 16:33:10 (7 min 42s) 🇫🇷🌐💻👤

Google

Actions: 📁🔗📁🔍📁🔍🔍🔍📁📁🔗📁🔍

Wednesday, December 30, - 16:33:10 (3 min 18s) 🇫🇷🤖📱👤

Direct Entry

Actions: 📁📁

Wednesday, December 30, - 16:33:09 🇮🇪🌐👤

Google, Keywords: "liste des dieux grecs"

Actions: 📁

Wednesday, December 30, - 16:33:08 🇫🇷🤖📱👤

Direct Entry

Actions: 📁

Wednesday, December 30, - 16:33:05 🧑🇫🇷🌐💻👤

Bing

Actions: 📁

Wednesday, December 30, - 16:33:03 (23s) 🇫🇷🌐🤖📱👤

Google

Visits Over Time

Movers and Shakers

No rows match the criteria

Visits Overview

11,012 visits, 10,189 unique visitors

1 min 49s average visit duration

74% visits have bounced (left the website after one page)

1.8 actions (page views, downloads, outlinks and internal site searches) per visit

149 max actions in one visit

18,287 pageviews, 14,544 unique pageviews

Visitor Map

10,189 unique visitors

🔍🌐 Countries

World-WideUnique visitors

Channel Types

CHANNEL TYPE	VISITS	UNIQUE VISITORS	USERS
⊕ Search Engines	9,539	8,962	-
Direct Entry	1,410	1,287	-
⊕ Websites	55	54	-
⊕ Social Networks	8	8	-

Matomo.org Blog

# Solution *Analytics*

## Avantages

- Simple
- Orienté *Business*

## Inconvénients

- Orienté *Business*
- Lié au *frontend*



# Sonde HTTP

Le moins intrusif



TIME PICKER  
Last 30 mins



### Filter locations

Tokyo, JP

Columbus, OH, USA

Portland, OR, USA

### SORT BY

Duration (desc)



☒ include failed results

Tokyo, JP  
25 minutes ago

16.1 s

Portland, OR, USA  
3 minutes ago

14.6 s

Portland, OR, USA  
23 minutes ago

14.6 s

Tokyo, JP  
6 minutes ago

12.6 s

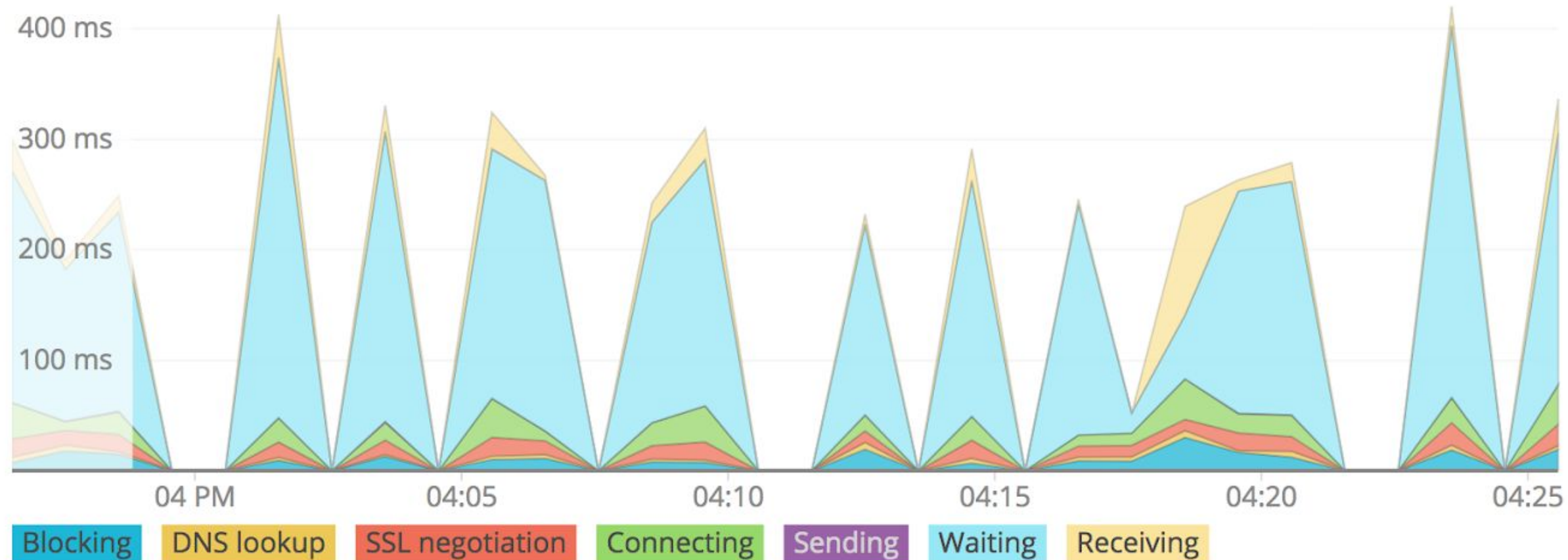
Columbus, OH, USA  
20 minutes ago

12.1 s

Columbus, OH, USA  
25 minutes ago

12 s

## Network timings





# Sonde HTTP

## Avantages

- *Plug&Play*
- Marche partout
- Scénarios

## Inconvénients

- Peu de détails
- Scénarios à écrire

# Les Logs

Le plus détaillé



kibana

Discover

Visualize

Dashboard

Timelion

Machine Learning

Graph

Dev Tools

Monitoring

Management

elastic

Logout

Collapse

13,991 hits

Search... (e.g. status:200 AND extension:PHP)

Uses lucene query syntax

lucene

logstash-\*

Selected Fields

? \_source

Available Fields

Popular

# bytes

machine.os

Top 5 values in 454 / 500 records

win 8

25.3%

win 7

23.3%

win xp

22.2%

ios

18.7%

osx

10.4%

url

# url\_count

@message

@tags

@timestamp

\_id

\_index

\_score

\_type

August 19th 2017, 22:32:12.111 - August 22nd 2017, 22:47:08.997

Auto

Count

400

200

0

2017-08-20 02:00

2017-08-20 08:00

2017-08-20 14:00

2017-08-20 20:00

2017-08-21 02:00

2017-08-21 08:00

2017-08-21 14:00

2017-08-21 20:00

2017-08-22 02:00

2017-08-22 08:00

2017-08-22 14:00

2017-08-22 20:00

utc\_time per hour

Time

\_source

▶ August 22nd 2017, 22:41:50.090

index:

logstash-0

@timestamp:

August 22nd 2017, 22:41:50.090

ip:

55.149.159.66

extension:

jpg

response:

200

geo.coordinates:

{ "lat": 36.68827778, "lon": -78.05447222 }

geo.src:

PH

geo.dest:

IN

geo.srcdest:

PH:IN

@tags:

success, info

utc\_time:

August 22nd 2017, 22:41:50.090

referer:

http://www.slate.com/error/claude-nicollier

agent:

Mozilla/5.0 (X11; Linux x86\_64; rv:6.0a1) Gecko/20110421 Firefox/6.0a1

clientip:

55.149.159.66

bytes:

7.226KB

host:

media-for-the-masses.theacademyofperformingartsandscience.org

request:

/uploads/catherine-coleman.jpg

url:

https://media-for-the-masses.theacademyofperformingart

▶ August 22nd 2017, 22:36:47.459

index:

logstash-0

@timestamp:

August 22nd 2017, 22:36:47.459

ip:

52.32.151.209

extension:

jpg

response:

200

geo.coordinates:

{ "lat": 38.57072444, "lon": -90.15622111 }

geo.src:

MX

geo.dest:

CN

geo.srcdest:

MX:CN

@tags:

success, info

utc\_time:

August 22nd 2017, 22:36:47.459

referer:

http://nytimes.com/success/jos-hernandez

agent:

Mozilla/5.0 (X11; Linux x86\_64; rv:6.0a1) Gecko/20110421 Firefox/6.0a1

clientip:

52.32.151.209

bytes:

7.266KB

host:

media-for-the-masses.theacademyofperformingartsandscience.org

request:

/uploads/robert-springer.jpg

url:

https://media-for-the-masses.theacademyofperformingartsand

▶ August 22nd 2017, 22:27:22.677

index:

logstash-0

@timestamp:

August 22nd 2017, 22:27:22.677

ip:

73.157.198.34

extension:

png

response:

200

geo.coordinates:

{ "lat": 30.77883333, "lon": -86.52211111 }

geo.src:

CN

geo.dest:

DZ

geo.srcdest:

CN:DZ

@tags:

success, security

utc\_time:

August 22nd 2017, 22:27:22.677

referer:

http://facebook.com/success/alexander-poleshchuk

agent:

Mozilla/5.0 (X11; Linux i686) AppleWebKit/534.24 (KHTML, like Gecko) Chrome/11.0.696.50 Safari/534.24

clientip:

73.157.198.34

bytes:

2.772KB

host:

media-for-the-masses.theacademyofperformingartsandscience.org

request:

/uploads/karen-nyberg.png

url:

https://media-for-

▶ August 22nd 2017, 22:20:58.781

index:

logstash-0

@timestamp:

August 22nd 2017, 22:20:58.781

ip:

59.186.215.45

extension:

jpg

response:

200

geo.coordinates:

{ "lat": 45.04993556, "lon": -110.7466008 }

geo.src:

MM

geo.dest:

BF

geo.srcdest:

MM:BF

@tags:

success, info

utc\_time:

August 22nd 2017, 22:20:58.781

referer:

http://twitter.com/success/robert-curbeam

agent:

Mozilla/5.0 (X11; Linux i686) AppleWebKit/534.24 (KHTML, like Gecko) Chrome/11.0.696.50 Safari/534.24

clientip:

59.186.215.45

bytes:

7.205KB

host:

media-for-the-masses.theacademyofperformingartsandscience.org

request:

/uploads/frederick-gregory.jpg

url:

https://media-for-the-ma

▶ August 22nd 2017, 22:13:34.096

index:

logstash-0

@timestamp:

August 22nd 2017, 22:13:34.096

ip:

251.73.207.227

extension:

jpg

response:

200

# Logs

## Avantages

- Très détaillés
- Simples
- Portables

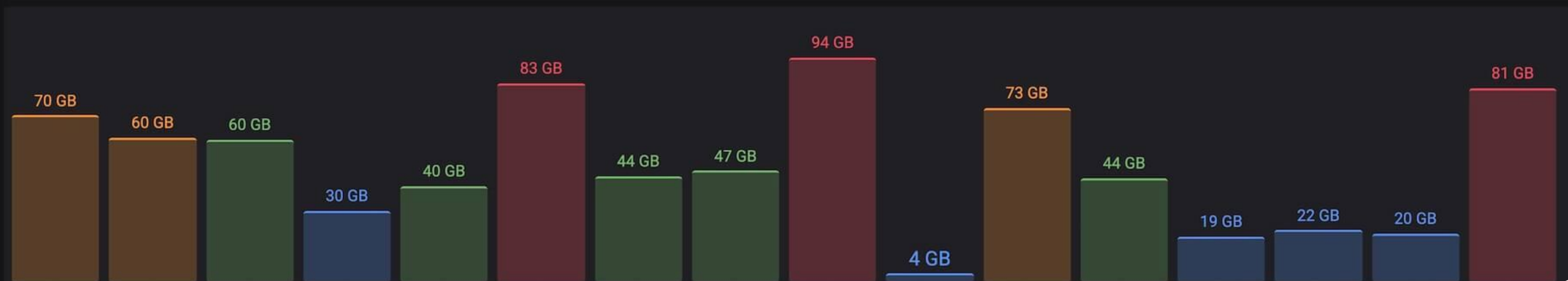
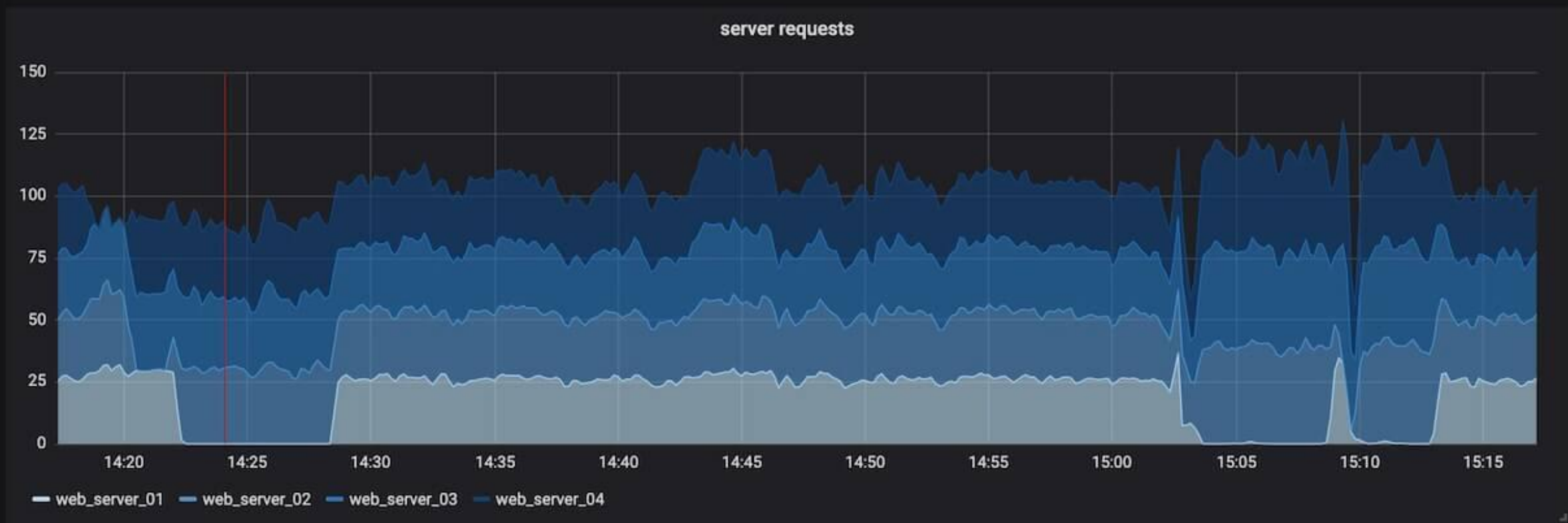
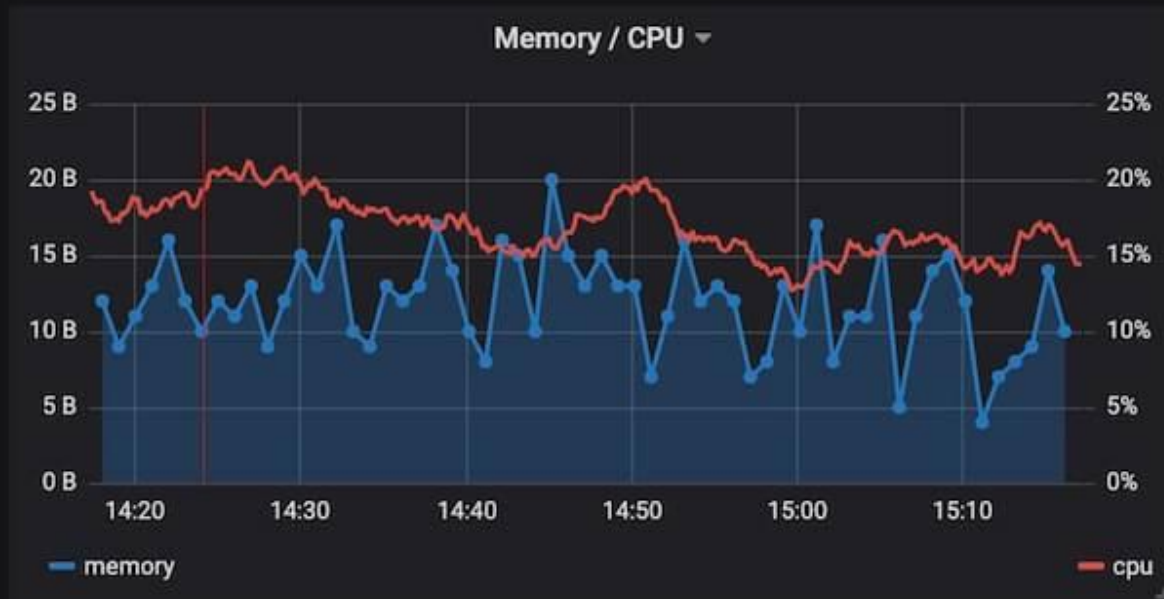
## Inconvénients

- Trop détaillés
- Volume
- Hétéroclytes



# Les métriques

Le plus visuel



# Métriques

## Avantages

- Agrégation
- Évolution dans le temps
- *Alerting*

## Inconvénients

- Peu de détails
- Intégration



The background of the image is a dense, overlapping field of Euro coins. The coins are primarily gold-colored, with some silver-colored ones visible. They are scattered across the entire frame, creating a textured, metallic background. The coins are of various denominations, including 10, 20, and 50 cents, as indicated by the numbers and symbols on their faces. The lighting is even, highlighting the metallic sheen and the intricate details of the coin designs.

# Golden Metrics



# Golden Metrics

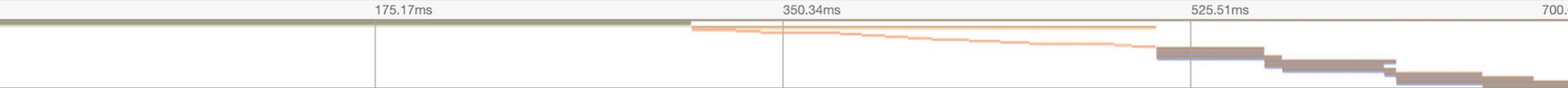
- ➔ Charge
- ➔ Performance
- ➔ Erreurs

# Tracing

Le rayon-X



Start December 16, 2018 5:19 PM | Duration 700.68ms | Services 6 | Depth 5 | Total Spans 50



Service & Operation	0ms	175.17ms	350.34ms	525.51ms	700.68ms
frontend HTTP GET /dispatch					
frontend HTTP GET: /customer	310.74ms				
frontend HTTP GET	310.73ms				
customer HTTP GET /customer	310.4ms				
mysql SQL SELECT	310.31ms				
frontend Driver::findNearest	199.4ms				
driver Driver::findNearest	199.08ms				
redis FindDriverIDs	18.81ms				
redis GetDriver	10.55ms				
redis GetDriver	34.14ms				
redis GetDriver	9.27ms				
redis GetDriver	9.83ms				
redis GetDriver	9.84ms				
redis GetDriver	10.25ms				
redis GetDriver	15.86ms				
redis GetDriver	13.55ms				
redis GetDriver	12.29ms				
redis GetDriver	36.42ms				
redis GetDriver	7.35ms				
redis GetDriver	10.37ms				

# Tracing

## Avantages

- Précis & Global
- Micro-services
- Contexte (logs)

## Inconvénients

- Intégration poussée

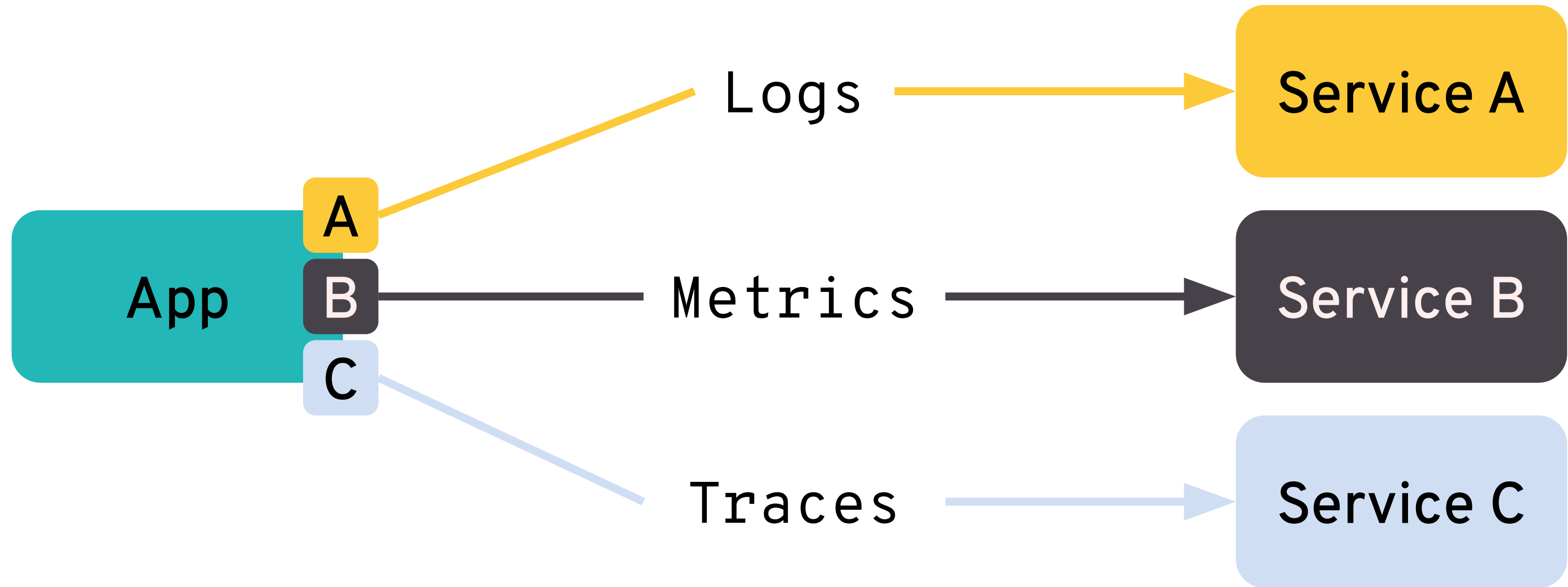


A close-up photograph of several classical columns with fluted shafts and papyrus capitals. The columns are made of light-colored stone and are set on a dark, tiered base. A semi-transparent horizontal band is overlaid across the middle of the image, containing the text 'Les 3 piliers' in a bold, black, sans-serif font.

# Les 3 piliers



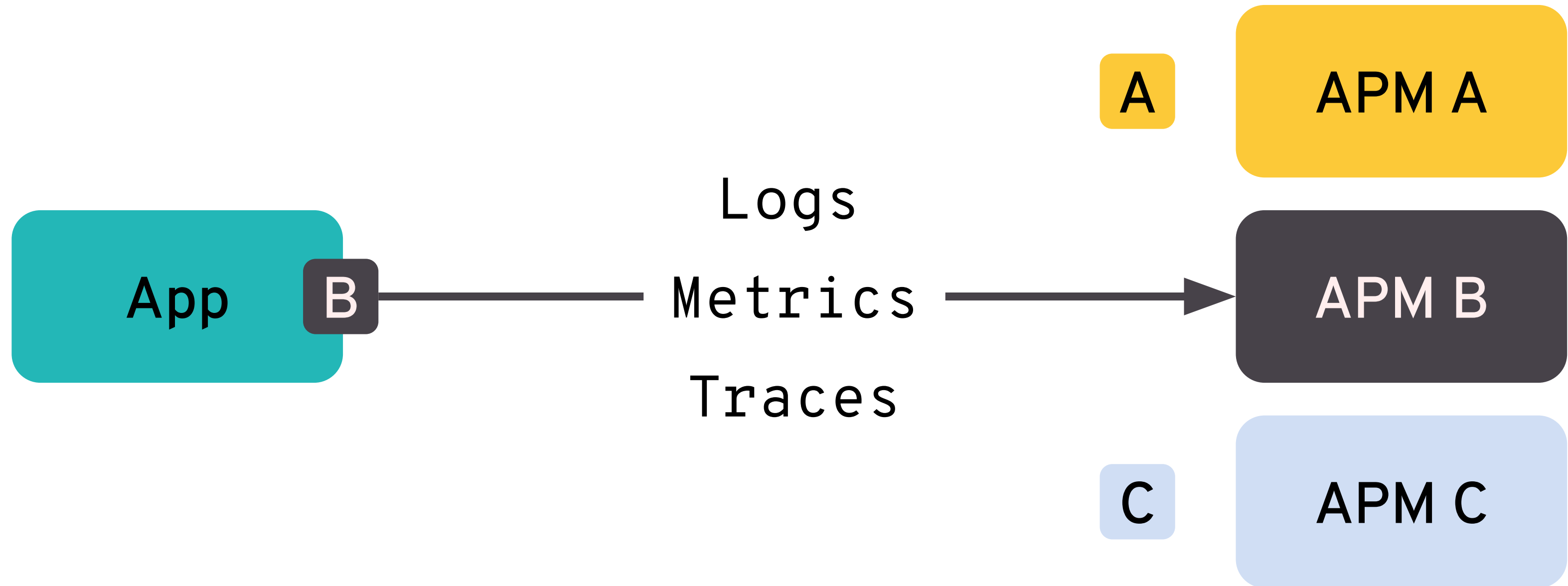
# Signaux



# APM

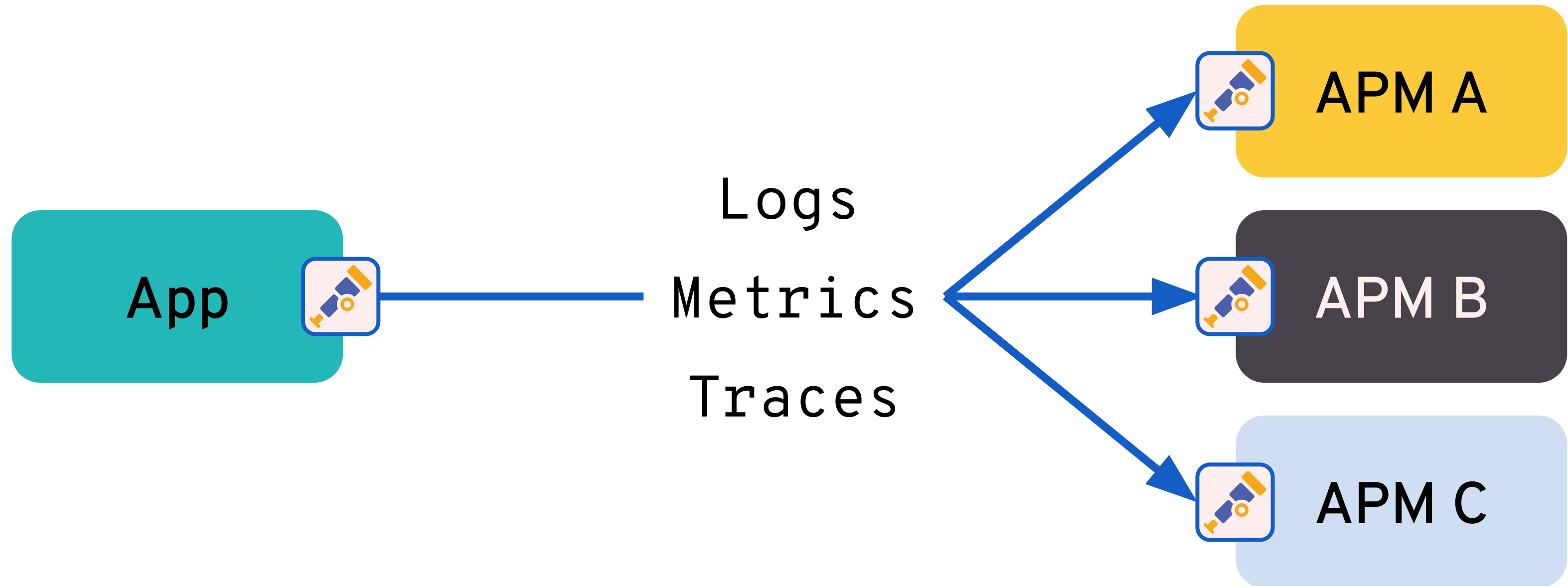
*Application Performance  
Management*

# Intégration d'un APM

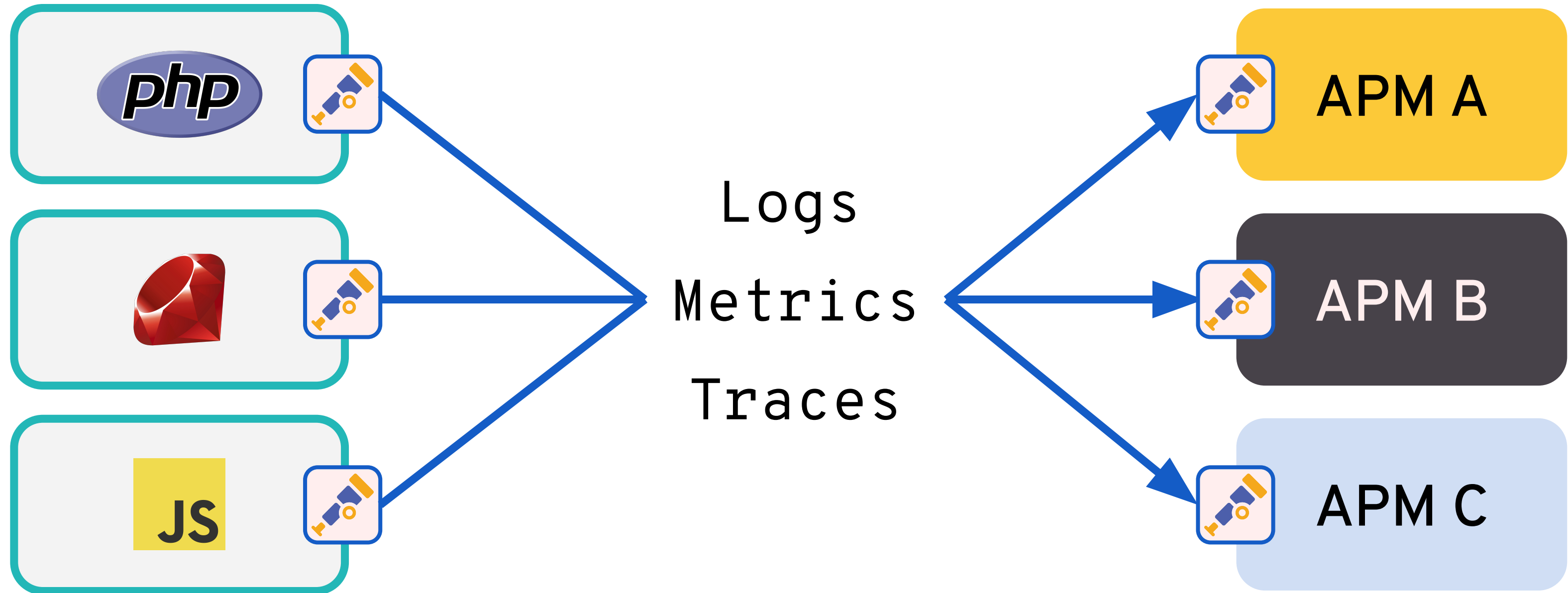




# OpenTelemetry: la promesse



# OpenTelemetry: la promesse (2)



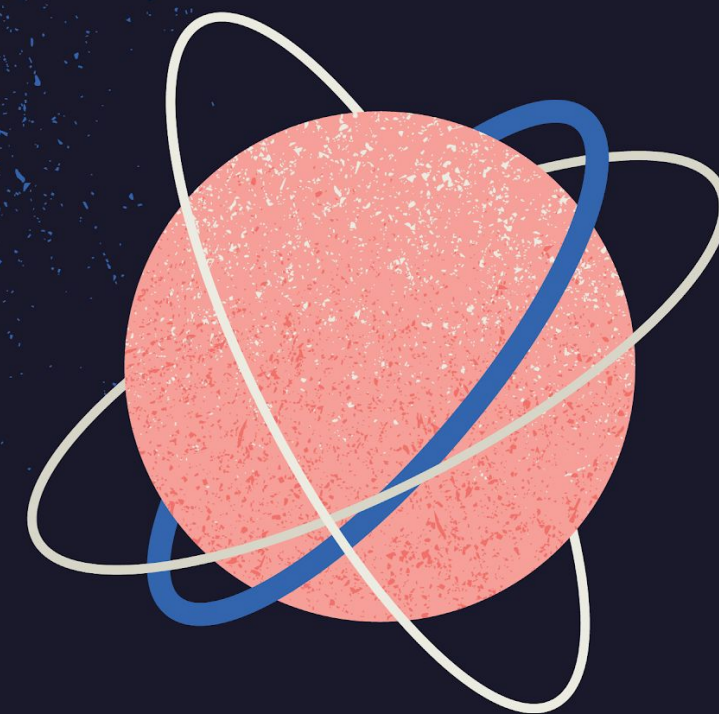
**FORUMPHP**  
PARIS2022

The OpenTelemetry logo consists of five colored rectangles (yellow, blue, blue, blue, yellow) arranged in a diagonal line, with the word "OpenTelemetry" in a sans-serif font. The "Open" is yellow and "Telemetry" is blue.

# OpenTelemetry

<https://opentelemetry.io>

@b\_viguier  
platform.sh 





# OpenTelemetry

==

## Documentation (+ un peu de `code`)

# Status

## Tracing

- **API:** stable, feature-freeze
- **SDK:** stable
- **Protocol:** stable

## Metrics

- **API:** stable
- **SDK:** mixed
- **Protocol:** stable

## Logging



- **API:** draft
- **SDK:** draft
- **Protocol:** stable

# Protocol

Transport

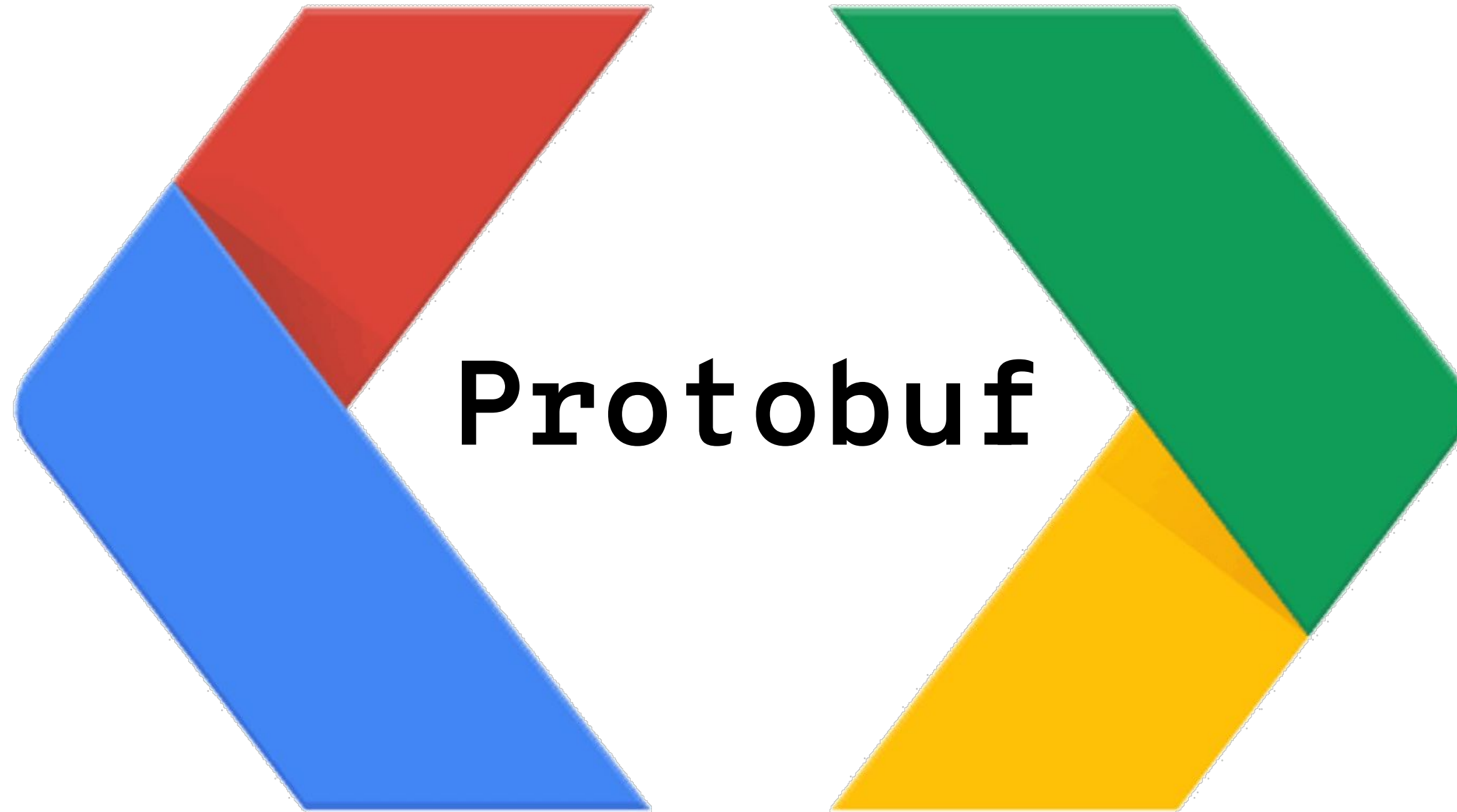
gRPC

http://



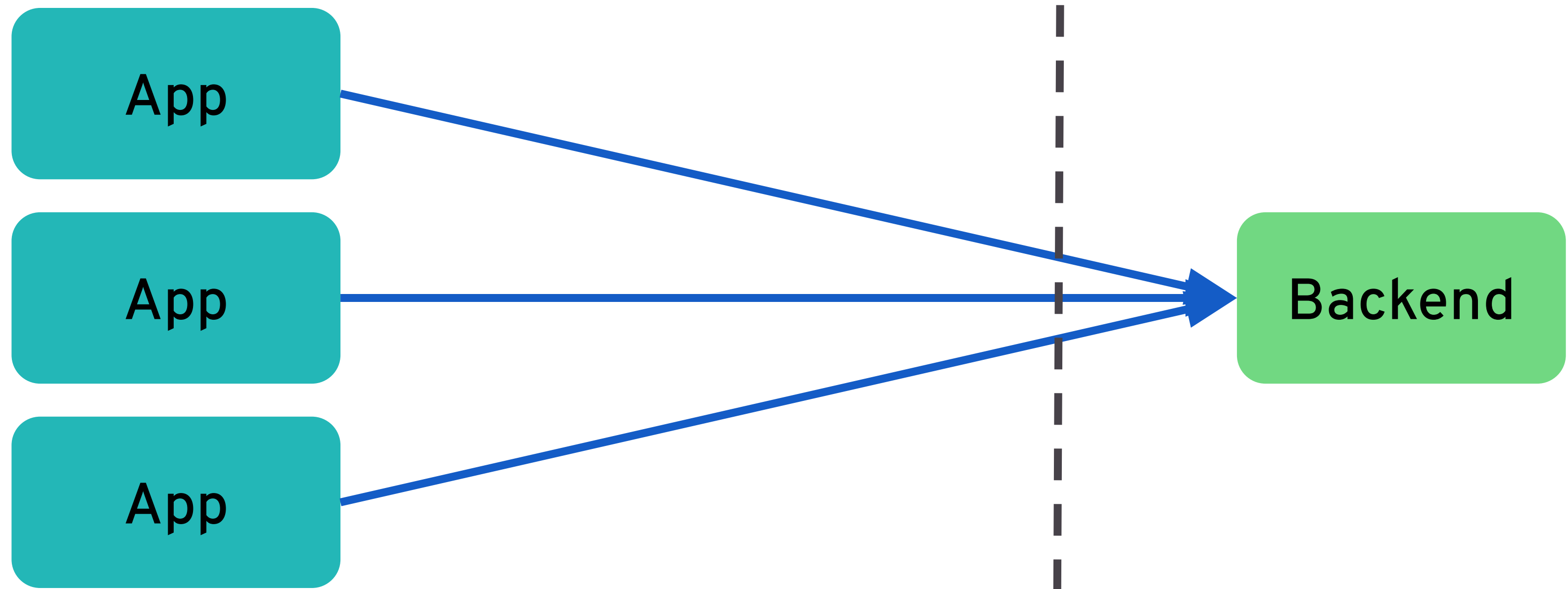
# Protocol

Format



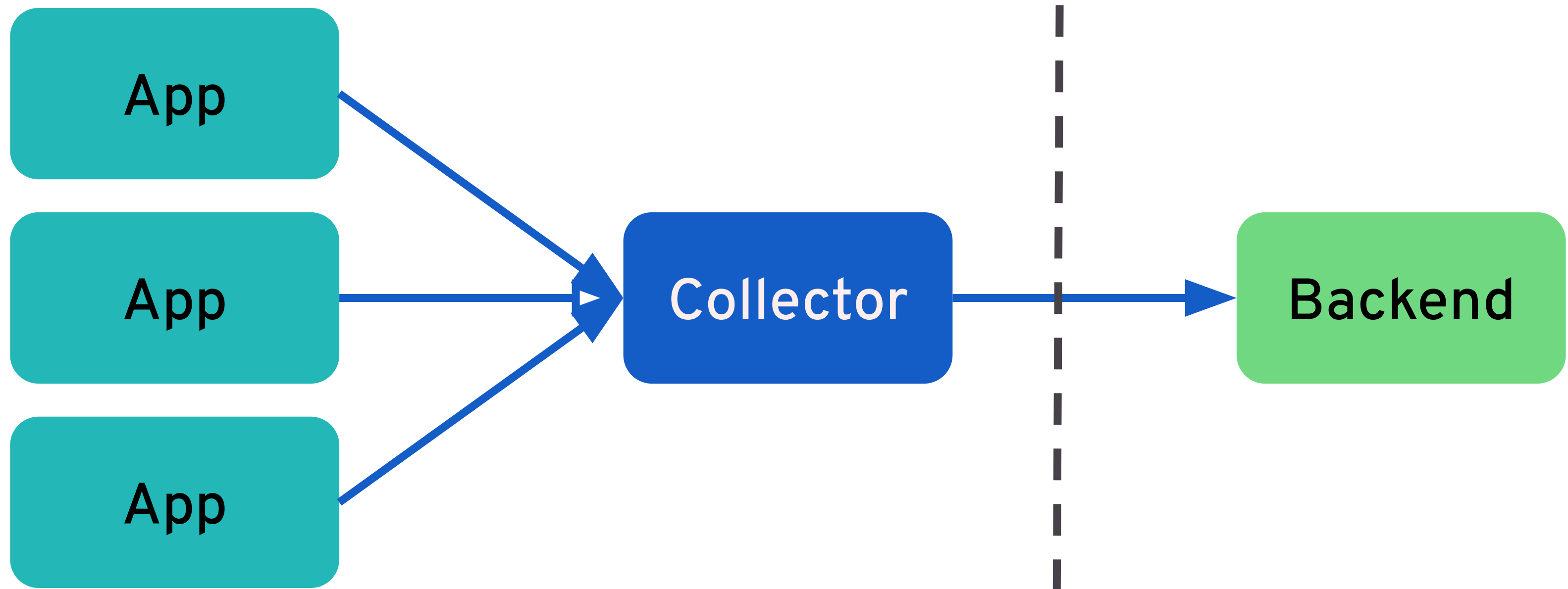
{JSON}

# Architecture

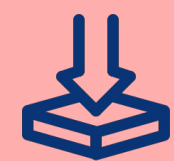




# Architecture

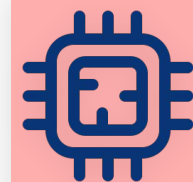


# Le Collector



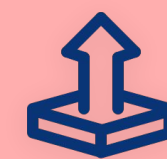
## Receiver

- Push / Pull
- Built-in: OTLP (Http/gRPC)



## Processor

- Optionnel
- Built-in: *Batch*, *Memory Limiter*



## Exporter

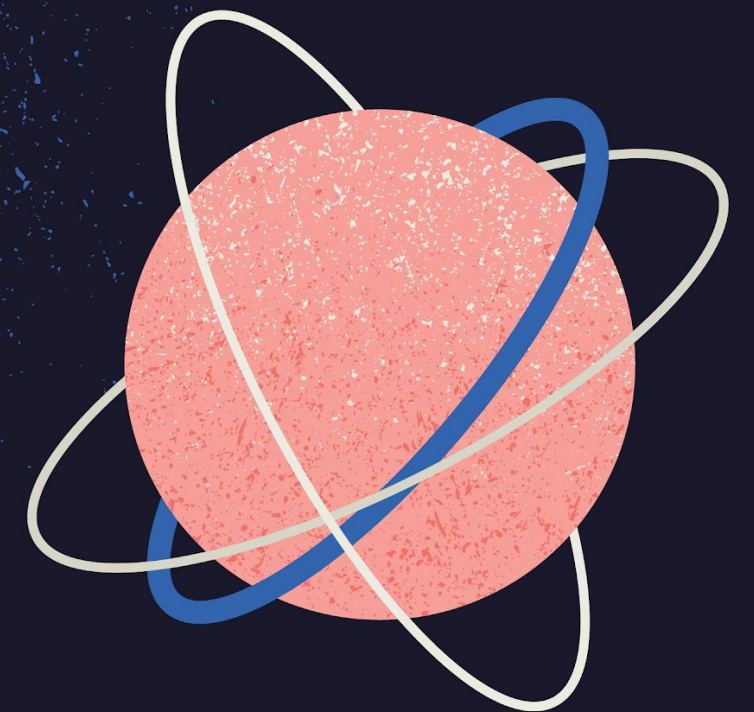
- Push / Pull
- Built-in: OTLP (Http/gRPC)



# Tracing

En gros plan

@b\_viguier  
platform.sh



# Span

Il se passe quelque chose...



# Span

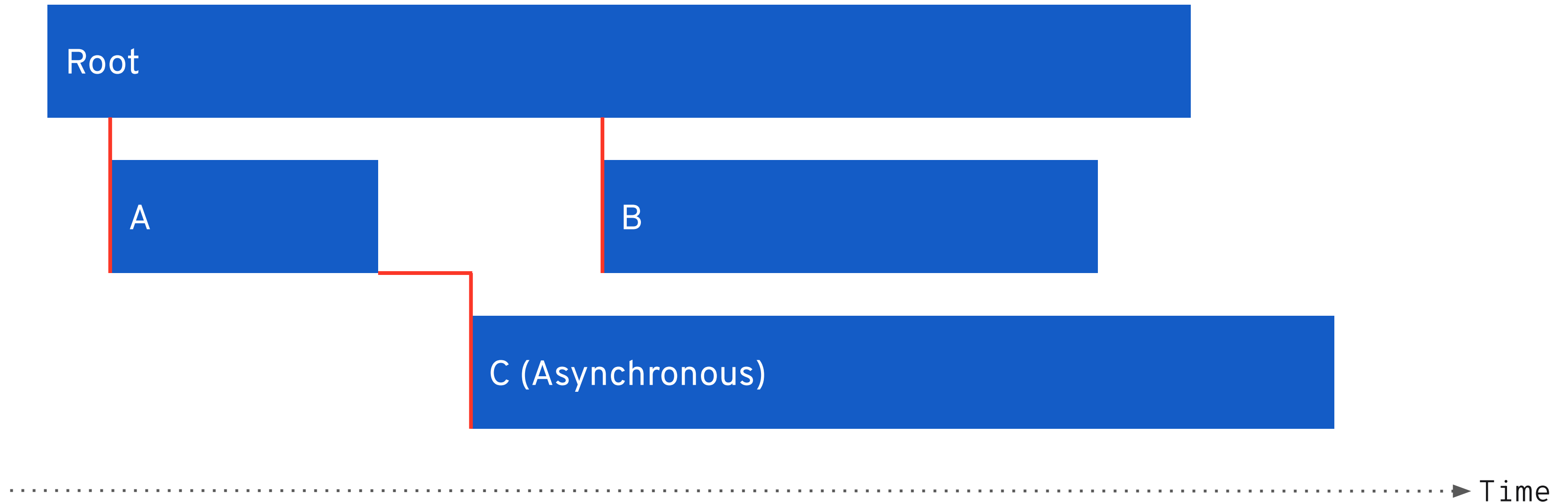
## Nommage

Span Name	Guidance
get	😞
get_account/42	😬
get_account	😍
get_account/{accountId}	😍



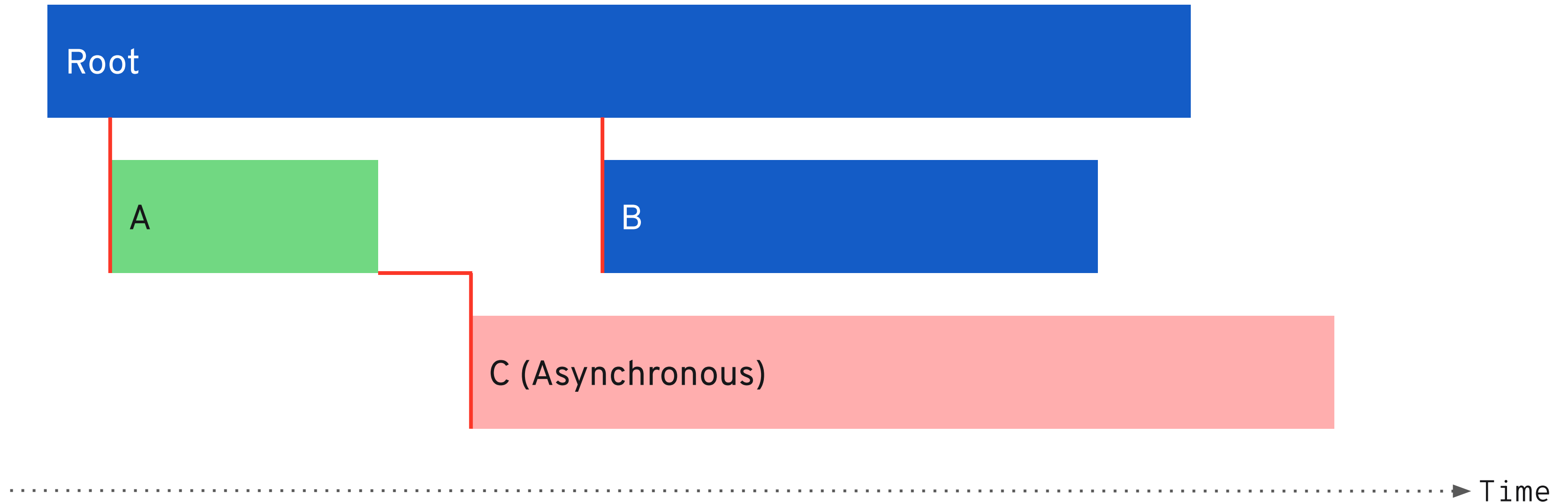
# Spans

## Parents et enfants



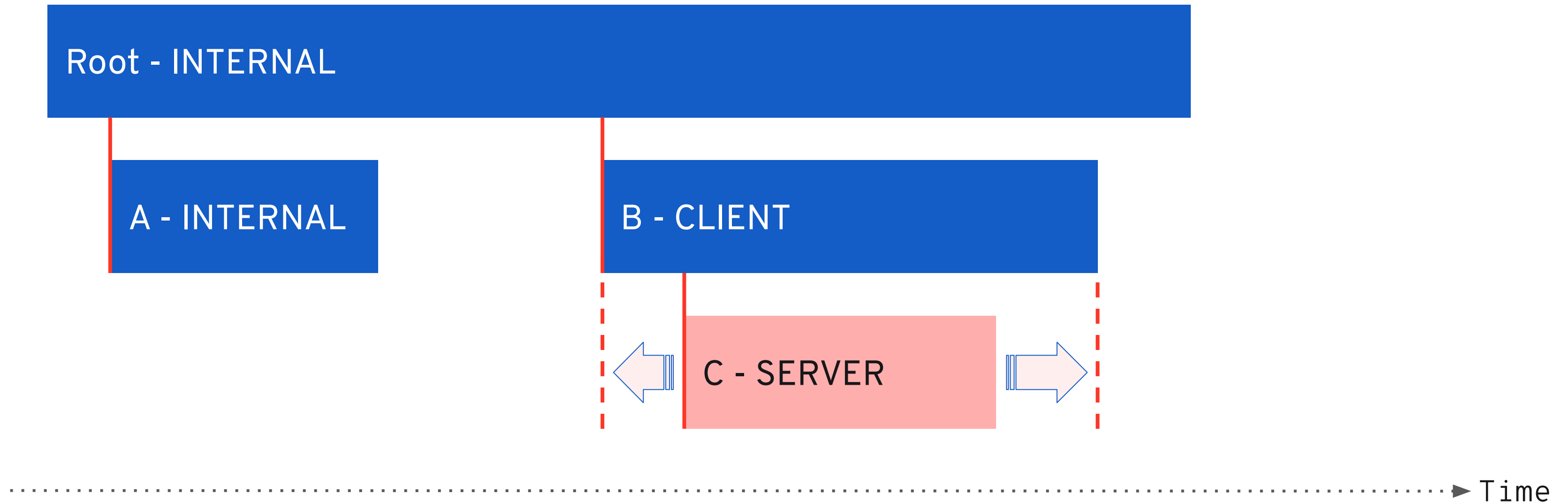
# Spans

## Multi services



# SpanKind

INTERNAL, CLIENT, SERVER, ...





# Span Attributes

HTTP, exemple Client

Attribute	Value
<code>http.method</code>	"GET"
<code>http.flavor</code>	"1.1"
<code>http.url</code>	"https://example.com:8080/webshop/articles/4?s=1"
<code>net.peer.ip</code>	"192.0.2.5"
<code>http.status_code</code>	200

# Span Attributes

Database, exemple MySql

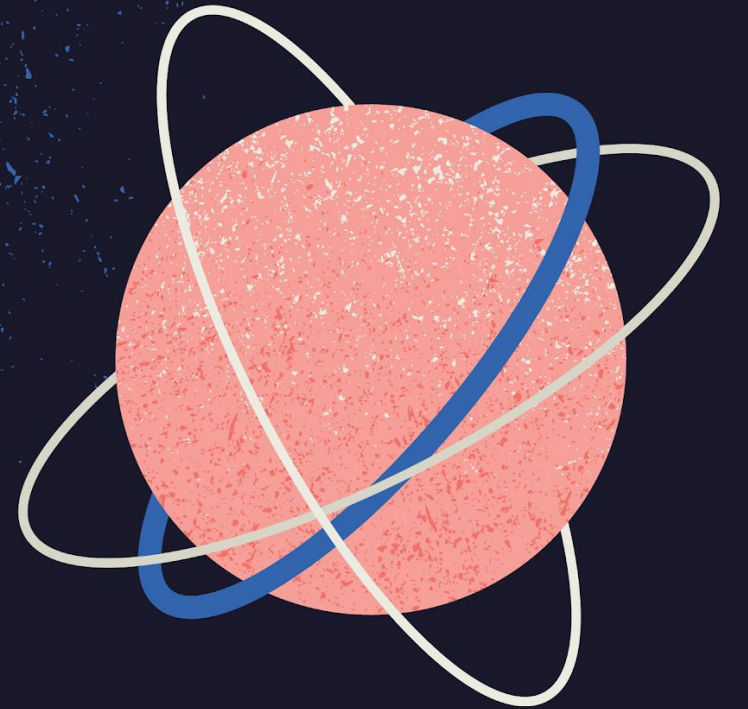
Attribute	Value
<code>db.system</code>	"mysql"
<code>db.operation</code>	"SELECT"
<code>db.user</code>	"billing_user"
<code>db.name</code>	"ShopDb"
<code>db.statement</code>	"SELECT * FROM orders WHERE order_id = 'o4711' "

# OpenTelemetry et PHP

Eco-système et exemples

@b\_viguier  
platform.sh 

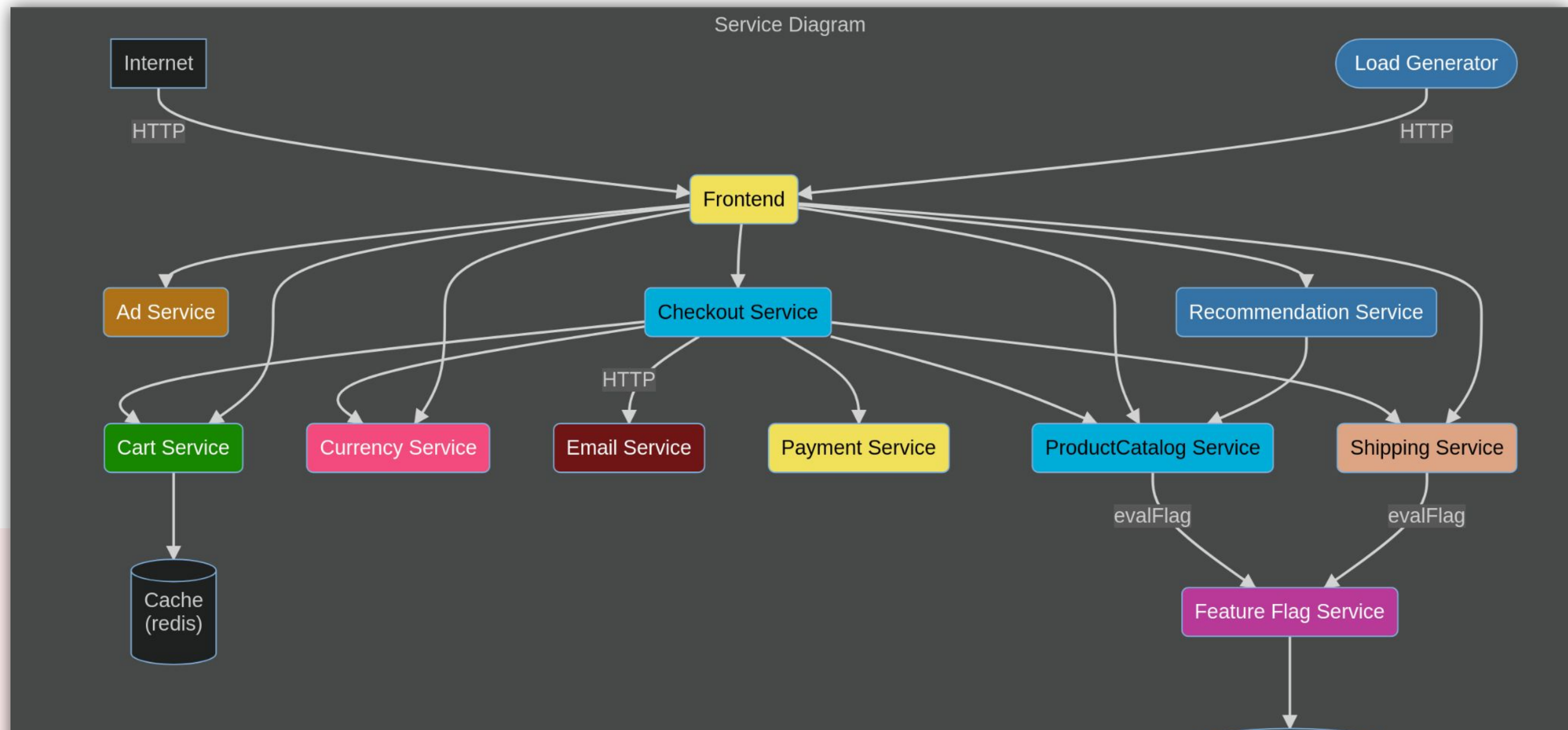
**FORUM**PHP  
PARIS2022





# OpenTelemetry Demo

<https://github.com/open-telemetry/opentelemetry-demo>



# Exemple *all inclusive*

- <https://github.com/open-telemetry/opentelemetry-demo>
- docker compose up (☕☕☕☕☕☕)
- Demo: <http://localhost:8080/>
- Jaeger: <http://localhost:16686>
- Grafana: <http://localhost:3000>

# Le Collector

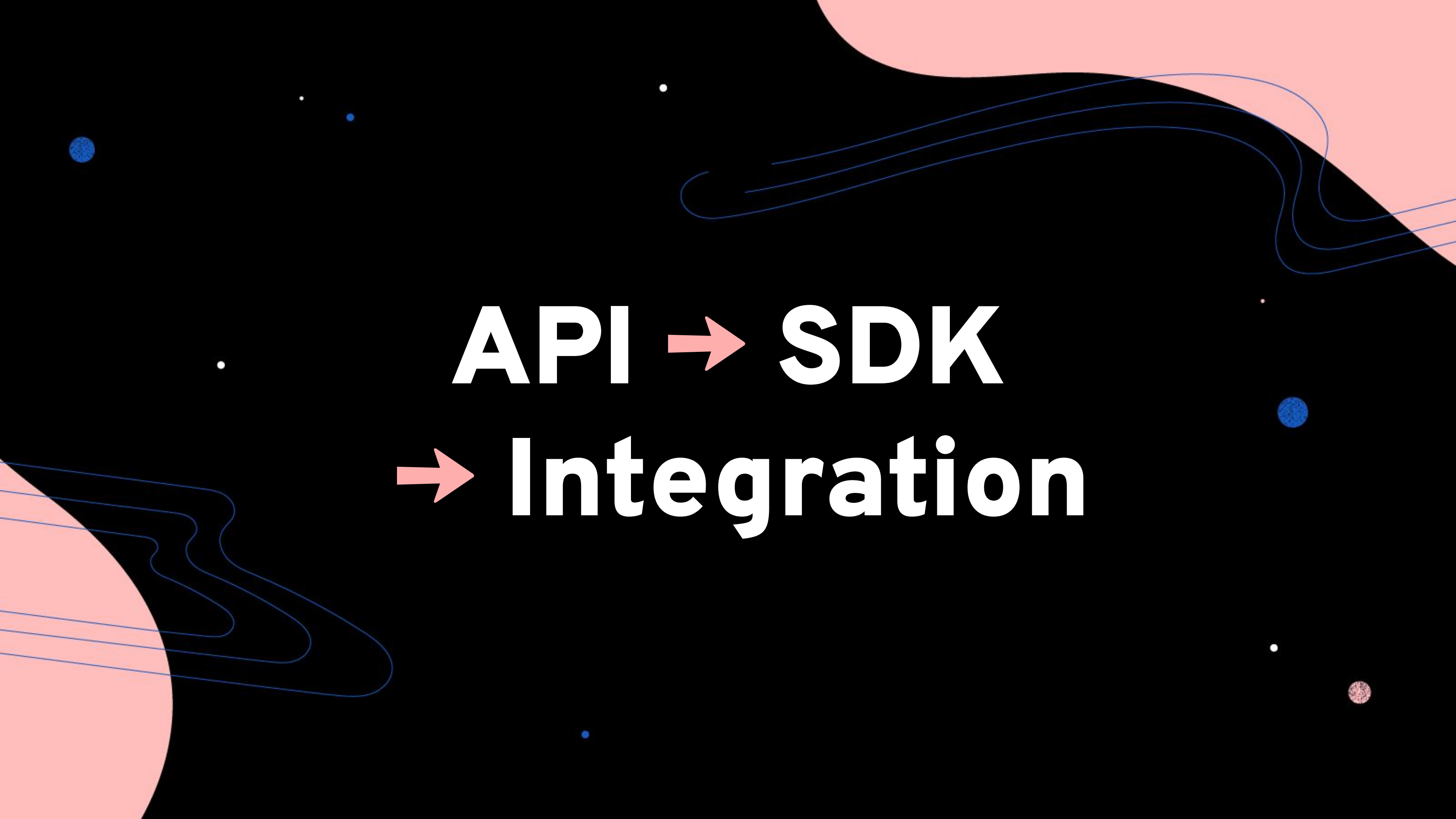
- ...[/open-telemetry/opentelemetry-collector-contrib](#)
- `otelcol-contrib -config=config.yaml`



# Jaeger

```
docker run -it --rm \
-p 16686:16686 -p 14250:14250 \
jaegertracing/all-in-one
```





**API → SDK**  
**→ Integration**

# Php SDK

- <https://github.com/open-telemetry/opentelemetry-php>
- `composer require open-telemetry/opentelemetry`



- `ext-protobuf`
- `Psr18 HttpClient`, `Psr17 HttpFactory`
- `ext-grpc`



# Php SDK

```
tracerProvider = new \OpenTelemetry\SDK\Trace\TracerProvider(  
    new \OpenTelemetry\SDK\Trace\SpanProcessor\BatchSpanProcessor(  
        new \OpenTelemetry\Contrib\OtlpHttp\Exporter(  
            $httpClient,  
            $httpFactory,  
            $httpFactory,  
        )  
    )  
);
```

# Php SDK

```
$tracer = $tracerProvider->getTracer( 'My-Demo' );  
$root = $tracer->spanBuilder( "Span Name" )->startSpan();  
$root->activate();  
  
\OpenTelemetry\SDK\Common\Util\ShutdownHandler::register(  
    function() use($root, $tracerProvider) {  
        $root->end();  
        $tracerProvider->shutdown();  
    }  
);
```

# Mais aussi

- Attributs
- Propagation
- Sampling

...



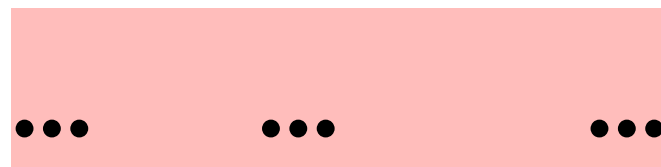
# Php Contrib

...[/open-telemetry/opentelemetry-php-contrib/](#)

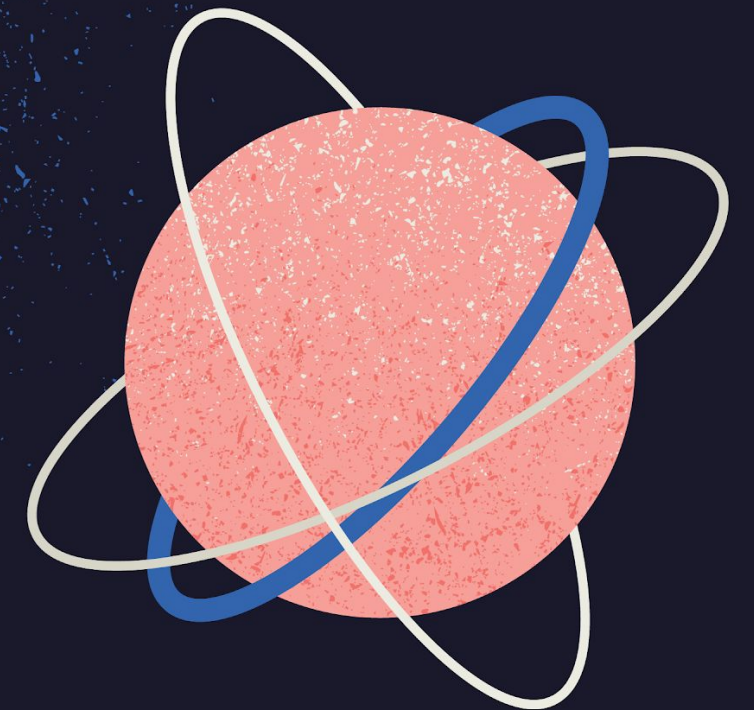
- AWS
- Symfony OtelSdkBundle
- Symfony OtelBundle

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# À *suivre*



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platform.sh





# OpenTelemetry: Vers un **standard** pour surveiller vos applications ?





# **Instrumentation:** **changement de** **paradigme ?**

The background is a solid black field. In the top right corner, there is a large, soft-edged pink shape. In the bottom left corner, there is a large, soft-edged pink shape. Several thin, wavy blue lines are scattered across the black background, some following the contours of the pink shapes. There are also several small, solid-colored circles: a blue one in the top left, a blue one in the middle right, a pink one in the bottom right, and a small pink one in the bottom center. The text 'Communauté !' is centered horizontally in a large, bold, white sans-serif font. The exclamation mark is pink and has a blue dot to its right.

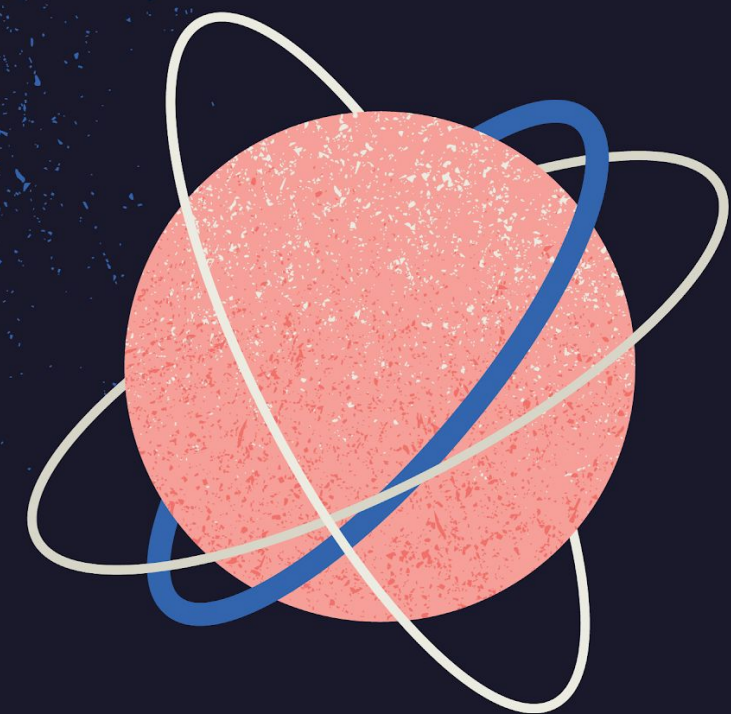
**Communauté !**

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# OpenTelemetry

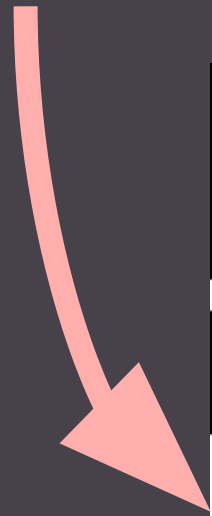
Vers un standard pour surveiller  
vos applications

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# Feedback welcome!



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