



Shaping next generations of architectures with Dapr

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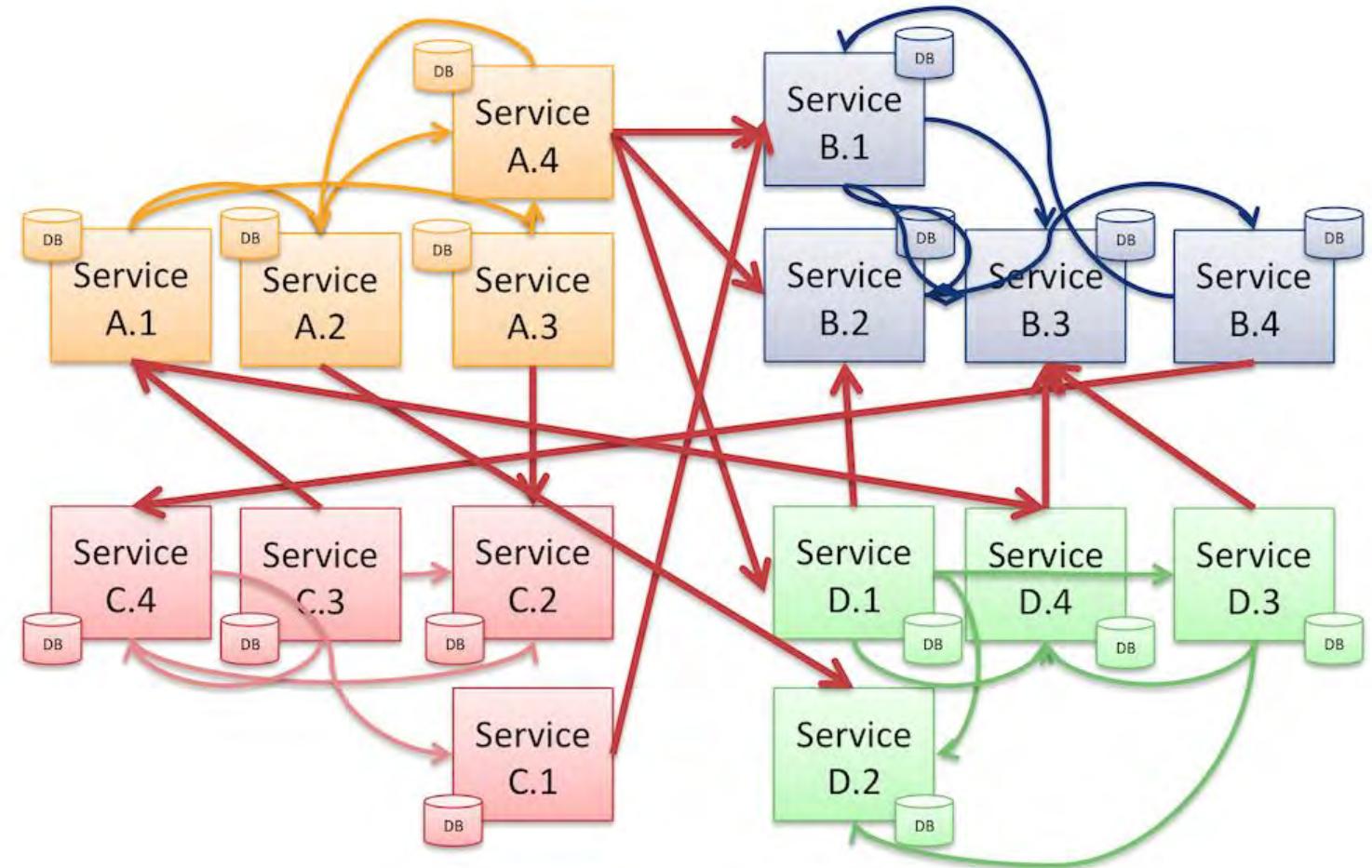
Microservices architecture

Why microservices ?

- Focus on a specific business aspect
- Autonomy
- Flexibility
- Scalability
- Independent development
- Independent deployment
- Smaller, but more efficient

Difficulties

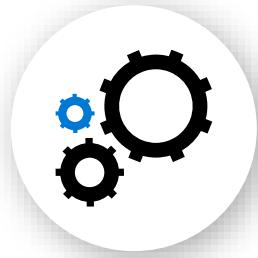
- Debugging process
- Testability
- Architectural complexity
- Service interdependencies
- Managing flows inside applications



Microservices architecture



Difficulty of migrating from a **monolithic block** to a **microservices** architecture



Unsuitable *runtime* and **limited** language support
not oriented for microservices



Application tied to a **specific** infrastructure/platform with **limited portability** to Cloud or Edge



Distributed Application Runtime

Portable, event-driven runtime for building distributed applications in the Cloud and at the Edge

<https://dapr.io>

The screenshot shows the Dapr website at <https://dapr.io>. The header includes the Dapr logo, a navigation bar with links for Home, About, Download, Docs, and Community, and a GitHub star count of 5,243. The main content features the Dapr logo and the text "Distributed Application Runtime". A central callout states "An event-driven, portable runtime for building microservices on cloud and edge." Below this are two large diagrams: one showing a central database interacting with a client, and another showing a client interacting with a cloud service. A "Get Started" button is prominently displayed. The "ABOUT" section highlights "Powerful Building Blocks" and "No Limits".

Distributed Application Runtime

An event-driven, portable runtime for building microservices on cloud and edge.

Get Started

Install the [cli](#) or explore the [docs](#) to learn more.

ABOUT

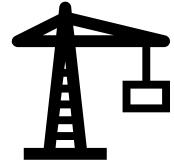
Powerful Building Blocks

Dapr enables easy, event-driven, stateful,

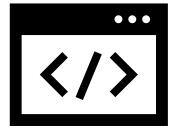
No Limits

Dapr works with any programming language -

Dapr objectives



Best practices
Building blocks



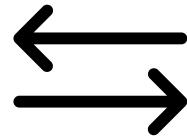
Any Language
or Framework



Community Driven
Non-commercial



Standards adoption



Consistent, Portable,
open APIs



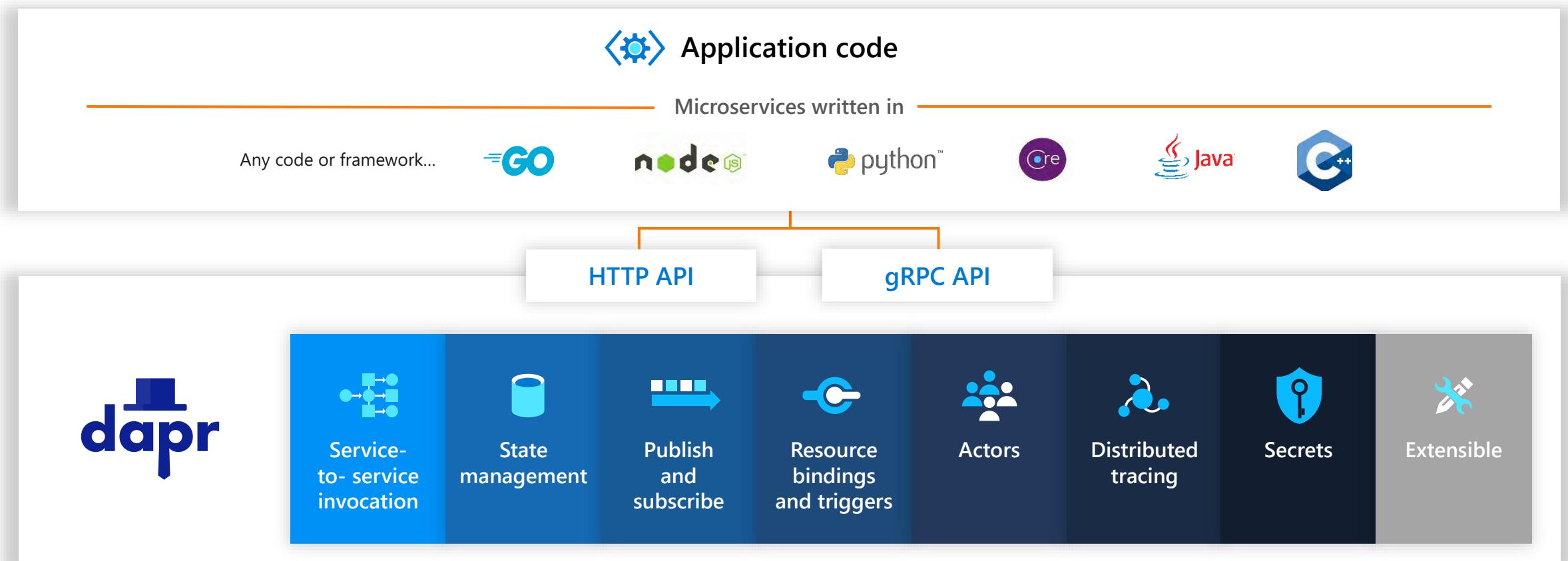
Platform agnostic
Cloud + Edge



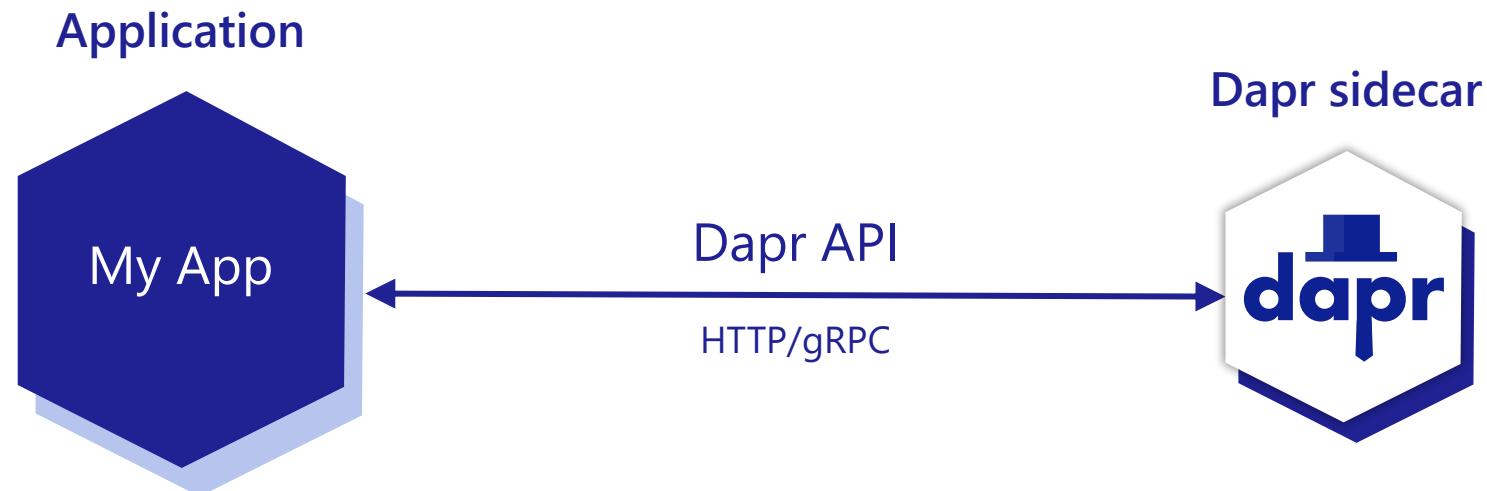
Extensible with pluggable
components

Dapr basis

- ✓ Standard API reachable through HTTP or gRPC from the code
<http://localhost:3500/v1.0/state/inventory/orderkey>
<http://localhost:3500/v1.0/invoke/myapp/method/neworder>
- ✓ Running locally as a “sidecar” component loaded at runtime for each service



Sidecar model



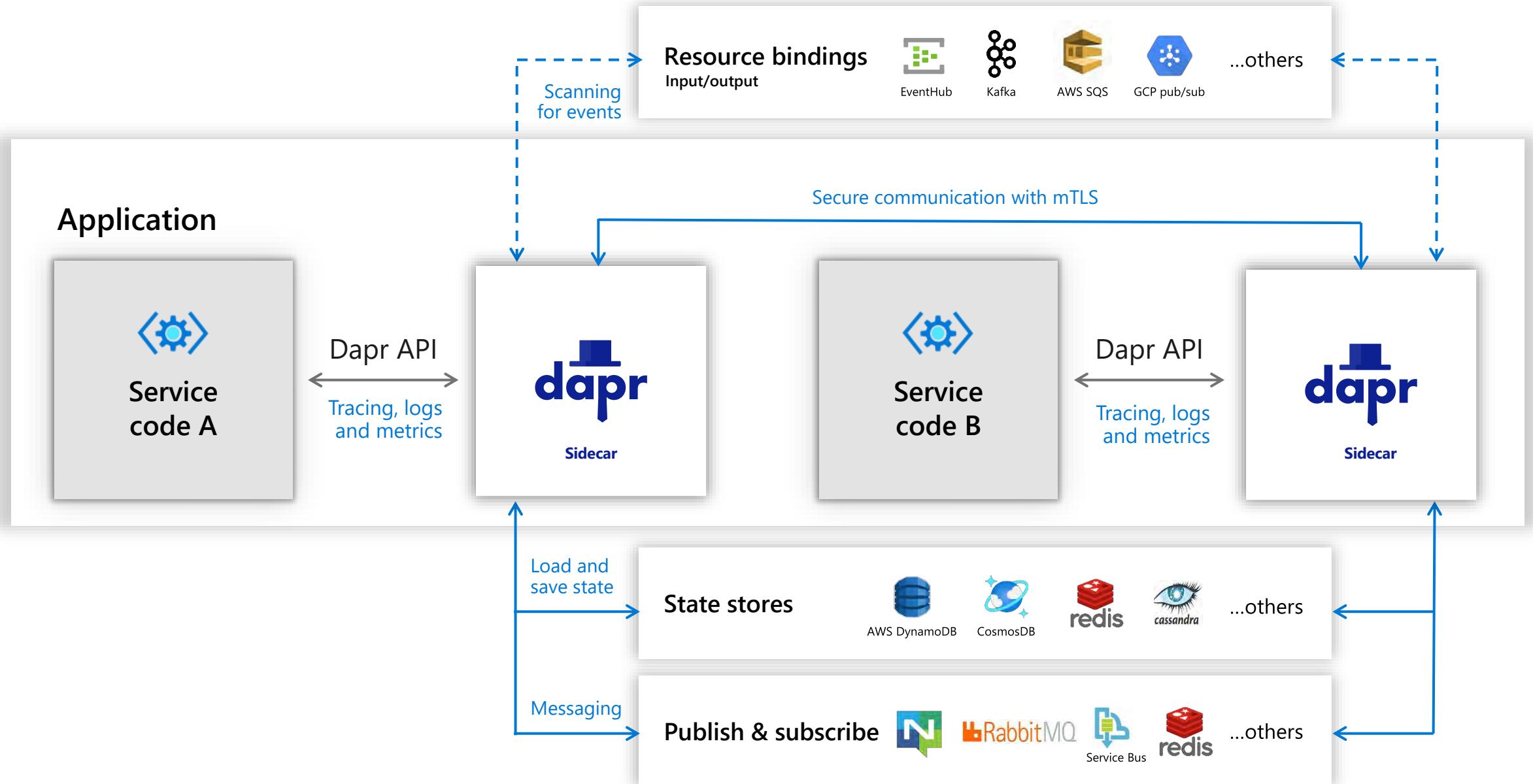
POST `http://localhost:3500/v1.0/invoke/cart/method/neworder`

GET `http://localhost:3500/v1.0/state/inventory/item67`

POST `http://localhost:3500/v1.0/publish/shipping/orders`

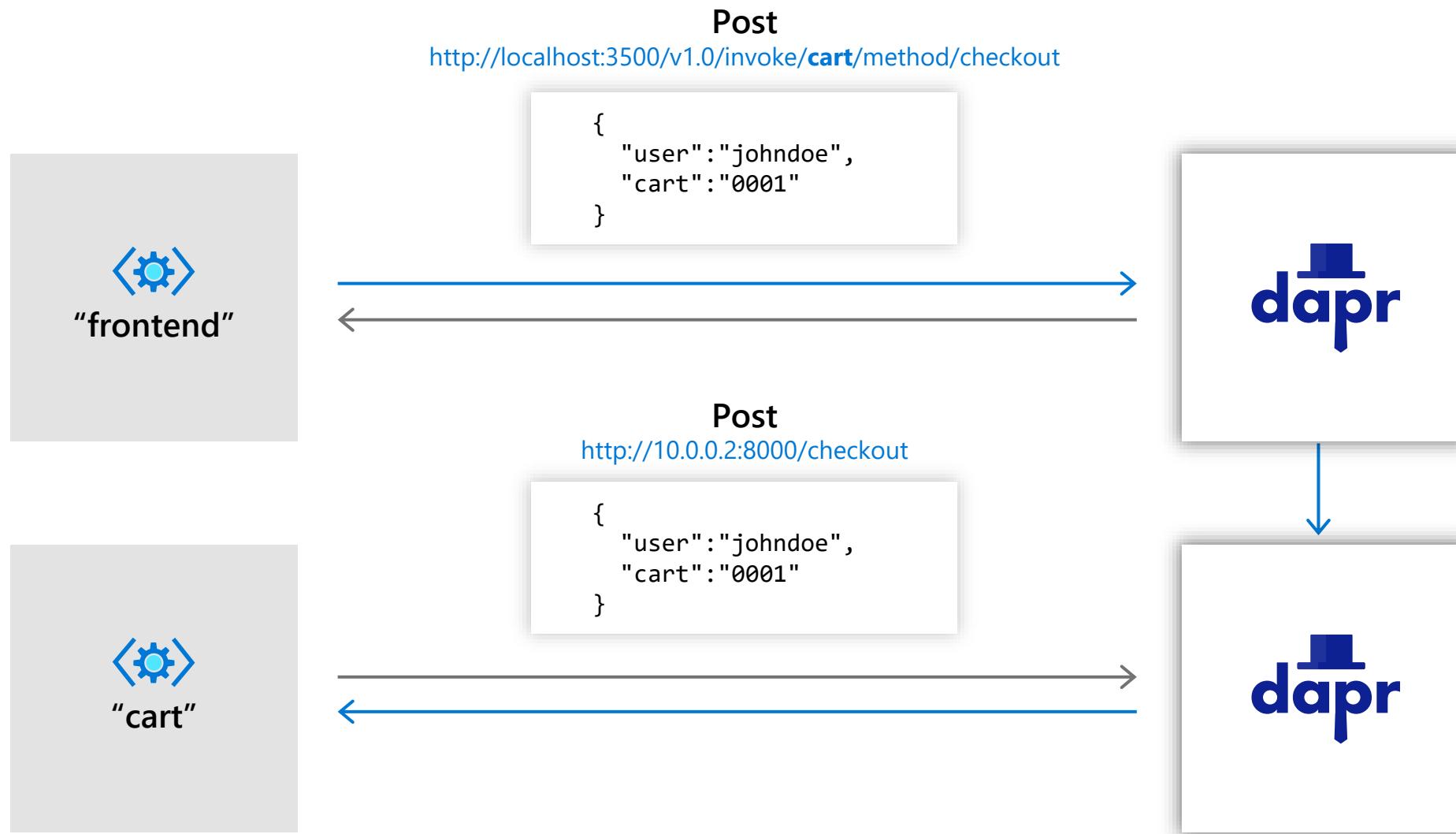
GET `http://localhost:3500/v1.0/secrets/keyvault/password`

Local example

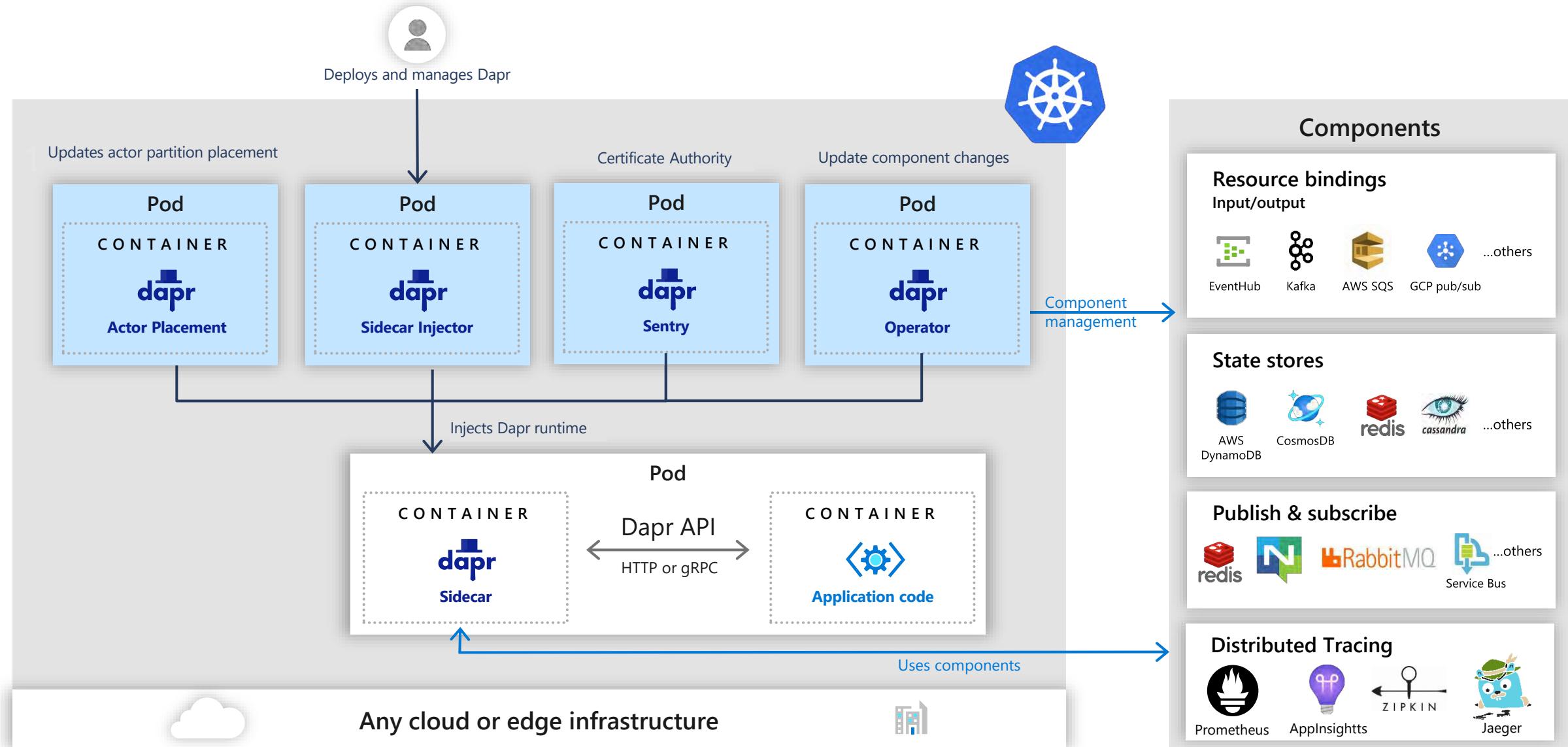


Dapr in local environment
DEMO

Service invocation



Kubernetes example

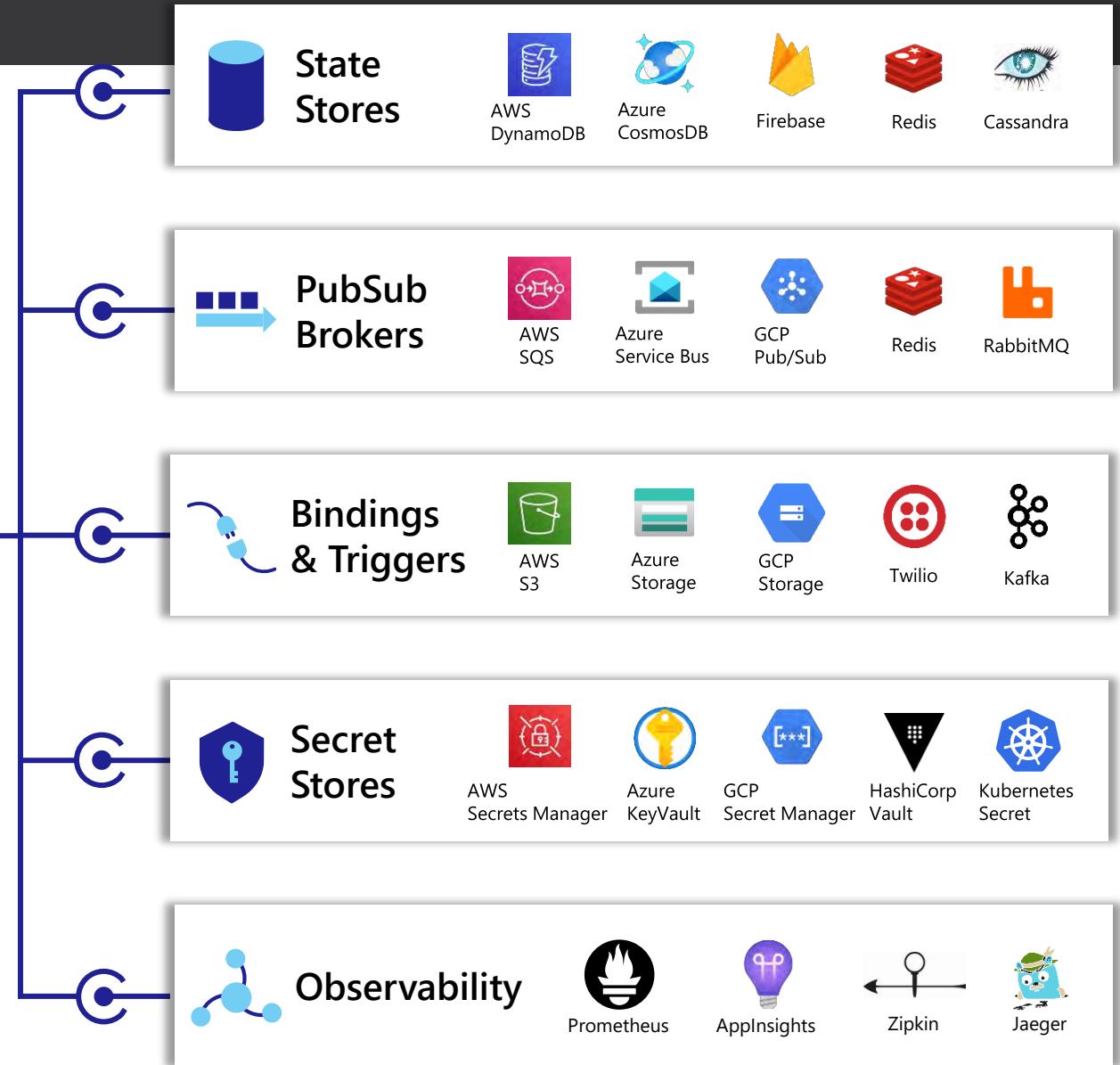


Dapr components

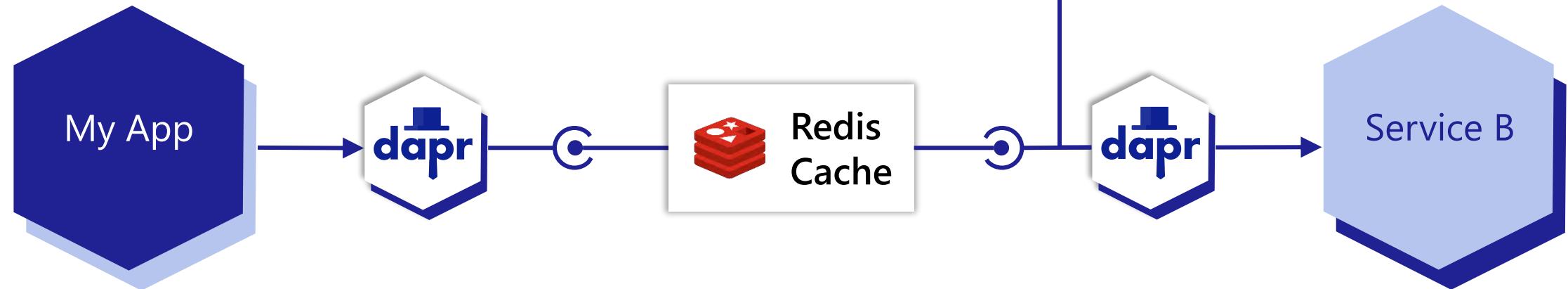


YAML files with connection details for each services

More than 70 components available



Pub & sub



POST

<http://localhost:3500/v1.0/publish/orders/processed>

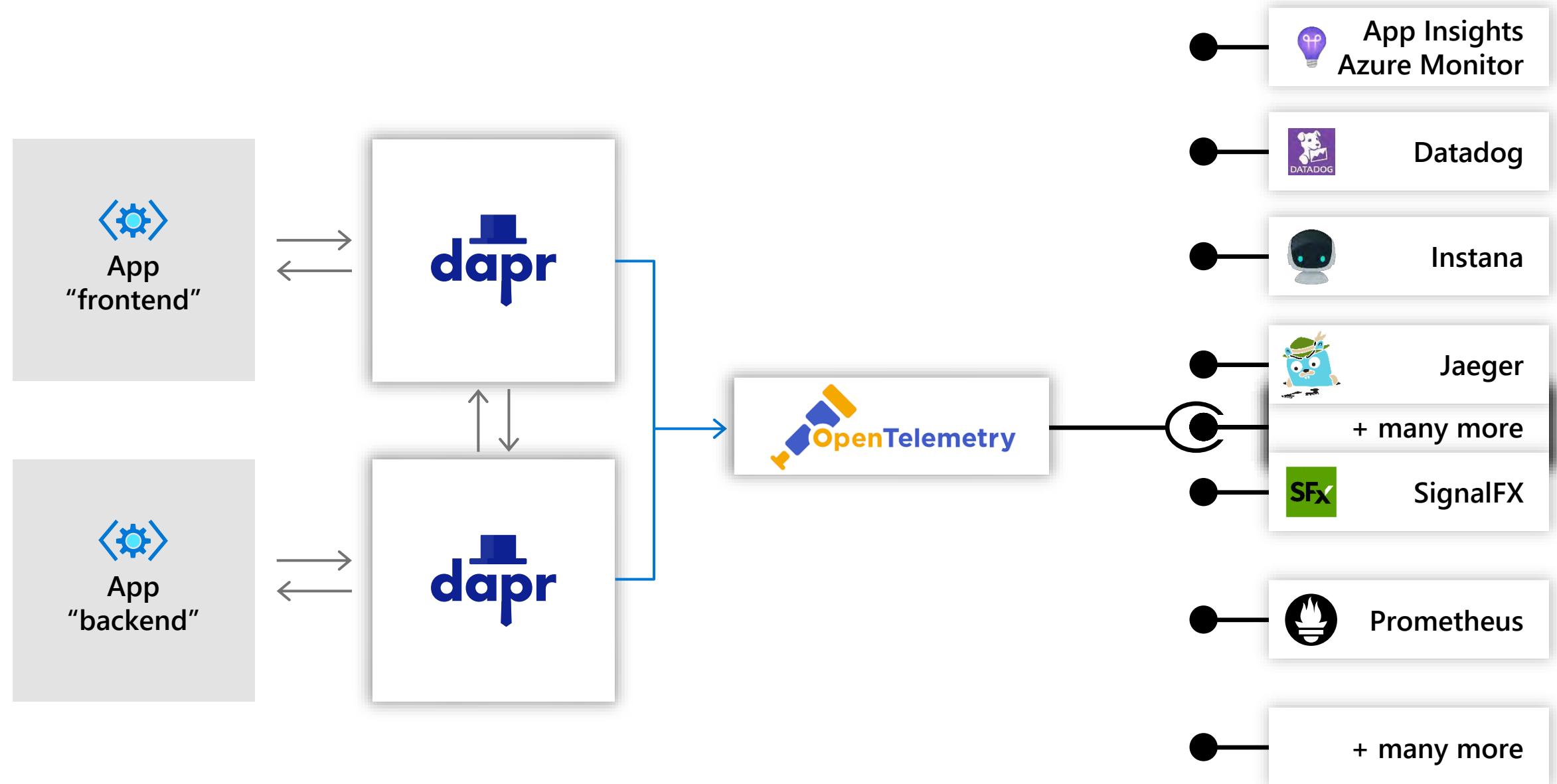
{"data": "Hello World"}

POST

<http://10.0.0.2:8000/orders>
<http://10.0.0.4:8000/factory/orders>

{"data": "Hello World"}

Insights gathering with common trunc



CNCF & Community



CLOUD NATIVE
COMPUTING FOUNDATION

Nov 2024: Accepted as **Graduated** CNCF Project

17.9k

GitHub stars

1810

Contributors

97

Community
Components

+1M

Docker Hub
monthly pulls

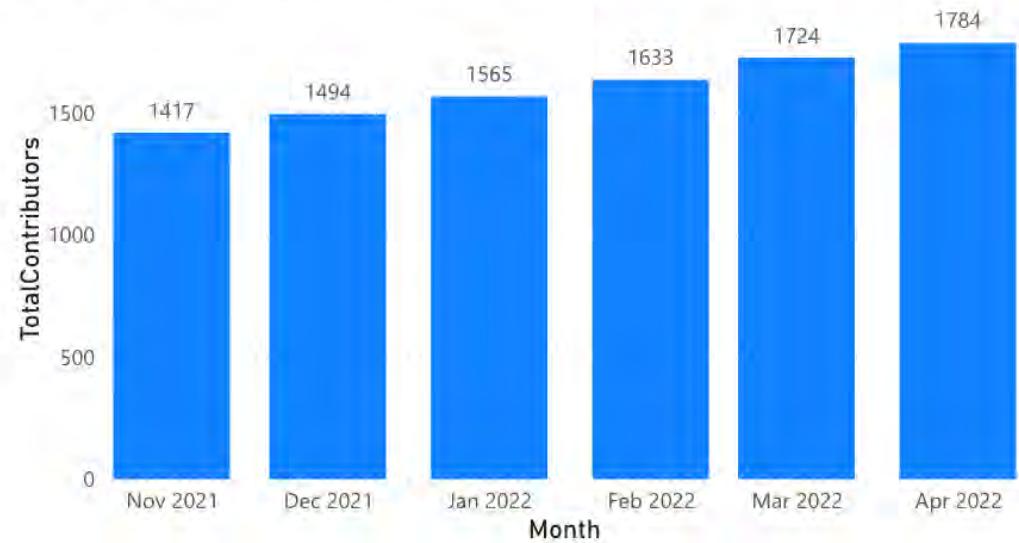
4k

Discord
members

+10k

Monthly Docs
views

Contributor growth



Contributing organizations include:



Microsoft

vmware®



HUAWEI



Alibaba Cloud



ZEISS



BOSCH

Tencent 腾讯

HashiCorp



Man



Diagrid

Questions or feedbacks ?



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