

Every Developer can now build microservice application with Dapr (AKS)

Maheshkumar R
Microsoft

 maheskblr



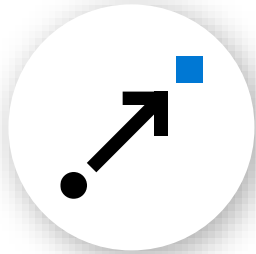
State of Enterprise Developers

Being asked to develop resilient, scalable, microservice-based apps that interact with services

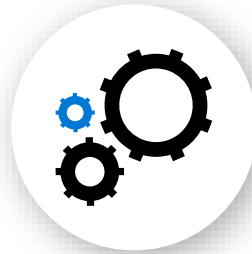
Increasingly polyglot. Write in many languages.

They want to leverage existing code

What is holding microservice development back?



Hard to incrementally migrate
from existing code to a
microservices architecture



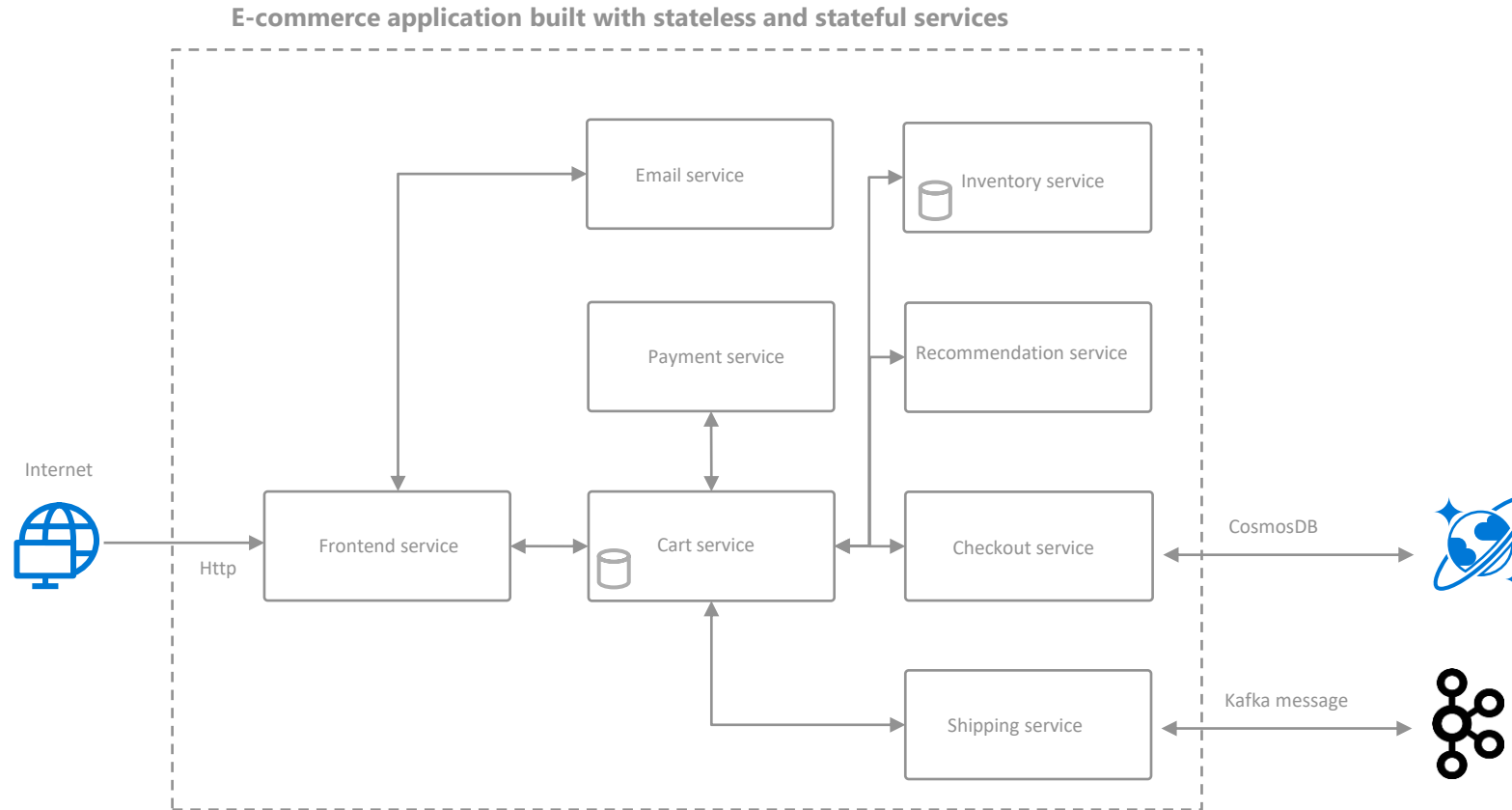
Programming model runtimes
have narrow language
support and tightly controlled
feature sets



Runtimes only target specific
infrastructure platforms with
limited code portability across
clouds and edge



Distributed app development

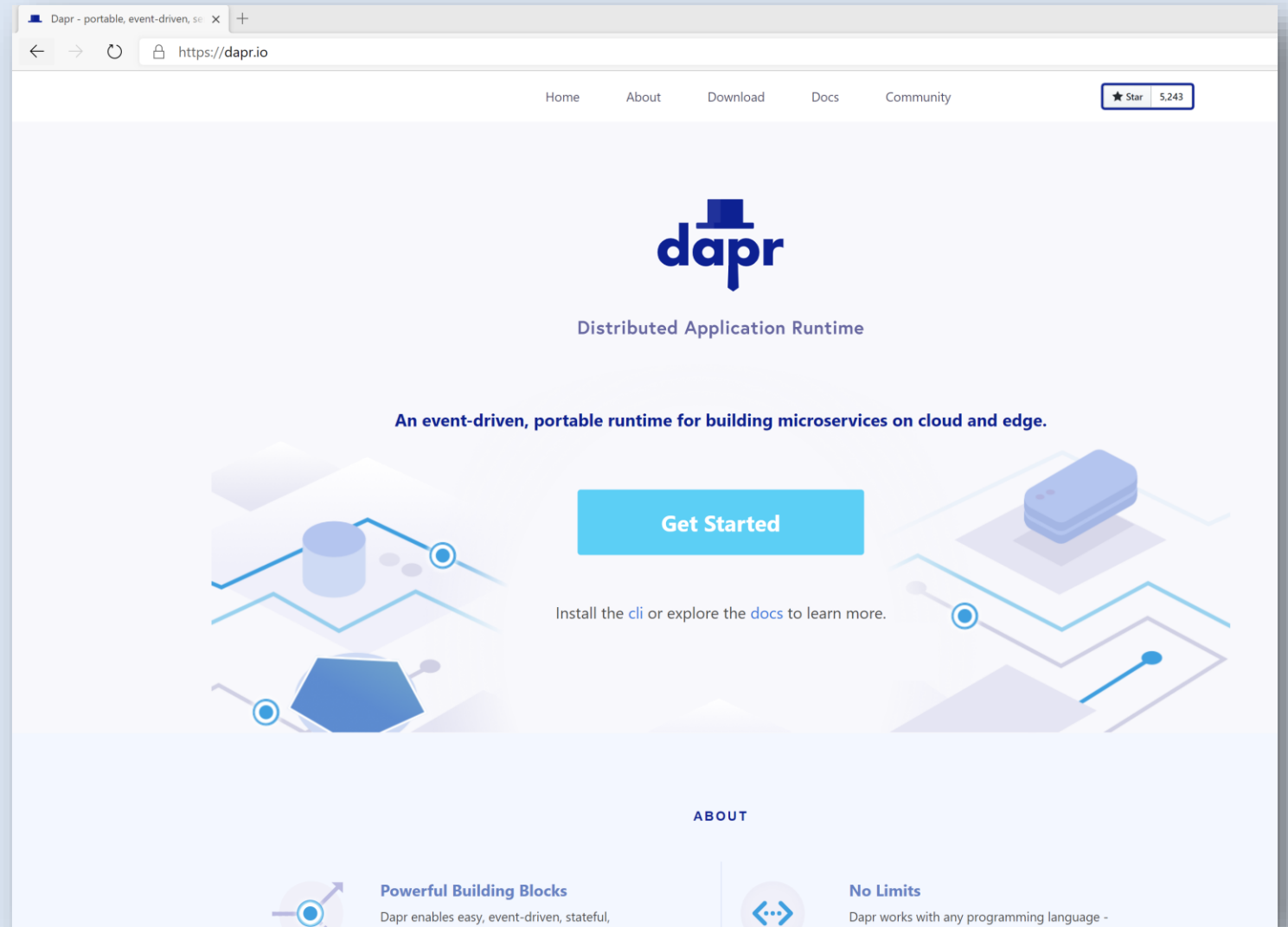




Distributed Application Runtime

Portable, event-driven, runtime for building distributed applications across cloud and edge

<https://dapr.io/>



Introducing Dapr

A portable, event-driven, serverless runtime for building distributed applications across cloud and edge



Microservice Building Blocks

Make it easy for developers to create microservice applications without being an expert in distributed systems including migrating existing code



Sidecar Architecture

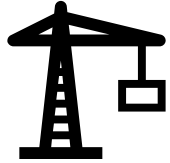
Developer first, standard APIs used from any programming language or framework



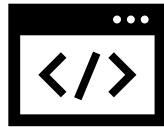
Cloud + Edge

Runs on multiple environments for cloud, on-prem, and small-edge including any Kubernetes

Dapr Goals



Best-Practices
Building Blocks



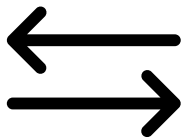
Any Language
or Framework



Community Driven
Vendor Neutral



Adopt Standards



Consistent, Portable,
Open APIs



Platform Agnostic
Cloud + Edge



Extensible and
Pluggable Components

Dapr: Distributed Application Runtime

Build apps using any language with any framework

Application code

Microservices written in

Any code or framework...



HTTP API

gRPC API



Service-to- service invocation



State management



Publish and subscribe



Bindings (input/output)



Actors



Observability



Secrets

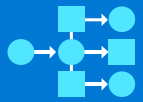


Extensible

Any cloud or edge infrastructure



Microservice building blocks



Service-to-service invocation

Perform direct, secure, service-to-service method calls



State management

Create long running, stateless and stateful services



Publish and subscribe

Secure, scalable messaging between services



Bindings (input/output)

Trigger code through events from a large array of inputs
Input and output bindings to external resources including databases and queues



Actors

Encapsulate code and data in reusable actor objects as a common microservices design pattern



Observability

See and measure the message calls across components and networked services

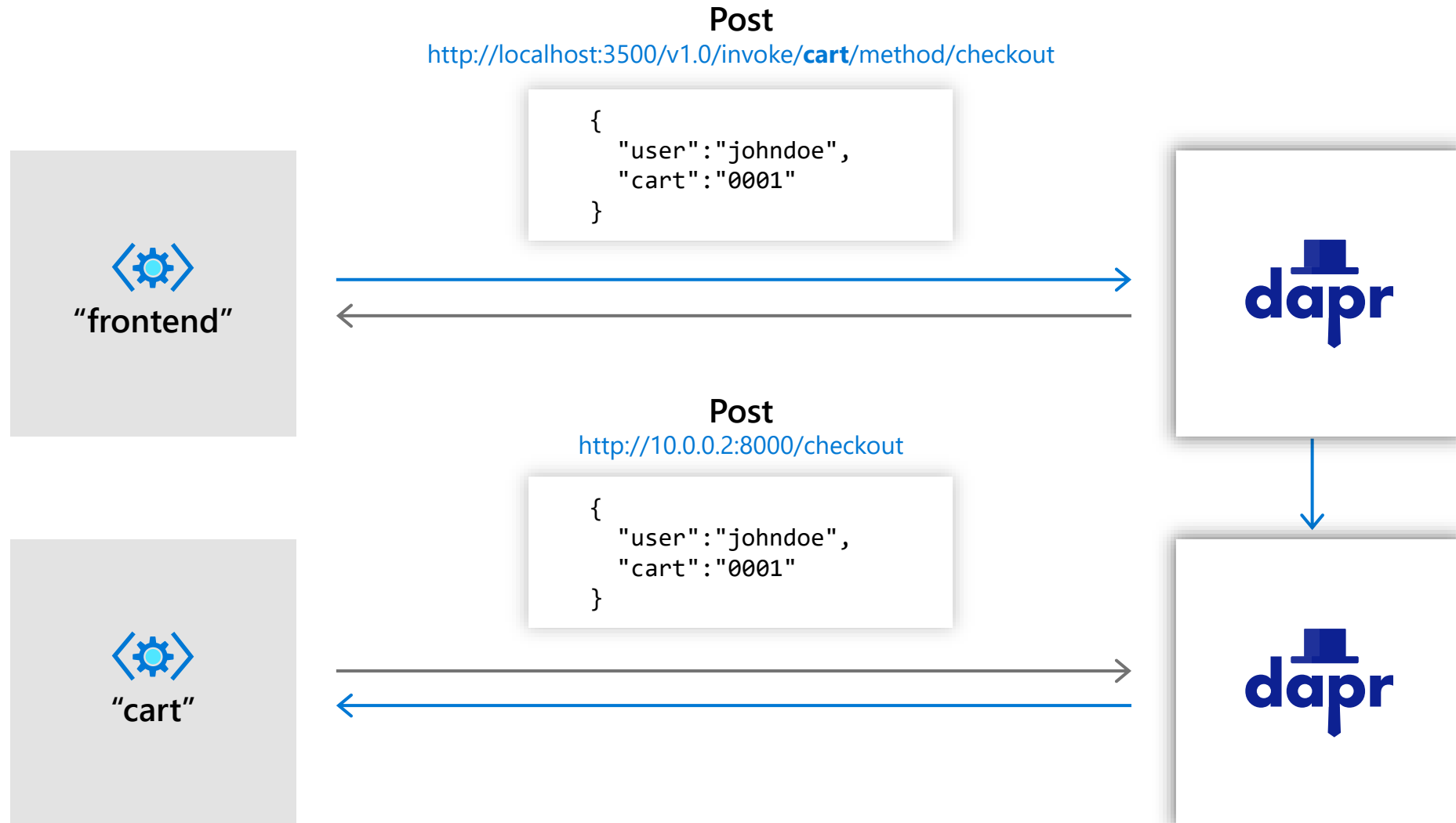


Secrets

Securely access secrets from your application

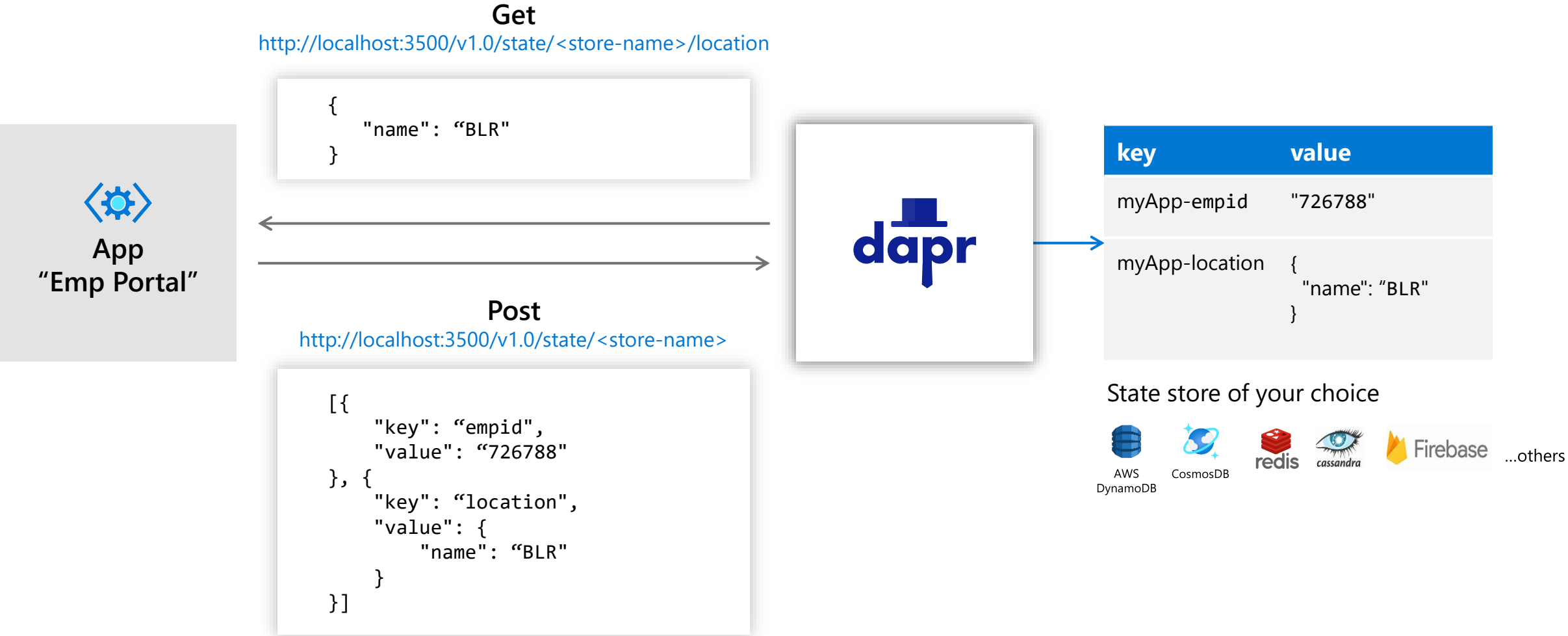
Microservice building blocks

Service invocation



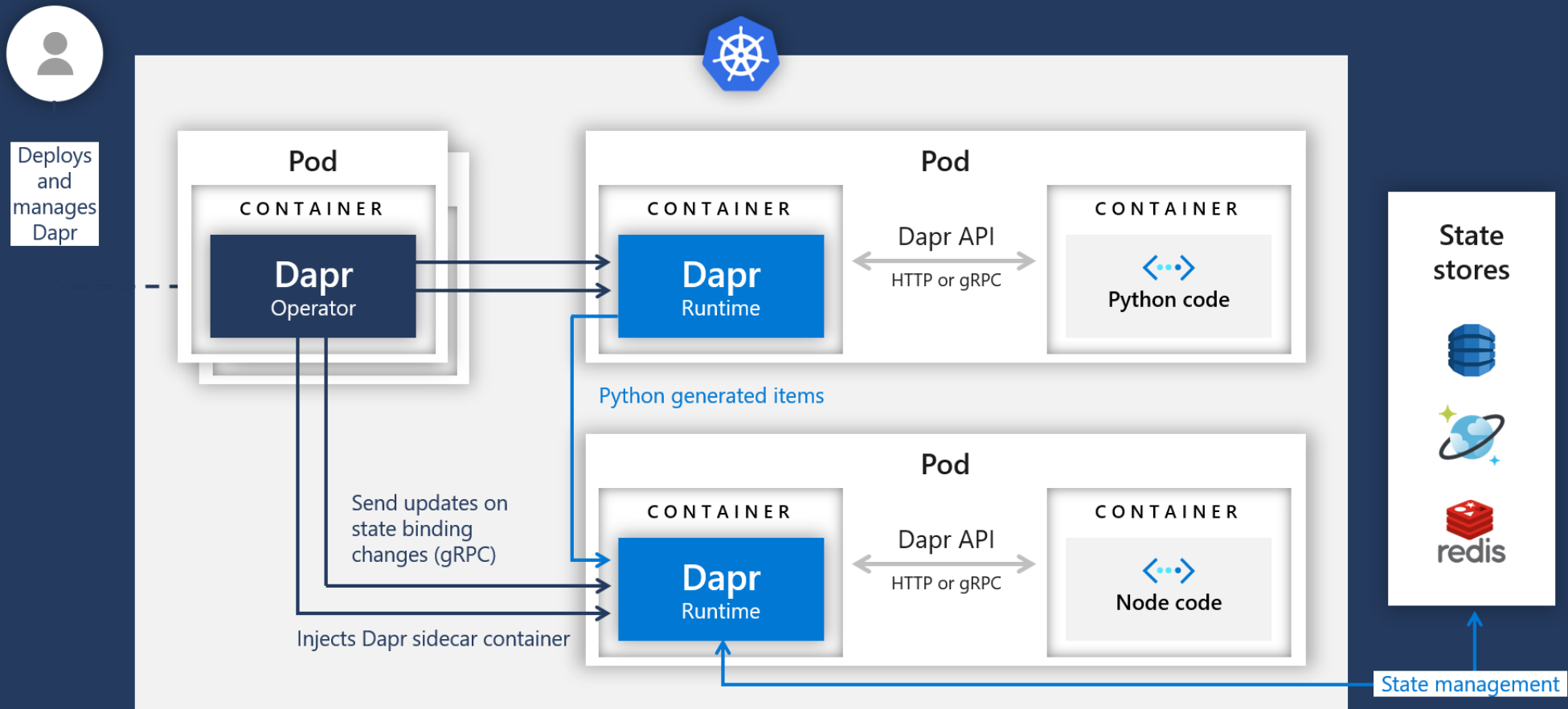
Microservice building blocks

State management: key/value



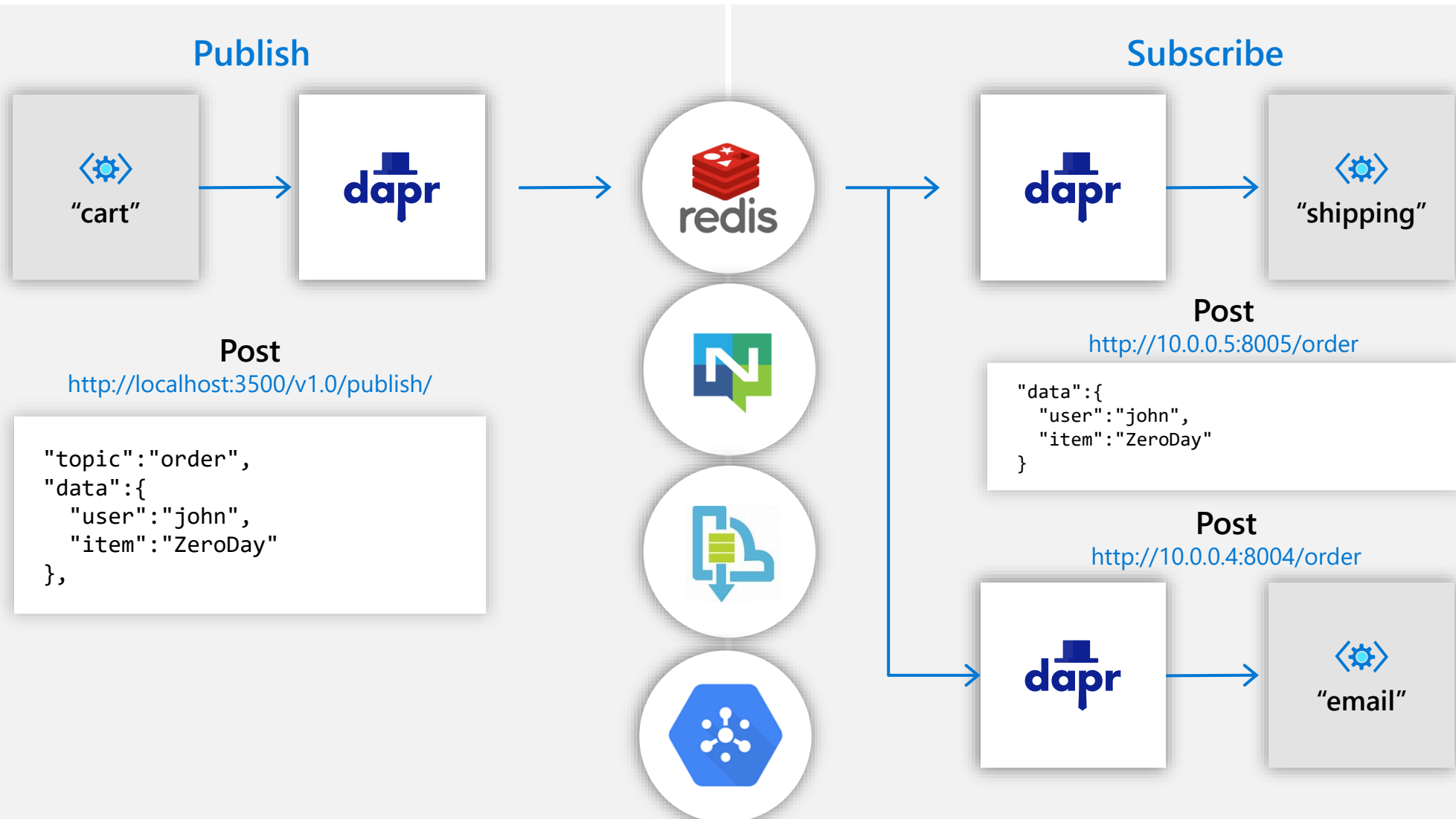
DEMO # 1

Dapr state management and components



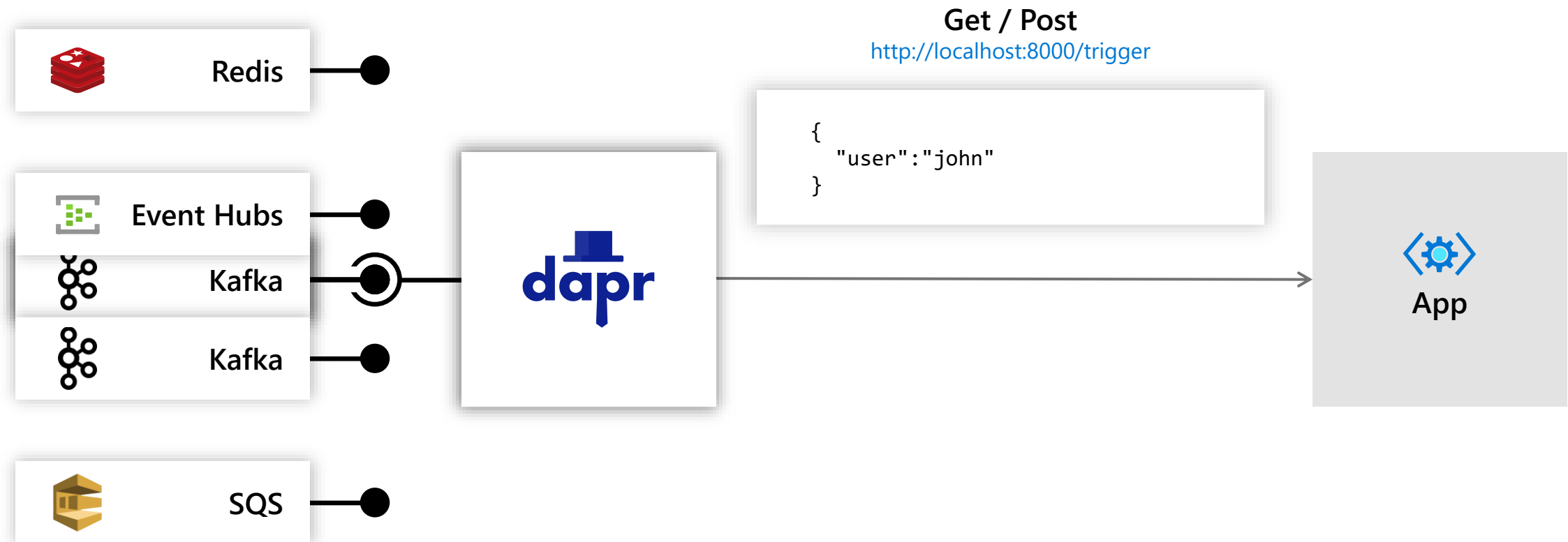
Microservice building blocks

Publish and subscribe



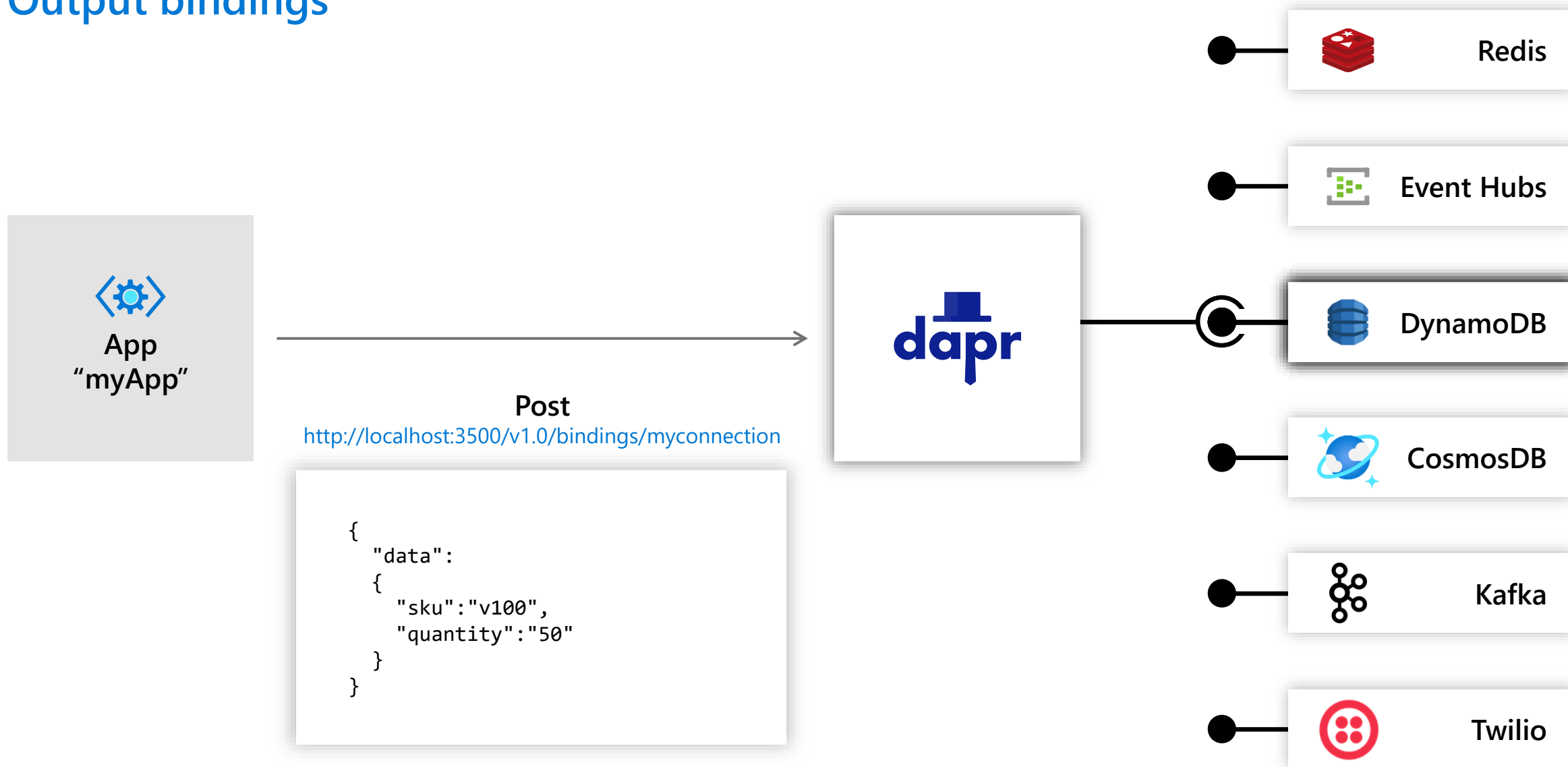
Microservice building blocks

Input Bindings



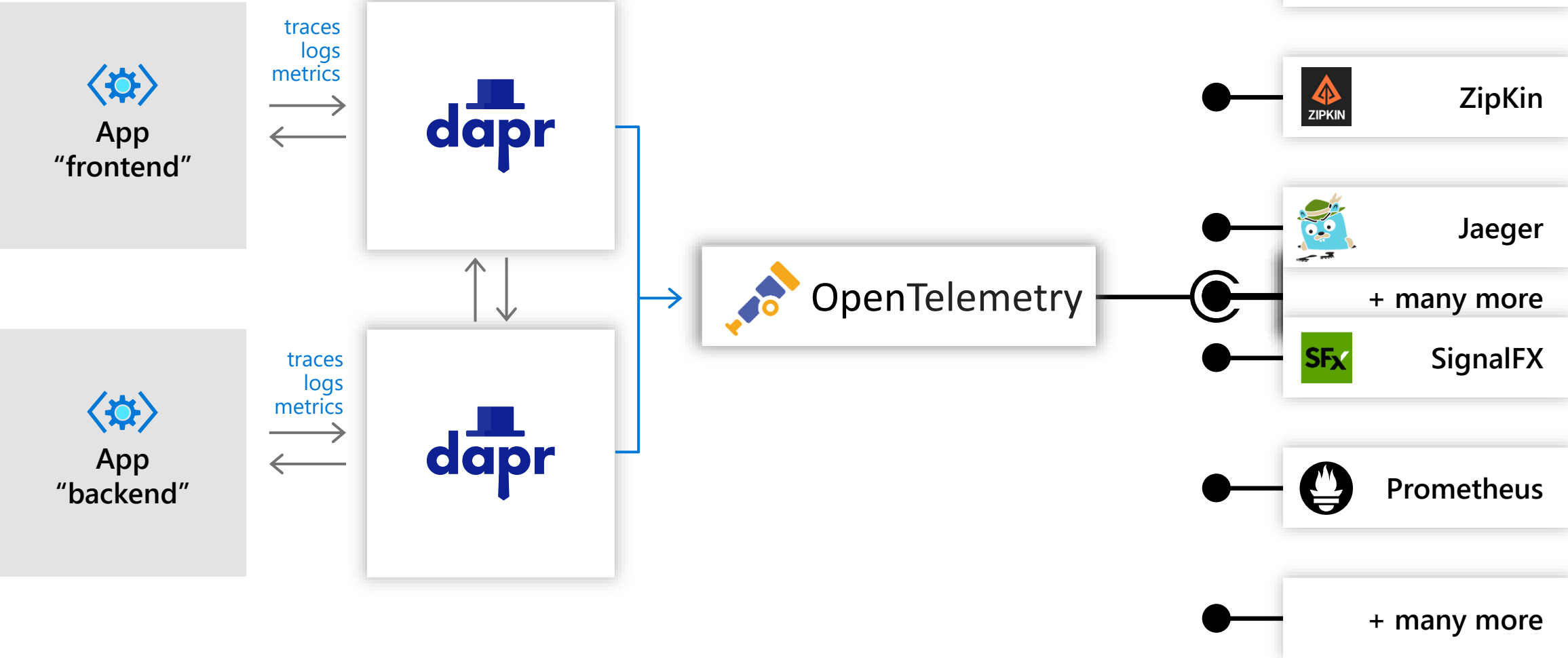
Microservice building blocks

Output bindings



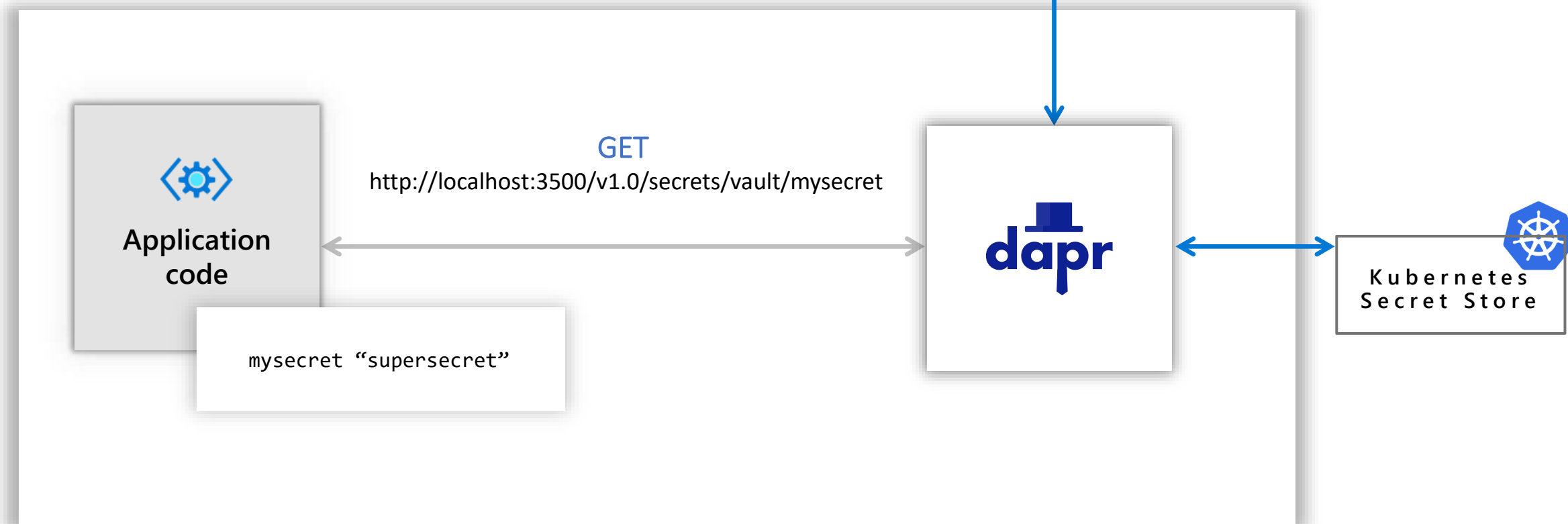
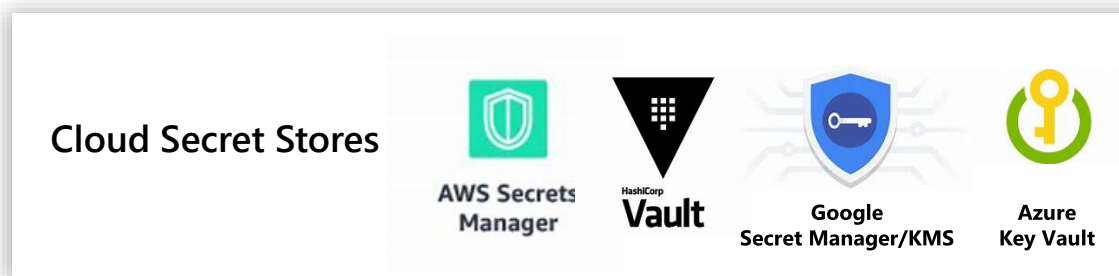
Microservice building blocks

Observability: Logs, metrics and distributed tracing

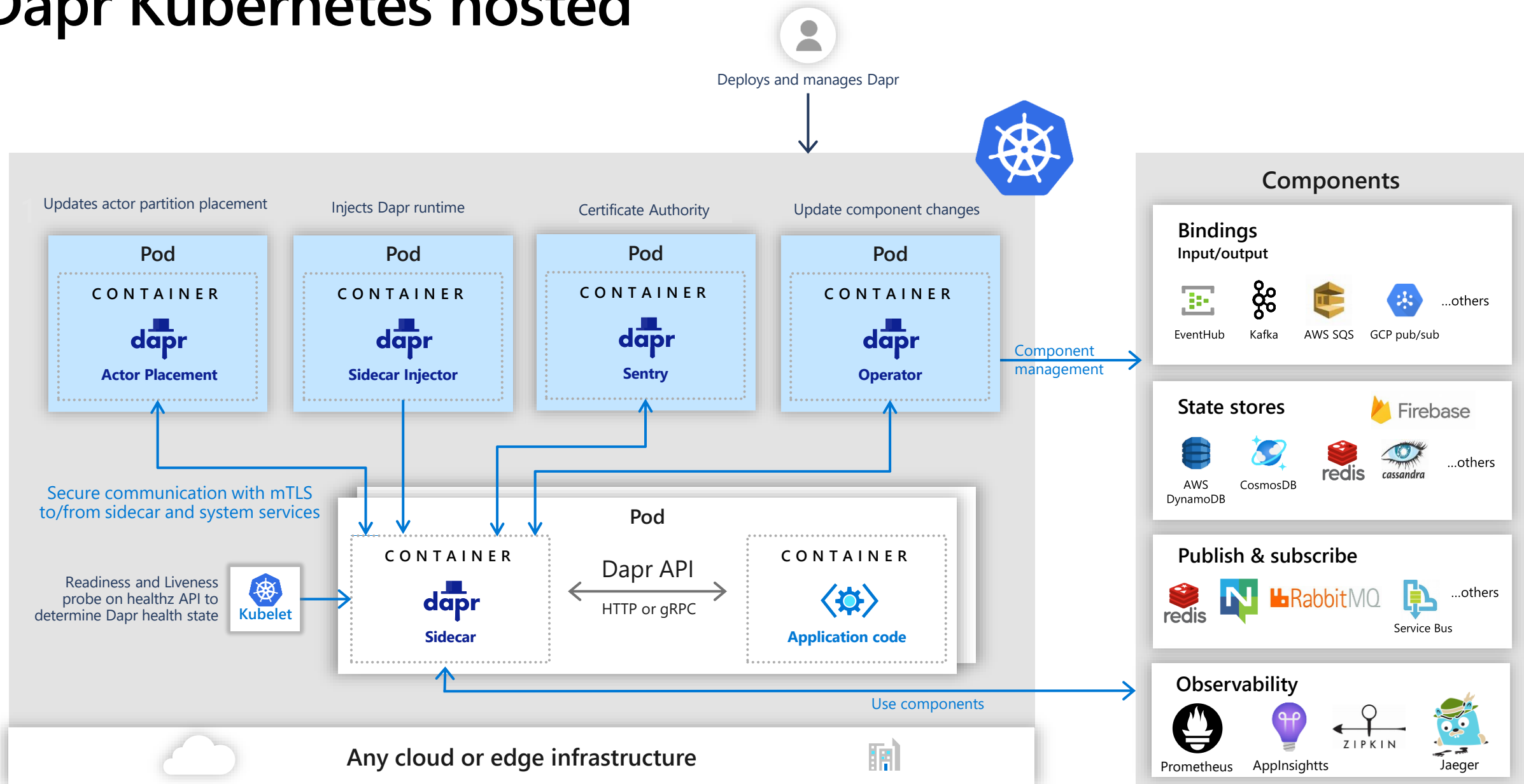


Microservice building blocks

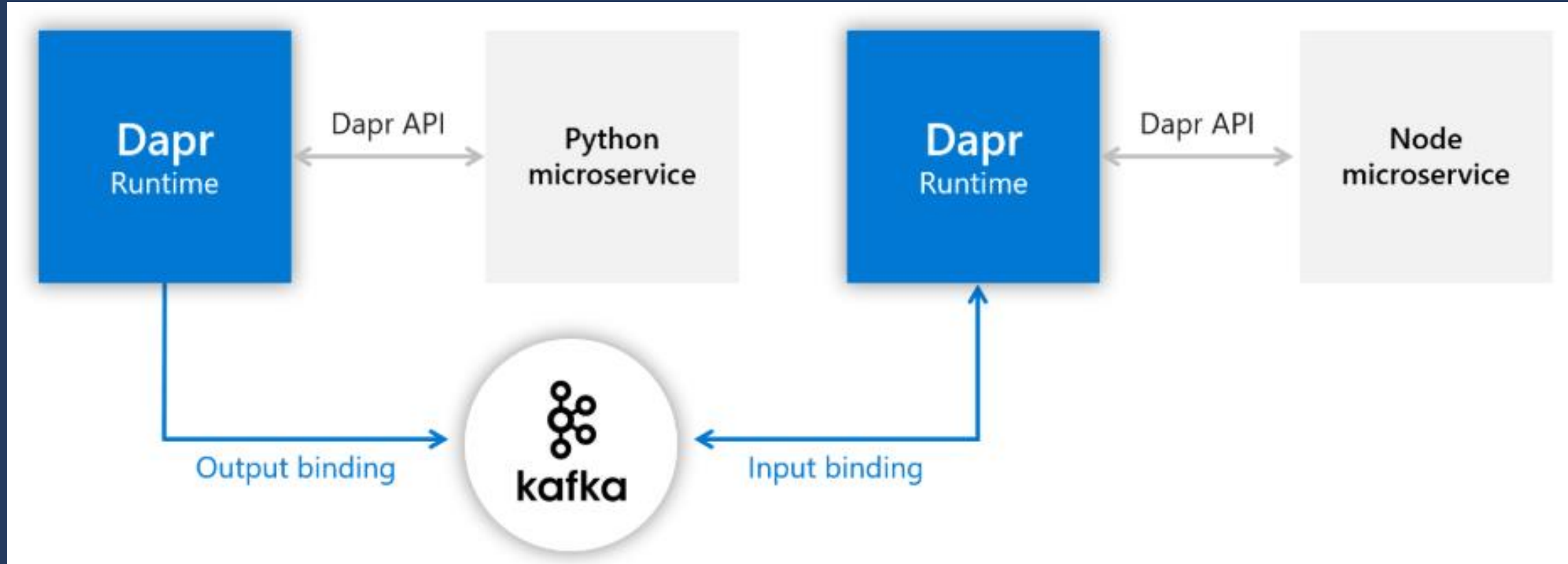
Secrets



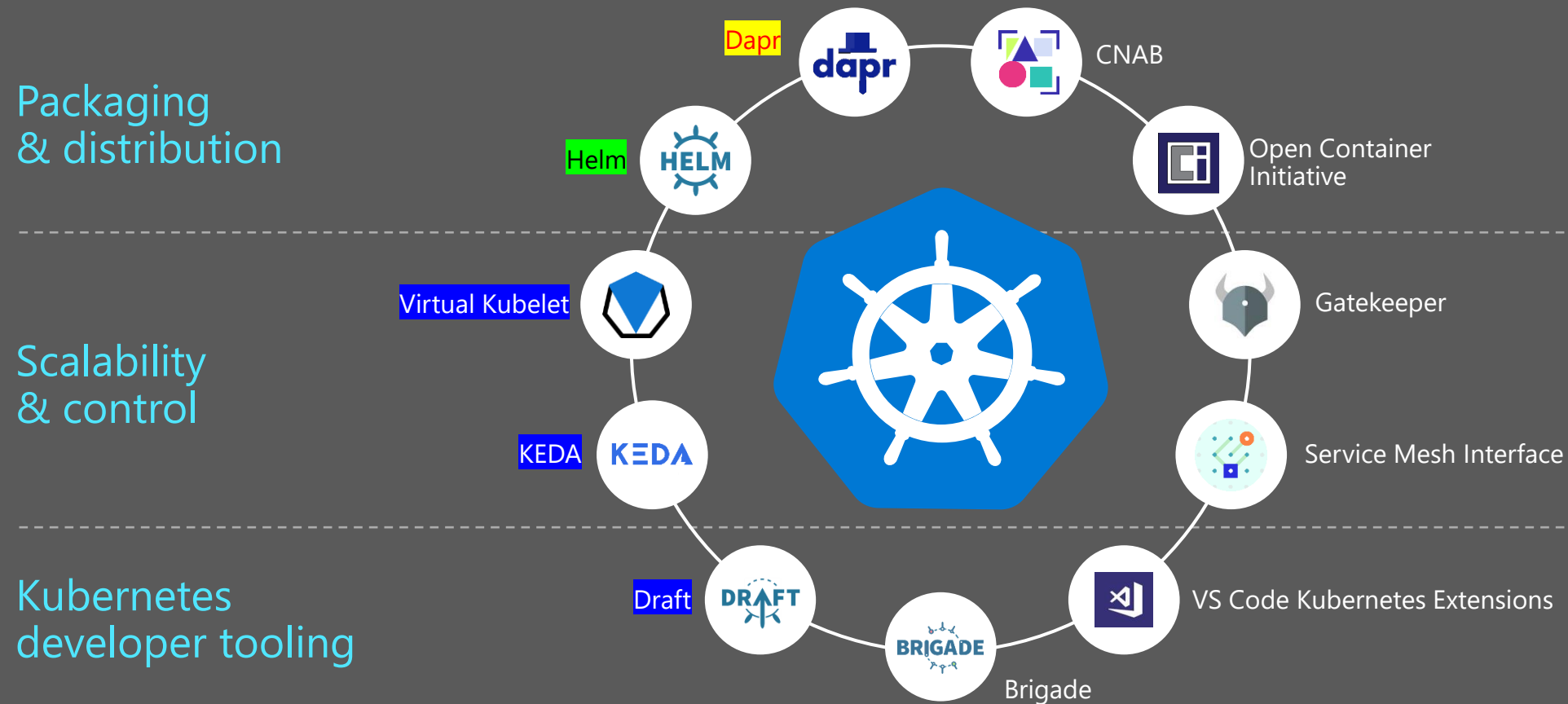
Dapr Kubernetes hosted



Dapr Bindings and components



Microsoft's contributions to the community



Get involved



<https://github.com/dapr/dapr#community>

Recent Dapr Posts (April 2020)

- Developing the next big thing by streamlining microservices with DAPR
 - [Alex Mang - Developing The Next Big Thing By Streamlining Microservices With DAPR](#)
- Kubernetes NGINX ingress controller with Dapr
 - <https://carlos.mendible.com/2020/04/05/kubernetes-nginx-ingress-controller-with-dapr/>
- An introduction to Dapr (Distributed Application Runtime)
 - <https://www.partech.nl/nl/publicaties/2020/04/introduction-to-dapr-distributed-application-runtime#>
- Dapr - Creating a user login/register microservice
 - <https://xaviergeerinck.com/post/coding/javascript/dapr-creating-account-microservice/>

Start today - <https://dapr.io/>

