Az COMMUNITY

Conference 2022

Asia's Largest Azure Community Conference

#AzConfDev

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#AzConfDev

@Davidshadoow

Worry-free microservices with DAPR on Azure Container Apps

Thursday, October 20th 2022

#AzConfDev

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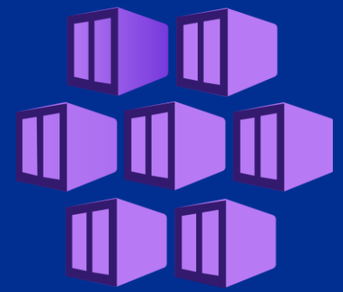
ONE DOES NOT SIMPLY
DEPLOY KUBERNETES

Azure Container Apps

- Launched at #dotNETConf 2021 in (private) preview
- Generally available since Build 2022
- Deploy containerized apps without the hassle of managing Kubernetes

Options for running containers in Azure



Simple

Complex

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Features

- Serverless containers for microservices
- Scale to zero with Kubernetes Event-driven Autoscaling (KEDA)
- Seamlessly migrate to full blown Kubernetes possible (AKS)
- Dapr runtime built-in

Availability

- East Asia
- Australia East
- Brazil South
- Canada Central
- West Europe
- North Europe
- Japan East
- Korea Central
- UK South
- Central US
- East US
- East US2
- North Central US
- South Central US
- West US

Demo

Decoupling microservices from your cloud infrastructure is hard?!

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dapr Distributed Application Runtime

- Founded in 2019 by two ex-Microsoft employees
- Written in Go
- Service Mesh meets Application Runtime

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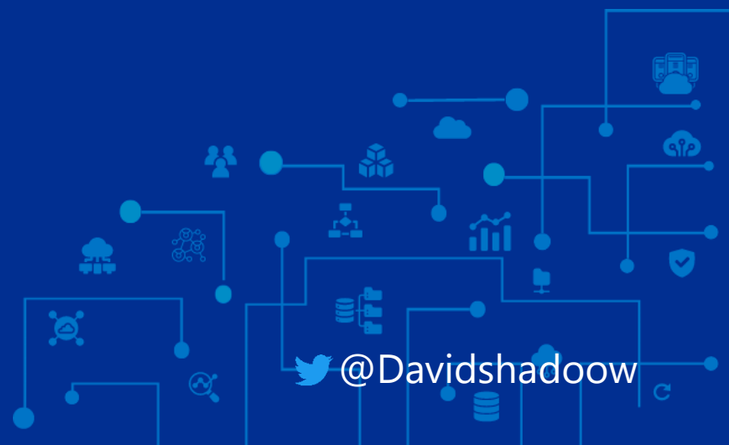
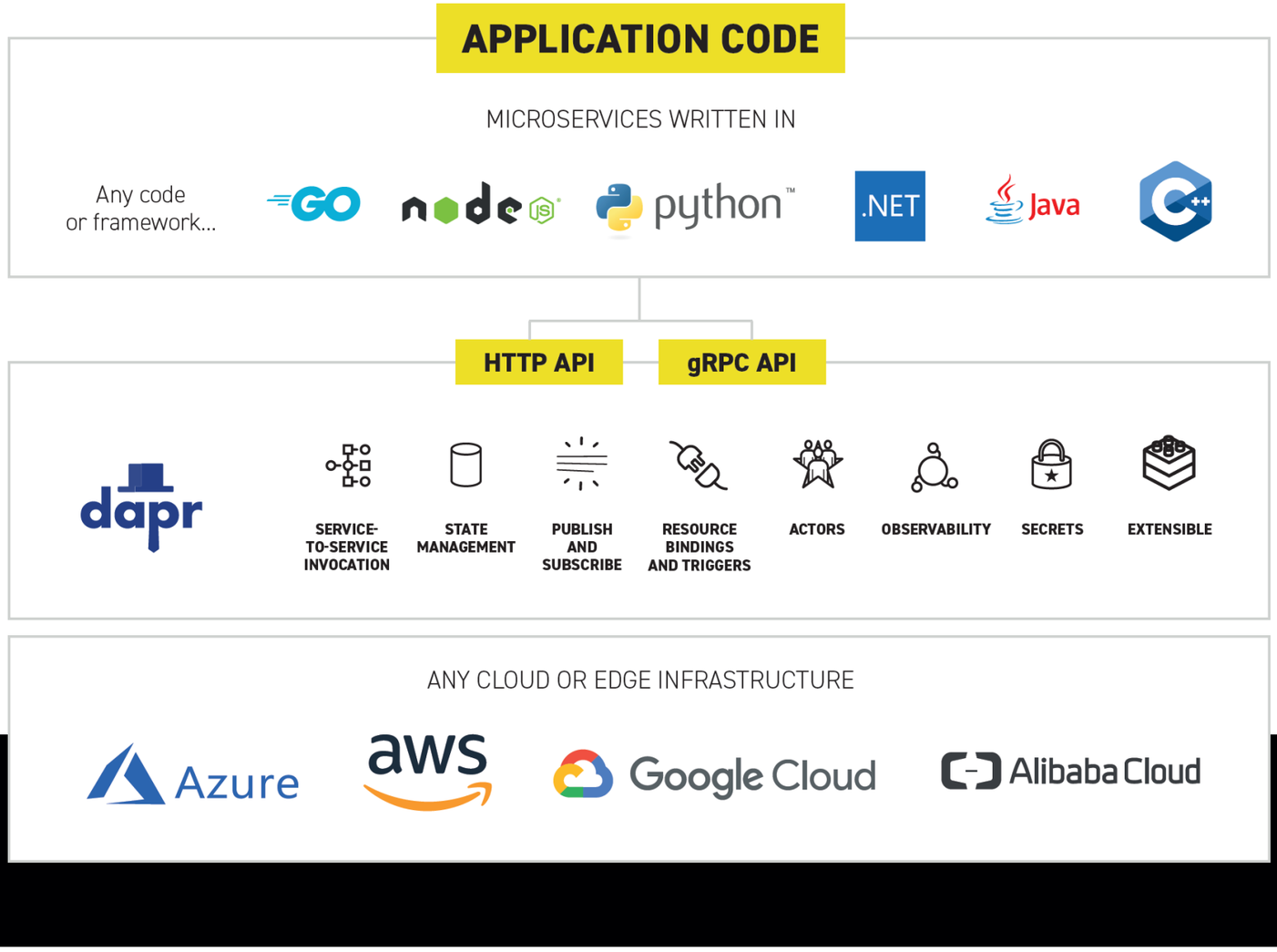
“We predict that by 2022, 90% of new applications will feature microservices architectures”

Microsoft Corporation – 16th of October 2019

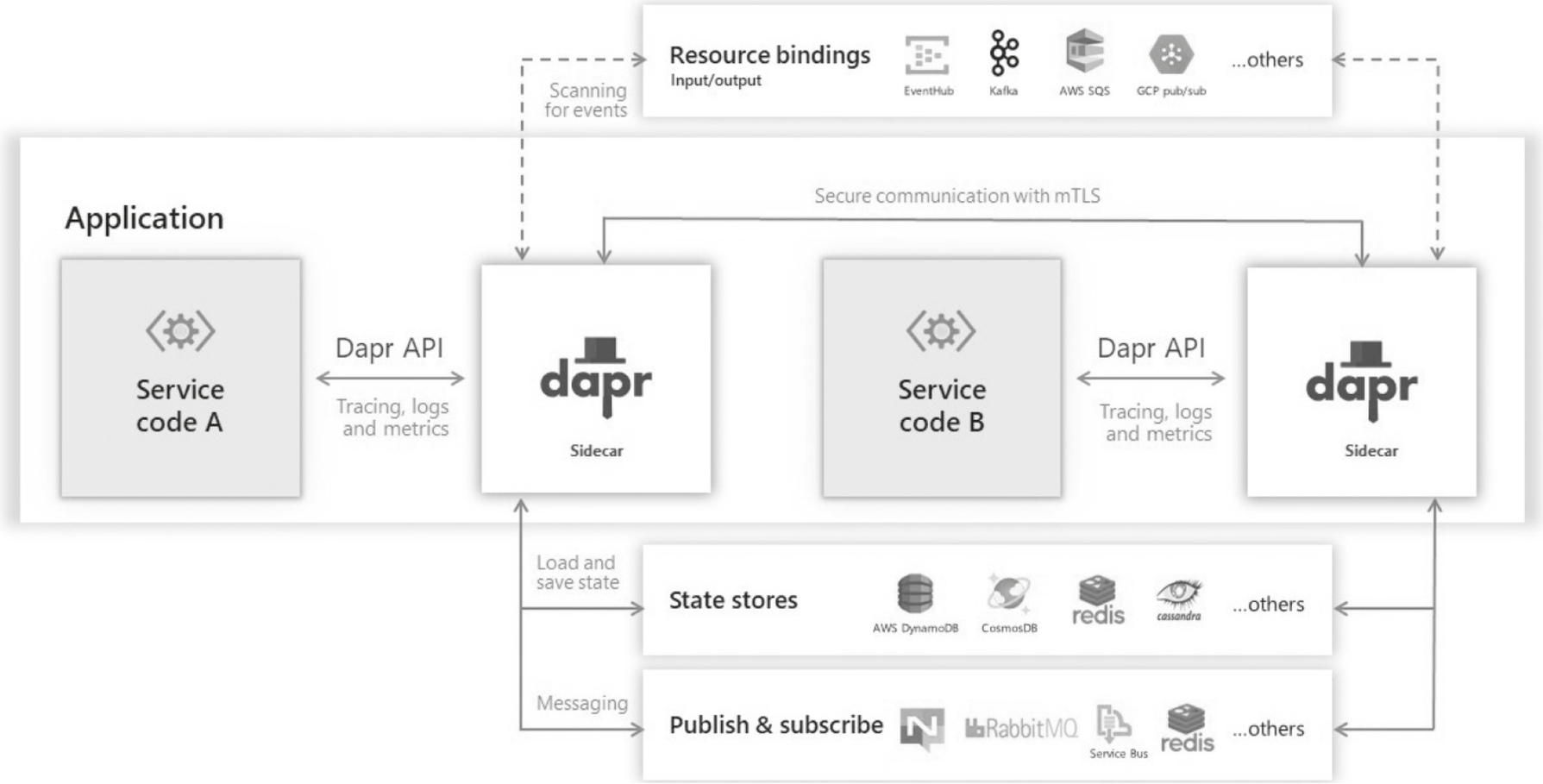


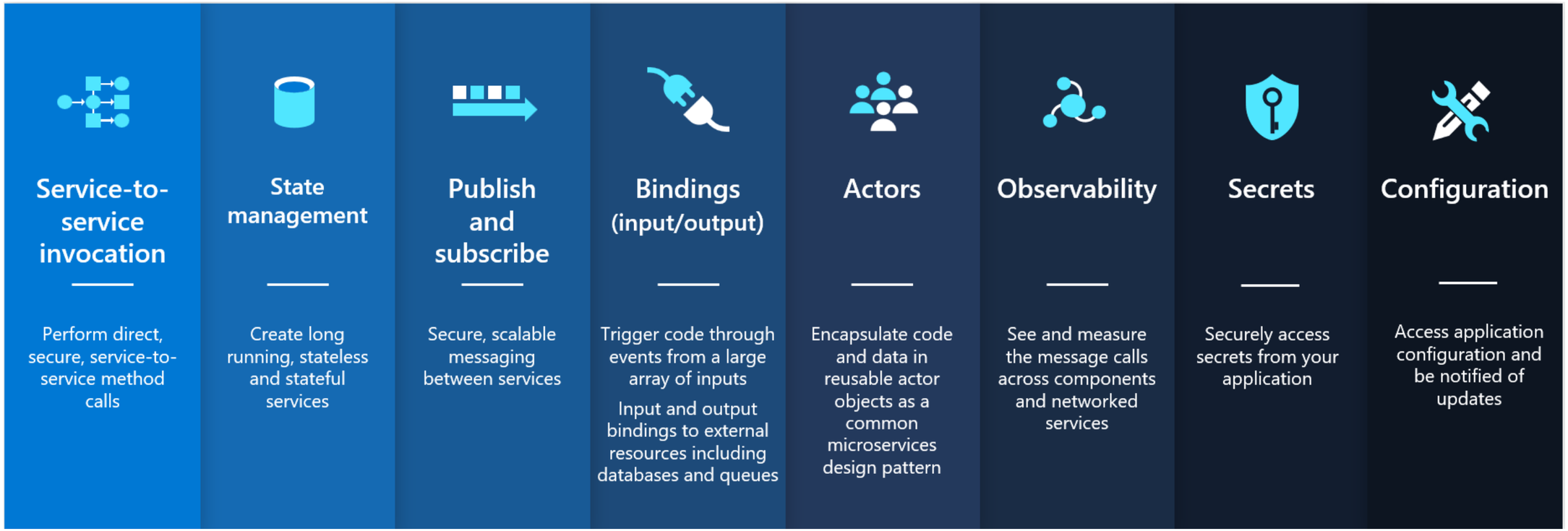
What Dapr Does

- Abstracts away cloud infrastructure from application code and configuration
- Codifies the ***best practices*** for building microservice applications
- Creates a set of ***independent APIs*** reachable via HTTP or gRPC

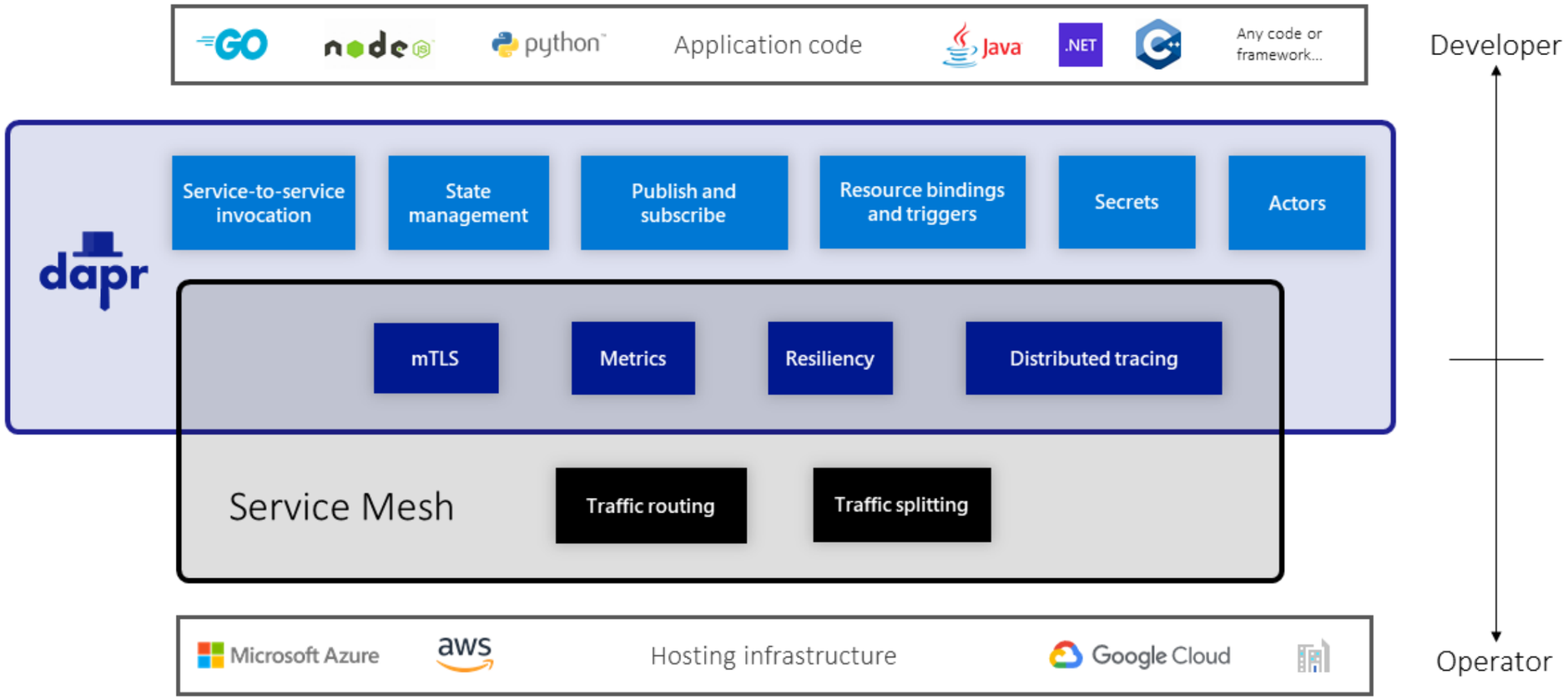

APPLICATION CODE
MICROSERVICES WRITTEN IN
Any code
or framework...
HTTP API
gRPC API
dapr
SERVICE-TO-SERVICE INVOCATION
STATE MANAGEMENT
PUBLISH AND SUBSCRIBE
RESOURCE BINDINGS AND TRIGGERS
ACTORS
OBSERVABILITY
SECRETS
EXTENSIBLE
ANY CLOUD OR EDGE INFRASTRUCTURE
Azure
aws
Google Cloud
Alibaba Cloud

SIDECAR AND COMPONENT ARCHITECTURE




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
Configuration
Access application configuration and be notified of updates

Why Dapr isn't a Service Mesh



But Dapr works with Service Meshes too

- Dapr works with Istio, Linkerd and Open Service Mesh
- Sidecars for both service will run together attached to the service

Dapr vs. Service Meshes

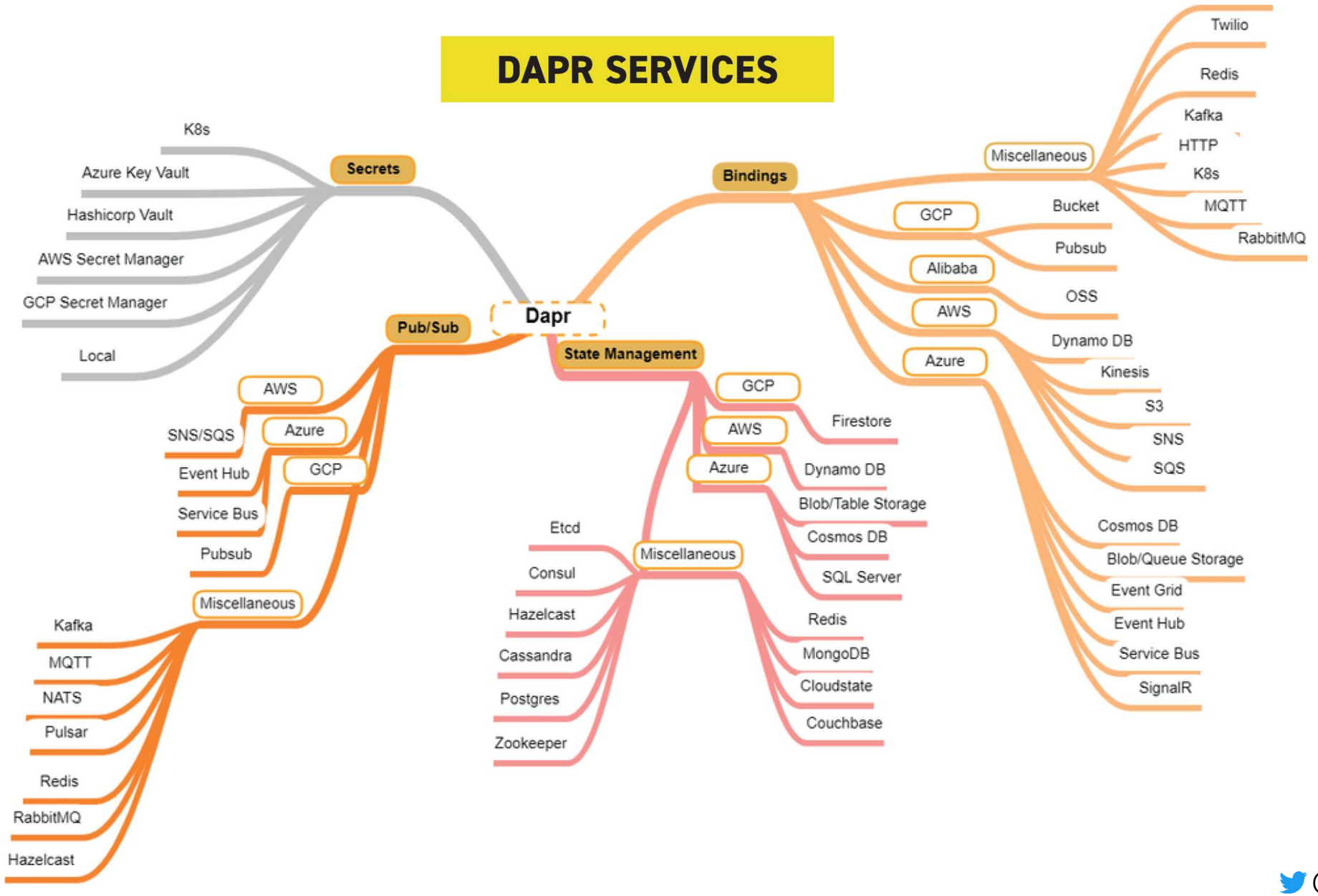
Dapr

- Requirement for one or more building blocks for the whole or only part of the application
- Wanting the runtime capabilities but no need for low-level network control
- Create infrastructure independent services

Service Mesh

- Enterprise grade networking requirements for E2E encryption or networking policies for all application traffic
- Traffic splitting or load balancing requirements for A/B testing or Blue/Green deployments

DAPR SERVICES



Making the jump to hyperspace...

https://tinyurl.com/azconf2022

https://tinyurl.com/azconf2022-2

Getting started with Dapr

- **Dapr v1.9.0** released on October 14th 2022
- https://docs.dapr.io/getting-started/
- https://aka.ms/dapr-discord
- @daprdev

Dapr community meetings

- Wednesday Nov 2nd 09:00am Pacific Time (PST) – 9:30pm IST
- Wednesday Nov 16th 09:00pm Pacific Time (PST) – 9:30pm IST
- Wednesday Nov 30th 09:00am Pacific Time (PST) – 9:30pm IST
- Wednesday Dec 7th 09:00am Pacific Time (PST) – 9:30pm IST
- Meetings are available on YouTube: http://aka.ms/dapr-recordings

Asset	Link
Meeting Link & Password	**Zoom Call:** https://us02web.zoom.us/j/85305980190 **Password:** eWRhSklVTjJjSnhTaURDcFZaU2ZzQT09

THANK YOU!

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