Azure Dev Day

Gary T. Ciampa
Cloud Solution Architect

✉ gary.ciampa@microsoft.com
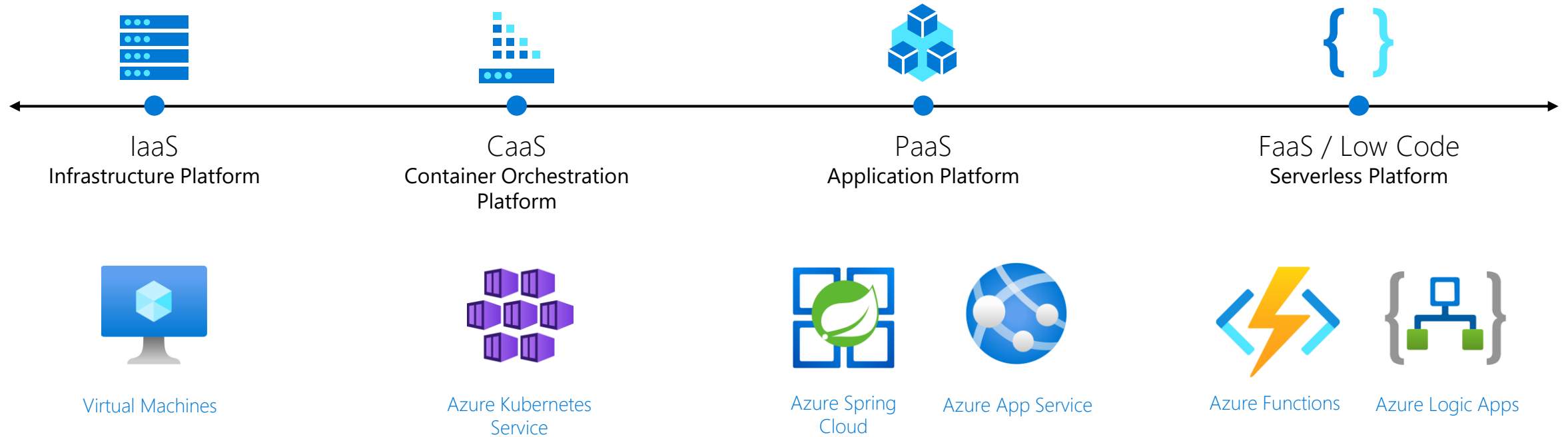
in https://www.linkedin.com/in/gary-ciampa-cams-526945a/

⌂ Gary.Ciampa@github

Serverless Solutions

Building highly-scalable, event-driven applications.

Application hosting continuum

IaaS	CaaS	PaaS	FaaS / Low Code
Infrastructure Platform	Container Orchestration Platform	Application Platform	Serverless Platform

Virtual Machines

Azure Kubernetes Service

Azure Spring Cloud

Azure App Service

Azure Functions

Azure Logic Apps

IT/Infra focused Value Prop

Dev/App focused Value Prop

More Control of execution environment

Less Control of execution environment

Less Agile development & deployment

More Agile development & deployment

"Serverless" benefits

No server management
Developers can just focus on their code—there are no distractions around server management, capacity planning, or availability.

Event-driven processing
Application components react to events and triggers in real-time.

Consumption billing
Only pay for what you use by automatically scaling up and down based on system usage and throughput.
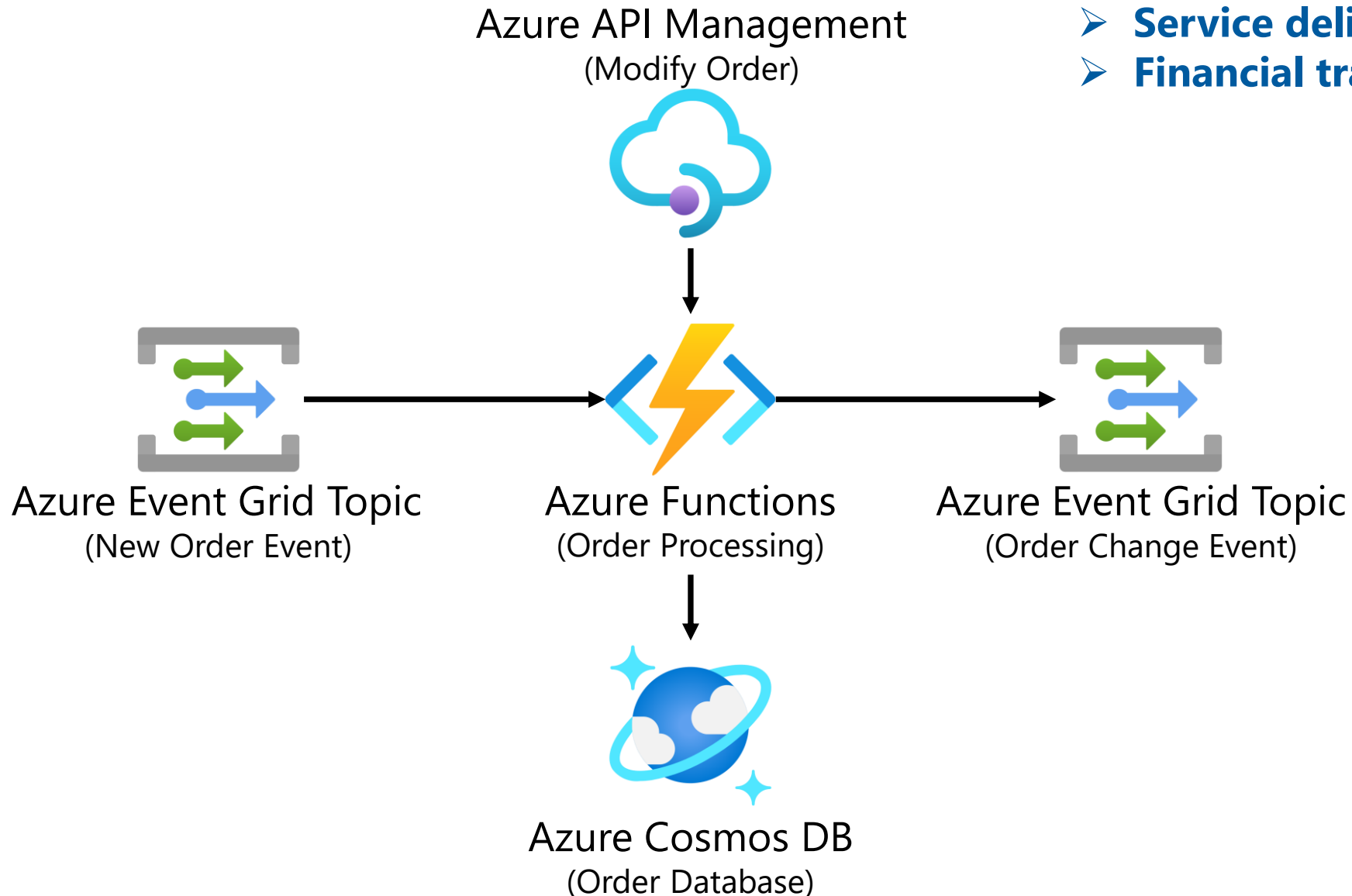
Microsoft Azure Well-Architected Framework
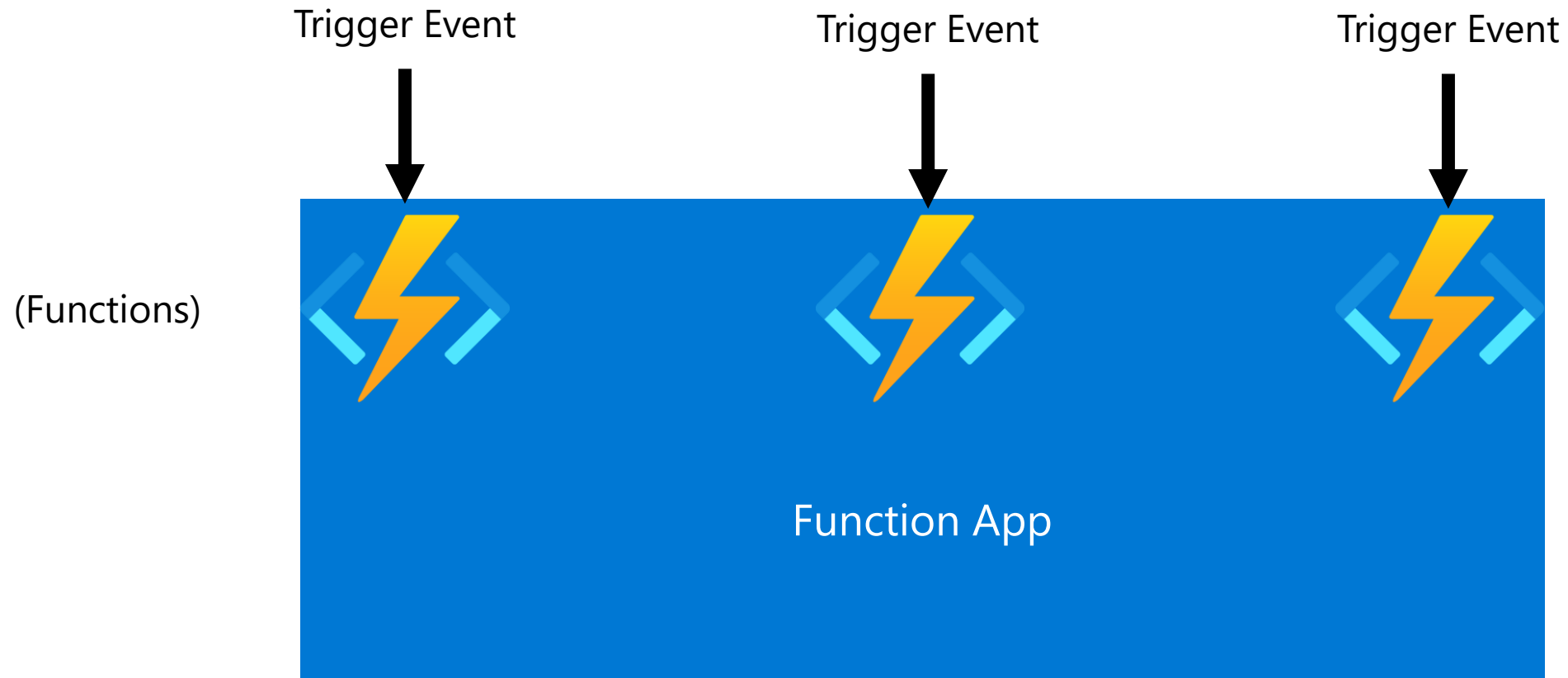Guiding tenants, framework and best practices Reliability, Security, Cost, Operational and Performance

Serverless architecture

Azure API Management
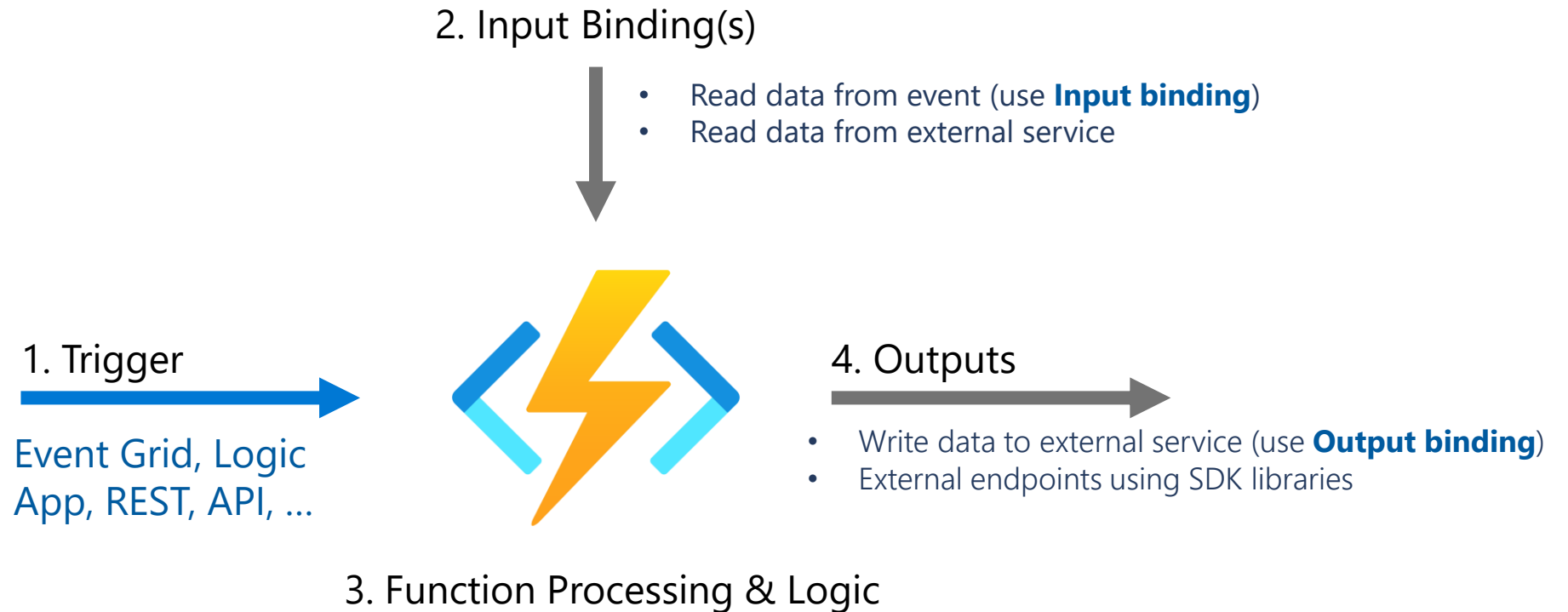(Modify Order)

Azure Event Grid Topic
(New Order Event)

Azure Functions
(Order Processing)

Azure Event Grid Topic
(Order Change Event)

Azure Cosmos DB
(Order Database)

Anatomy of a Function App

Trigger Event   Trigger Event   Trigger Event

(Functions)

Function App

Anatomy of a Function

2. Input Binding(s)

- Read data from event (use **Input binding**)
- Read data from external service

1. Trigger

Event Grid, Logic App, REST, API, ...

4. Outputs

- Write data to external service (use **Output binding**)
- External endpoints using SDK libraries

3. Function Processing & Logic

Thinking about Functions

Single responsibility

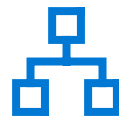Functions are single-purposed, reusable pieces of code that process an input and return a result

Stateless

Functions don't hold any persistent state and don't rely on the state of any other processes

Short lived

Functions don't stick around when finished executing, freeing up resources for further executions

Event driven & scalable

Functions respond to predefined events, and can scale out to handle high-load scenarios

Integrated programming model

Use built-in triggers and bindings to define when a function is invoked and to what data it connects
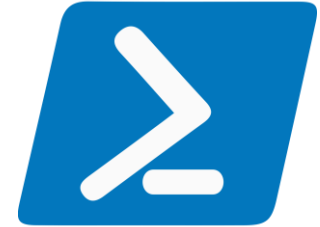
Enhanced development experience

Code, test and debug locally using your preferred editor or the easy-to-use web-based interface including monitoring
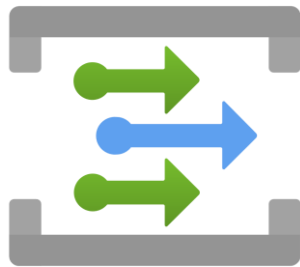
Hosting options flexibility

Choose the deployment model that better fits your business needs without compromising development experience

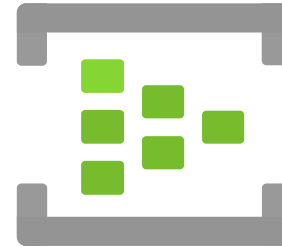# First-class Functions languages

Custom Handlers

Events and messaging

Event Grid

Modern event-based reactive systems (subscription)

Service Bus

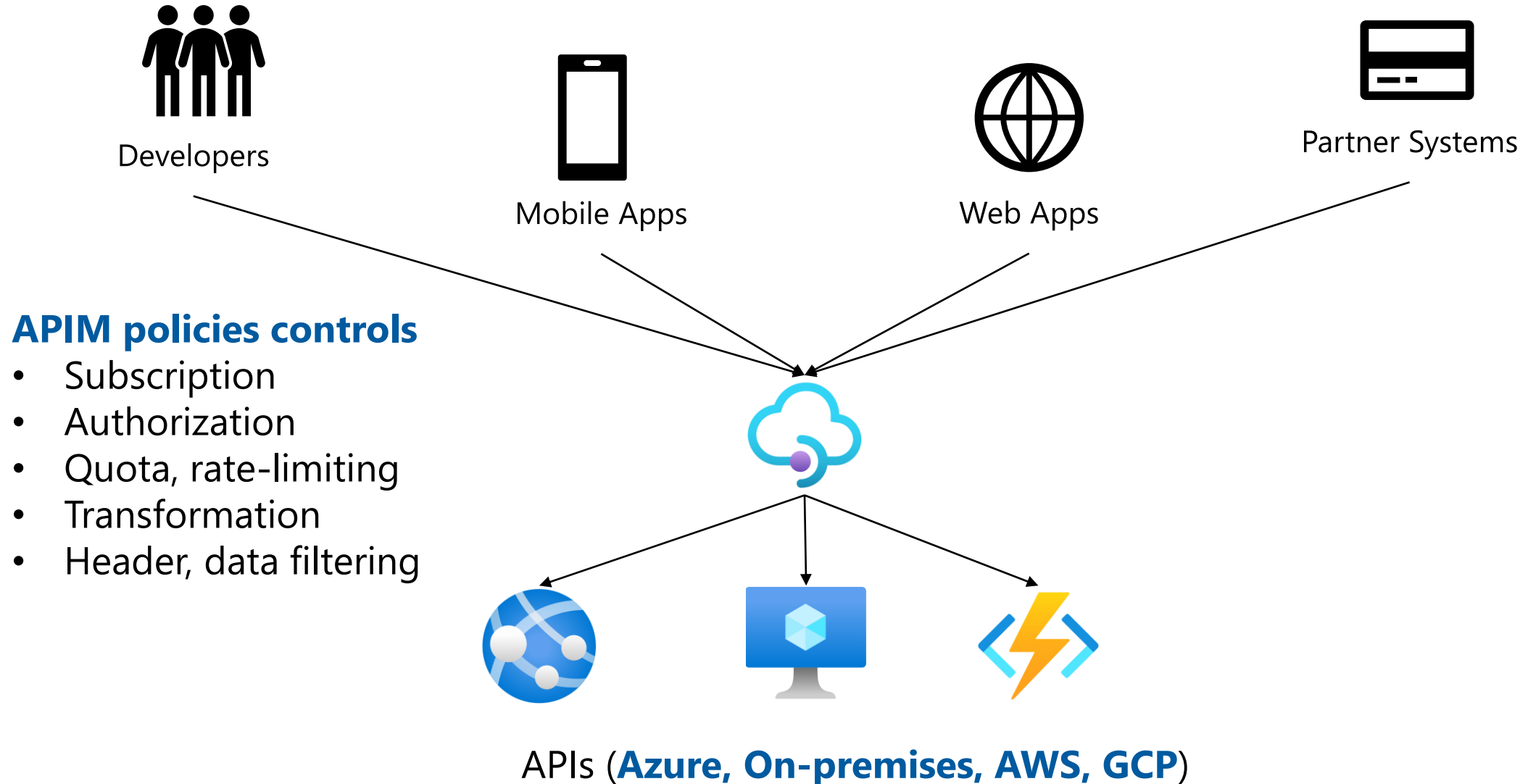Queue or topic; Publish, subscribe model; 1-to-1, or 1-to-many

Event Hubs

High throughput event ingestion (streaming, IoT)

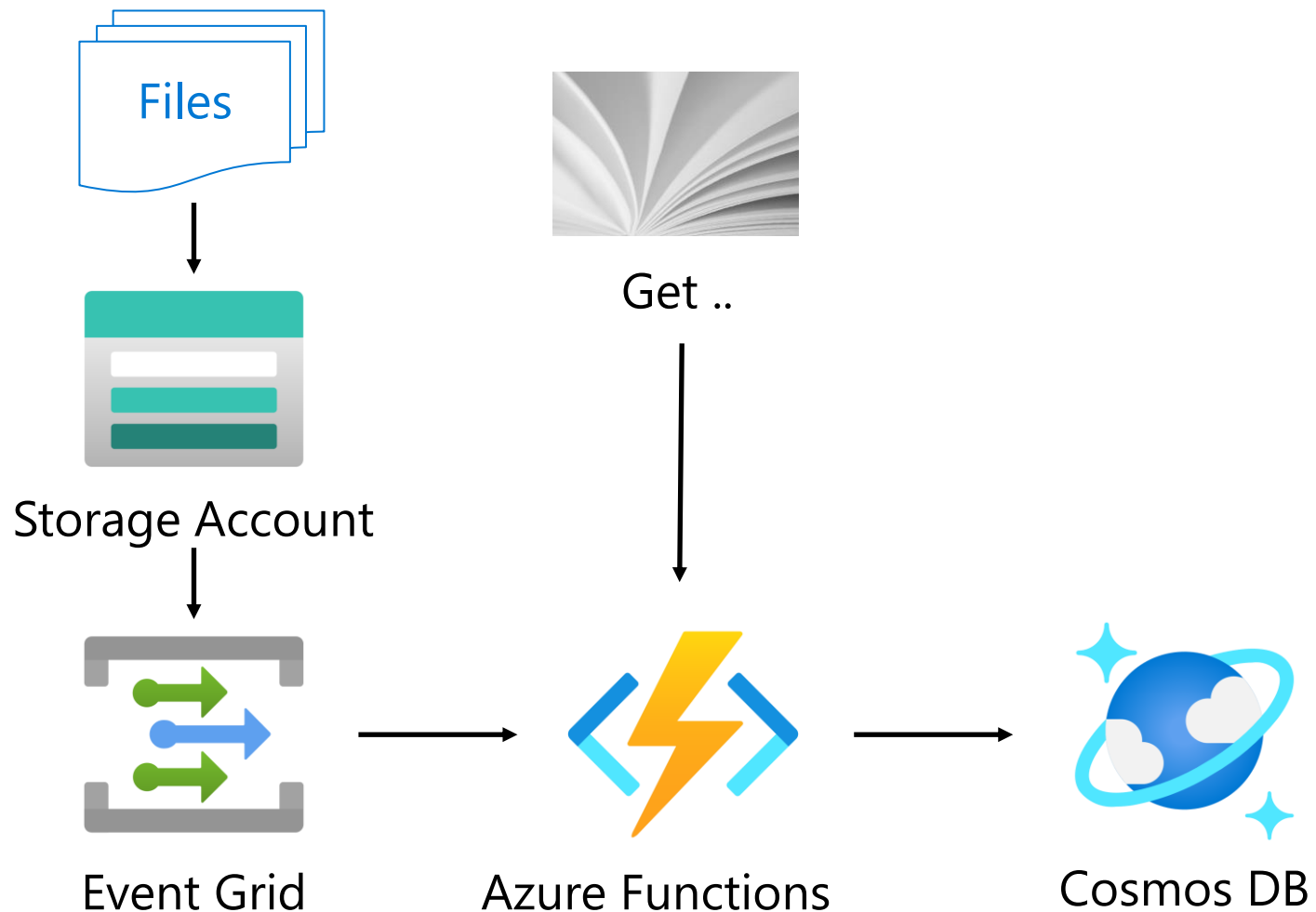# API Management

Developers

Mobile Apps

Web Apps

Partner Systems

APIM policies controls
- Subscription
- Authorization
- Quota, rate-limiting
- Transformation
- Header, data filtering

APIs (**Azure, On-premises, AWS, GCP**)

Cosmos DB

Serverless Solutions Lab

Azure Dev Day

Files

Get ..

Storage Account

Event Grid

Azure Functions

Cosmos DB

https://aka.ms/azuredevdaylabs

Thank you!

Please fill out the Azure Dev Day Survey!

aka.ms/azuredevdaysurvey

And visit our event content page to access lab materials, presentations and participate in our Cloud Skills Challenge!

aka.ms/azuredevdaycontent

Sign up for Microsoft.Source

Receive a regular digest of relevant technical content, events and training

Get the best of the newest resources, tools and guidance to help developers quickly build and deploy on Azure

Get the latest articles, documentation, and events from Microsoft.Source—the curated monthly developer community newsletter.

Stay at the forefront of rapidly evolving technologies with resources that are relevant to your field, location, and areas of interest—including articles, GitHub repositories, and how-to guides.

Get notified about events—from local hacks, workshops, and training sessions to virtual meetups and global conferences.

Learn what you want, when you want, how you want. Resources include in-person hands-on workshops, free, interactive online training and sandbox environments.

Microsoft