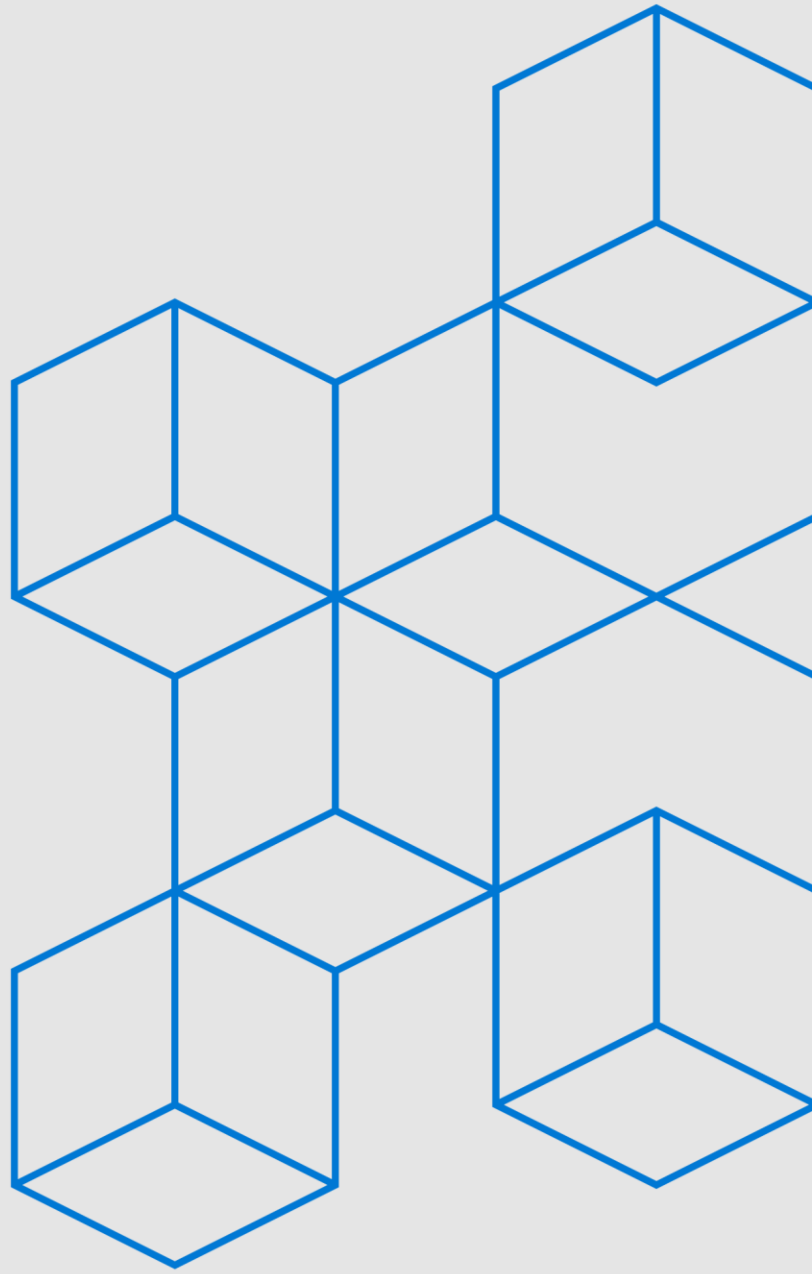
Microsoft

Microsoft Ignite
The Tour

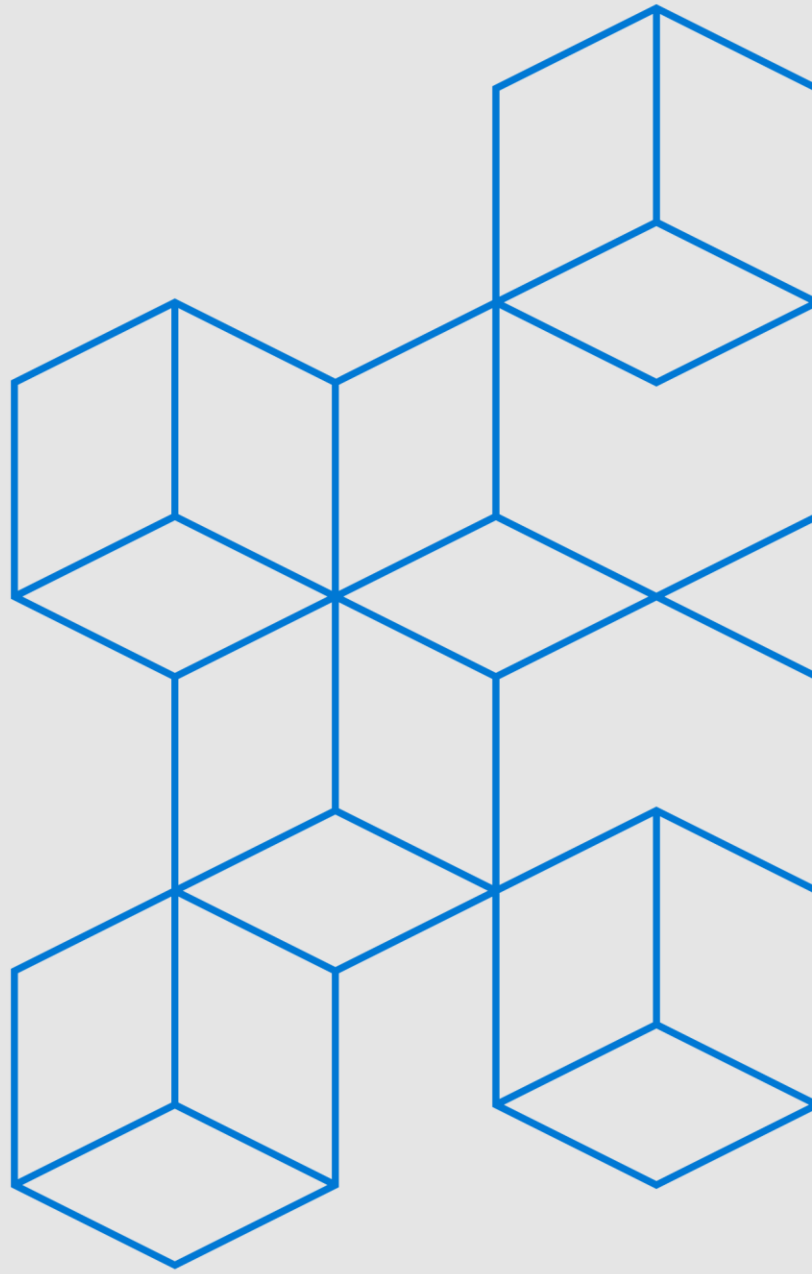
Learn. Explore. Connect.



Microsoft

Investing in Serverless: Less Servers, More Code

Jeremy Likness



Introduction to Serverless

What media should I use to keep backup?

What is the right **size** of **servers** for my business needs?

How do I **deploy** new **code** to my **server**?

What happens in case of **server hardware** failure?

What size of **servers** should I **buy**?

Which packages should be on my **server**?

Who **monitors** my **App**?

How often should I backup my **server**?

How can I **scale** my app?

How can I increase **server** utilization?

Do I need secondary network connection?

Who has **physical** access to my **servers**?

Which OS should I use?

Are my **server** in a secure location?

Who **monitors** my **Servers**?

Do I need a UPS?

What happens if the power goes out?

What storage I need to use?

How many **servers** do I need?

It takes how long to **provision** a new **server**?

How often should I **patch** my **servers**?

How can I dynamically configure my app?

On-Premises

The “evolution” of application platforms

What is the right **size** of **servers** for my business needs?

How can I increase **server** utilization?

How many **servers** do I need?

How can I **scale** my app?

How often should I **patch** my **servers**?

How often should I backup my **server**?

Which packages should be on my **server**?

How do I **deploy** new **code** to my **server**?

Which OS should I use?

Who **monitors** my App?

On-Premises

IaaS

The “evolution” of application platforms

What is the right **size** of **“servers”** for my business needs?

How can I increase **“server”** utilization?

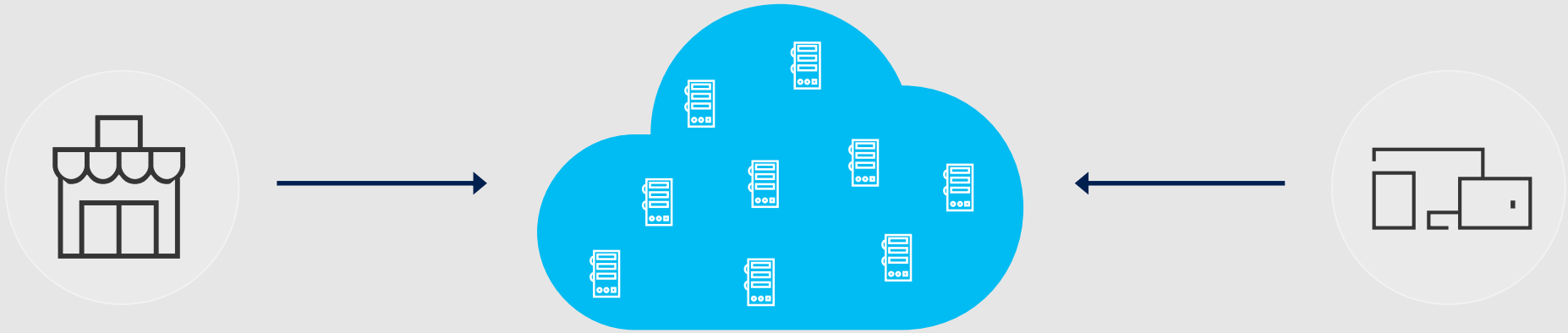
How many **“servers”** do I need?

How can I **scale** my app?

On-Premises — IaaS — PaaS

The “evolution” of application platforms

How do I **architect** my app?



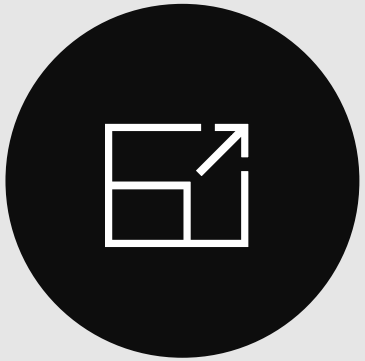
Serverless, the platform for cloud native apps

On-Premises — IaaS — PaaS — **Serverless**

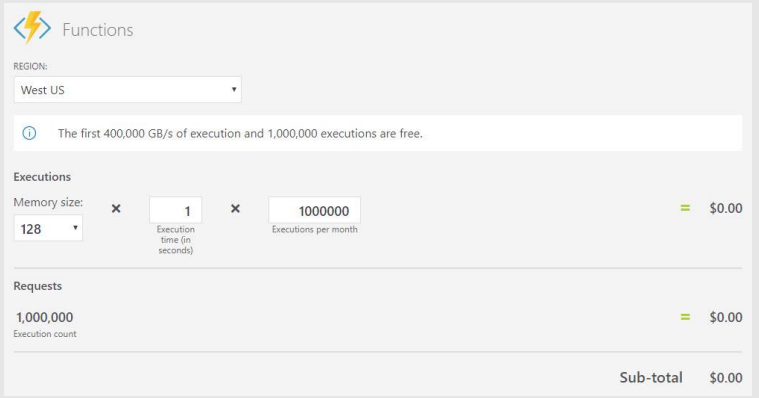
The “evolution” of application platforms

What is Serverless?

Abstraction of servers

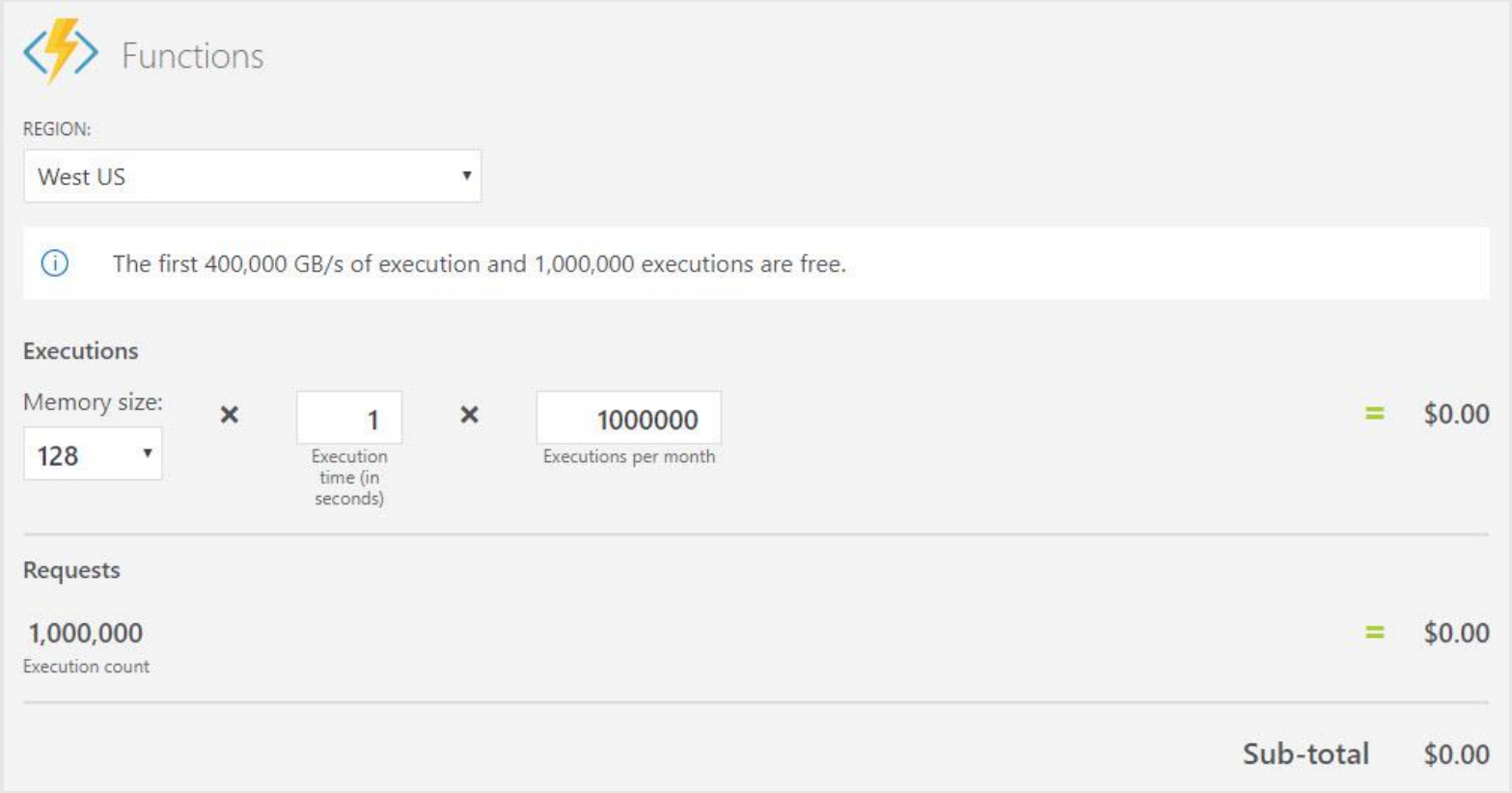


Event-driven/ instant scale



Micro-billing

What is Serverless?



Micro-billing

What is Serverless?

Functions

REGION:

West US

The first 400,000 GB/s of execution and 1,000,000 executions are free.

Executions

Memory size:						
128	×	1 (Execution time (in seconds))	×	5000000 (Executions per month)	=	$3.60

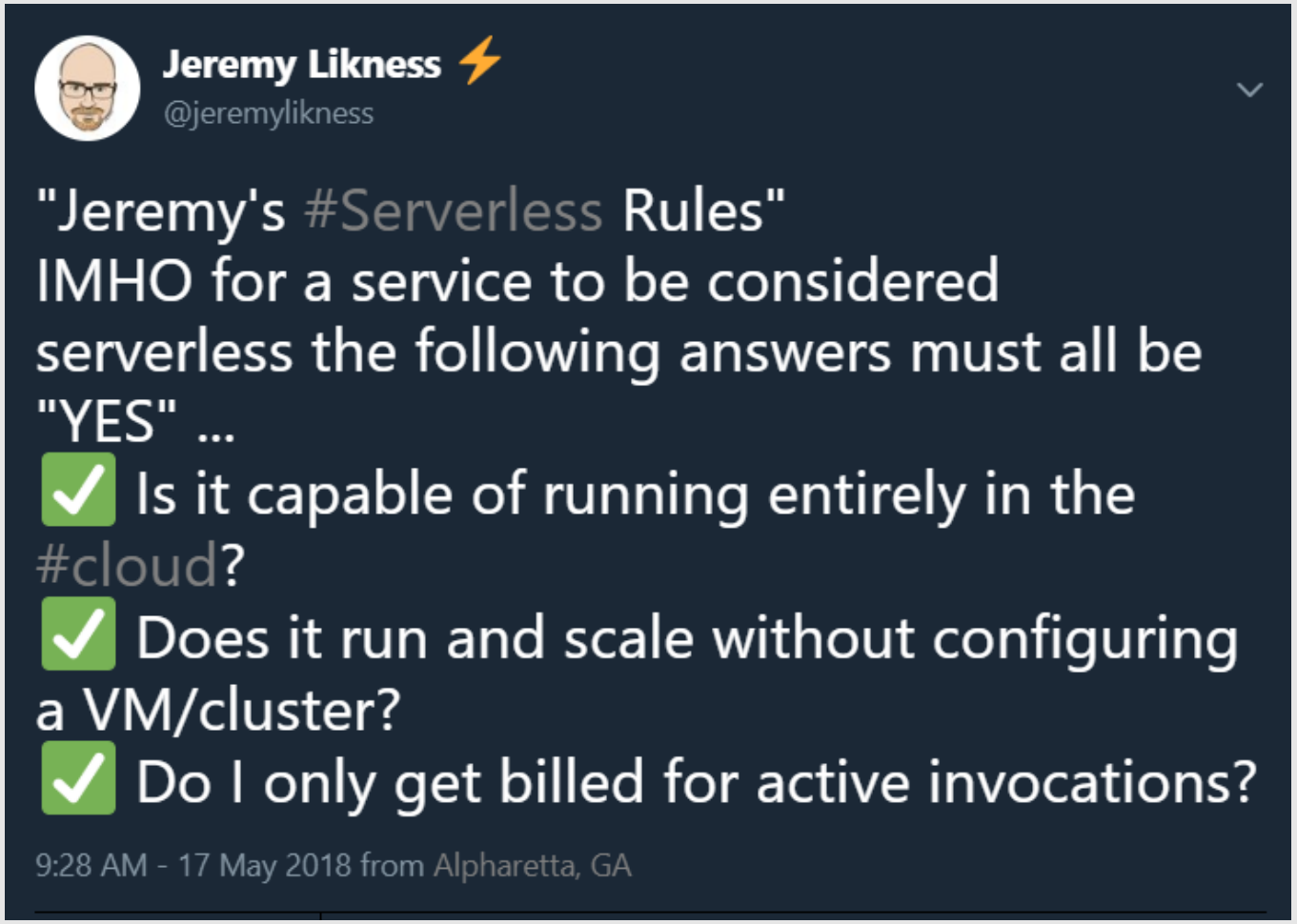
Requests

5,000,000 (Execution count)	=	$0.80

Sub-total	$4.40

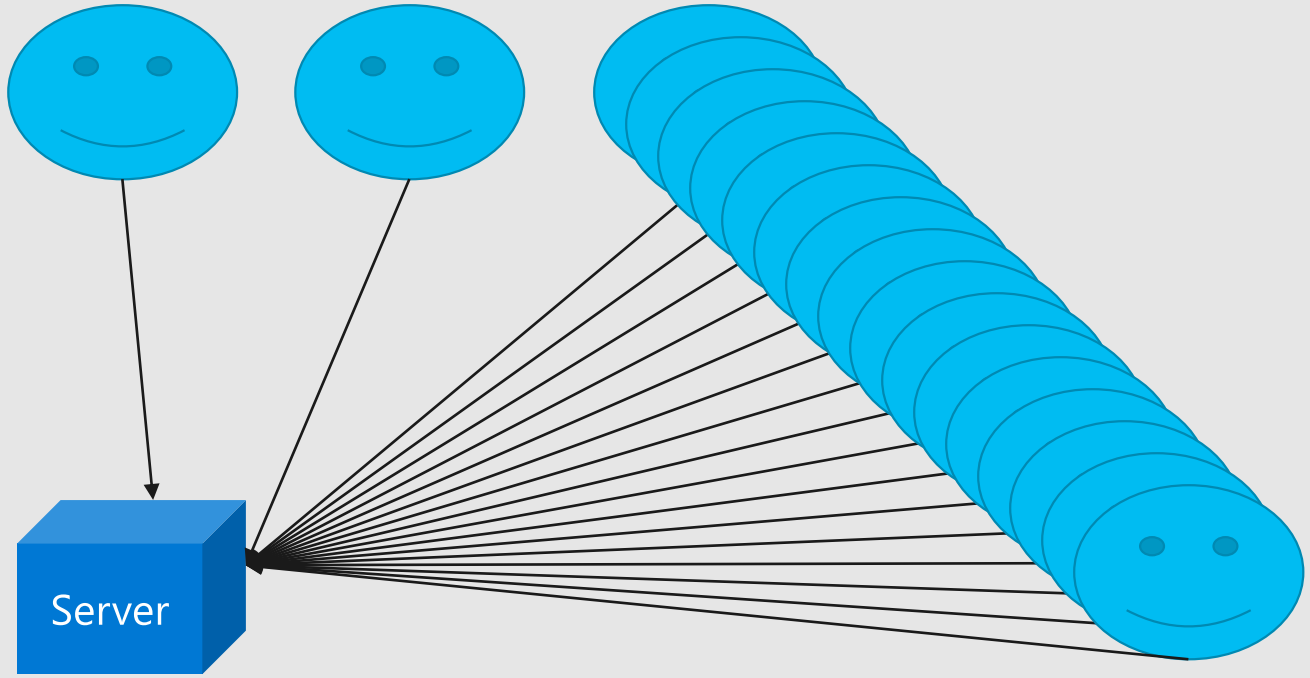
Micro-billing

What is Serverless?

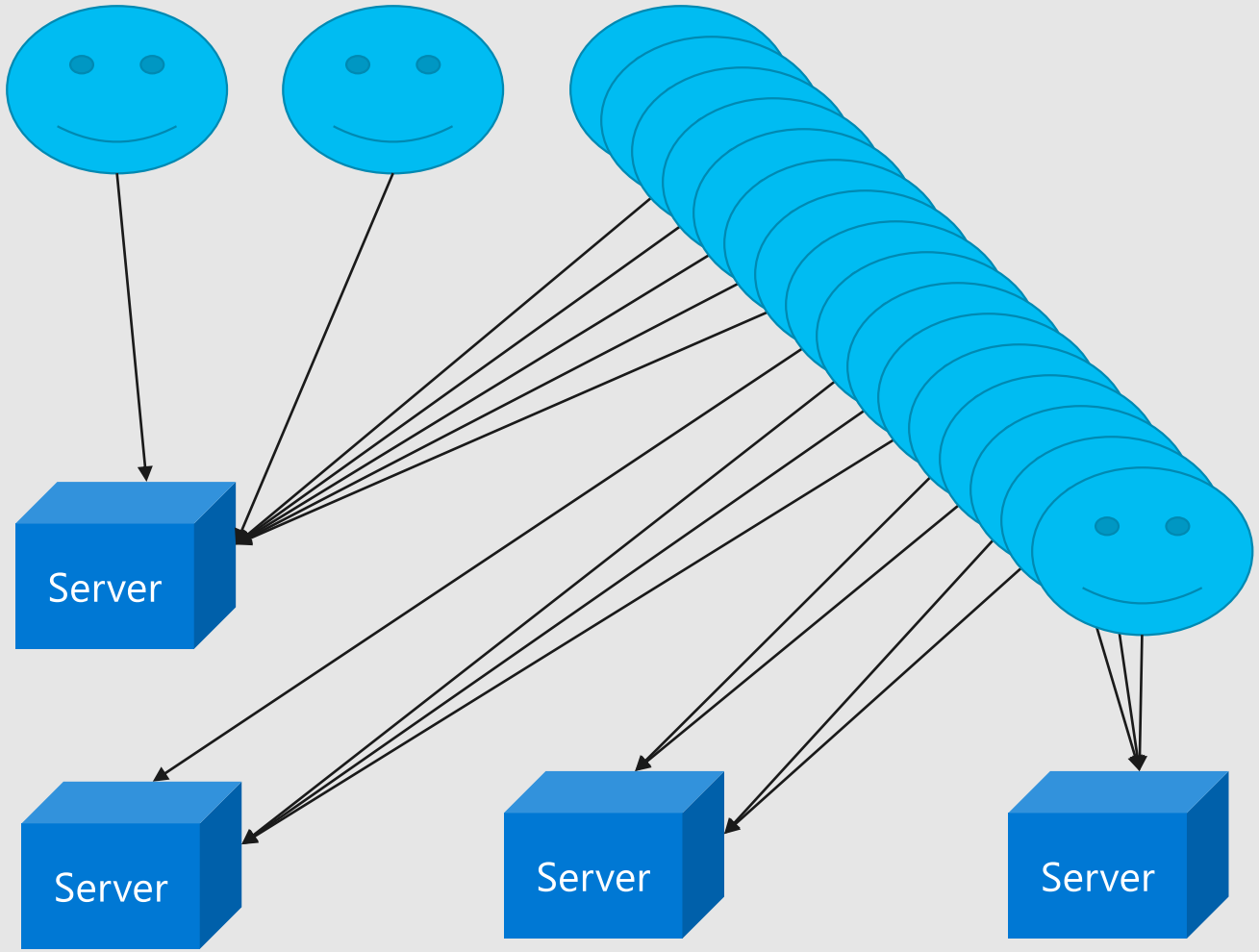


Micro-billing

Scanning a SKU



Scanning a SKU

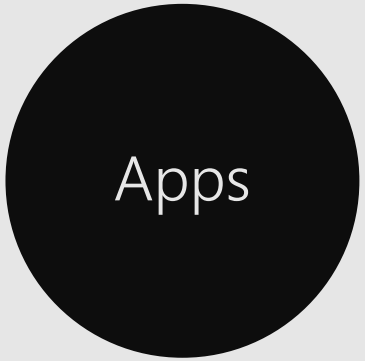


Serverless for Elastic Scale

Demo One

Functions by the numbers.

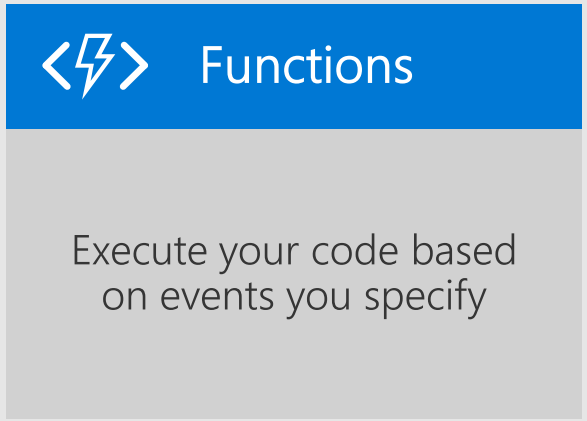
Over 40,000



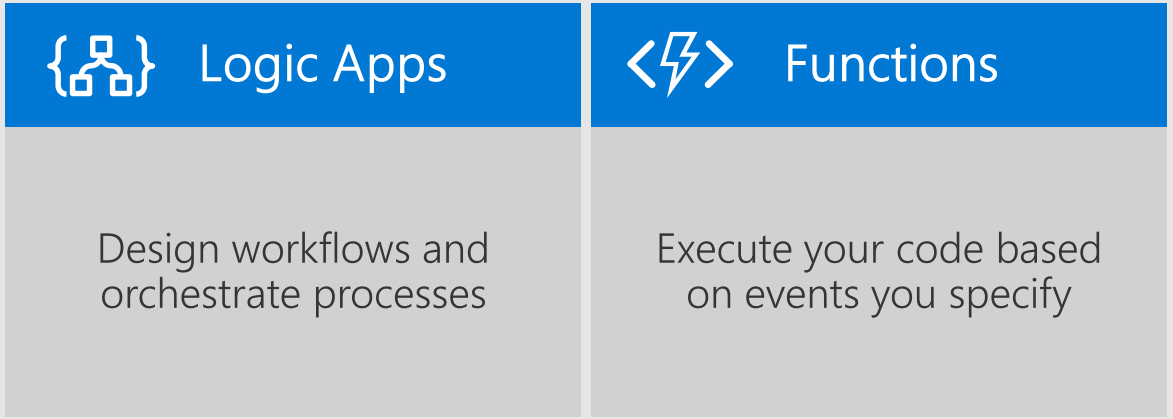
Over 275,000

Over 2.9 Billion

Azure serverless platform components

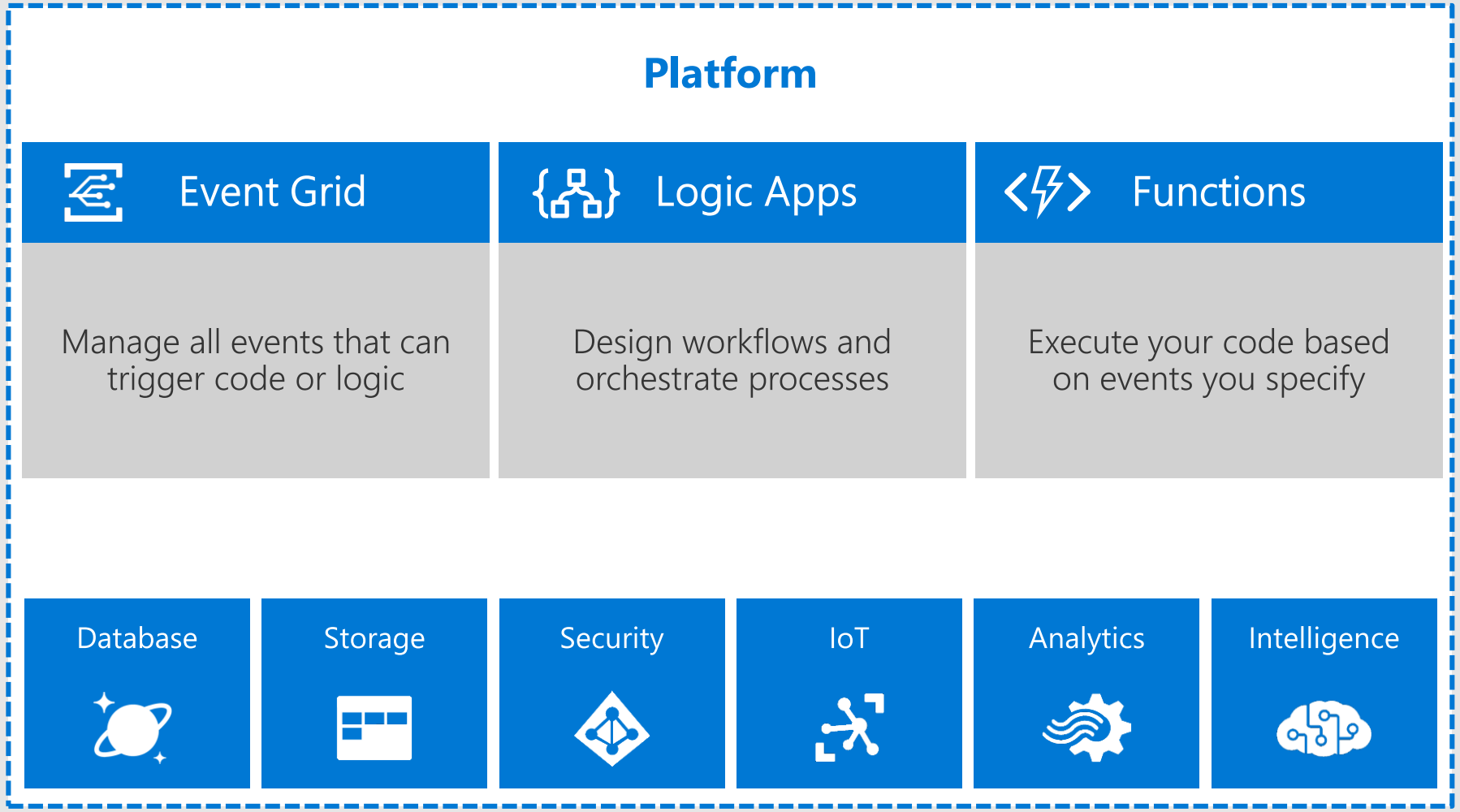


Azure serverless platform components

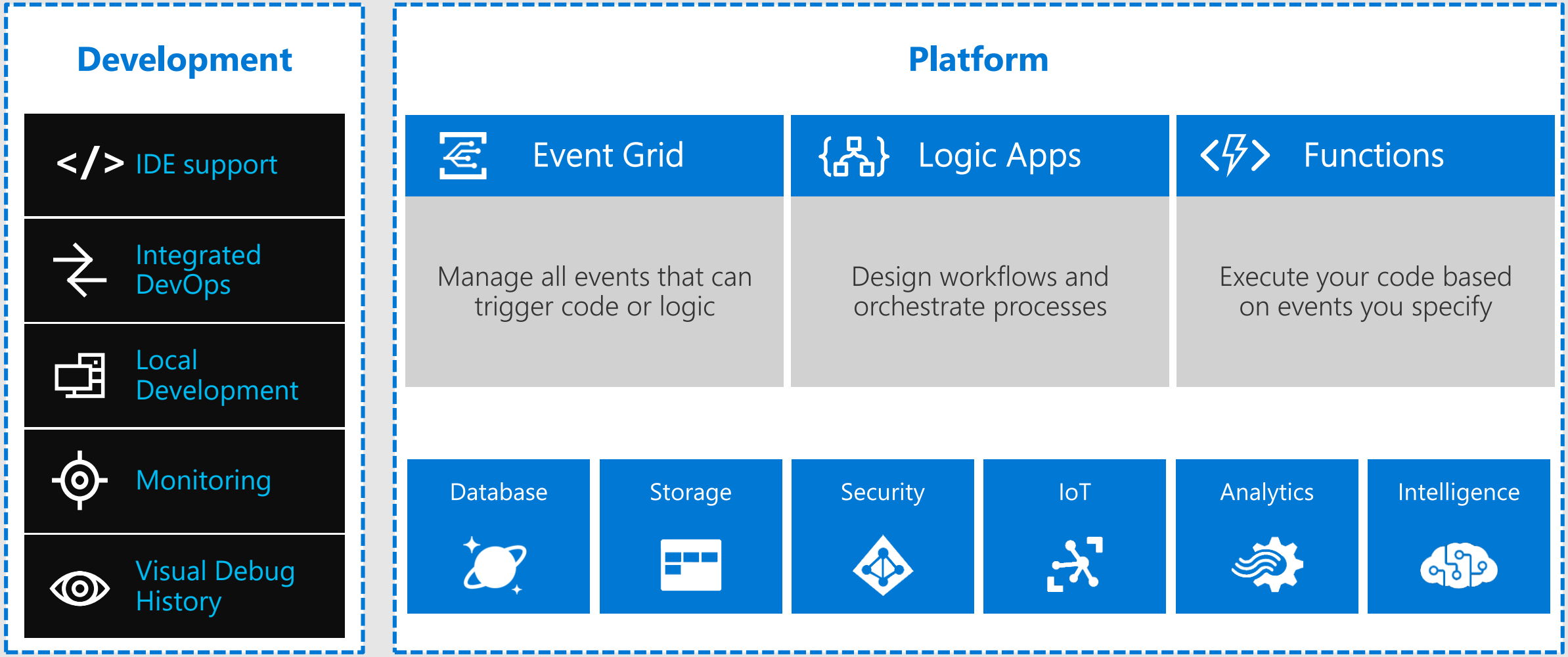


Azure serverless platform components

Azure serverless platform components



Azure serverless platform components



Introducing Functions

Code

Azure Functions

+

Events

Functions Secret Sauce: Triggers and Bindings

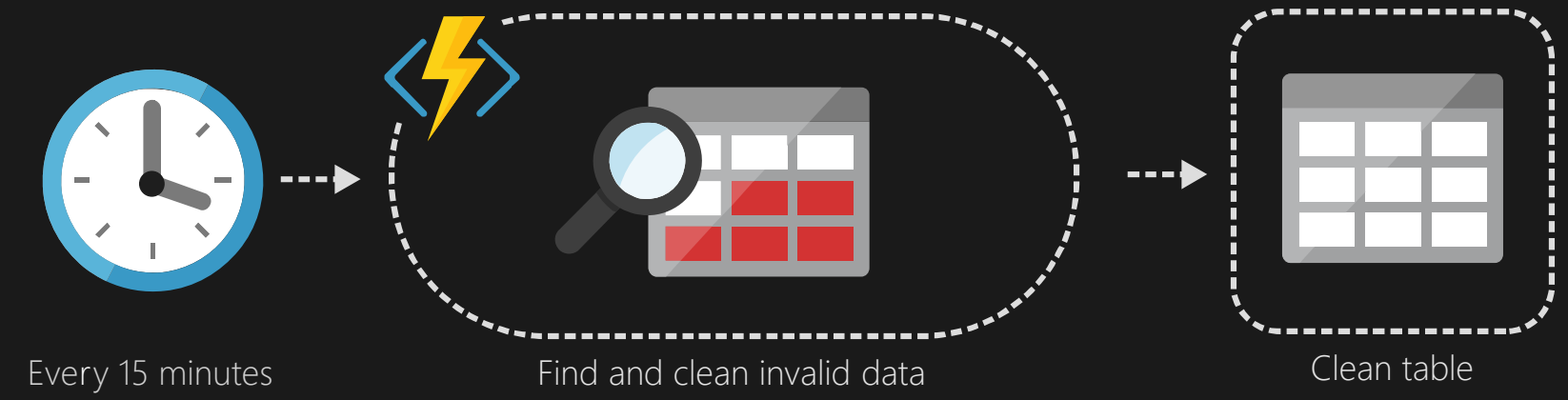
Triggers

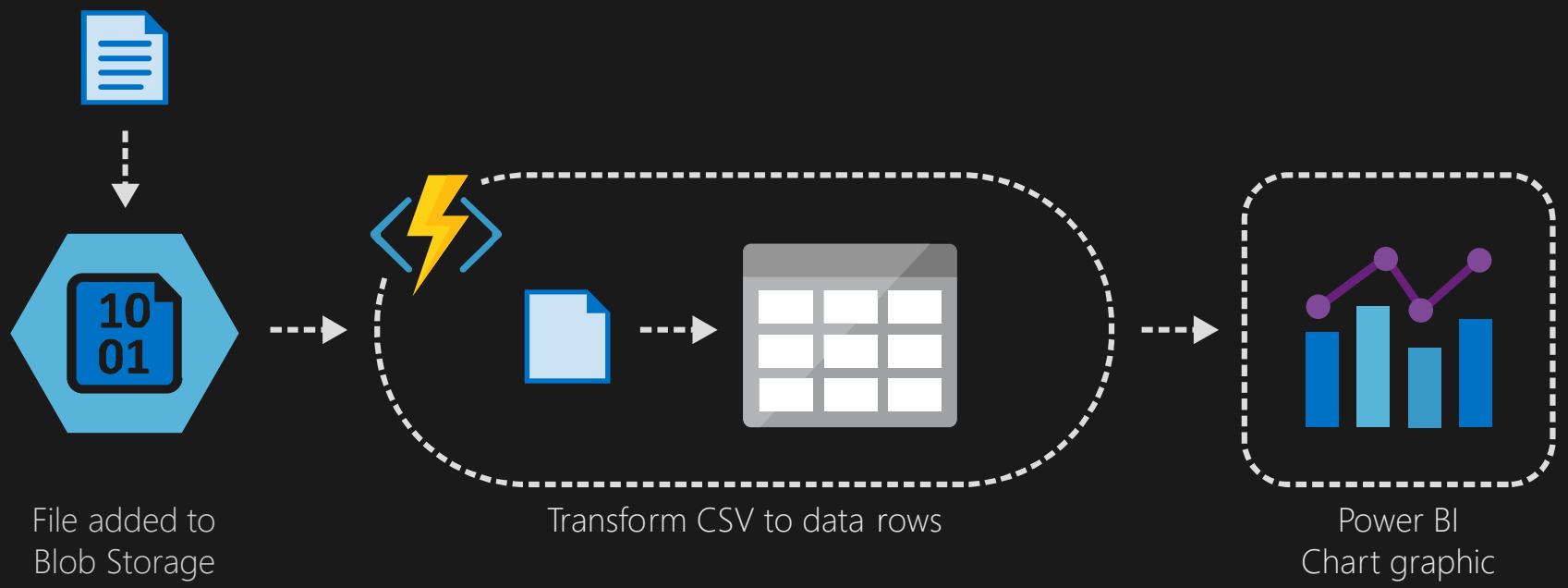
- Blob Storage
- Cosmos DB
- Event Hub
- HTTP
- Queues
- Service Bus
- Timer
- Webhook

Bindings

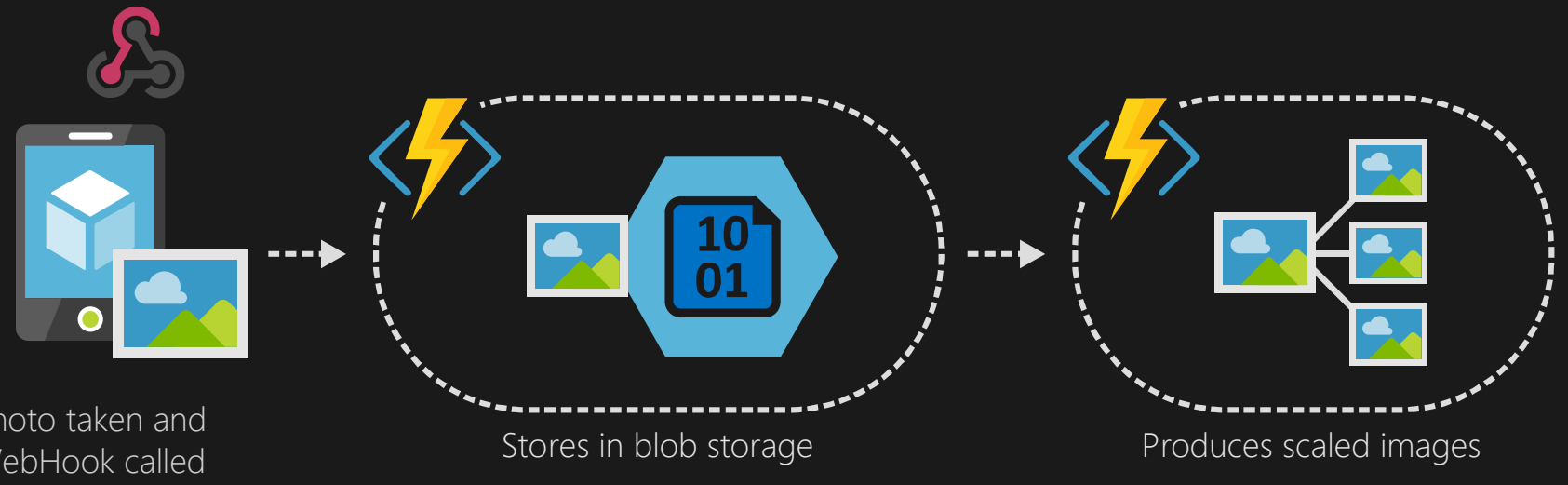
- File
- Table
- Excel
- OneDrive
- Email
- Mobile app
- Notification
- *More…*

Scenarios


Every 15 minutes
Find and clean invalid data
Clean table


10
01
File added to
Blob Storage
Transform CSV to data rows
Power BI
Chart graphic

Scenarios


10
01
Photo taken and WebHook called
Stores in blob storage
Produces scaled images
Loaded web page calls WebHook
Create ad based on user profile
Completed page

Case Studies

"Since Marketing Content Hub started supporting integration with Azure Functions, our partners and customers have gained an incredible level of empowerment that allows for injecting custom business rules."

—Ben Paindavin: Vice President of Marketing and Public Relations
Stylelabs

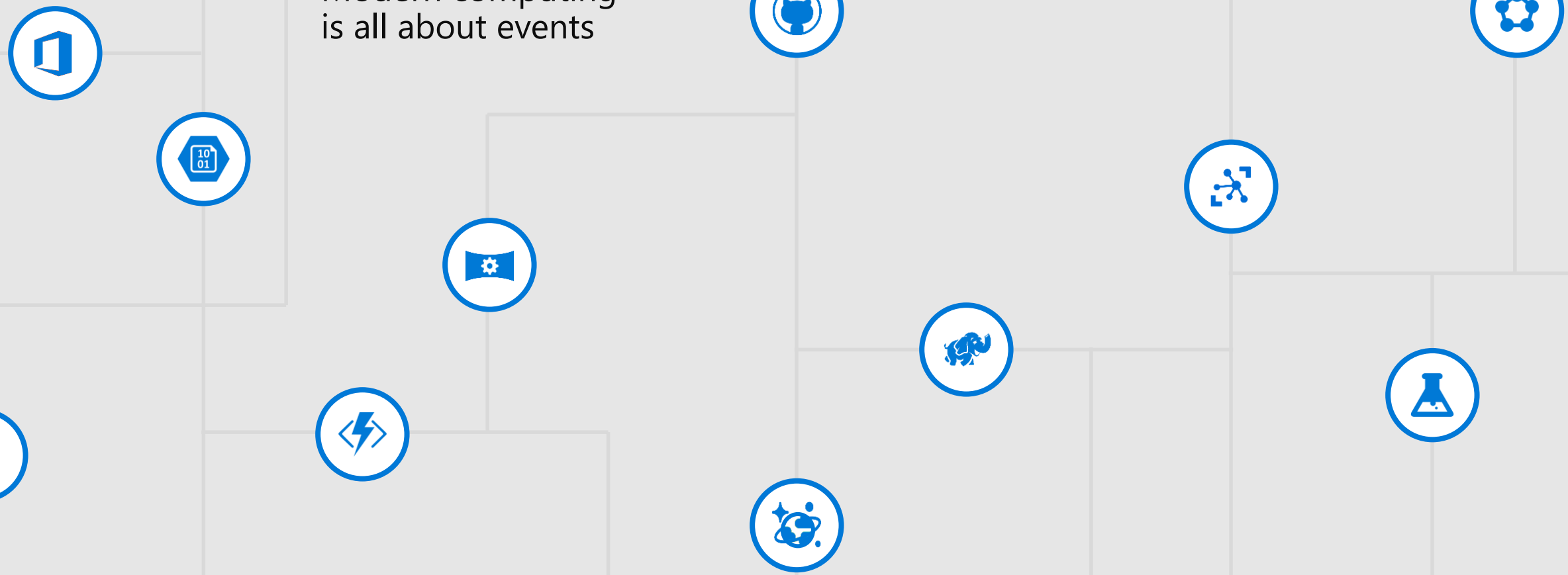
Case Studies

"When we can develop a solution in a week using Azure Functions versus four months using traditional methods, that represents a drastic improvement in our ability to solve business-critical problems."

—Hristo Papazov: Senior Software Engineer
Relativity

Enterprise Messaging with Event Grid

Modern computing
is all about events




Managing events is
important but cumbersome

What if all these events could be managed and directed from one place?

Azure Event Grid

Fully-managed
event routing

Near real-time event
delivery at scale

Broad coverage within
Azure and beyond

Backbone of event-driven computing

Benefits

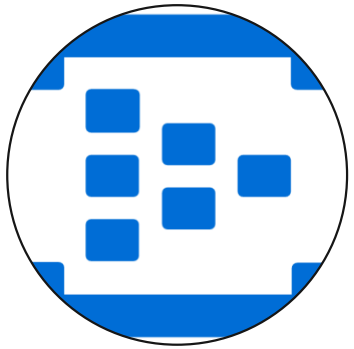
Focus on innovation and pay per event

Ensure reliability and performance for your apps

Unlock new scenarios for your apps

Manage all events in one place

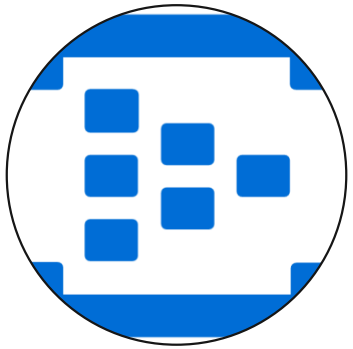
But Wait … What About?



Event Hubs

- “Point in time” data
- Fast pull
- Replay / strict ordering
- Big data streams

But Wait … What About?

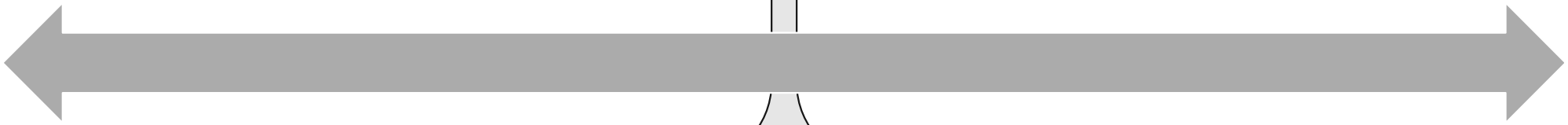


Event Hubs

- “Point in time” data
- Fast pull
- Replay / strict ordering
- Big data streams

Service Bus

- Queue for critical items
- Routing
- Workflow
- Transactional



But Wait … What About?

Event Hubs

- “Point in time” data
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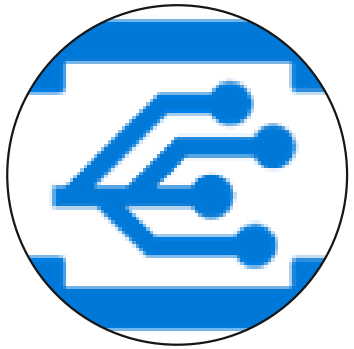


Event Grid

- Business logic
- Push, not poll
- Handlers
- Guaranteed delivery

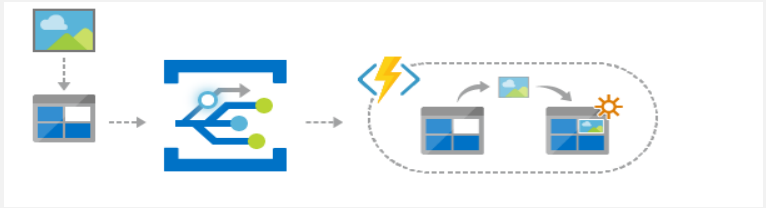
Service Bus

- Queue for critical items
- Routing
- Workflow
- Transactional

Scenarios

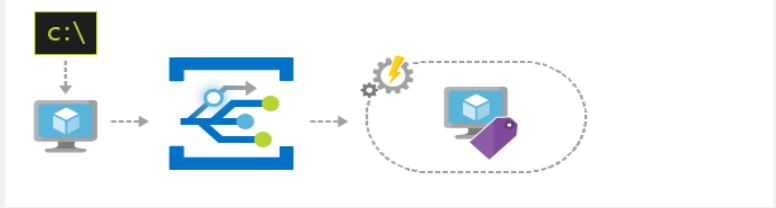
Serverless apps

Instantly trigger a serverless function to run analysis when a new file is added to a blob storage container.



Ops automation

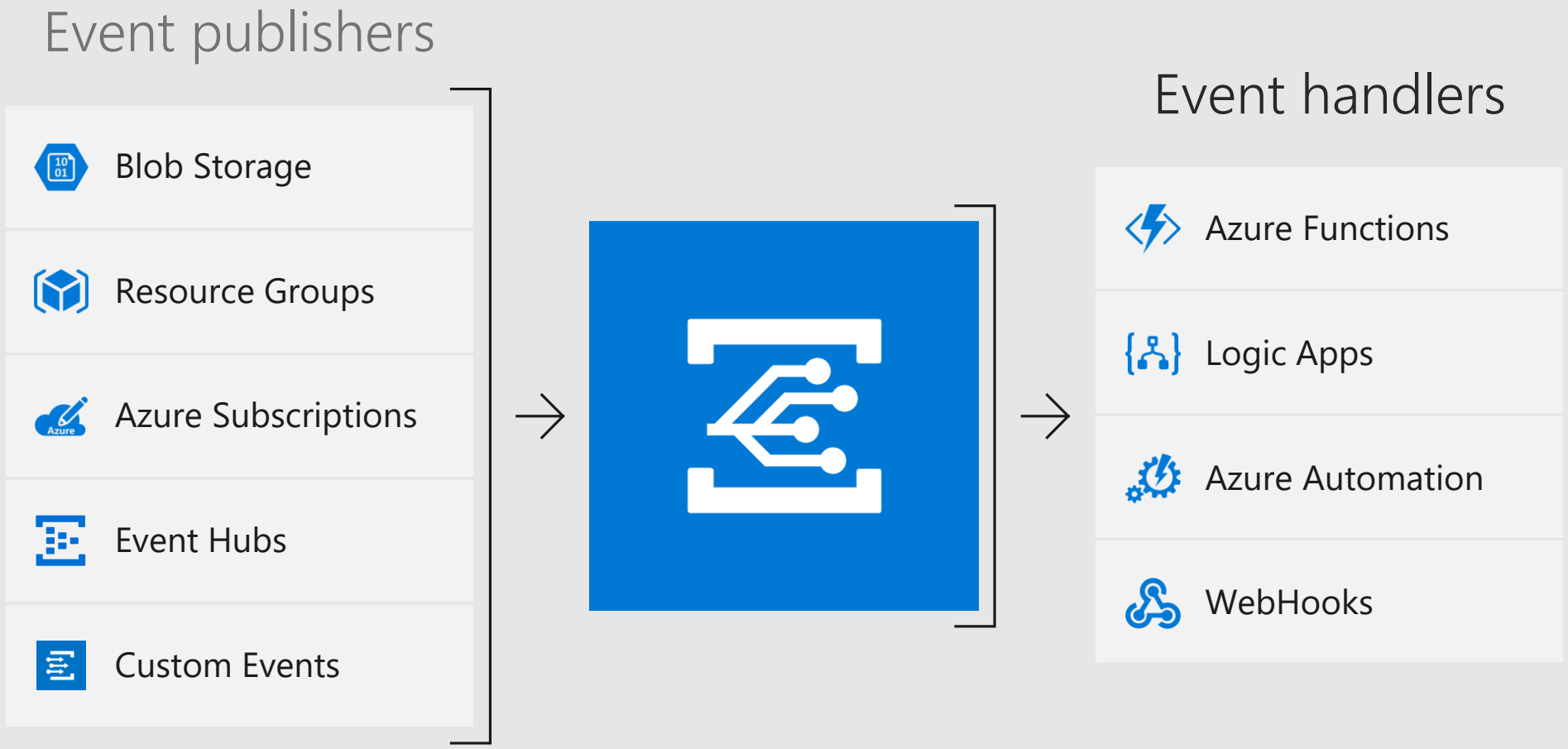
Speed up automation and simplify policy enforcement by notifying Azure Automation when underlying infrastructure is provisioned.



Application integration

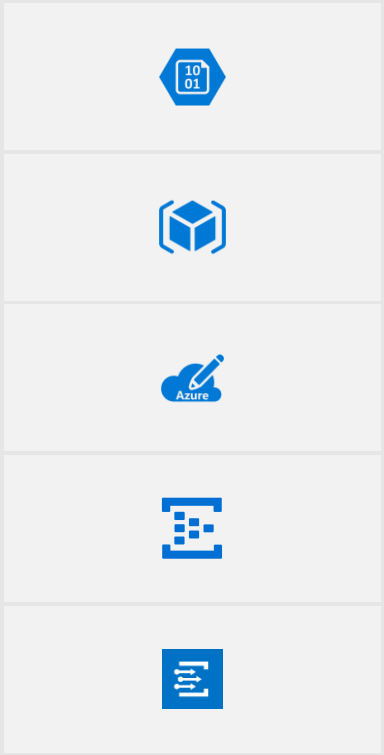
Connects your app with other services. Create an application topic to route your app's event data to any desired destination.

Manage all events in one place



Manage all events in one place

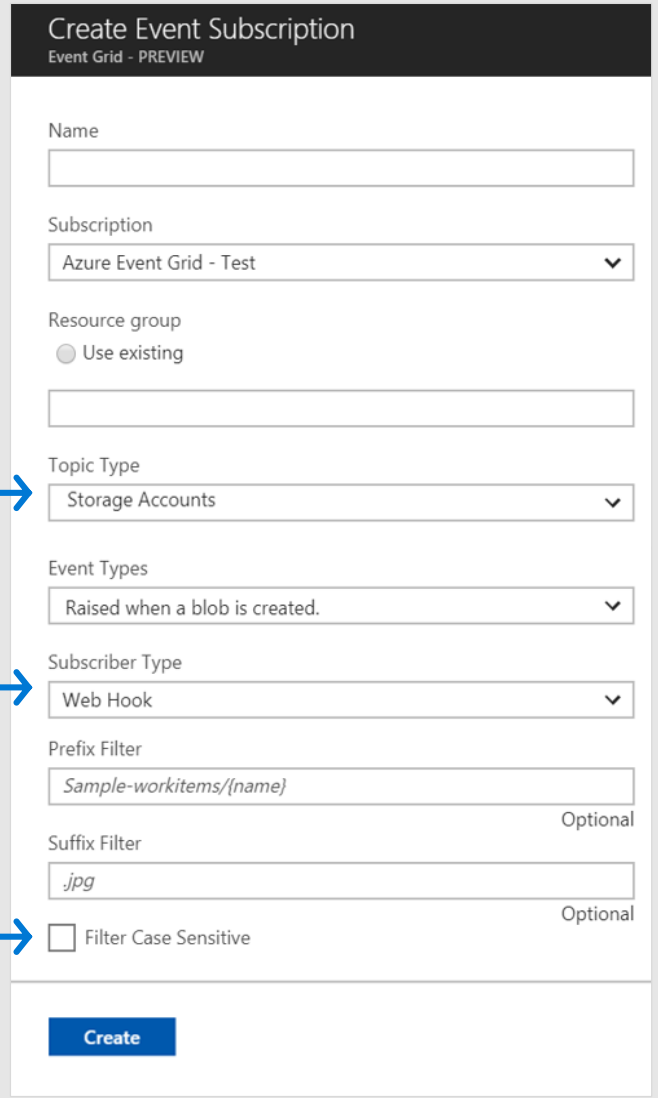
Event publishers



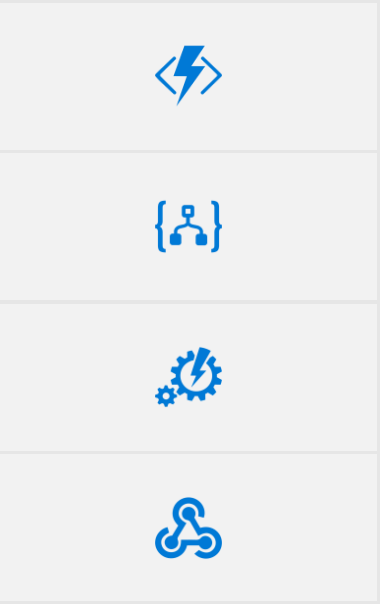
Subscribe to pre-defined system events in Azure or create your own custom topics

Route events to any end-points, Azure or even beyond

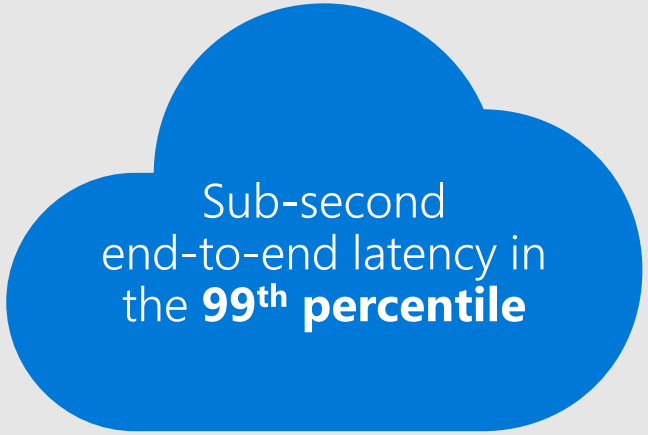
Enable filtering and efficient routing of events



Event handlers

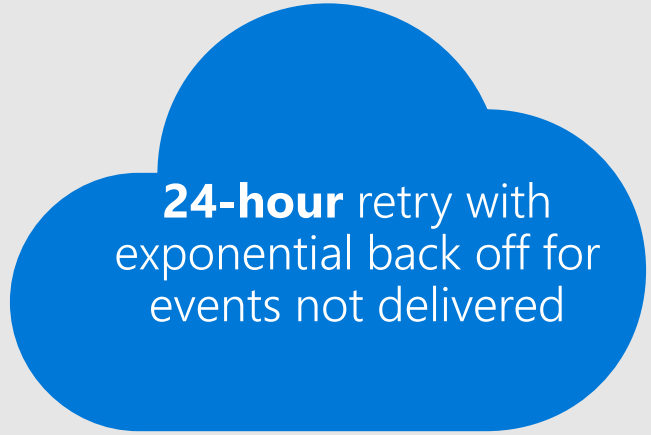


Ensure reliability and performance in your apps



Near real-time

Massive scale-out



High reliability

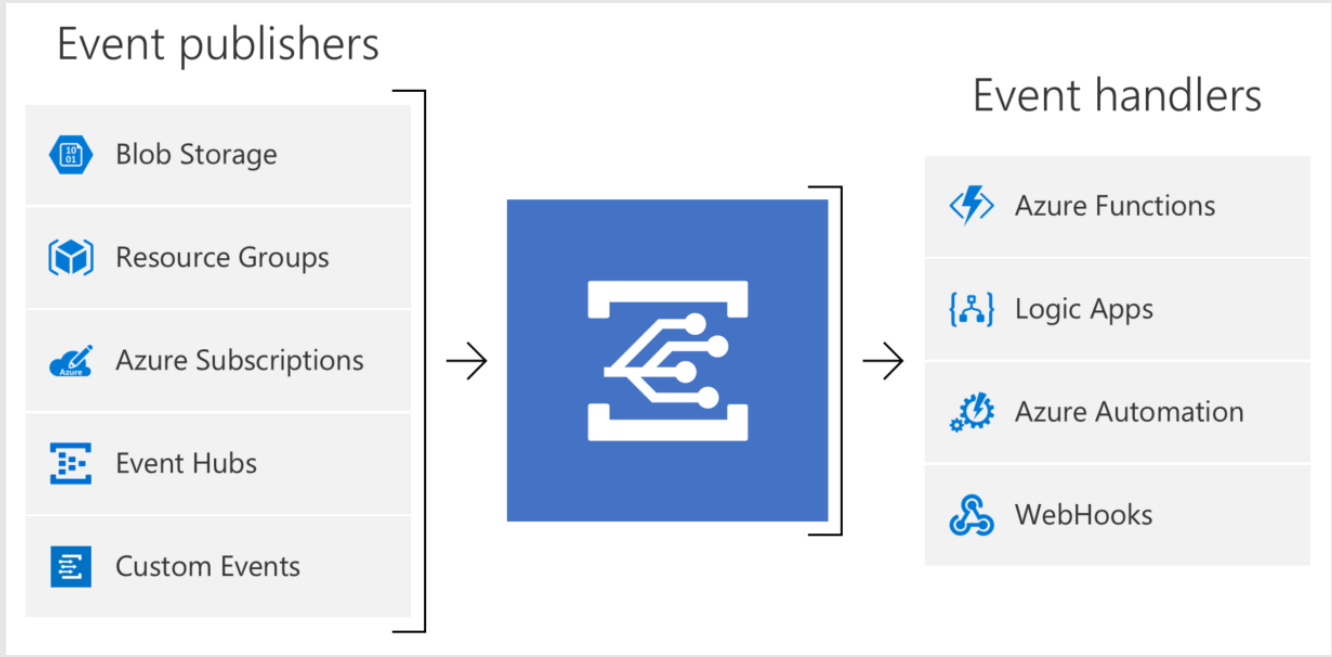
99.99% availability

100,000,000 subscriptions per region

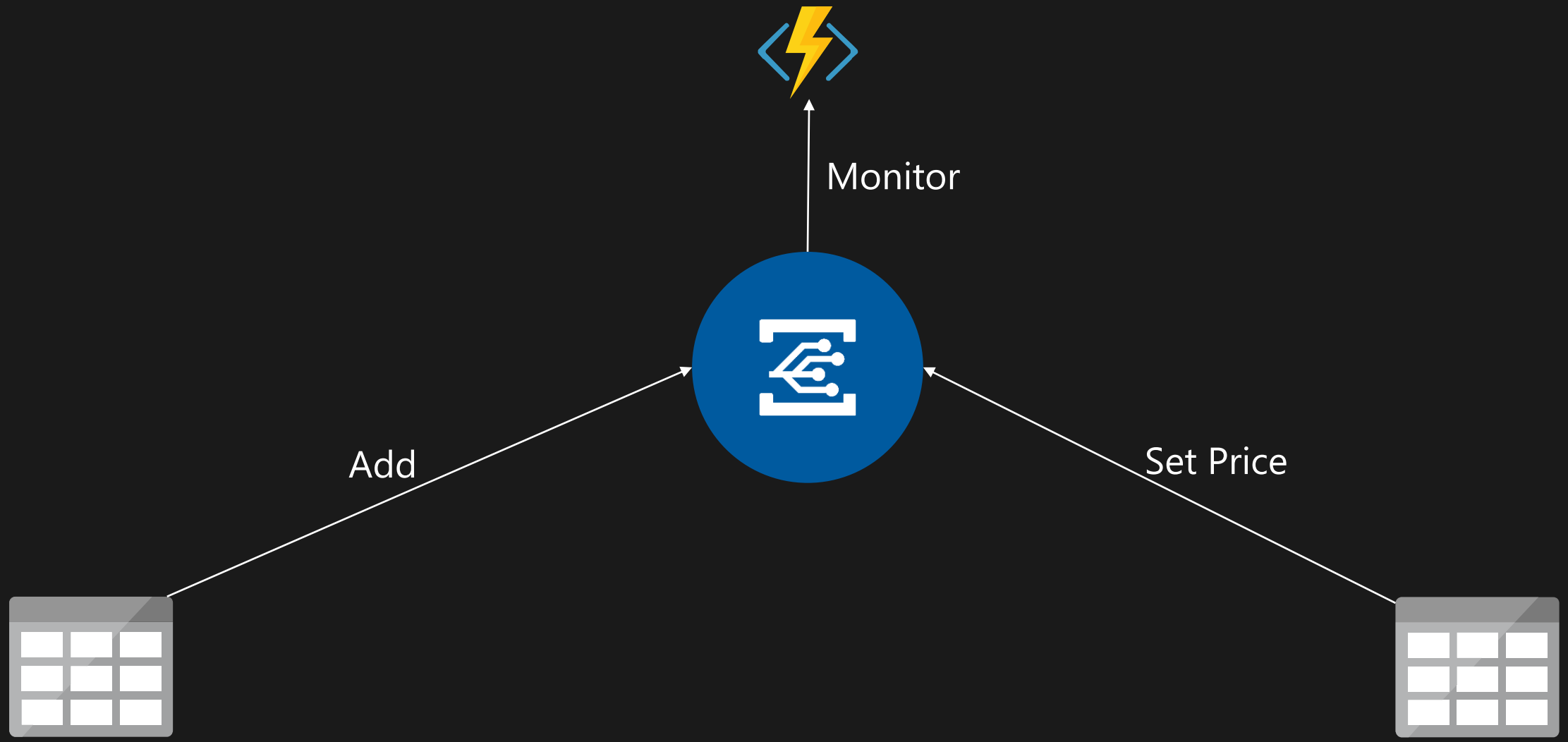
Transparent regional failover

Concepts

- Events: what happened
- Event Publishers: where it took place
- Topics: where publishers send events
- Event Subscriptions: how you receive events
- Event Handlers: the app or service reacting to the event



SKU Events



Event Grid and Azure Functions

Demo Two

Durable Functions for Long Running Workflows

Durable Functions

Stateful workflows

Workflows in code (not designer)

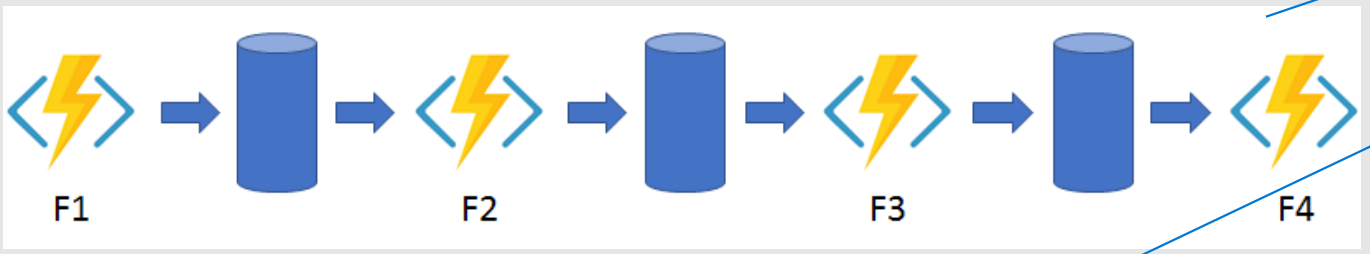
Synchronous and asynchronous

Checkpoints and halts

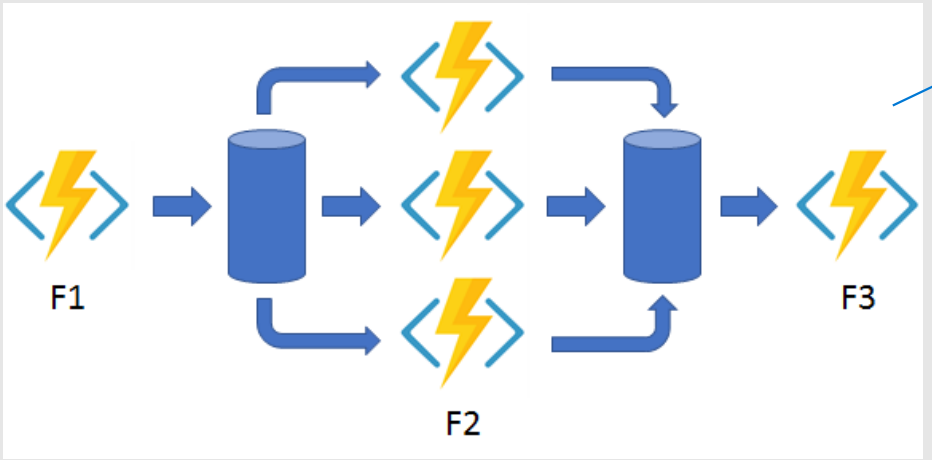
Orchestration

Durable Functions Patterns

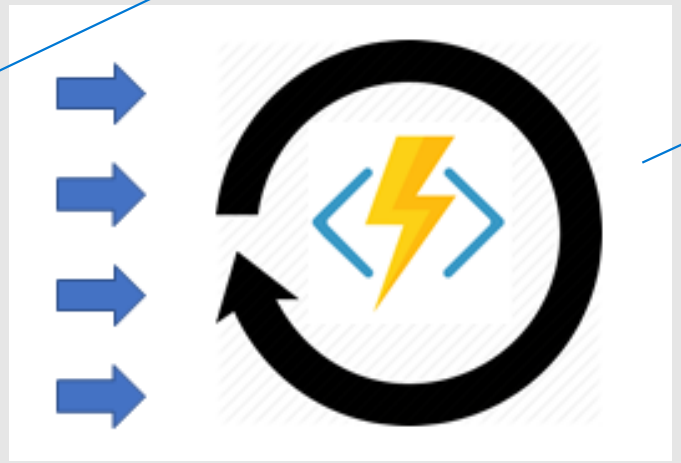
Sequential Asynchronous Calls



Fan out / Fan in

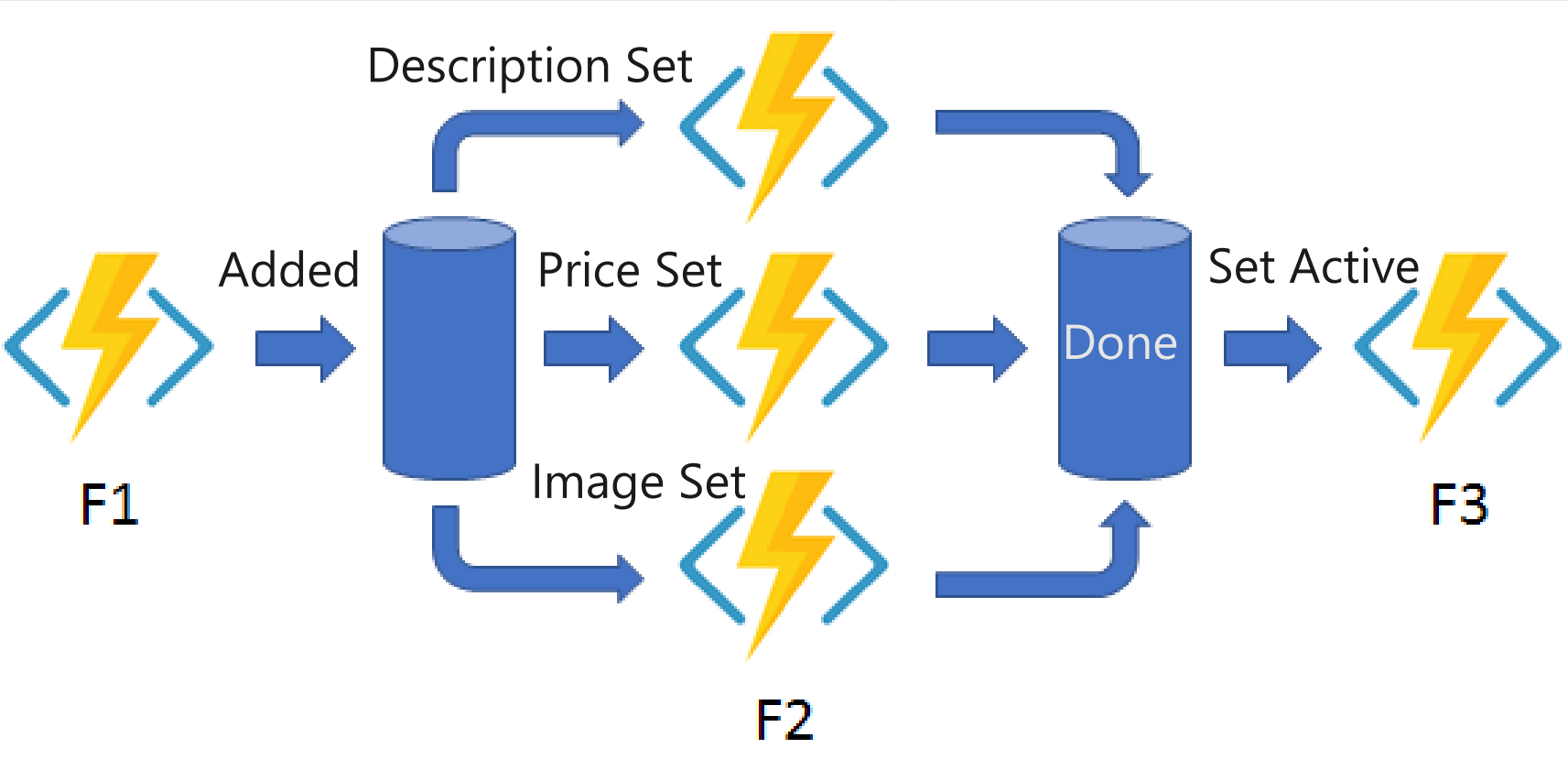


Ongoing Monitoring



Human Approval

SKU Lifecycle



Durable Serverless Workflows

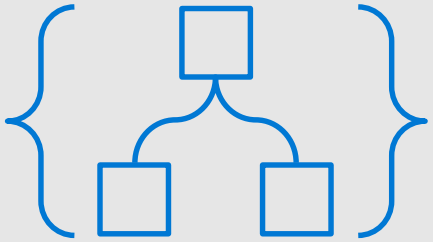
Demo Three

Integrations Made Easy with Logic Apps

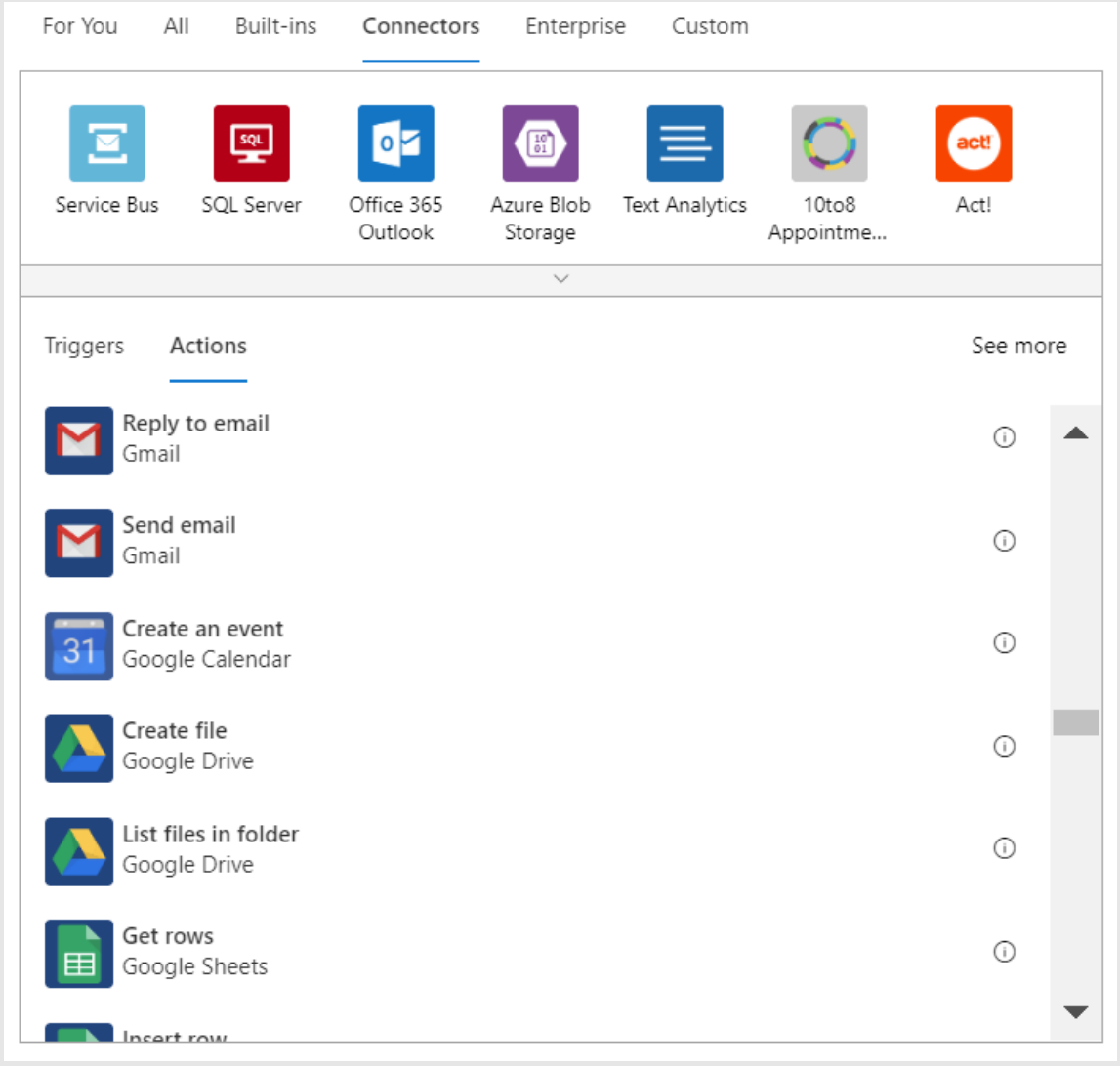
Introducing Azure Logic Apps

Powerful Integration and Workflow Engine born in Azure

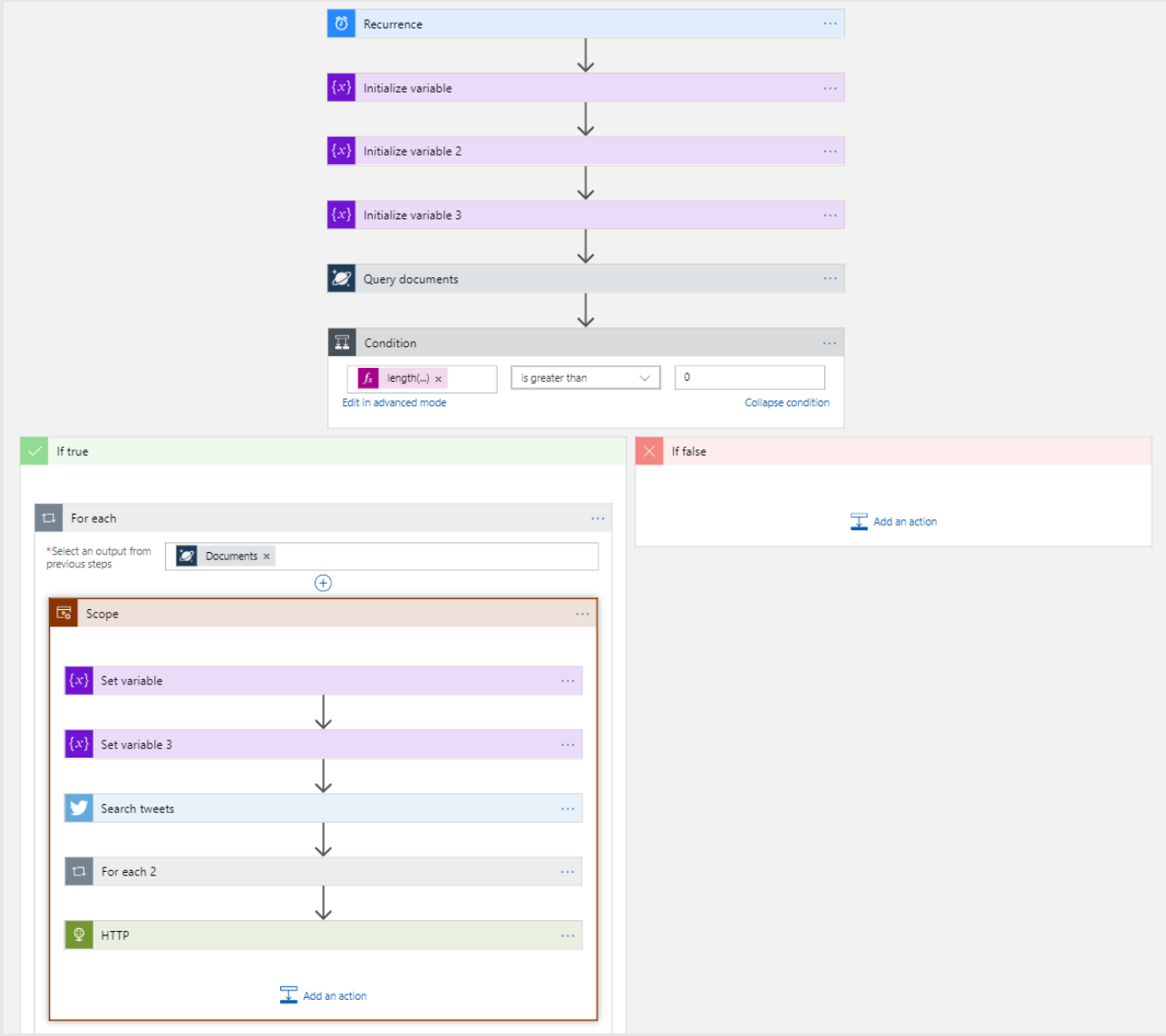
- Fast integrations using a visual designer and workflow creation with triggers and actions
- Connect applications, data and services
- Connect and orchestrate Azure Functions



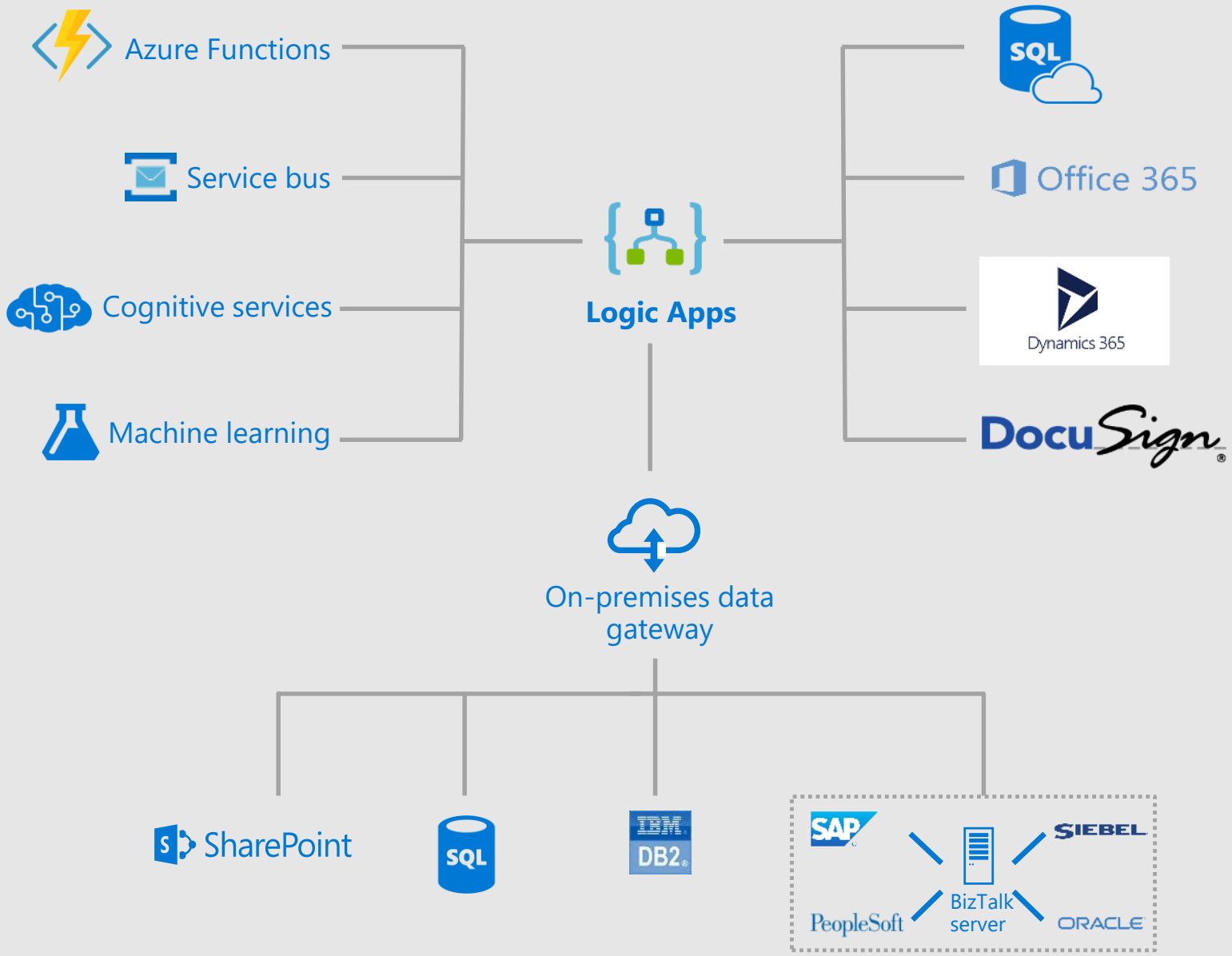
Hundreds of Connectors for Integrations



Visual Workflow Designer



Logic Apps connects everything



Case Study

"Instead of manually administering complex, costly EDI solutions, we're using Logic Apps workflows to onboard customers 70 percent faster and cut costs by 50 percent—a huge competitive advantage."

—Jim Heidegger: Vice President of Information Technology
LEGACY Supply Chain Services

https://jlik.me/d41

Logic Apps Integrating Event Grid and Email

Demo Four

Logic Apps Integrating Machine Learning

Demo Five

Microsoft

Thank you.