

Introduction into serverless computing

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Session objectives

- What is serverless
- Why serverless
- Overview Azure Platform Services
- Modernize business processes using Logic Apps
- Event driven processing using Azure Functions and Azure Event Grid

What is
#serverless





○ →
On-Premises

The “evolution” of application platforms



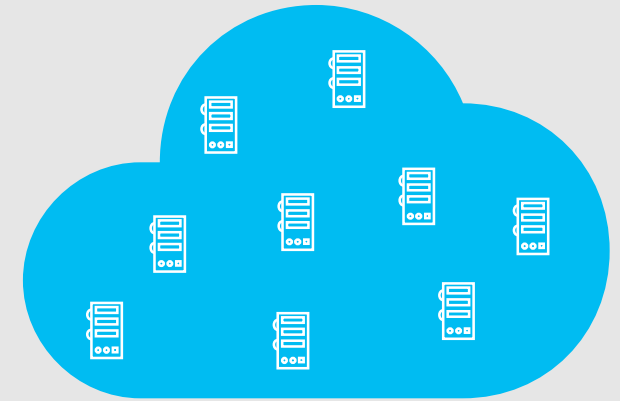
On-Premises

IaaS

The "evolution" of application platforms



How do I **architect** my app?



On-Premises

IaaS

PaaS

Serverless

The "evolution" of application platforms

What is Serverless?



Abstraction
of servers



Event-driven/
instant scale



Micro-billing

Why #serverless ?



Benefits of Serverless



Manage apps
not servers



Reduced OpEx





Faster time
to market

Serverless application platform components




Functions

Execute your code based
on events you specify

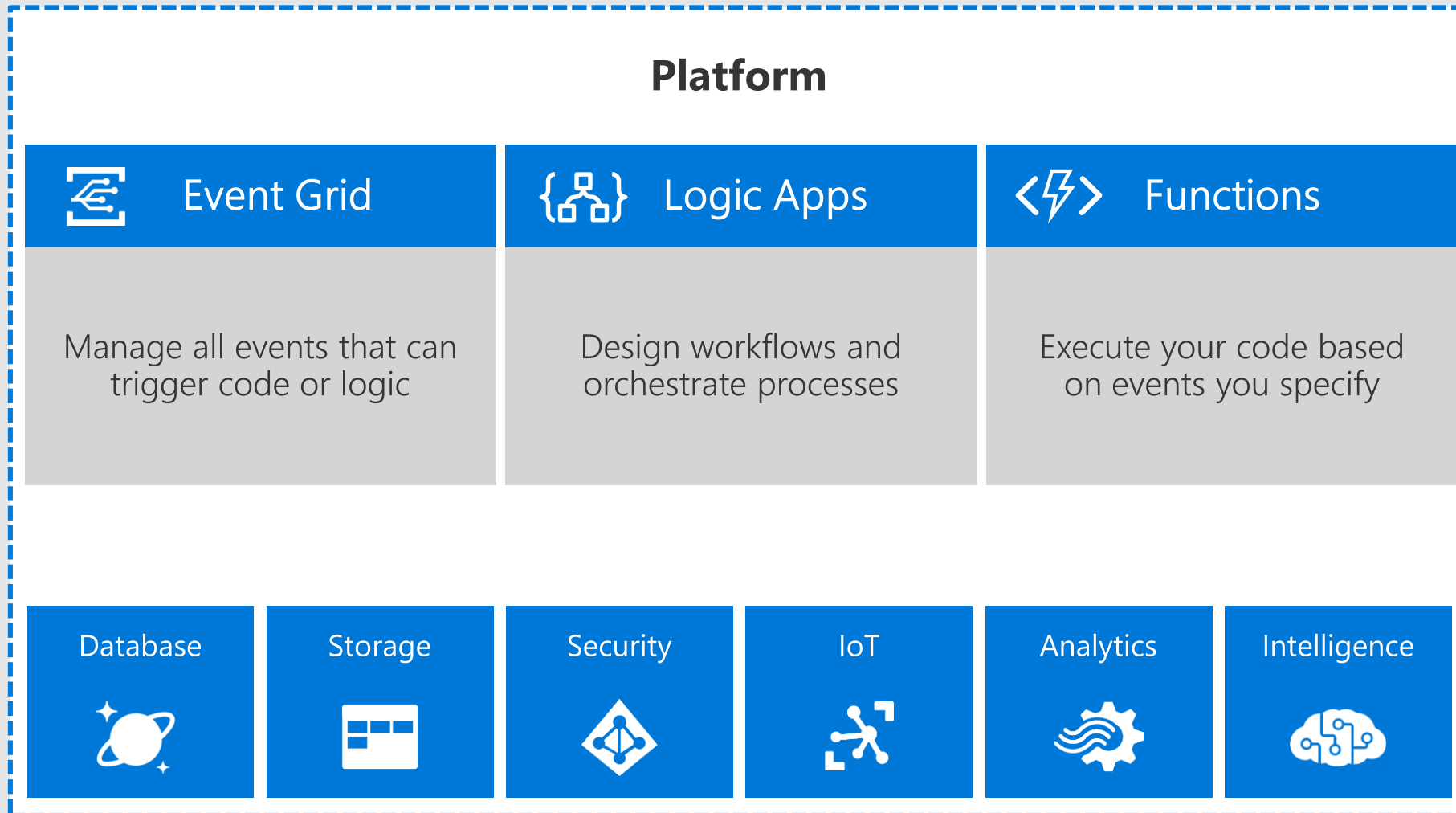
Serverless application platform components

 Logic Apps	 Functions
<p>Design workflows and orchestrate processes</p>	<p>Execute your code based on events you specify</p>

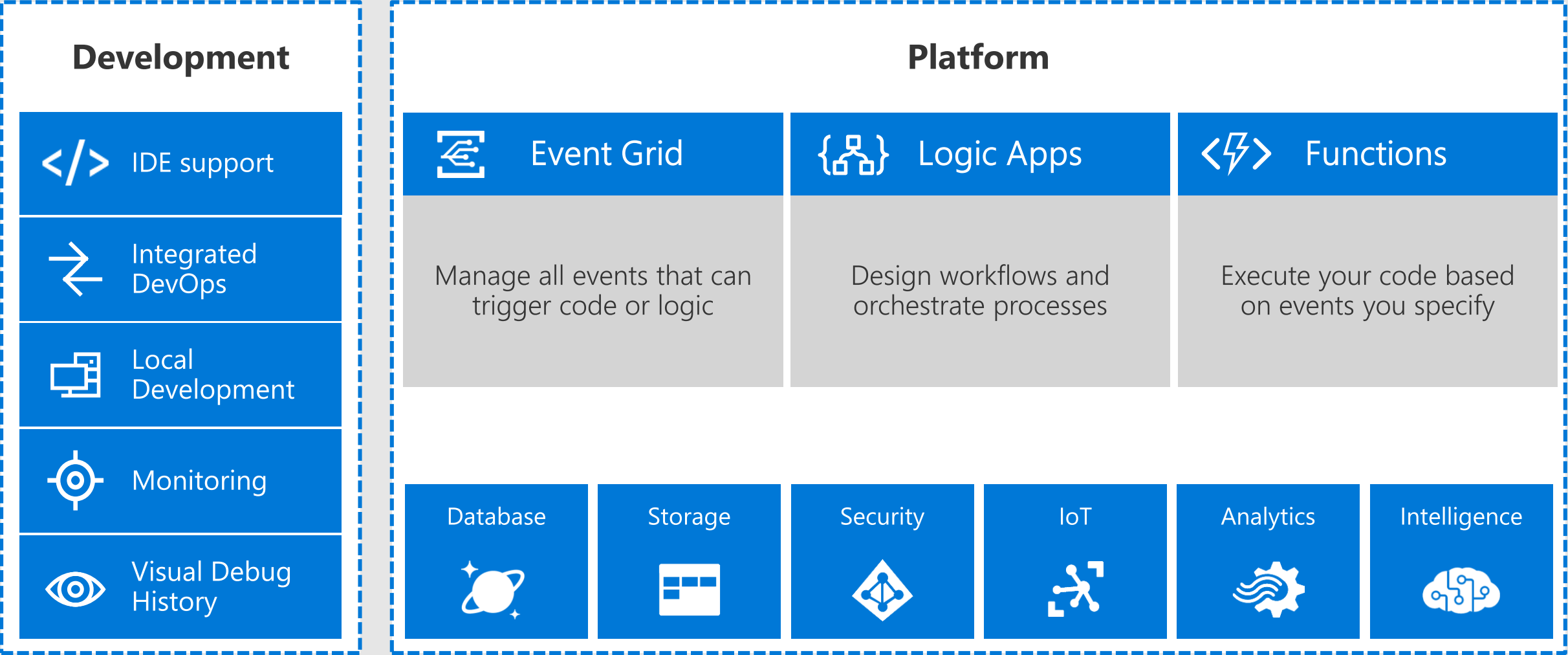
Serverless application platform components

 Event Grid	 Logic Apps	 Functions
Manage all events that can trigger code or logic	Design workflows and orchestrate processes	Execute your code based on events you specify

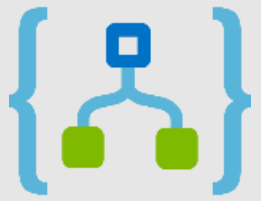
Serverless application platform components



Serverless application platform components



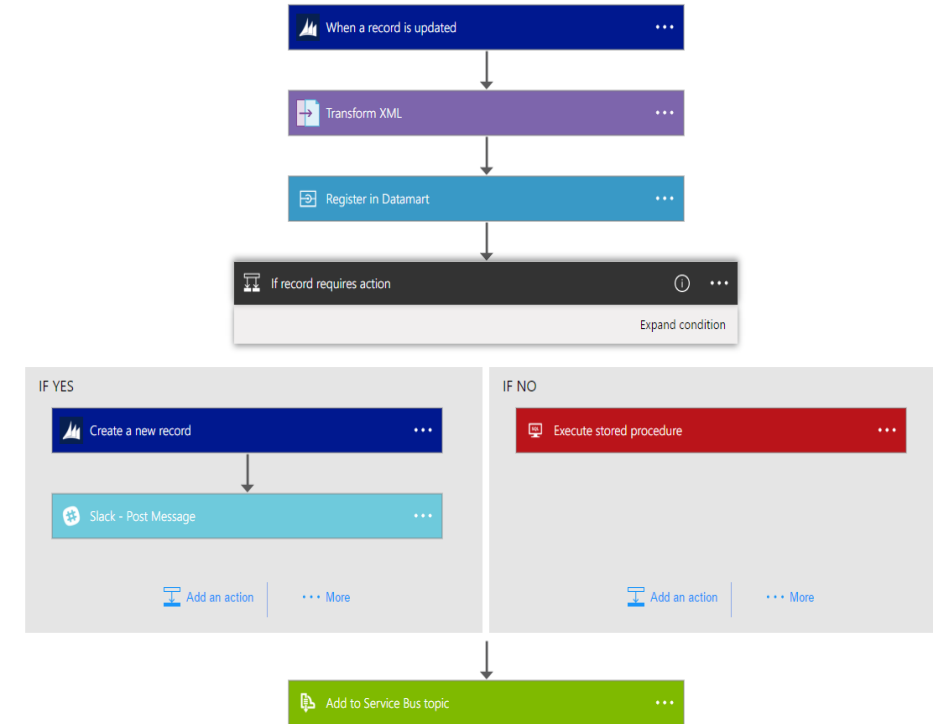
Logic Apps

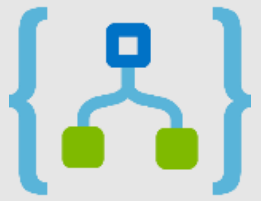


What can Logic Apps Do?

Hyperscale Workflow Engine, born in Azure

- Faster integration using innovative Visual Designer
- Easy workflow creation with triggers and actions
- Mashup applications, data and services
- Built for mission critical Enterprise Integration
- IDE / CI & CD Support with Visual Studio





Rich Data Connectors

- Database
 - SQL Server, Oracle DB, MySQL, PostgreSQL, Teradata
- Messaging
 - ServiceBus, EventHub, EventGrid
 - IBM Websphere MQ
- Data Services
 - PowerBI, Azure Data Lake
- Application
 - Salesforce, Dynamics 365,
 - SharePoint
- Lumpy Data
 - Azure Blob, OneDrive, Google Drive, DropBox, File



Logic Apps

Cloud APIs and platform functionality

- Over 180 built-in connectors
- Hosted and managed within the platform
- Scales to meet your needs
- First class designer experience
- Rapid development

API connections

- Authenticate once and reuse
- Differentiate connection configuration
- Simple to deploy
- Portal experience for managing API Connections

SaaS

- appFigures
- Asana

- Azure API Management
- Azure App Services
- Azure Automation
- Azure Cognitive Face API
- Azure Cognitive LUIS
- Azure Cognitive Text Analytics
- Azure Cognitive Vision
- Azure Data Lake Store
- Azure Document DB
- Azure Event Hub
- Azure Functions
- Azure Machine Learning
- Azure Resource Manager
- Azure Service Bus
- Azure SQL
- Azure Storage Blob
- Azure Storage Queues

- Basecamp

- Bing Search

- BitBucket
- Bitly
- Blogger
- Box
- Buffer
- Campfire
- Chatter

- Common Data Service

- Disqus
- DocuSign
- Dropbox

- Dynamics AX Online
- Dynamics CRM Online
- Dynamics CRM Service Bus

- Dynamics Financials
- Dynamics Operations

- Easy Redmine
- Eventbrite
- Facebook
- FreshBooks
- Freshdesk
- GitHub
- Gmail
- Google Calendar
- Google Contacts
- Google Drive
- Google Sheets
- Google Tasks
- GoTo Meeting
- GoTo Training
- GoTo Webinar
- Harvest
- HelloSign
- Infusionsoft
- JIRA
- Insightly
- Instagram
- Instapaper
- MailChimp
- Mandrill
- Medium

- Microsoft Project Online
- Microsoft Translator
- MSN Weather
- Muhimbi PDF

- Office 365
- Office 365 Users
- Office 365 Video
- OneDrive

- OneDrive for Business
- OneNote
- Outlook.com
- Outlook Tasks

- PagerDuty
- Pinterest
- Pipedrive
- Pivotal Tracker

- Power BI
- Project Online

- Redmine
- Salesforce
- Salesforce Chatter
- SendGrid

- SharePoint Online

- Slack
- SmartSheet
- SparkPost
- Stripe
- Survey Monkey
- Todoist
- Toodledo
- Trello
- Twilio
- Twitter
- Typeform
- UserVoice

- VS Team Services

- Webmerge
- Wordpress

- Wunderlist
- Yammer

- YouTube
- Zendesk

Protocols/native

- HTTP, HTTPS
- HTTP Webhook
- FTP, SFTP
- SMTP
- RSS
- Compose, Query, Parse JSON
- Wait
- Terminate
- Workflow

XML and EDI

- XML Validation
- Transform XML (+Mapper)
- Flat File Encode
- Flat File Decode
- X12
- EDIFACT
- AS2
- Integration Account Artifact Lookup

Hybrid

- BizTalk Server

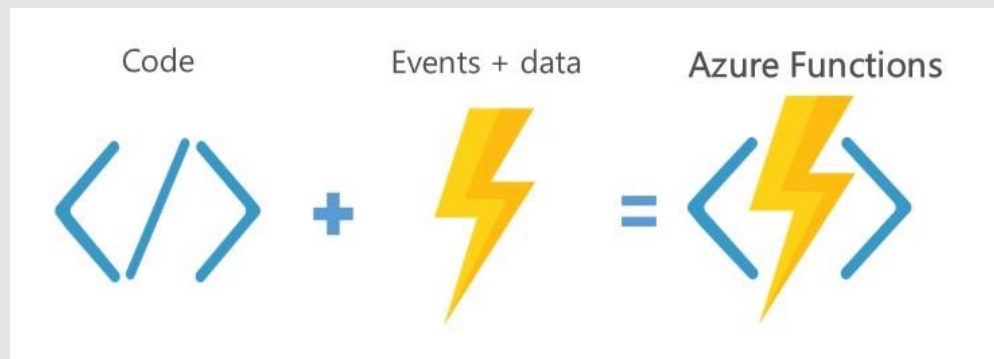
- File System
- IBM DB2
- Informix
- Oracle DB
- SharePoint Server
- SQL Server
- SAP
- Websphere MQ

DEMO: Logic Apps

Azure Functions

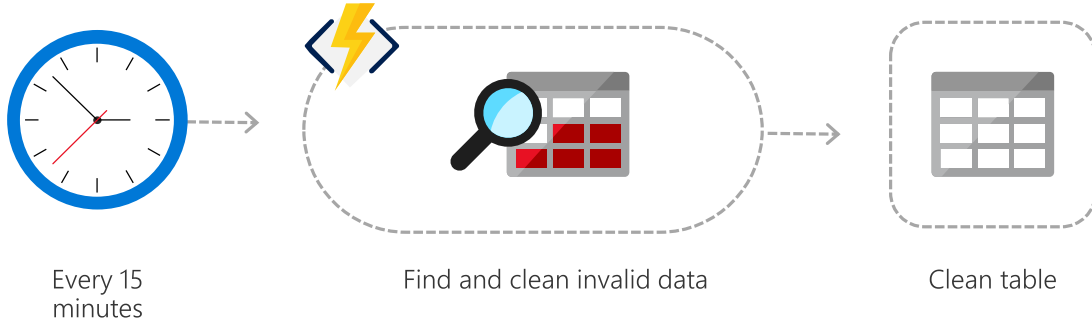
Azure Functions

- Platform for micro services architecture based apps
- Executes code (C#, F#, Java Script, PowerShell, Python,...)
- Trigger based (web hook, blob, queue, cosmos db,...)
- Automatically scales platform behind the scenes
- Billed per execution (memory consumed per second)

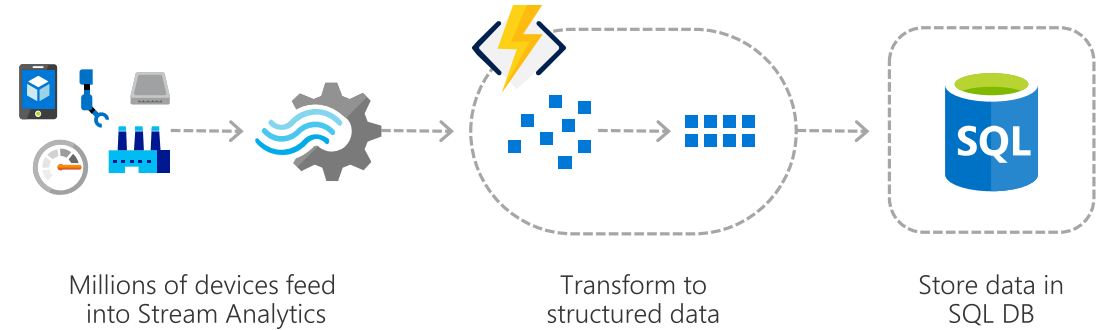


Serverless scenarios: anything that responds to events

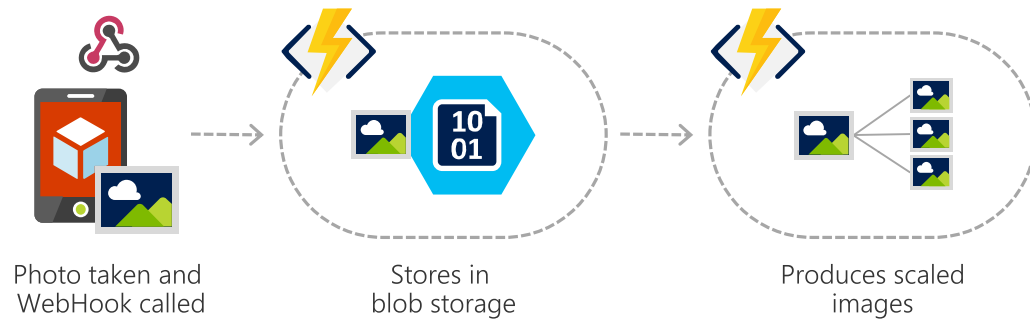
Timer-based processing



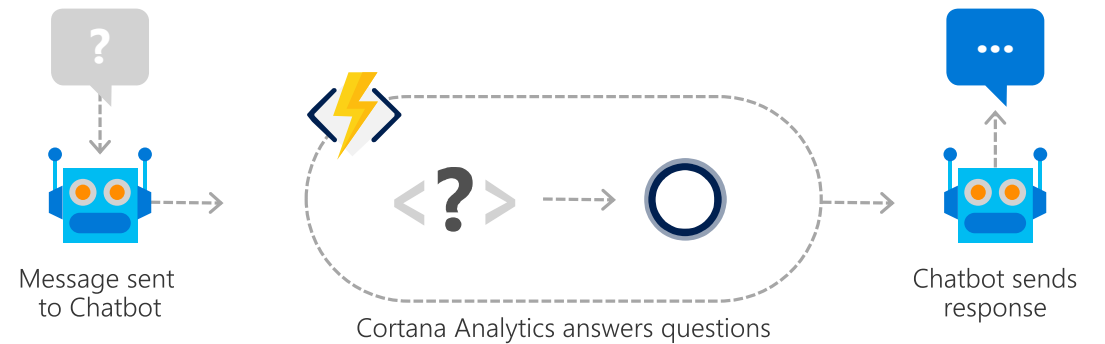
Real-time stream processing



Mobile app backends



Real-time bot messaging



Functions Triggers and Bindings

Type	Service	Trigger	Input	Output
Schedule	Azure Functions	✓		
HTTP (REST or webhook)	Azure Functions	✓		✓
Blob Storage	Azure Storage	✓	✓	✓
Events	Azure Event Hubs	✓		✓
Queues	Azure Storage	✓		✓
Queues and topics	Azure Service Bus	✓		✓
Storage tables	Azure Storage		✓	✓
SQL tables	Azure Mobile Apps		✓	✓
No-SQL DB	Azure DocumentDB		✓	✓
Push notifications	Azure Notification Hubs			✓
Twilio SMS Text	Twilio			✓
SendGrid email	SendGrid			✓

Ways to Run Functions

Consumption *Serverless*



Pay only for what you use! Metering is per execution and per GB Second.

App Service Plan *Free, Basic, Standard, Premium*



All the advantages of Functions with the SLA and 'always on' features of an App Service Plan.

App Service Environment *Network Isolation*



Your own dedicated cloud environment with network isolation for apps, higher scale, and the ability to connect securely to local vNets.

Azure Stack *On Premises*



Leverage cloud innovations in on-premises infrastructure. Azure Stack brings the power of Azure to your own data centers.

Azure Functions Runtime (preview) *Functions on your Server*



Run your Azure Functions on your local server (without the rest of Azure)

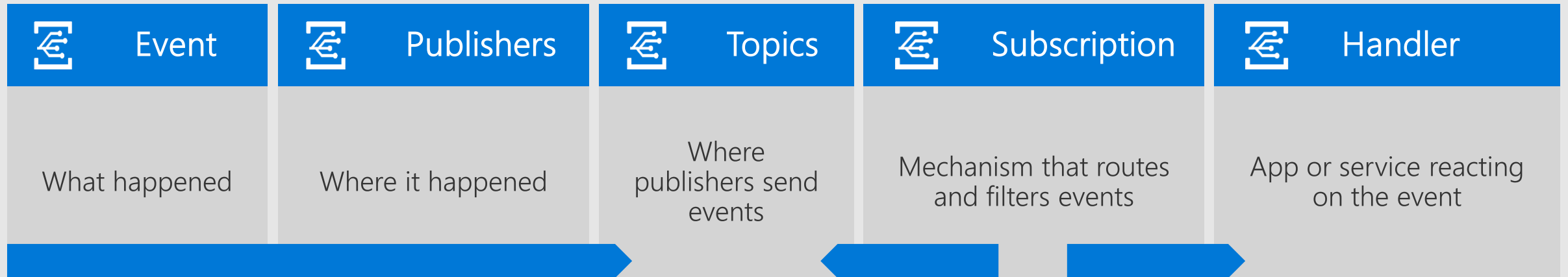
DEMO: Azure Functions



Event Grid

Event Grid Concepts

- Fully managed event routing service
- Subscribe and react to Azure and non-Azure Events



DEMO: Azure Event Grid

Review: key takeaways

- ✓ Serverless computing for general event/trigger driven scenarios
- ✓ Large number of connectors / triggers OOB
- ✓ Multi-language, cross platform
- ✓ Enhanced business productivity
- ✓ Faster Time to Market
- ✓ Billing by based on "micro"-usage



Please Complete your Session Evaluations

Get your cool IoT Dev Kit!

Fill out your feedback form and turn it in before you leave.

