

Microsoft Azure DevCamps

Vishesh Oberoi

Technical Evangelist, Microsoft

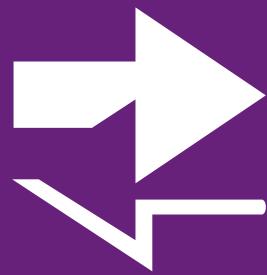
Vishesh.Oberoi@microsoft.com

@ovishesh

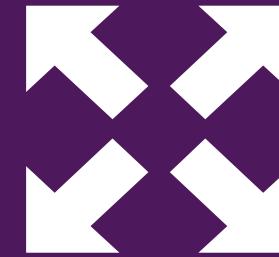
Time	Session	Duration	Activity
9:30	Doors Open		
10:00 to 11:00	Intro to Azure and Setup	60	Presentation and Demos
11:00 to 12:30	Building Web and Mobile Solutions (Web Apps, API Apps, etc.)	30	Web - Presentation and Demos
		30	Mobile - Presentation and Demos
		30	Hands-on Labs
12:30 to 13:30	Lunch	60	
13:30 to 15:00	Azure IoT Suite	30	Presentation and Demos
		60	Hands-on Labs
15:00 to 15:10	Break	20	
15:10 to 16:30	Azure Data Platform Overview	30	Presentation and Demos
		15	Hands-on Labs

Why the cloud?

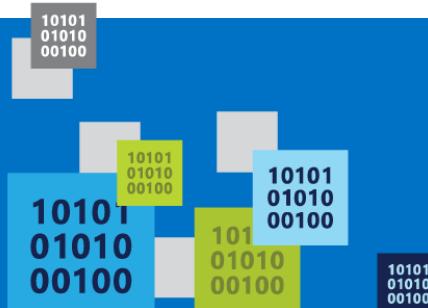
Speed



Scale



Economics

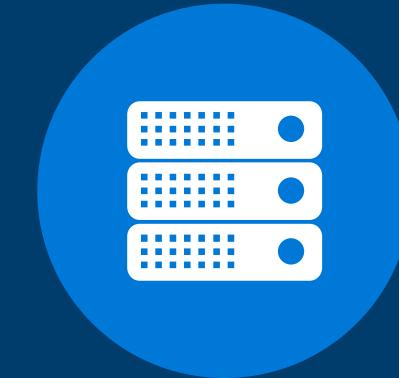


The changing world of app development

Mainframe
Monolithic
Client/Server
3 Tier
Component
RAD
Distributed
SOAP
SOA
Web
REST
Mobile
Microservices
Containers
Serverless



Physical
Machines



Virtual
Machines



Cloud
Infrastructure



Born in
the Cloud

Build on a
developer platform
(PaaS + Serverless)



Cloud Computing



IaaS

Infrastructure-as-a-Service



PaaS

Platform-as-a-Service



SaaS

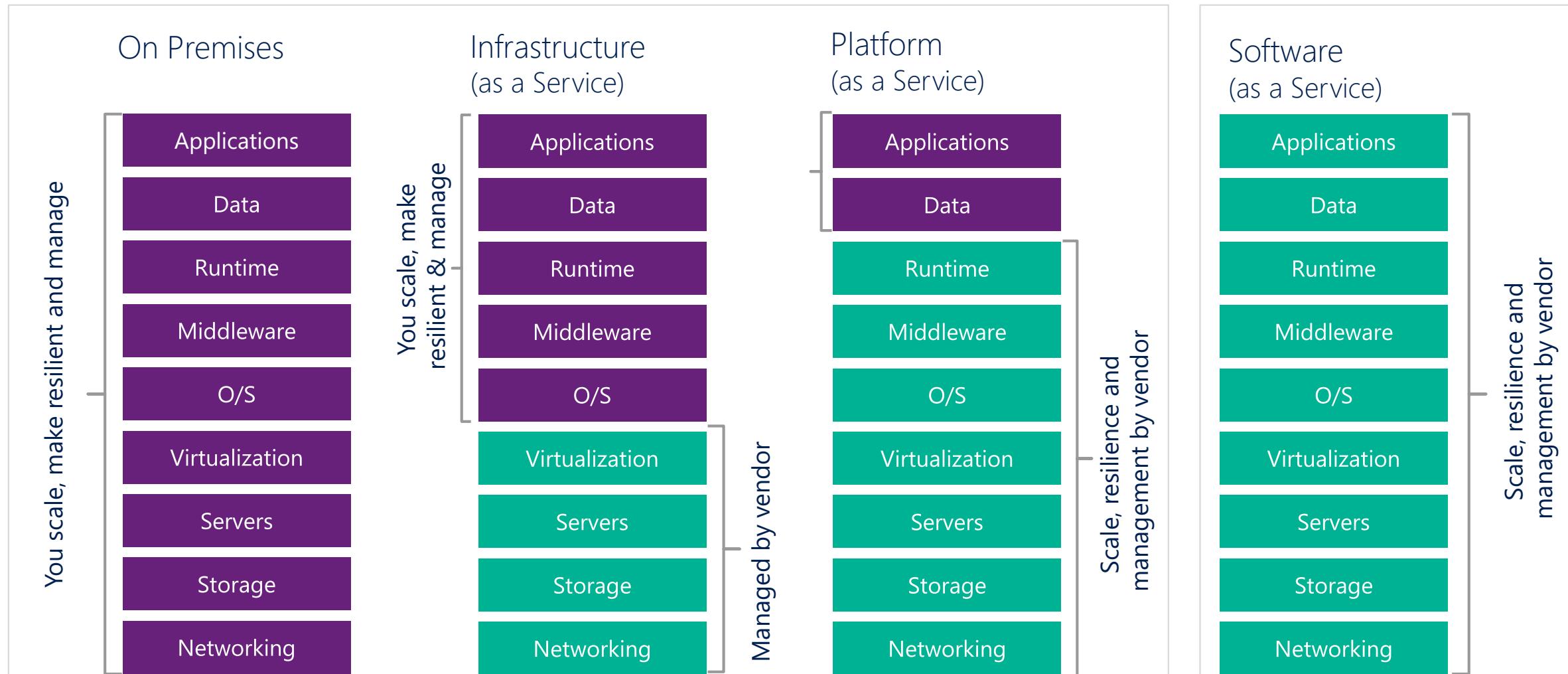
Software-as-a-Service

host

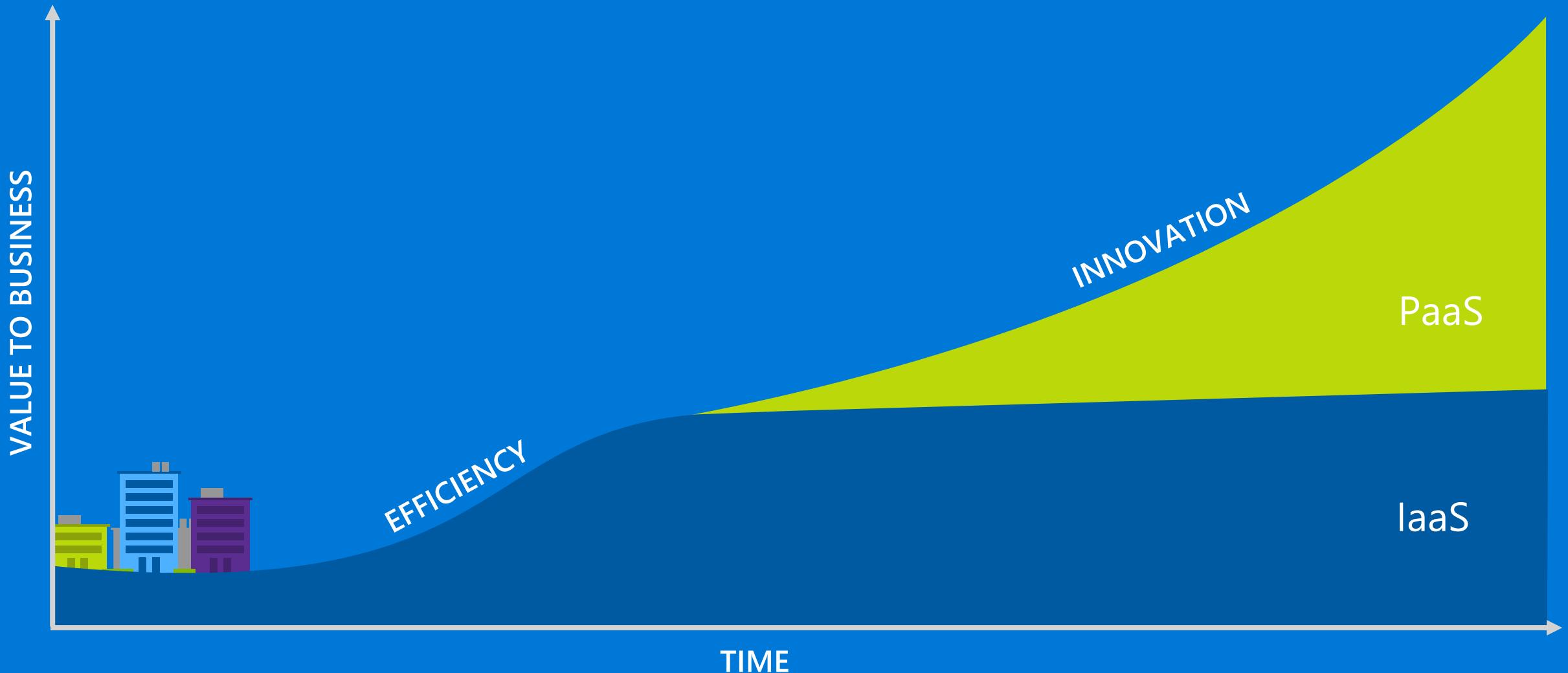
build

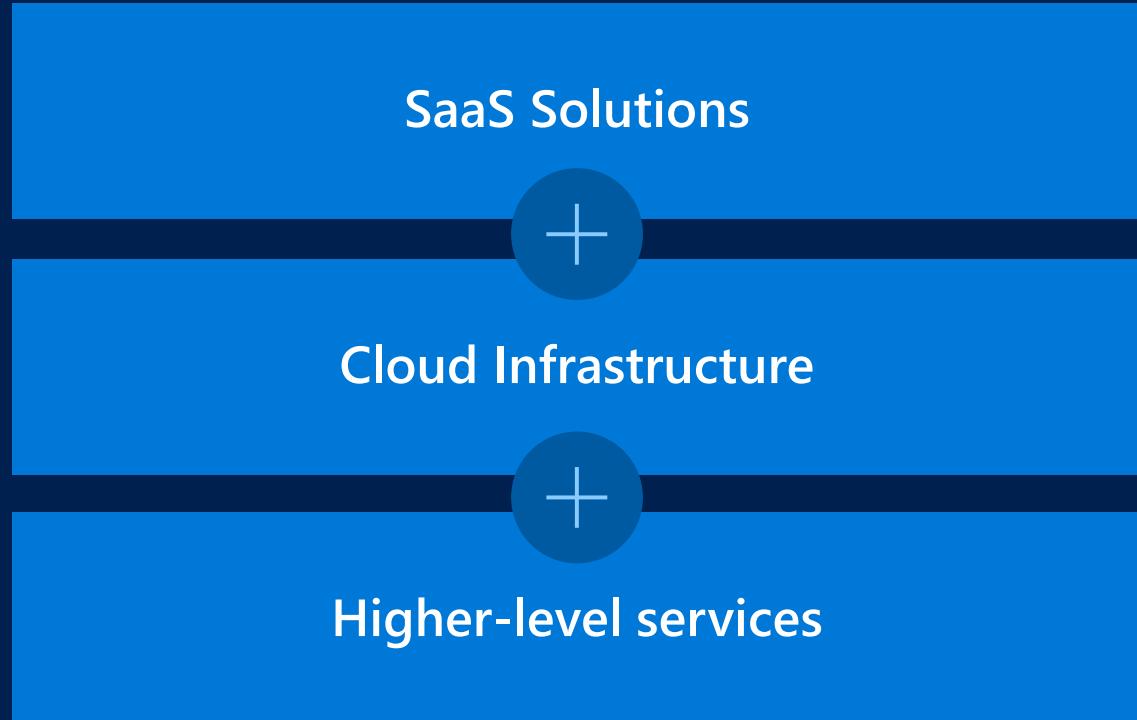
consume

Why the Cloud?



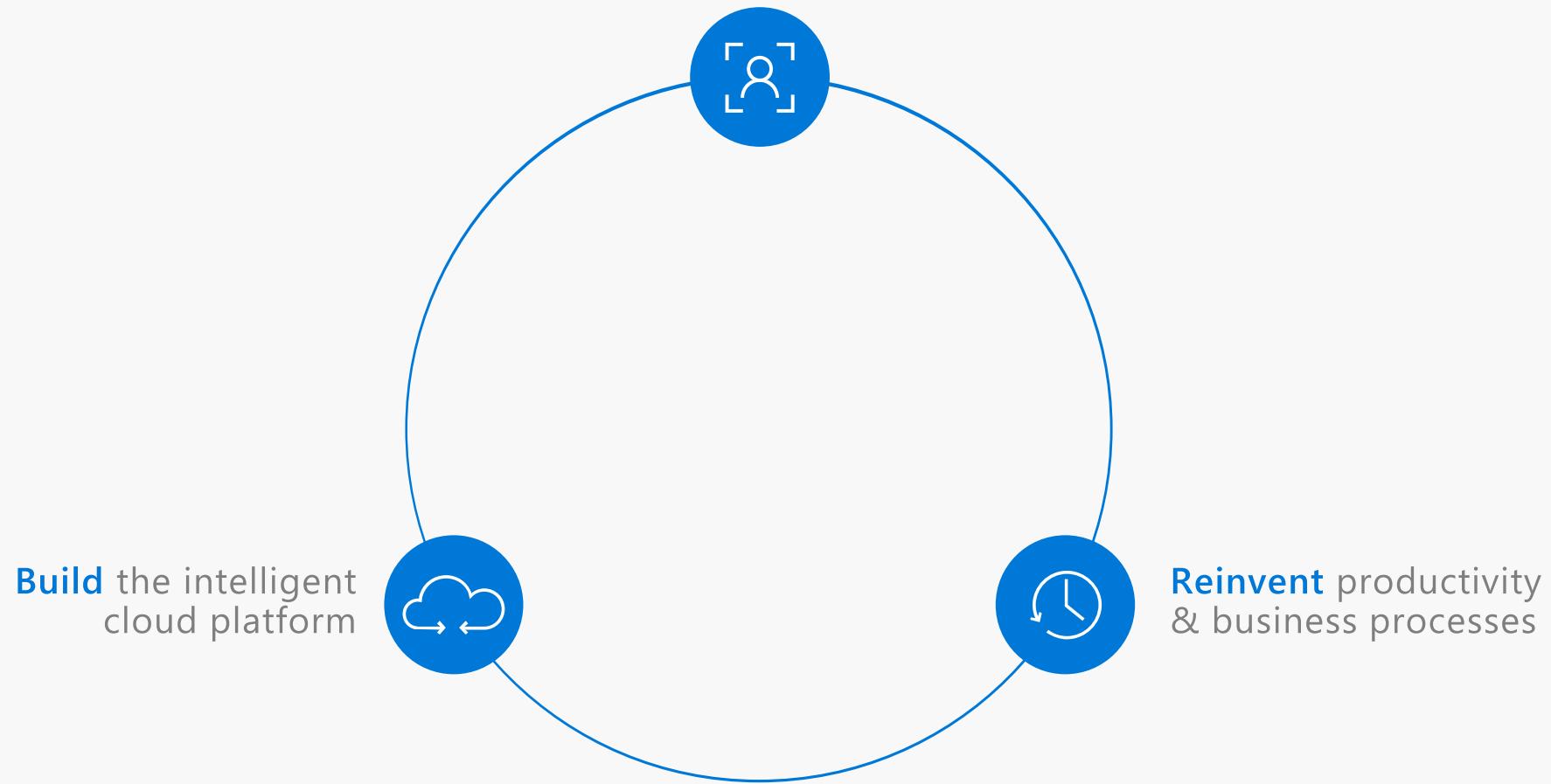
From infrastructure to innovation





DIFFERENTIATION
AGILITY
COST

Create more
personal computing





Mobile first + Cloud first

Any developer

Any app

Any platform

VISUAL
STUDIO

ASP.NET

AZURE
LINUX VM

VISUAL
STUDIO
CODE

C#

iOS
DEVICE

XAMARIN
STUDIO

C++

AZURE
WINDOWS
VM

EMACS

NODE.JS

ANDROID
DEVICE

Any developer

Any app

Any platform

ENVIRONMENTS	IDE	TECHNOLOGIES	CONTAINER SERVICE
VIM		HTML/JS	WINDOWS DEVICE
VISUAL STUDIO		ASP.NET	AZURE WEB APP
VISUAL STUDIO CODE		C#	AZURE LINUX VM
XAMARIN		C#	iOS

Any developer

Any app

Any platform

	VM	C#	CONTAINER SERVICE
VISUAL STUDIO	C++		WINDOWS DEVICE
VISUAL STUDIO CODE	NODE.JS		AZURE WEB APP
XAMARIN STUDIO	PYTHON		AZURE LINUX VM
EMACS	LISP		iOS

Any developer

Any app

Any platform

ENVIRONMENT	IDE	LANGUAGE	DEVICE
VIM	C#		AZURE CONTAINER SERVICE
VISUAL STUDIO	C++		WINDOWS DEVICE
VISUAL STUDIO CODE	NODE.JS		AZURE WEB APP
XAMARIN	SWIFT		AZURE

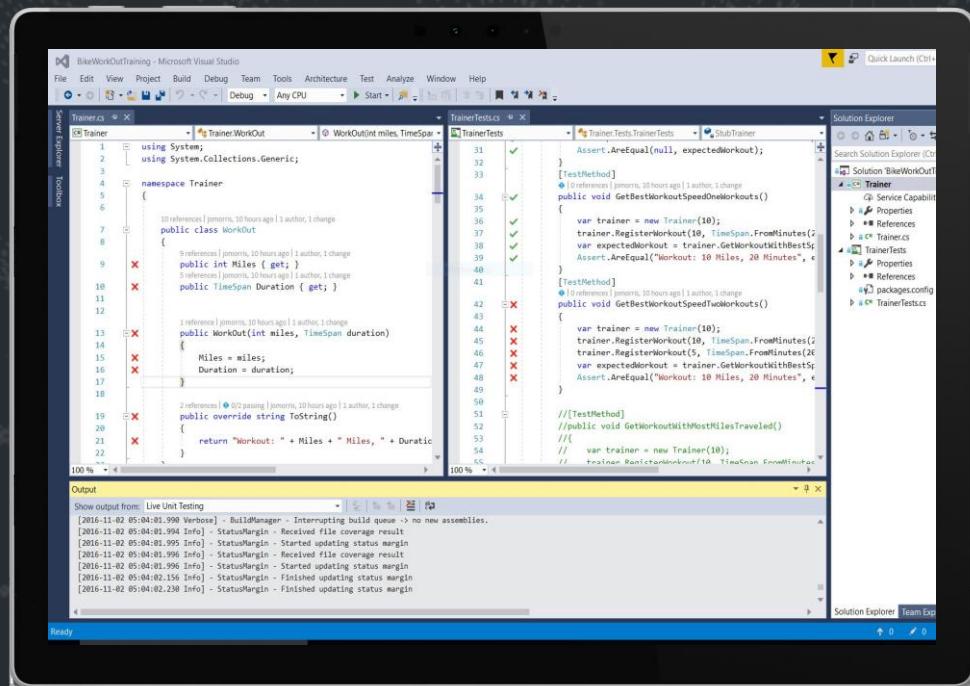
Any developer

Any app

Any platform

ENVIRONMENTS	IDES, TOOLS	WEB APP	
VIM	ASP.NET	AZURE LINUX VM	Any developer
VISUAL STUDIO	C#	iOS DEVICE	Any app
VISUAL STUDIO CODE	C++	AZURE WINDOWS VM	Any platform
XAMARIN	NONE	ANDROID	

STUDIO	CODE	DEVICE	
XAMARIN STUDIO	NODE.JS	AZURE WEB APP	Any developer Any app Any platform
EMACS	PYTHON	AZURE LINUX VM	
VIM	HTML/JS	iOS DEVICE	
VISUAL STUDIO	ASP.NET	AZURE WINDOWS	



Visual Studio 2017

High quality native apps

Build for iOS, Android, Windows

Advanced tools to optimize, tune and iterate

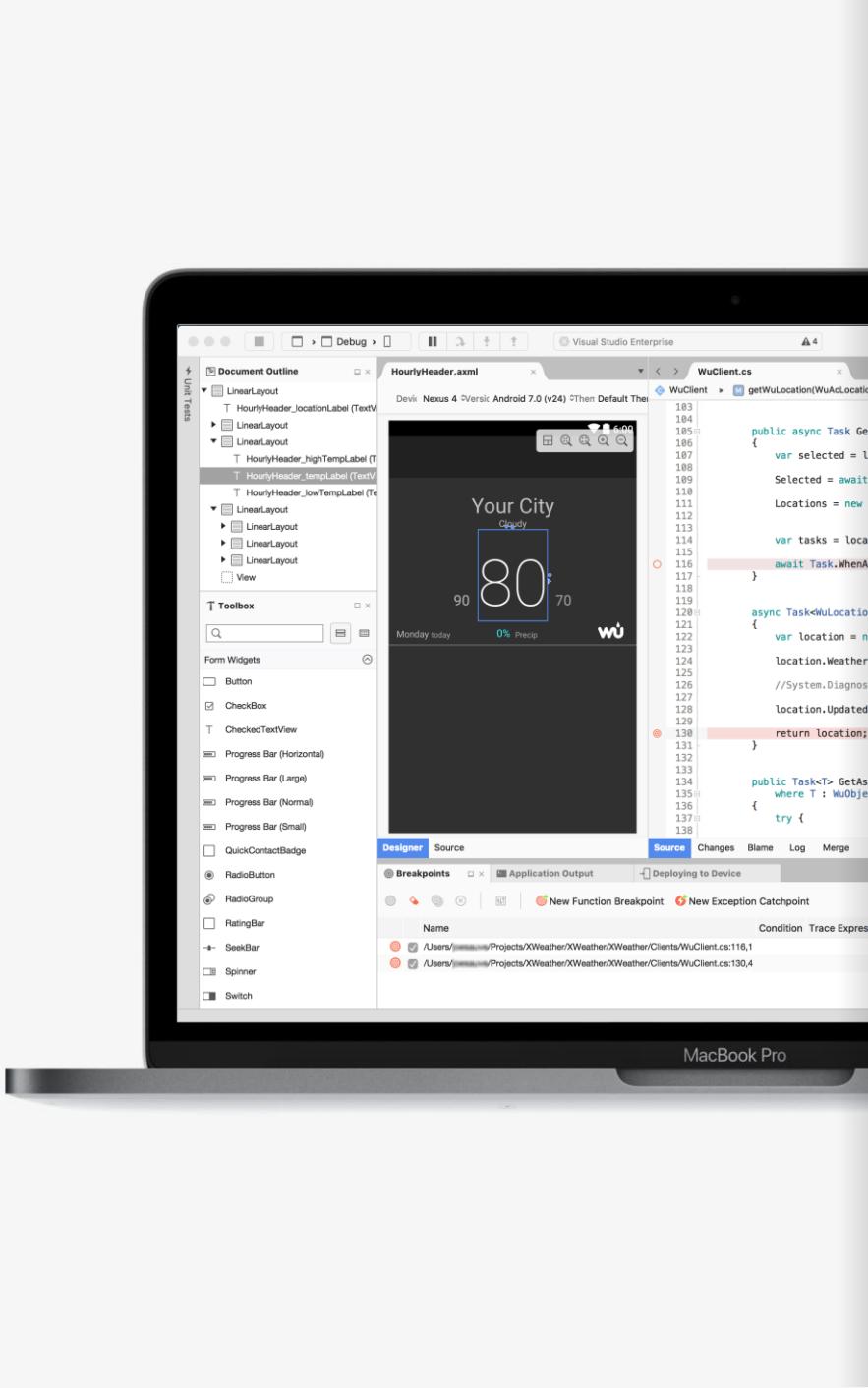


ANNOUNCING

Visual Studio for Mac

iOS and Android .NET development

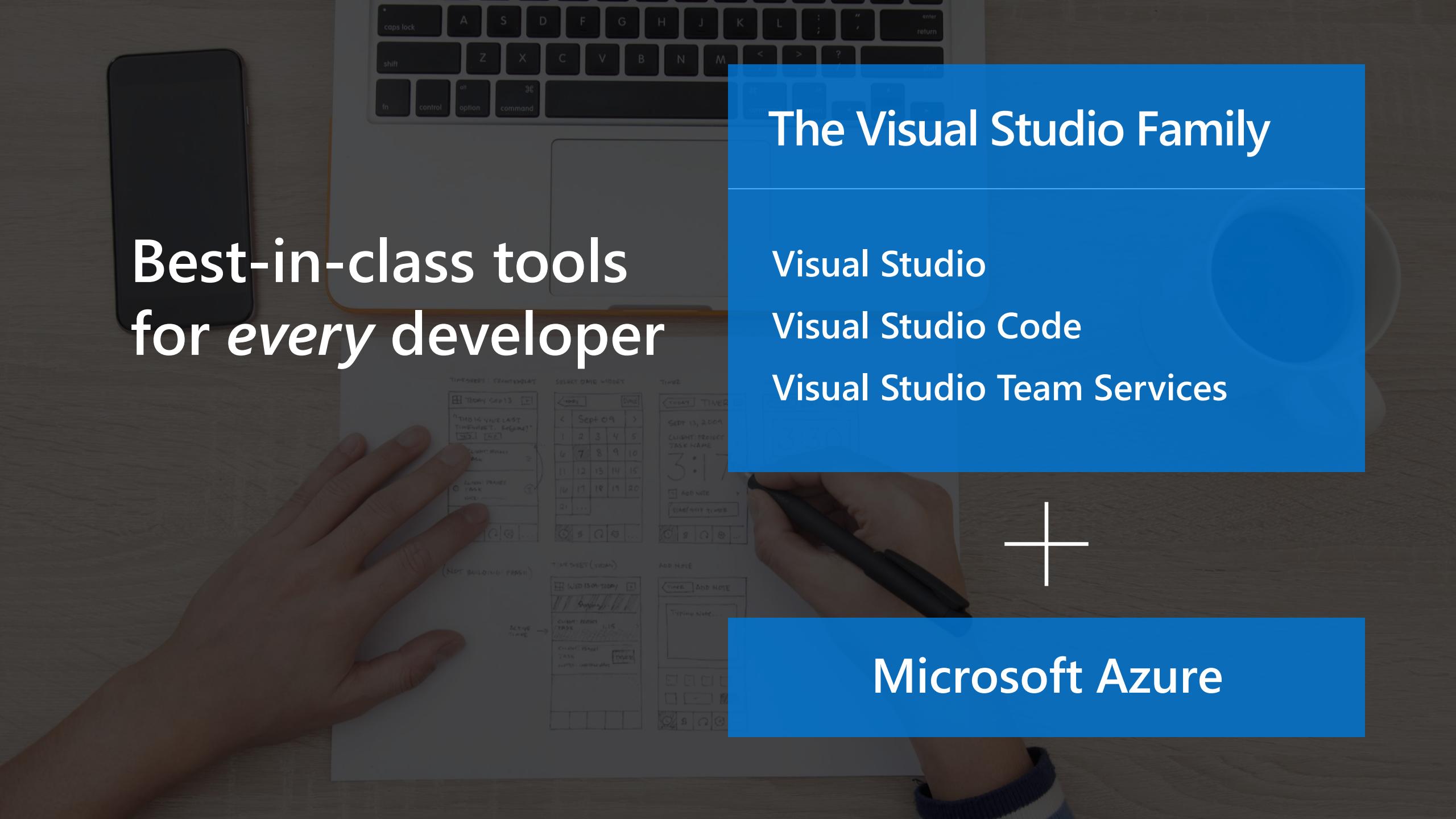
Tools for Azure



Included with your
Visual Studio
subscription at no
additional cost

Free Community
Edition

Preview available
today!



Best-in-class tools
for *every* developer

The Visual Studio Family

Visual Studio

Visual Studio Code

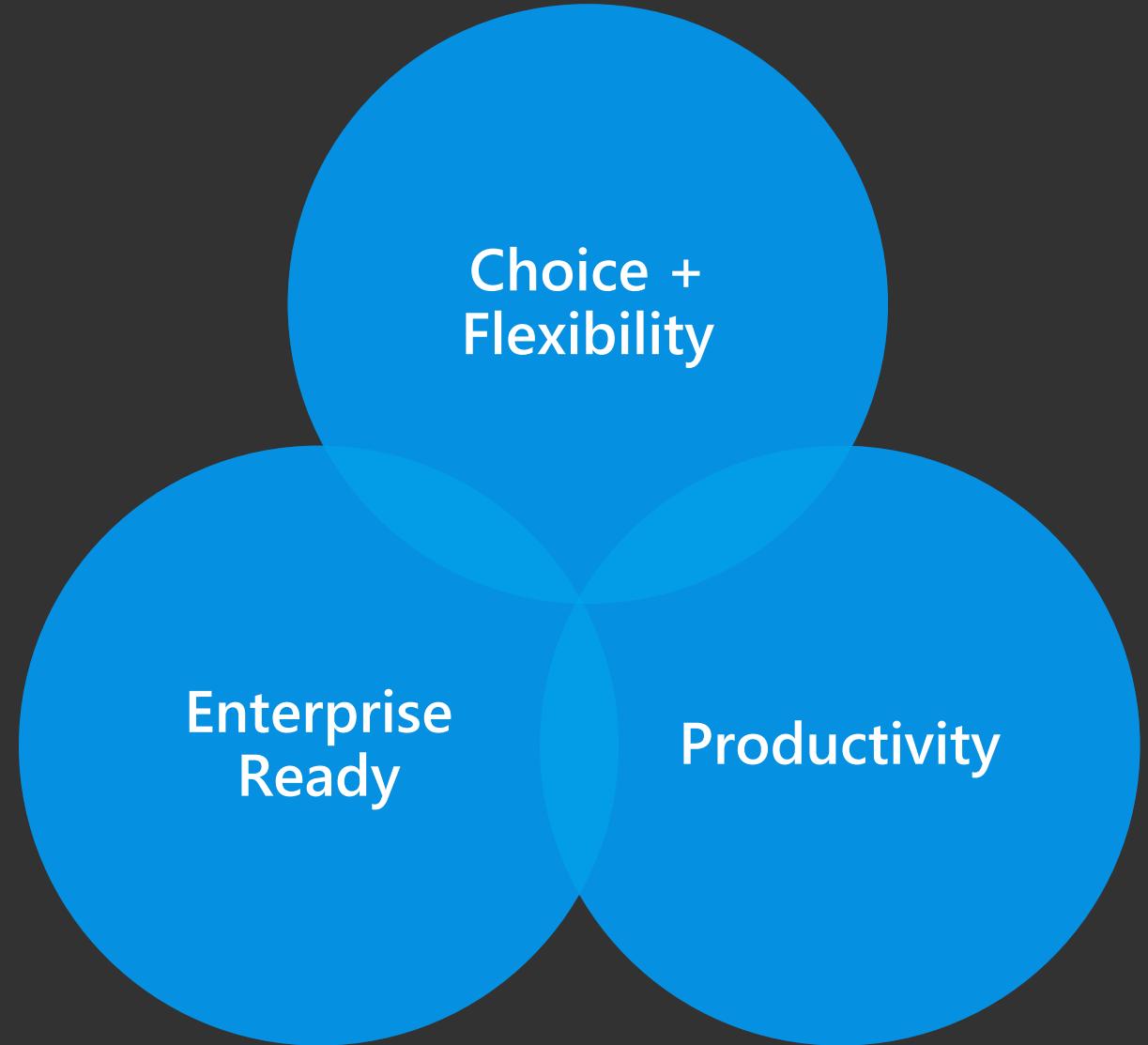
Visual Studio Team Services



Microsoft Azure

Azure

Microsoft Azure



Choice + Flexibility

DevOps



Applications



App Frameworks



Databases & Middleware



Infrastructure



Windows Server



redhat



CANONICAL



38

Azure regions
around the world

More than AWS and
Google Cloud combined







Microsoft Azure

Platform services

Web + Mobile

Internet of Things

Microservices

Data + Analytics

Identity Management

Media Streaming

High Performance Compute

Cognitive Services

Core infrastructure

Compute Storage Networking Security

Hybrid

Build apps faster and easier



Build on PaaS

Existing frameworks

Web and mobile

Microservices

Serverless Compute

Build on IaaS



Storage

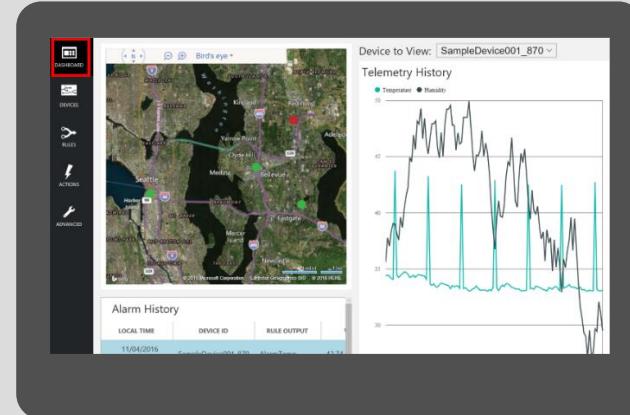


Virtual machines

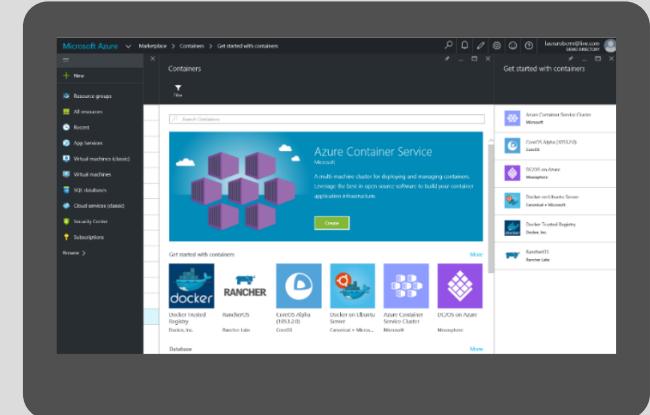


Networking

Azure Internet of Things



Azure Marketplace



Security & Management

-  Security Center
-  Portal
-  Azure Active Directory
-  Azure AD B2C
-  Multi-Factor Authentication
-  Automation
-  Scheduler
-  Key Vault
-  Store/ Marketplace
-  VM Image Gallery & VM Depot

Platform Services

Media & CDN



Integration



Compute Services



Application Platform



Developer Services



Data



Intelligence



Analytics & IoT



Hybrid Cloud

-  Azure AD Health Monitoring
-  AD Privileged Identity Management
-  Domain Services
-  Backup
-  Operational Analytics
-  Import/Export
-  Azure Site Recovery
-  StorSimple

Compute



Storage



Datacenter Infrastructure (32 Regions, 24 Online)

Going Digital

1 million/hour
new devices
coming online
by 2020

12 years
average age of S&P
500 corporations
by 2020

60% computing
in the public cloud
by 2025

Momentum

194 billion

External Requests made
to Azure App Service

340 billion

Azure SQL query
requests processed/day

750 million

Azure Active
Directory users

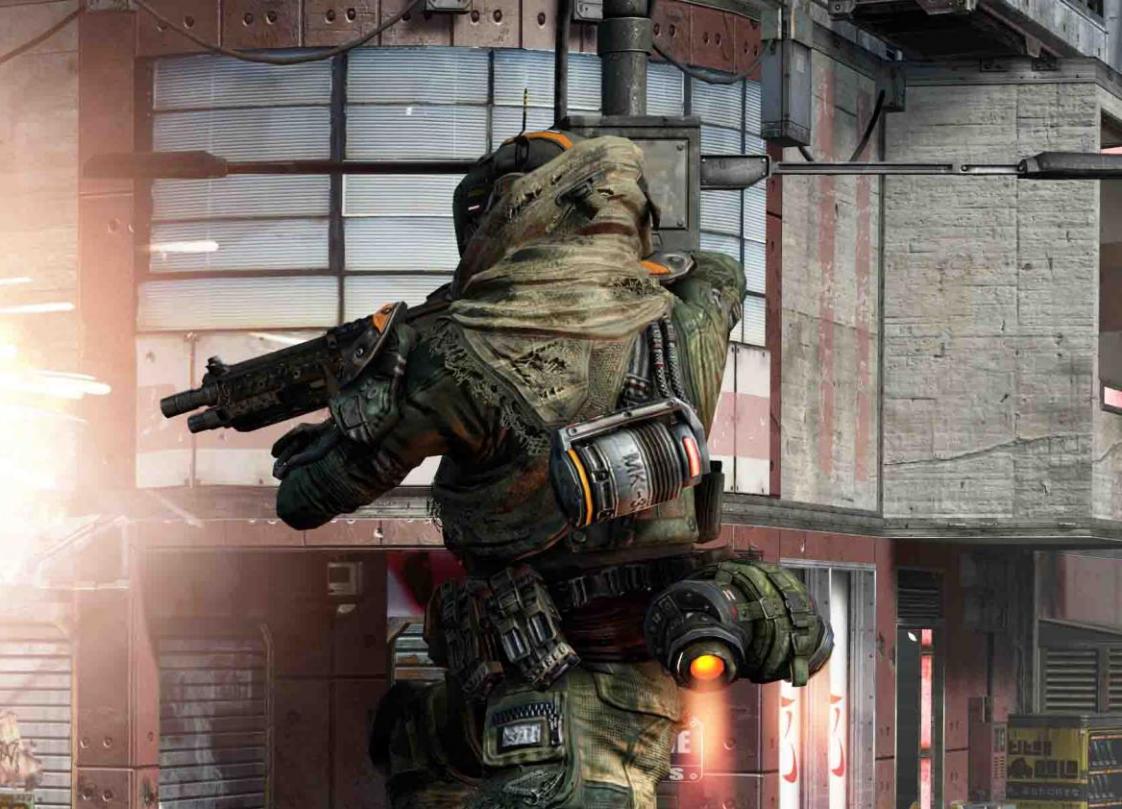
188 billion

Hits to websites run on
Azure Web App Service

>90%

of Fortune 500 use
Microsoft Cloud

Titanfall



- Game sessions hosted using Azure
- Hosted using >100,000 Azure Virtual Machines

Microsoft Azure: the journey to the Cloud

DEVELOPER + APP PLATFORM

App Platform Services



App Service



Notification Hubs



API Management



Service Fabric



Cloud Services

Integration



Storage Queues



BizTalk Services



Hybrid Connections



Service Bus

Development Tools



Visual Studio



Visual Studio Online



Application Insights



Azure SDK

Media & CDN



Content Delivery Network



Media Services

CLOUD INFRASTRUCTURE

Azure + Azure Stack + Operations Management Suite

Azure App Service

Build and scale great Web and mobile apps



Auto-patching and auto-scale

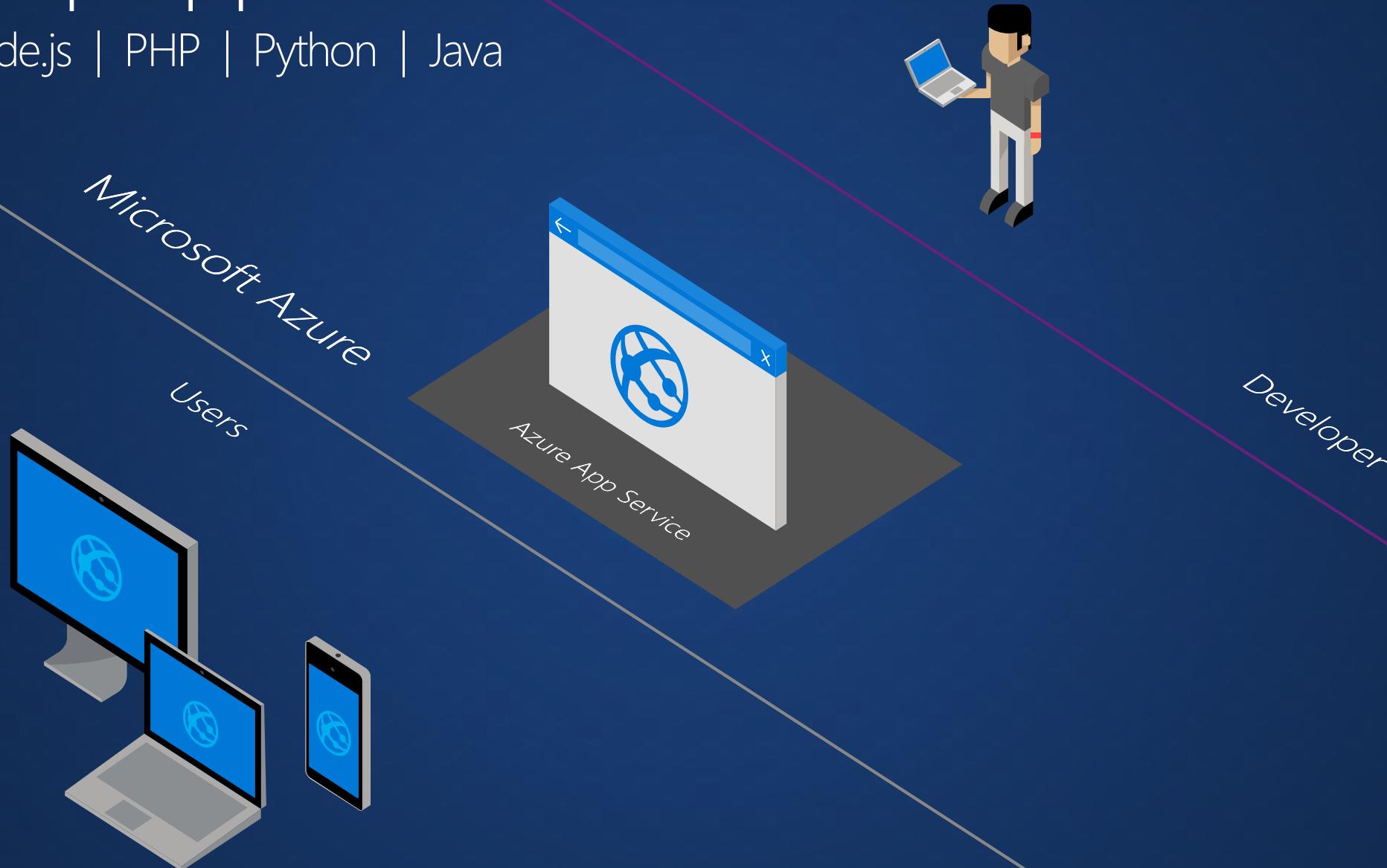
.NET, Java, Node.js, PHP, Python

Integrate with SaaS and on-premises

Continuous integration with VSTS,
Github, BitBucket, and more

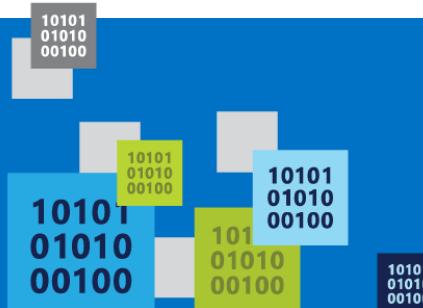
Develop apps with...

.NET | Node.js | PHP | Python | Java



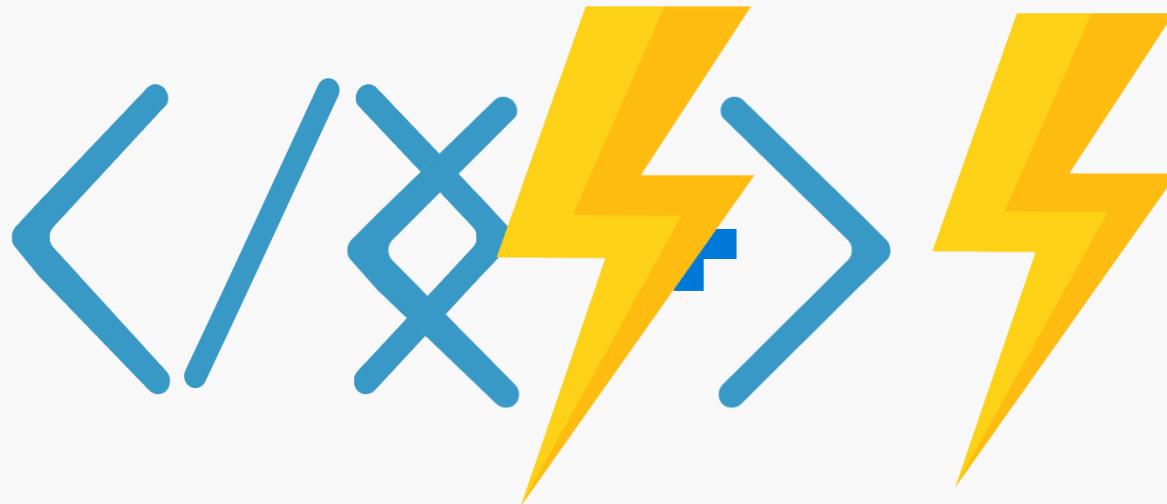
Benefits of App Services

- Automatic OS patching
- Enterprise-grade security
- High availability
 - Automated scale out/in
 - Built-in load balancing
- Supports many languages and platforms
 - .NET, Node.js, Python, Ruby and many more
- Easy continuous deployment
 - Continuous delivery from third-party source control providers
 - Built-in Git repo



What is Azure Functions?

Code Azure Functions Events + data



Respond to any event

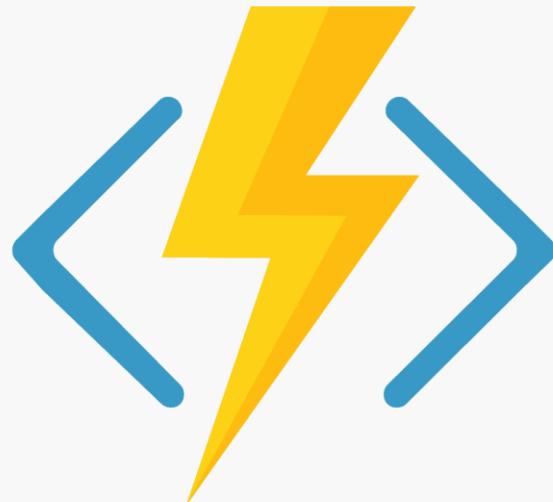
Develop your way

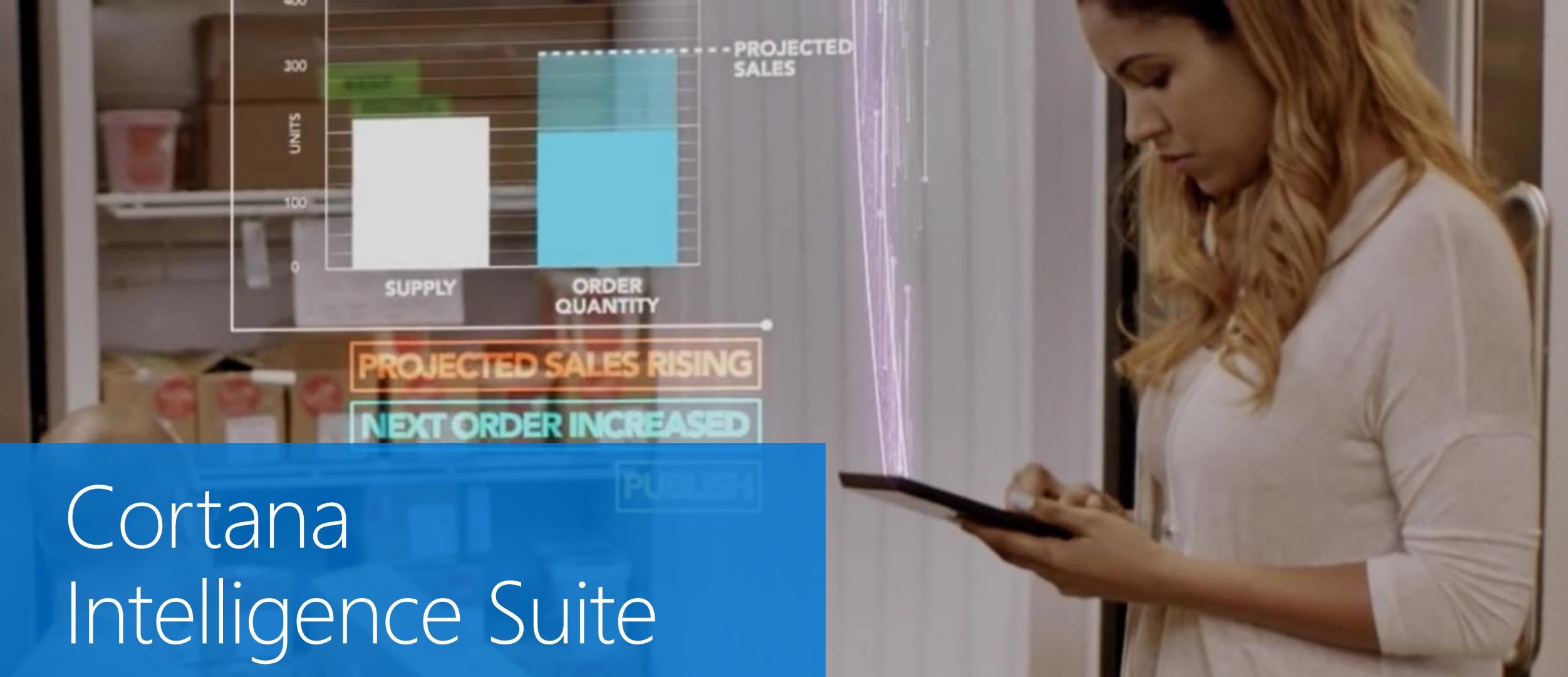
Integrated DevOps

Pay for what you use

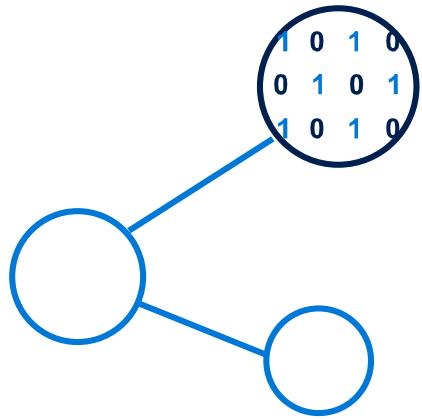
Fully open source

Azure Functions

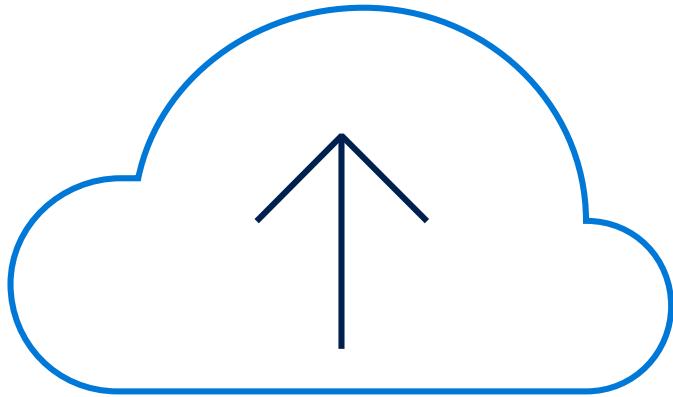




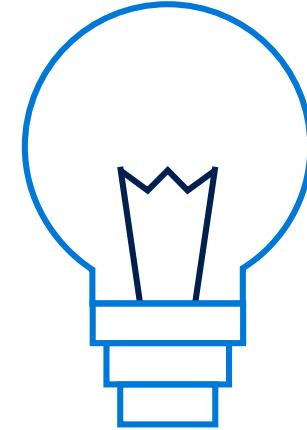
Business is being transformed by three trends



Big Data

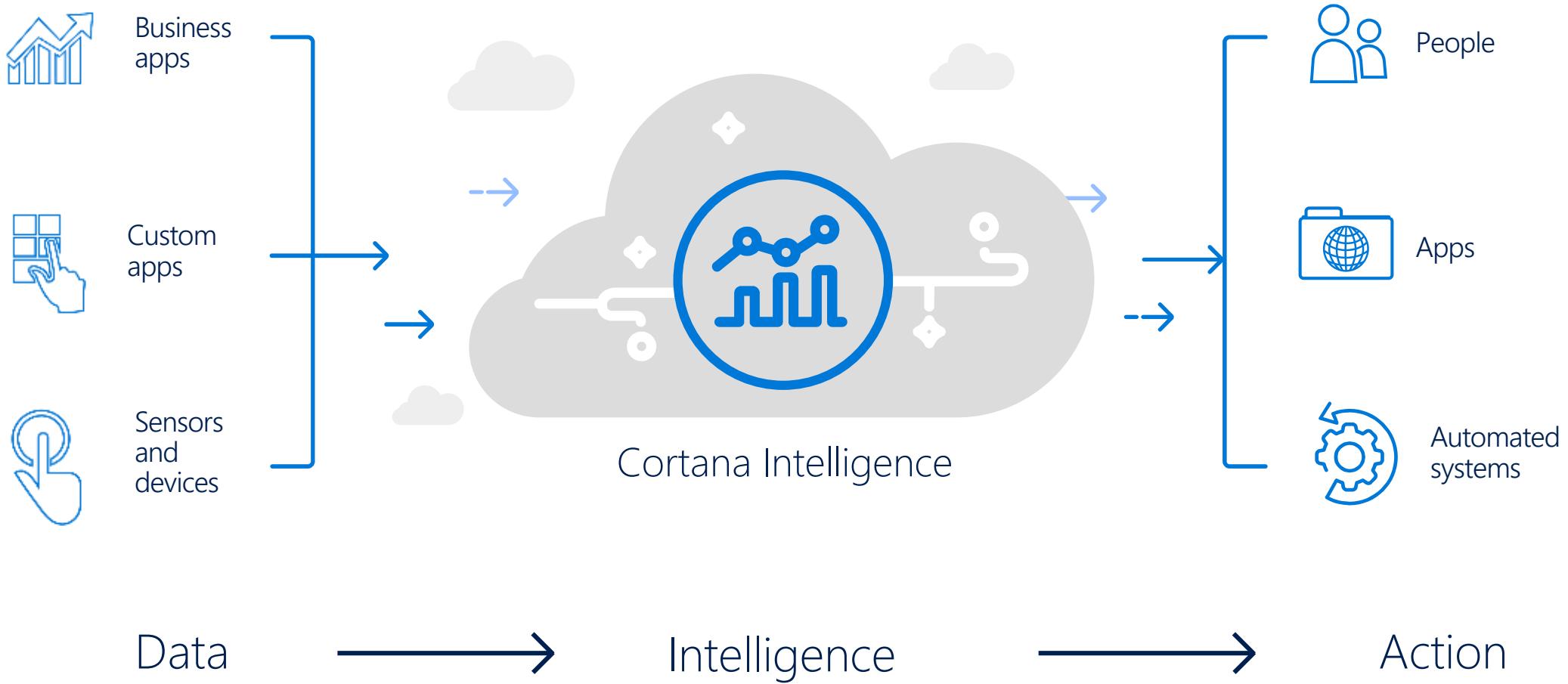


Cloud



Intelligence

Stay ahead of the curve with Cortana Intelligence Suite



Here are some examples of how our customers are staying ahead



Improving visibility and making accurate predictions with **remote monitoring**



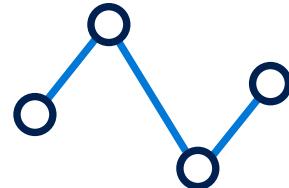
Getting the right products to the right places with **inventory management**



Offering customers exactly what they want, when they want it, with **personalization**

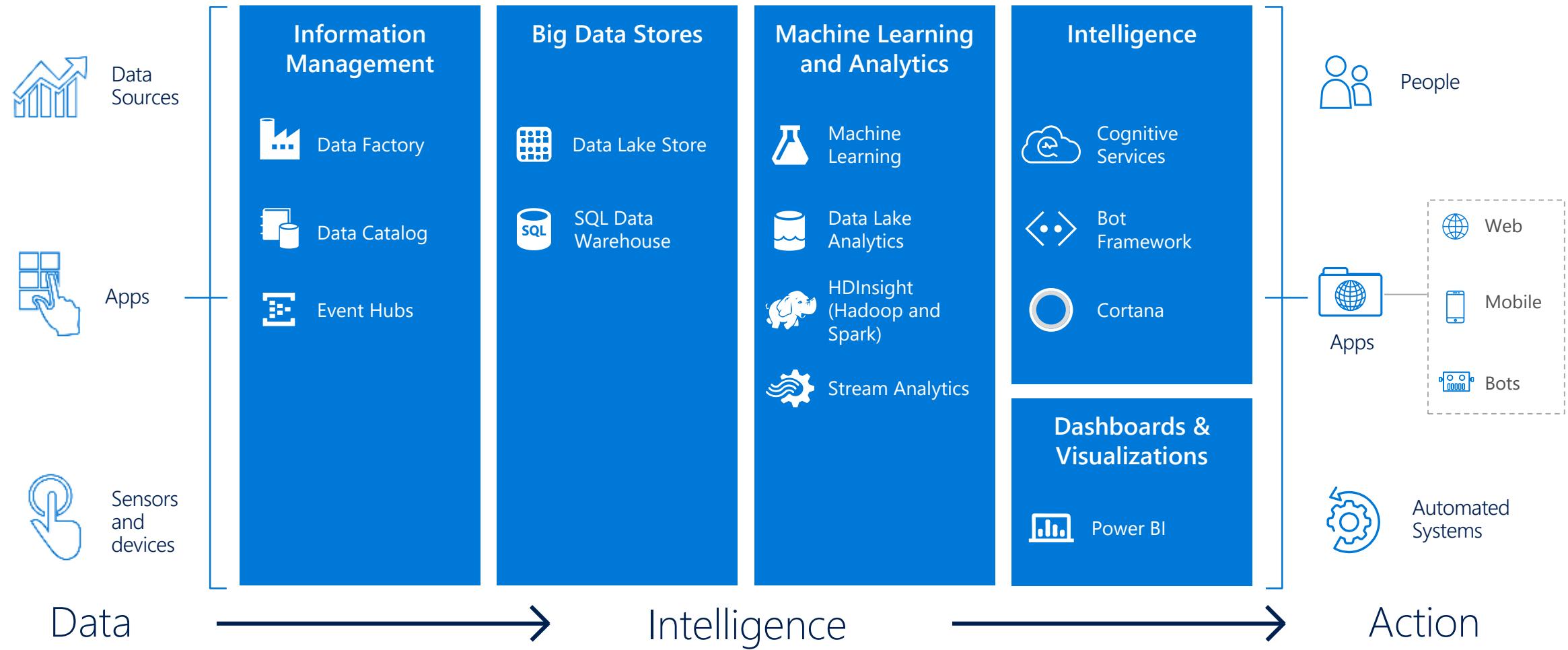


Fixing problems proactively before they start with **predictive maintenance**



Exploring new business opportunities with **data-driven services**

Easily turn data into intelligent action

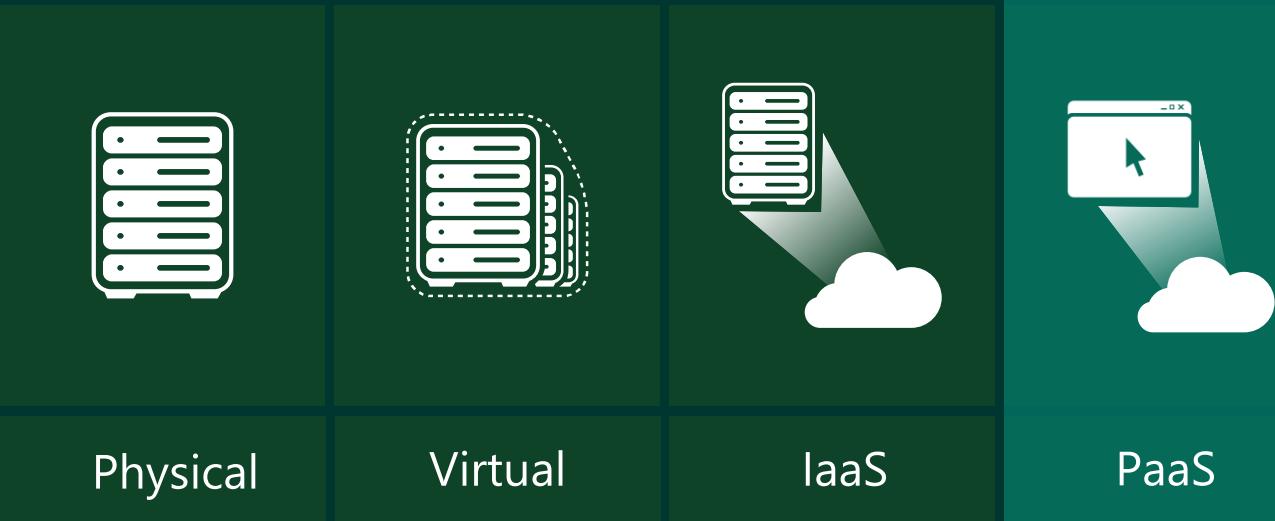


SQL Database





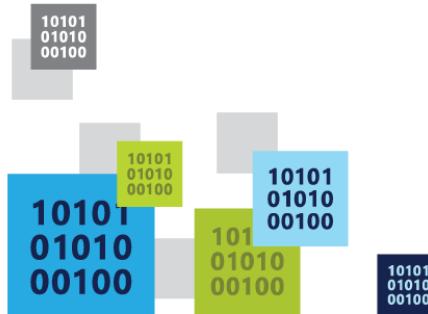
A Continuous offering



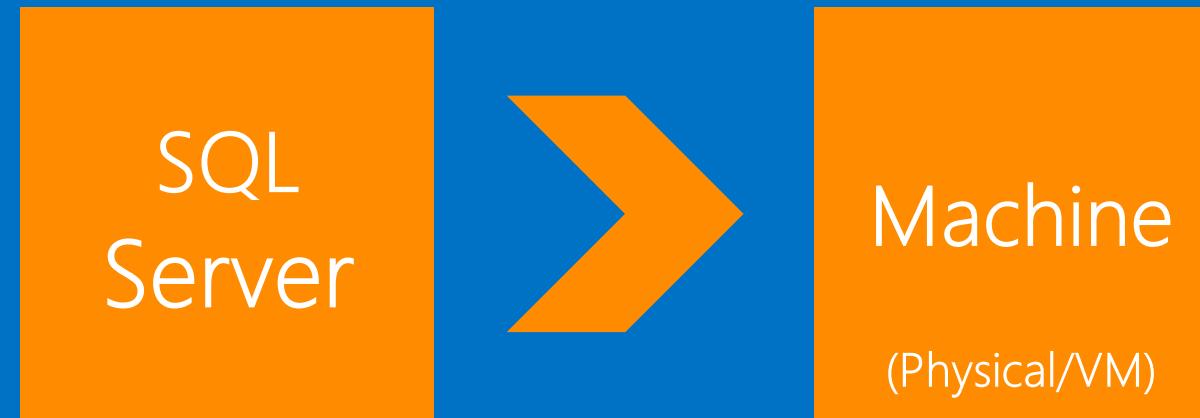
From private to public Cloud

Architecture

Starting with the basics



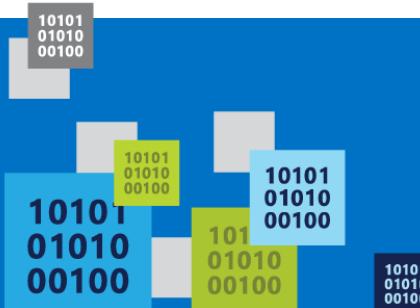
A Server is not a machine



SQL Database

The Basics

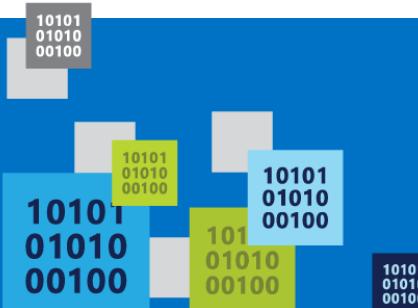
- SQL Server database technology “as a Service”
- Fully Managed
- Enterprise-ready with automatic support for HA, DR, Backups, replication and more



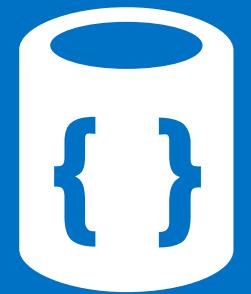
SQL Database

The Basics

- Scale out with ElasticScale
- Built-in regional database replicas for additional protection
- Uptime SLA of 99.99%

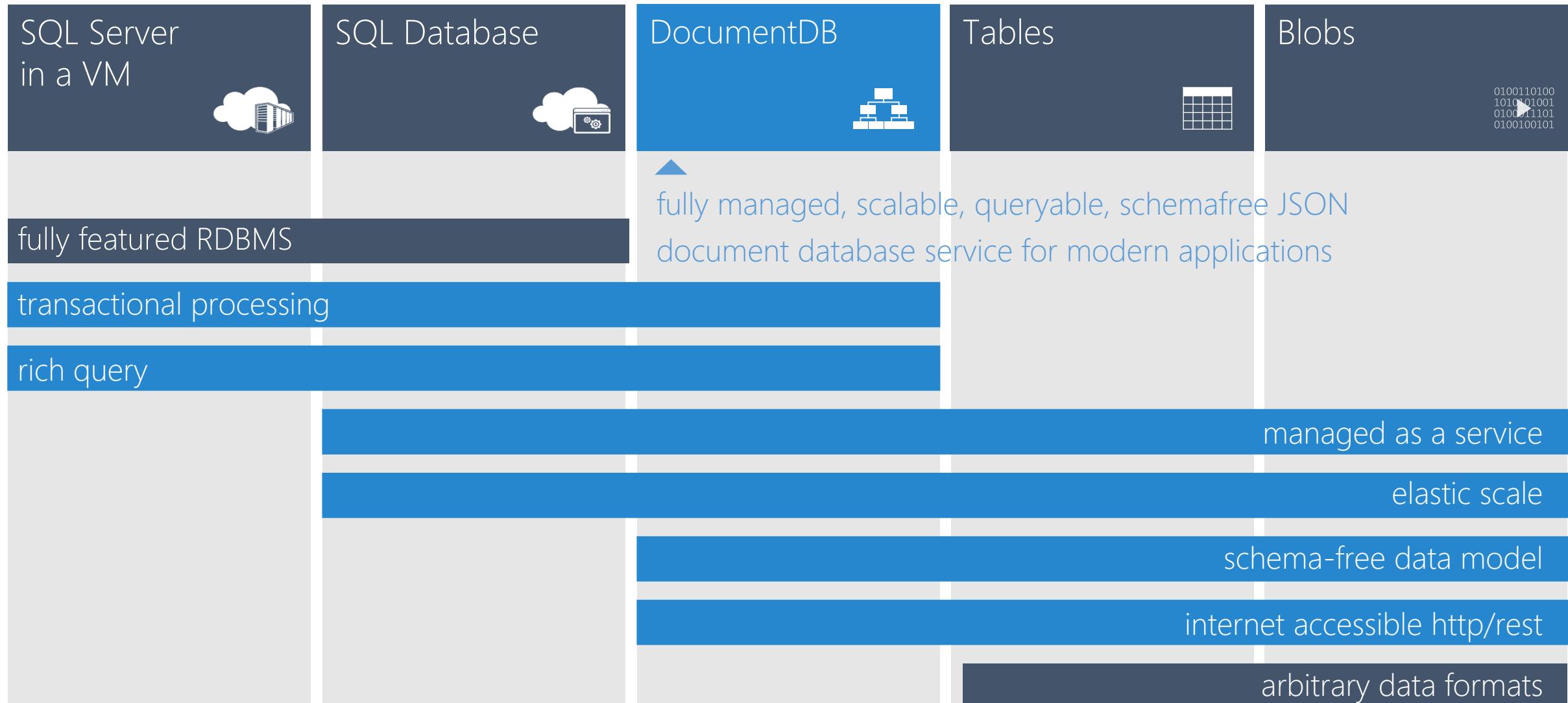


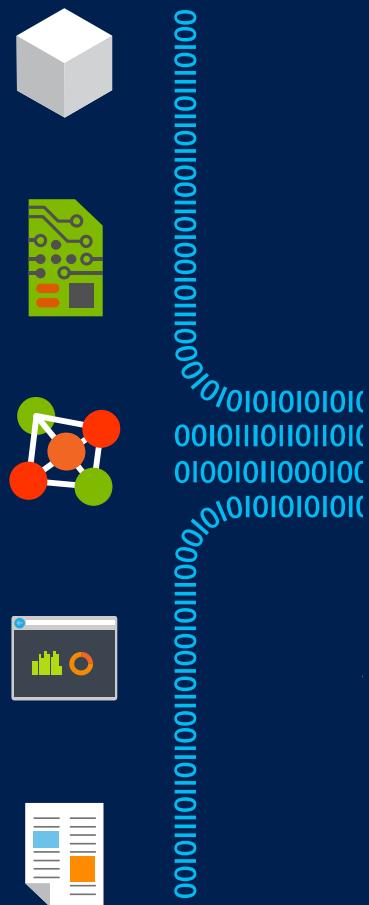
DocumentDB



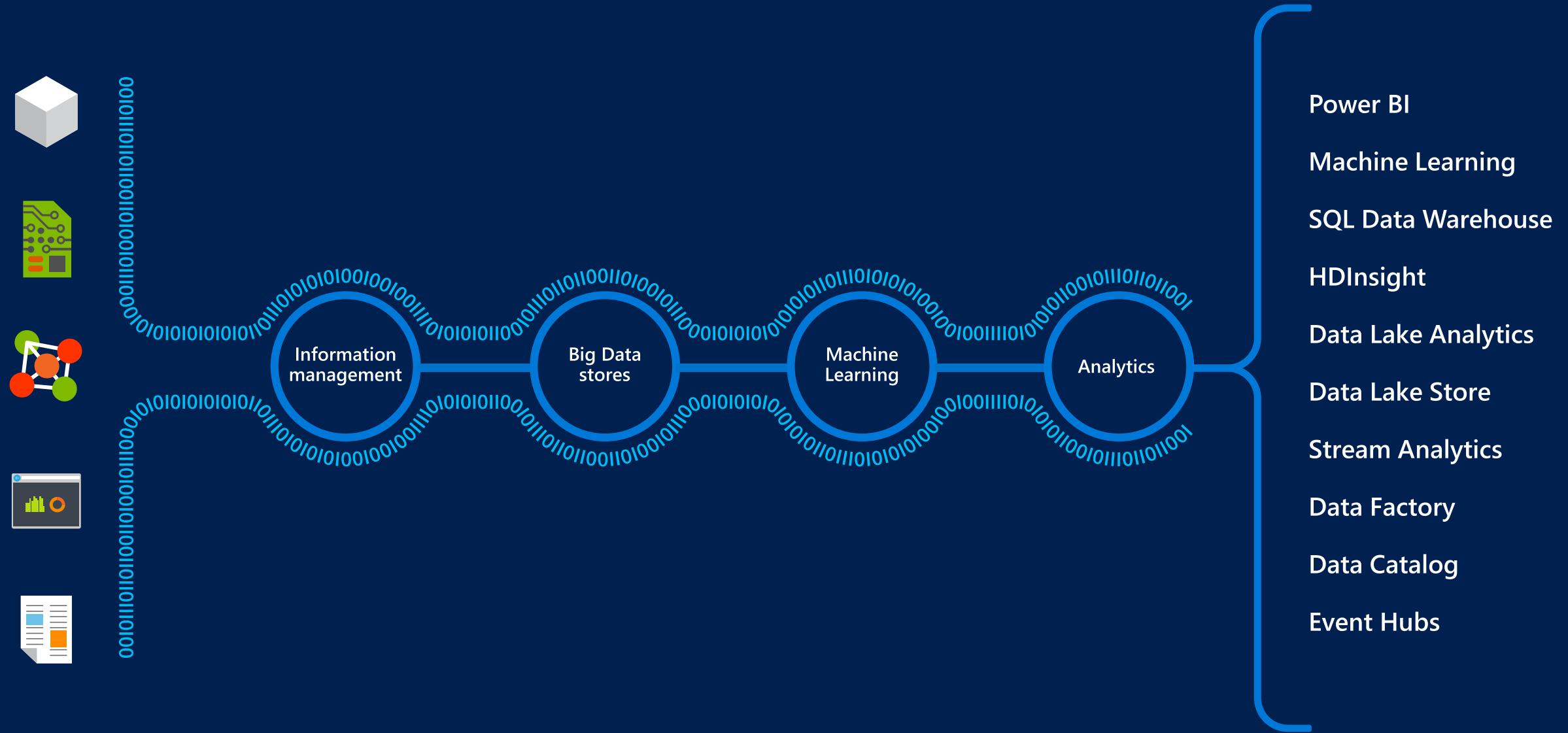
Fully managed, scalable JSON
document database service

Microsoft Azure Data Services



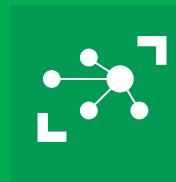


Intelligent
action



Microsoft Azure

INTERNET OF THINGS



IoT Hub



Stream
Analytics



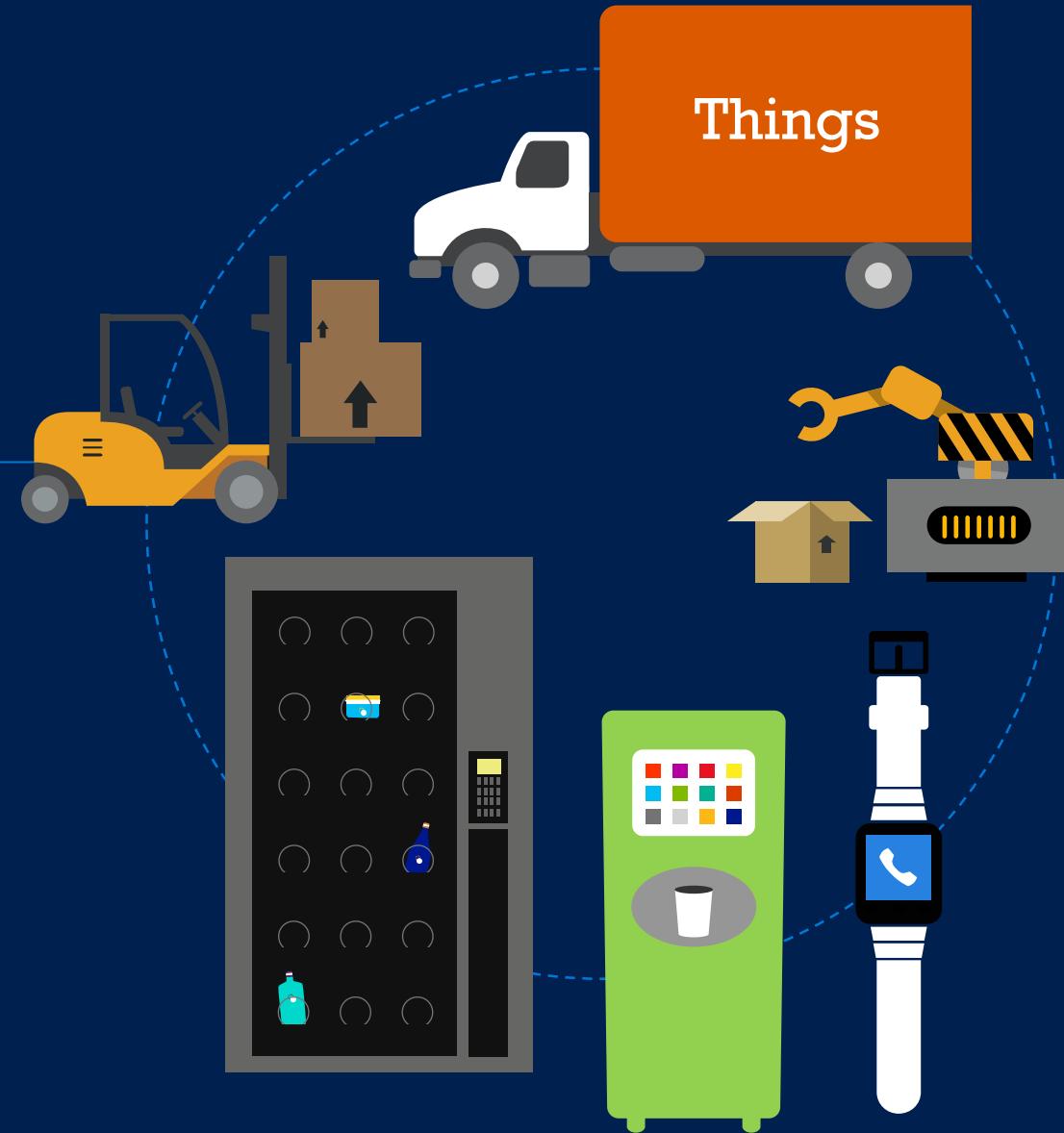
Logic Apps

CLOUD INFRASTRUCTURE

Azure + Azure Stack + Operations Management Suite

Now Available to Purchase Azure IoT Suite

- Device Connectivity and Security
- Data Ingestion and Command & Control
- Stream Processing & Predictive Analytics
- Workflow Automation
- Dashboards and Visualization
- Preconfigured Solutions



InPrivate IoT Device Portal - Dash X +

← → ⌂ 🔒 stevhobiotdemo.azurewebsites.net/Dashboard/Index

Microsoft Azure IoT Suite ① StevehobIoTDemo

stevhob@iots01.onmicrosoft.com ADMINISTRATOR Sign Out

DASHBOARD

DEVICES

RULES

ACTIONS

ADD A DEVICE

Map showing locations in Seattle and Redmond, Washington, with orange markers indicating device locations.

Device to View: SampleDevice001_967

Telemetry History

Humidity ● Temperature

Alarm History

TIME	DEVICE ID	RULE OUTPUT	VALUE
09/26/2015 9:29:01 AM	SampleDevice001_967	AlarmTemp	43.540
09/26/2015 9:29:01 AM	SampleDevice001_967	AlarmHumidity	31.201
09/26/2015 9:27:30 AM	SampleDevice001_967	AlarmTemp	43.848
09/26/2015 9:27:30 AM	SampleDevice001_967	AlarmHumidity	34.283
09/26/2015 9:25:58 AM	SampleDevice001_967	AlarmTemp	43.639
09/26/2015 9:25:58 AM	SampleDevice001_967	AlarmHumidity	32.192
09/26/2015 9:24:26 AM	SampleDevice001_967	AlarmTemp	43.332
09/26/2015 9:24:26 AM	SampleDevice001_967	AlarmHumidity	29.125

Max of device humidity: 41.81

Min of device humidity: 25.88

Average of device humidity: 33.76

Links ▶ 9:30 AM 9/26/2015

Internet of Things

**Rockwell
Automation**



ThyssenKrupp



OPENTEXT™

NASDAQ OMX

EASTMAN

Lufthansa Systems
IT that makes your life easier

 **TELECOM
ITALIA**

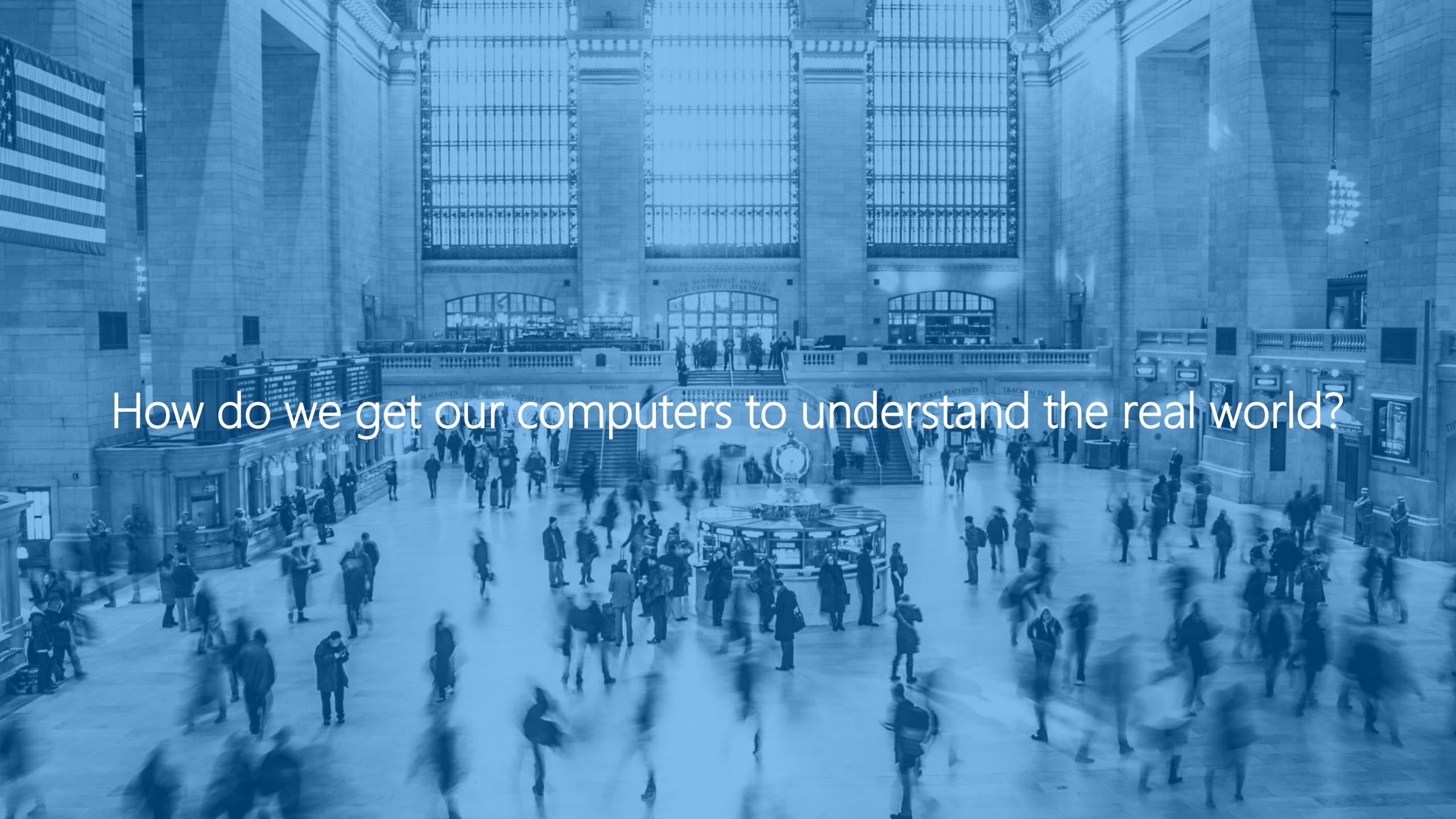
 **CJ E&M**



**SAXO
BANK**



Bots



How do we get our computers to understand the real world?

Conversations as a Platform



People



Digital assistants



Bots

Conversations as a Platform



People
Human language is the new UI



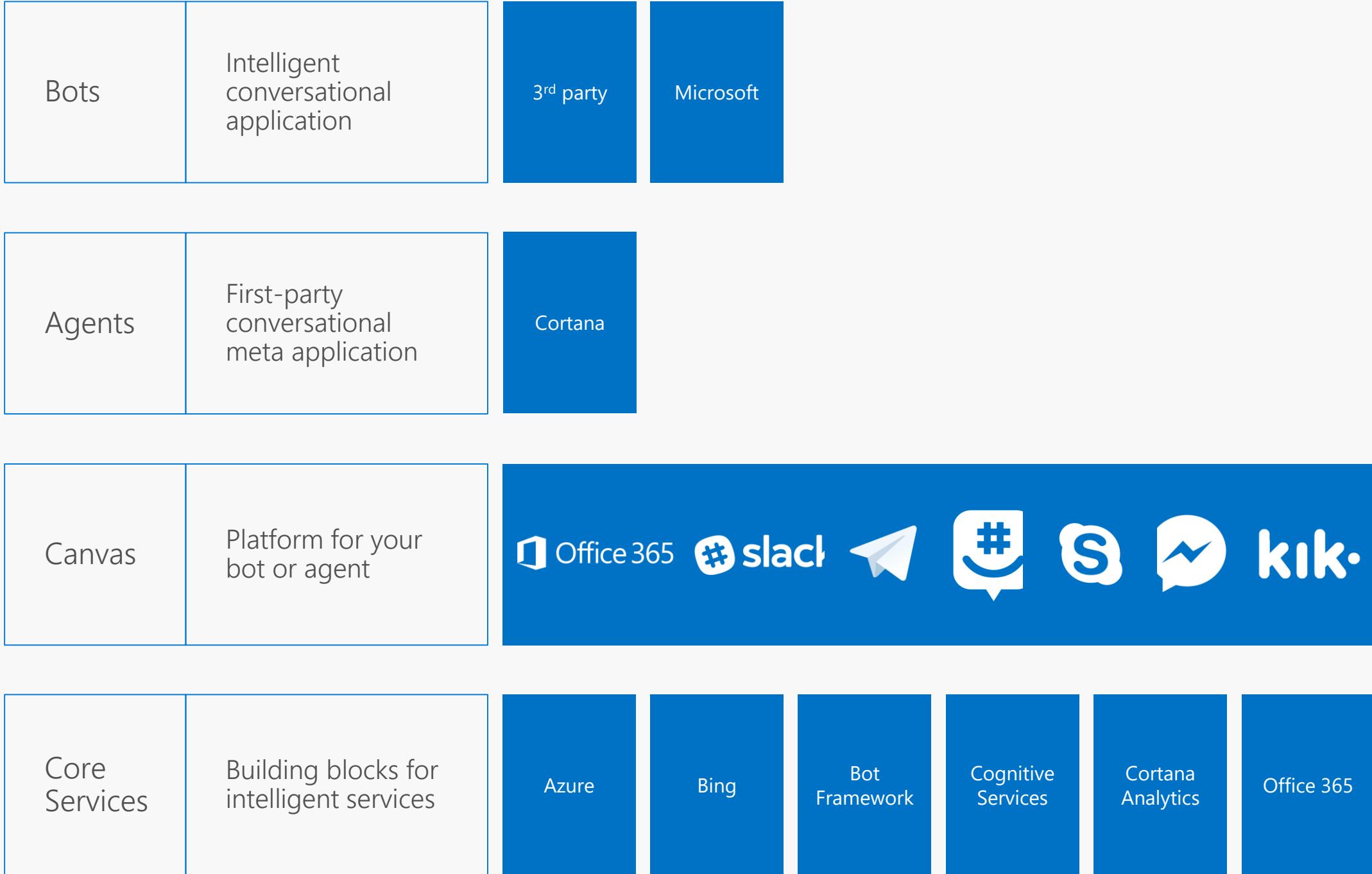
Bots are the new apps;
Digital assistants
digital assistants are meta apps



Intelligence infused into all interactions
Bots

What is a Bot?

CaPTechnology Stack



Cognitive Services

microsoft.com/cognitive

Vision	Speech	Language	Knowledge	Search
Computer Vision	Custom Recognition	Bing Spell Check	Academic Knowledge	Bing Web Search
Emotion	Speaker Recognition	Linguistic Analysis	Entity Linking	Bing Image Search
Face	Speech	Language Understanding	Knowledge Exploration	Bing Video Search
Video	Translator	Text Analytics	Recommendations	Bing News Search
		WebLM		Bing Autosuggest

Bots are apps with a new interface that provide more natural interactions





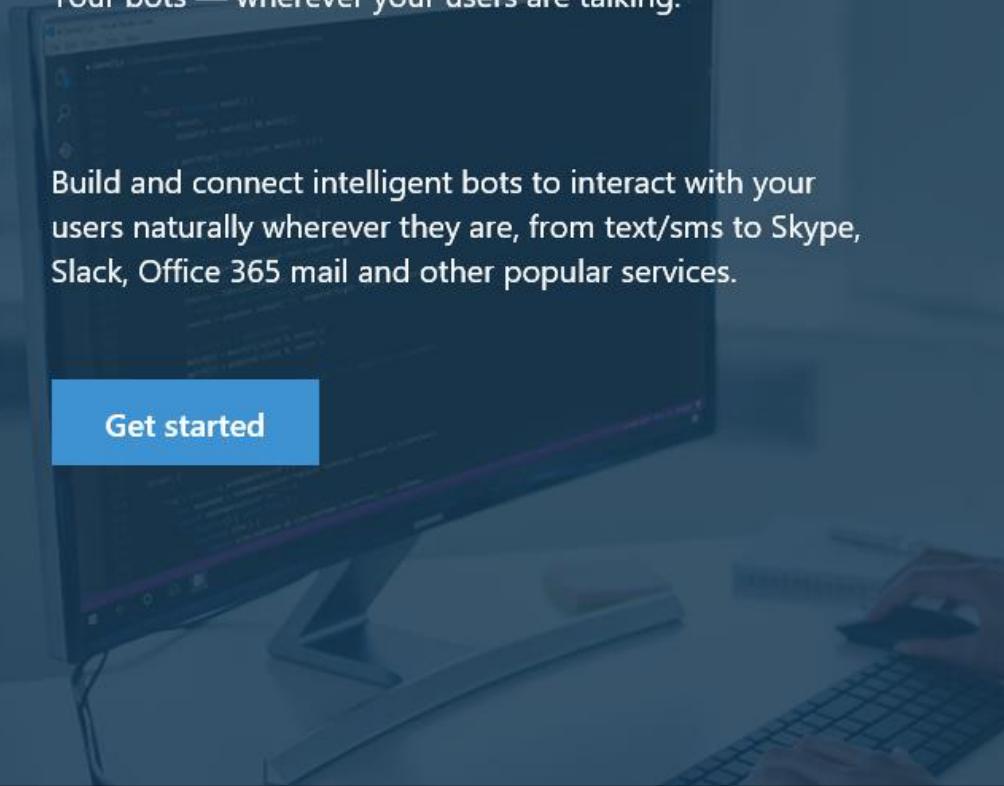
botframework.com

Microsoft Bot Framework

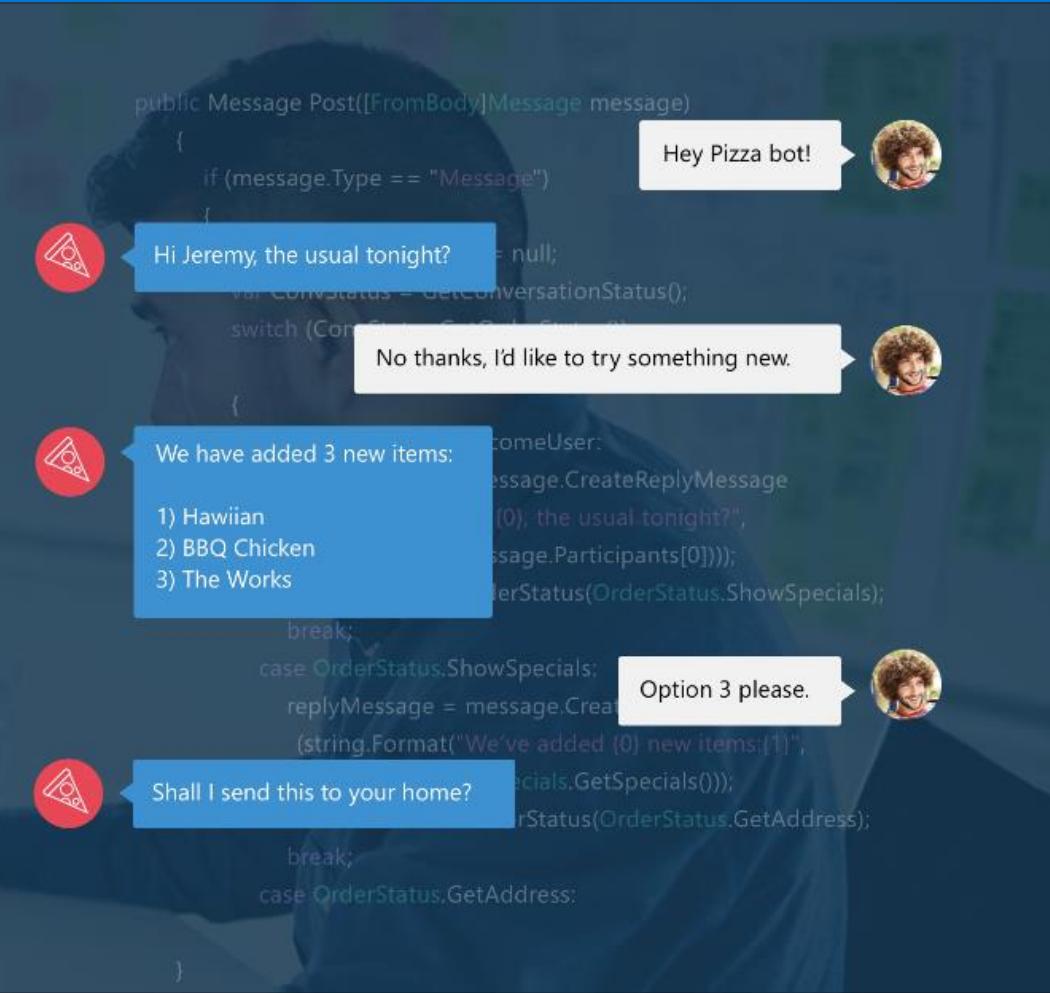
Your bots — wherever your users are talking.

Build and connect intelligent bots to interact with your users naturally wherever they are, from text/sms to Skype, Slack, Office 365 mail and other popular services.

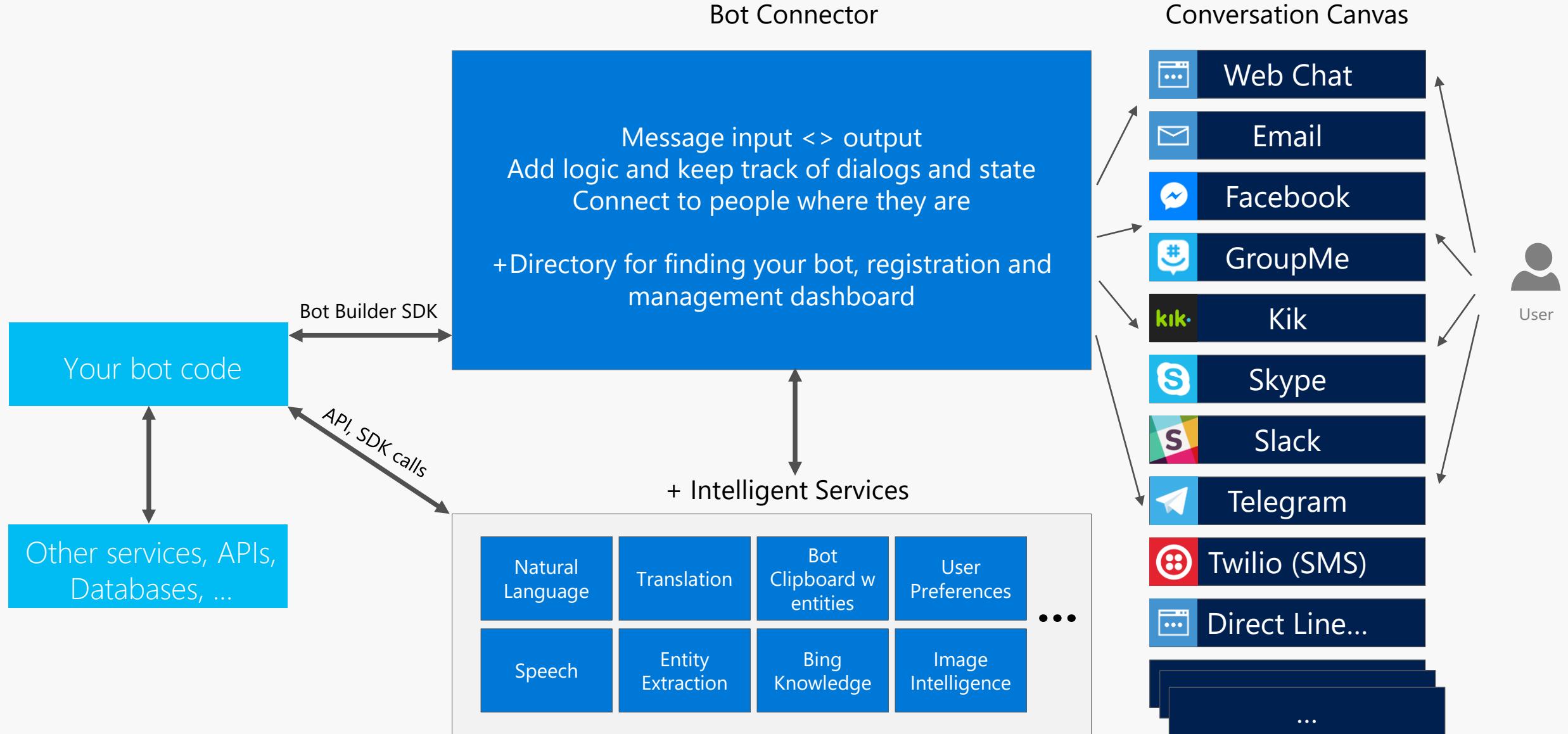
Get started



```
public Message Post([FromBody]Message message)
{
    if (message.Type == "Message")
    {
        Hi Jeremy, the usual tonight?
        var convStatus = GetConversationStatus();
        switch (ConvStatus)
        {
            case ConversationStatus.Normal:
                No thanks, I'd like to try something new.
            case ConversationStatus.NewOrder:
                We have added 3 new items:
                1) Hawlian
                2) BBQ Chicken
                3) The Works
                break;
            case OrderStatus.ShowSpecials:
                replyMessage = message.CreateReplyMessage(
                    "(0), the usual tonight?", 
                    message.Participants[0]));
                OrderStatus(OrderStatus.ShowSpecials);
                break;
            case OrderStatus.GetAddress:
                Shall I send this to your home?
                break;
        }
    }
}
```



www.botframework.com





Imagine what's possible...



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