

Azure Discovery Day: PaaS

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Why the cloud?

- Rapidly setup environments to drive business priorities
- Scale to meet peak demands
- Increase daily activities, efficiency and reduced cost.

Why the cloud?



SaaS Solutions

+

Cloud Infrastructure

+

Higher-level services

DIFFERENTIATION

AGILITY

COST

Leading the journey to the Cloud





Microsoft
Dynamics



Microsoft Enterprise Mobility Suite

Leading the journey to the Cloud

SAAS SOLUTIONS	 Office 365 Microsoft Dynamics  Power BI
ENTERPRISE MOBILITY	Microsoft Enterprise Mobility Suite
Microsoft Azure	
DEVELOPER + APP PLATFORM	Visual Studio Family + Azure App Service
DATA + ANALYTICS	Cortana Analytics Suite
INTERNET OF THINGS	Azure IoT Suite
CLOUD INFRASTRUCTURE	Azure + Azure Stack + Operations Management Suite

28

Azure regions
Hyper-scale
around the world
footprint

More than AWS and
Google Cloud combined

● AZURE REGIONS



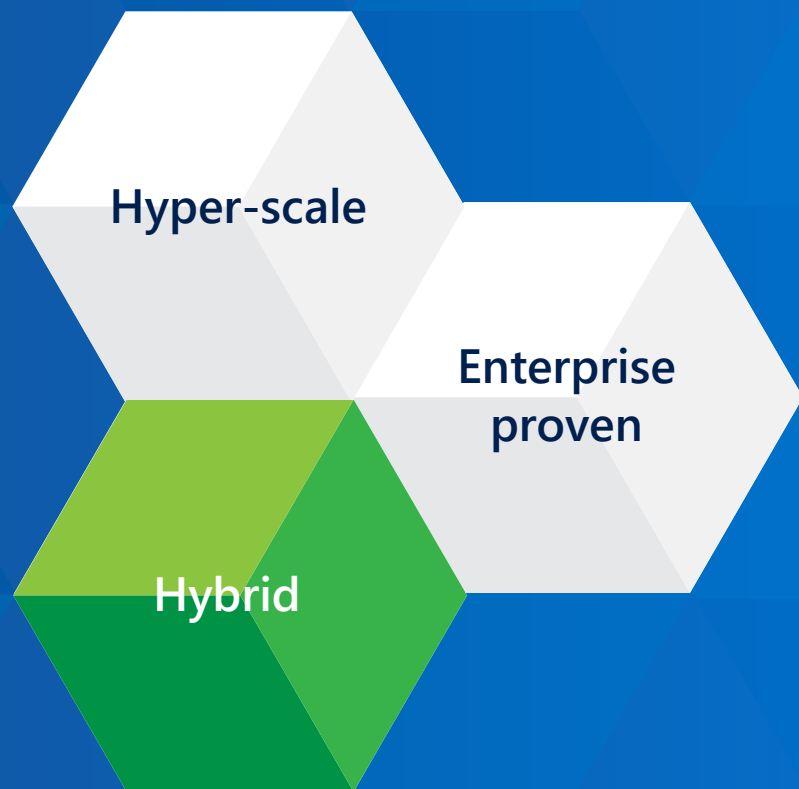


Hyper-scale

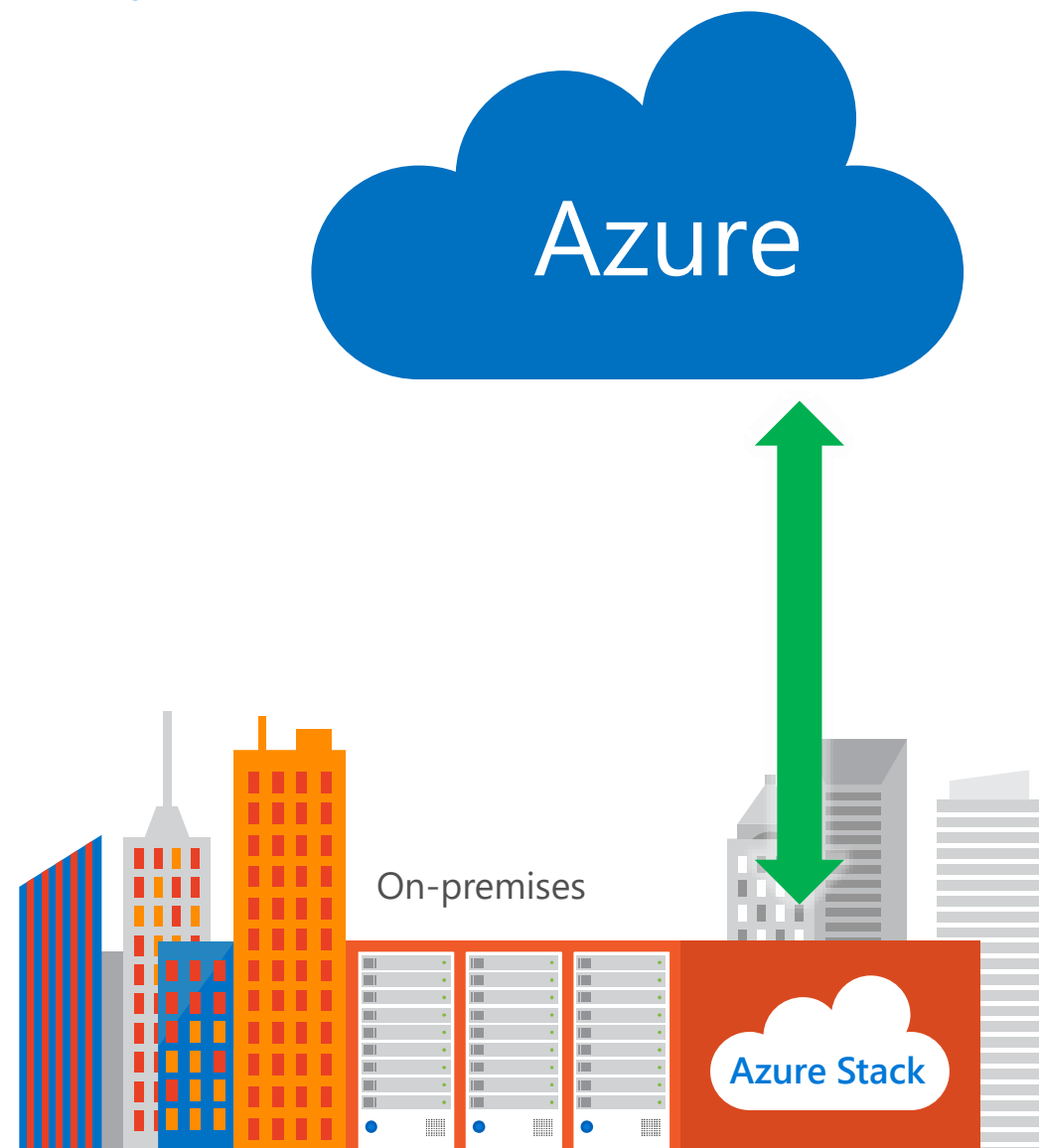
Enterprise
proven

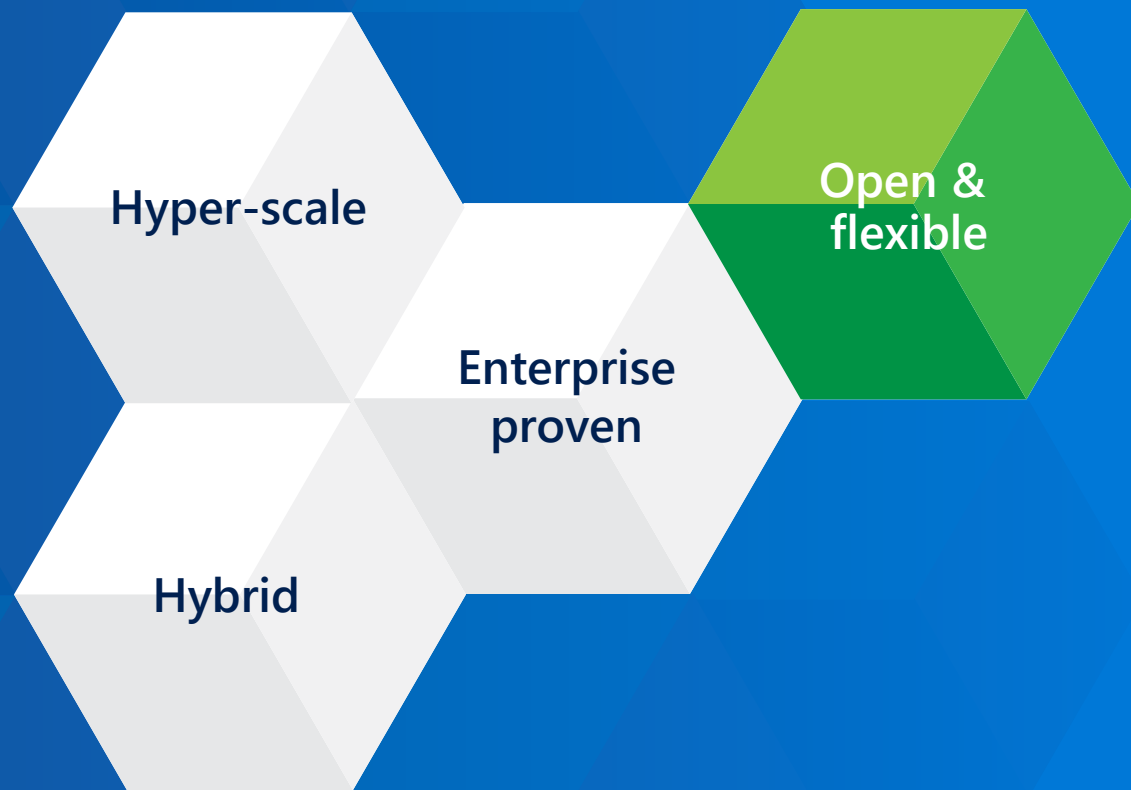
Hybrid

Azure



Hybrid





Open + Flexible

Management



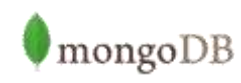
Applications



App Frameworks



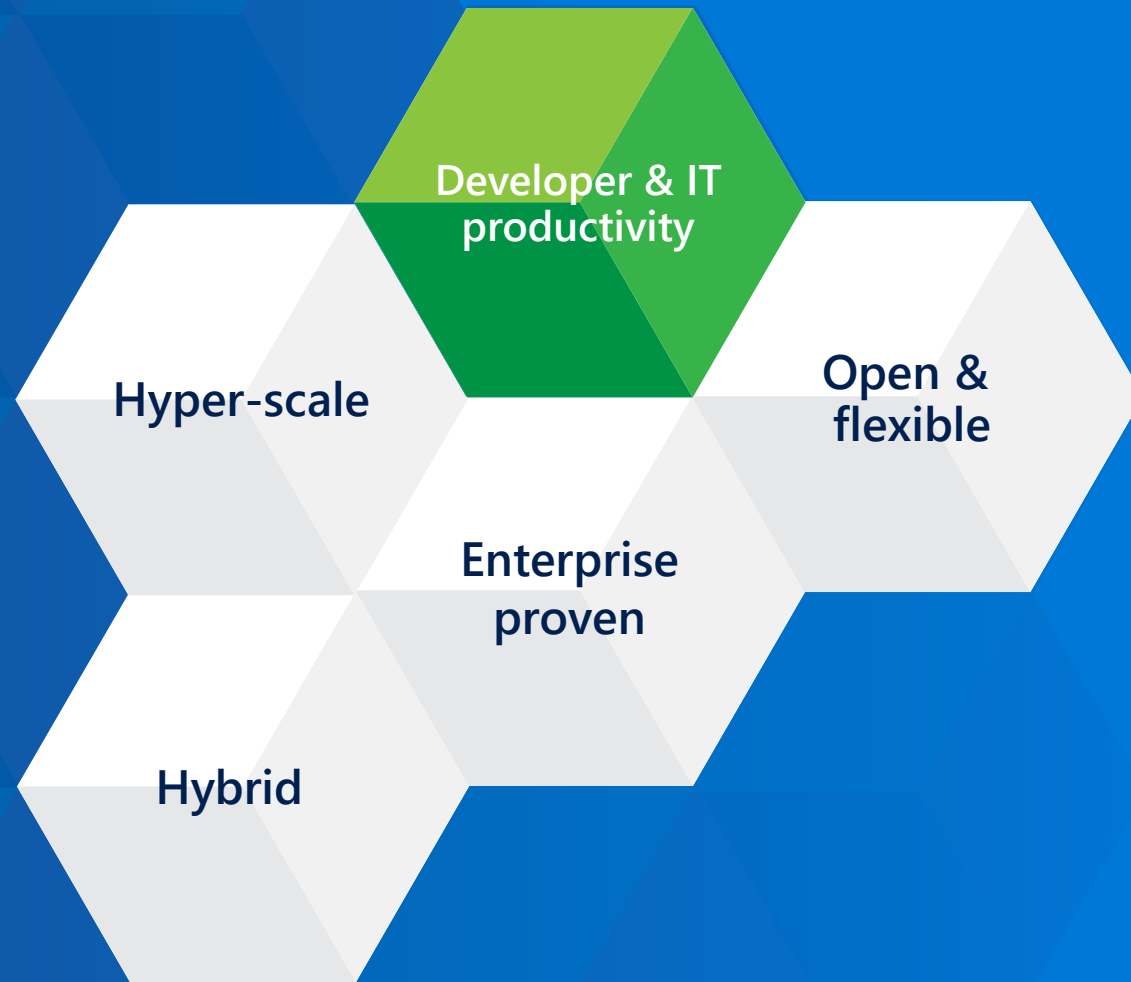
Databases & Middleware



Infrastructure



Dev + IT productivity



Visual Studio



GitHub



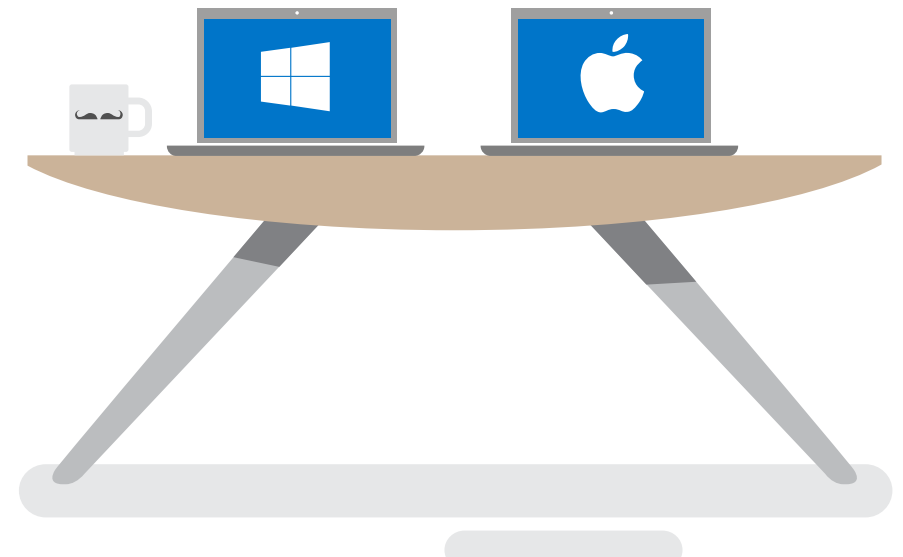
Eclipse

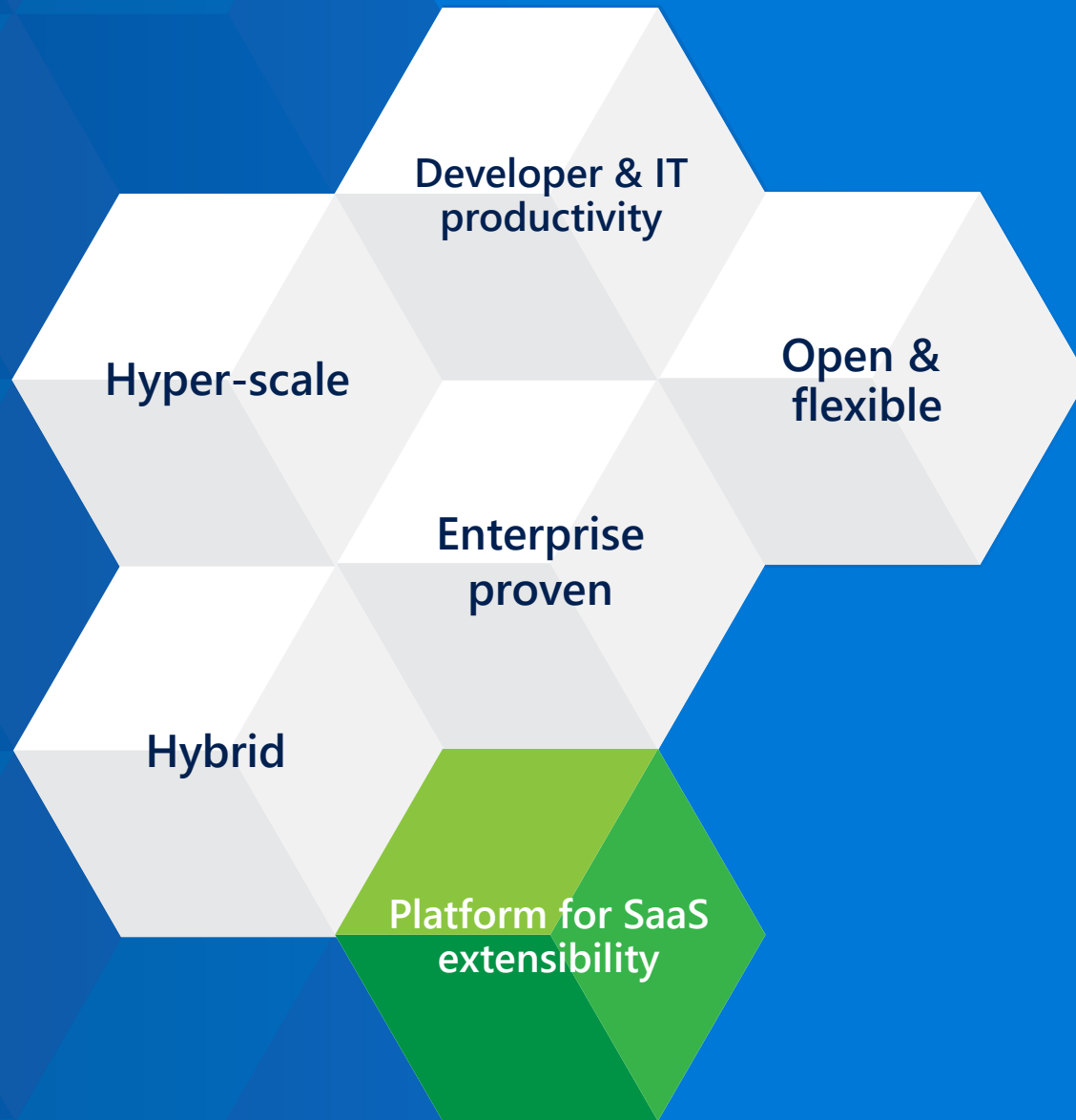


Chef + Puppet

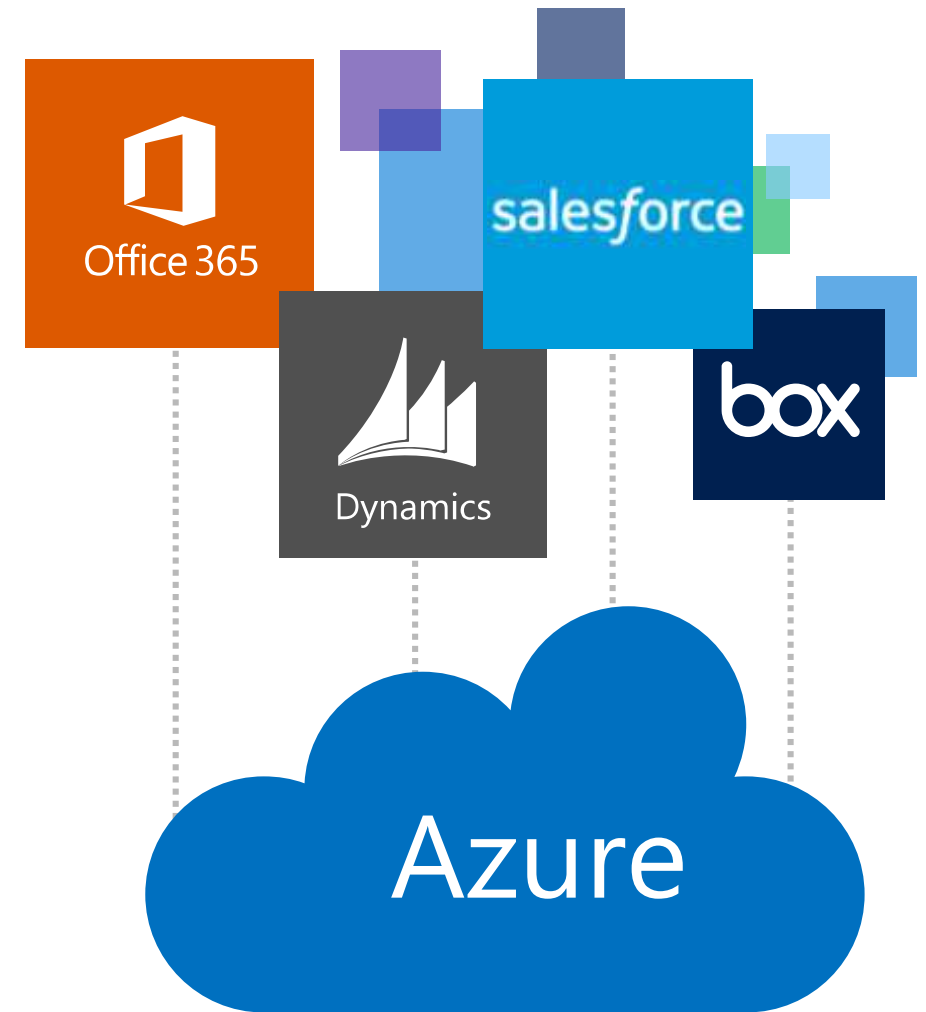


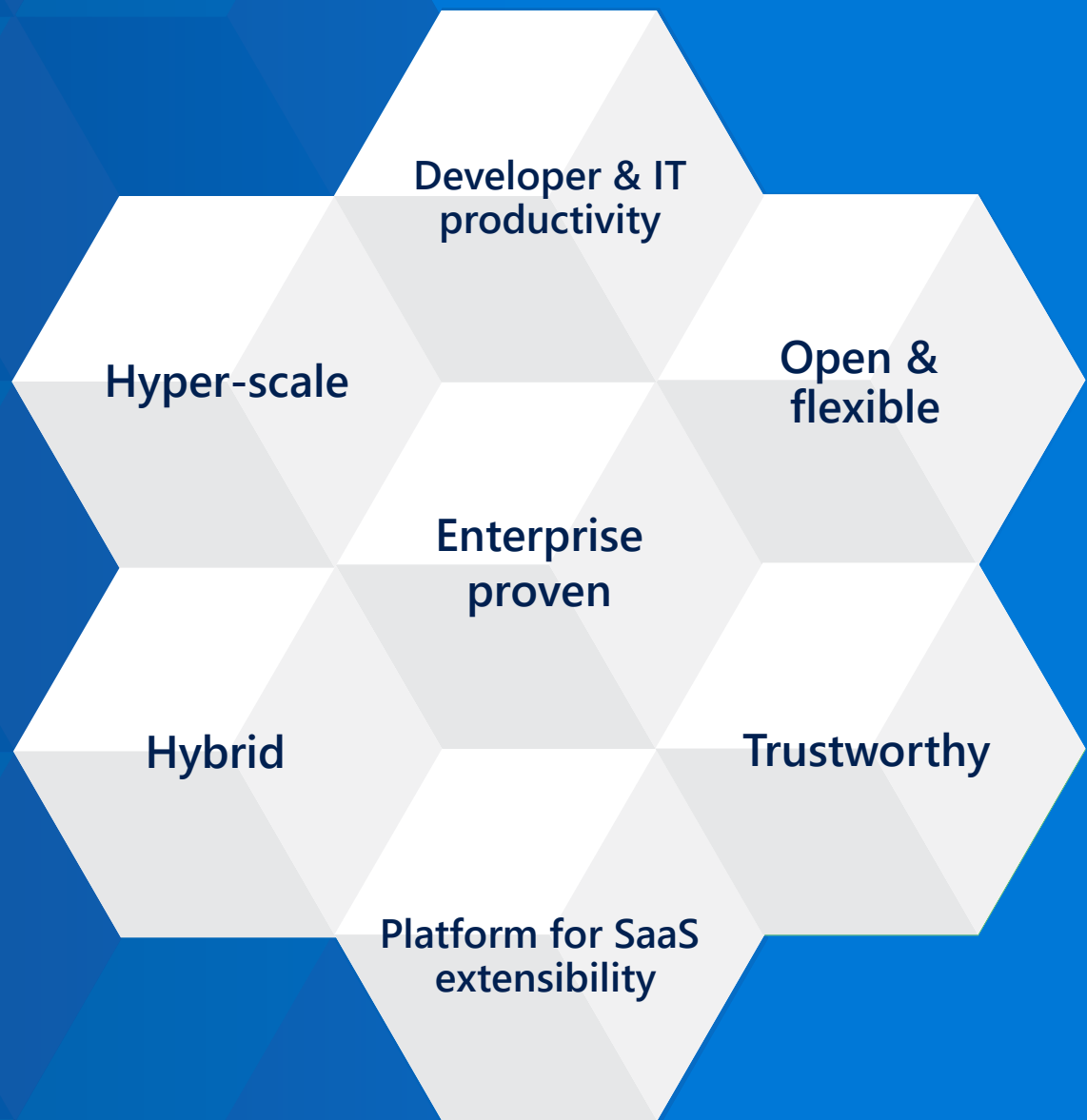
Powershell





SaaS extensibility





Trustworthy

More compliance certifications
than any other cloud



> 90,000

New Azure customer
subscriptions/month

> 1.5 Million

SQL Databases
running on Azure

> 500 Million

Users in
Azure Active Directory

Azure momentum

1.5 Trillion

Messages per month
processed by Azure IoT

777 Trillion

Storage Transactions
per day

> 40%

Revenue from
Start-ups and ISVs

> 80%

of Fortune 500 use
the Microsoft Cloud



Leading the journey to the Cloud

Microsoft Azure

DEVELOPER + APP PLATFORM

Visual Studio Family + Azure App Service

DATA + ANALYTICS

Cortana Analytics Suite

INTERNET OF THINGS

Azure IoT Suite





CLOUD INFRASTRUCTURE

Azure + Azure Stack + Operations Management Suite

Microsoft Azure

CLOUD INFRASTRUCTURE





Compute

-  Virtual Machines
-  Containers
-  Remote App
-  Batch








Storage

-  Blob Storage
-  Azure Files
-  Premium Storage








Security + Management

-  Active Directory
-  Multi-Factor Auth
-  Automation
-  Key Vault

Networking

-  Express Route
-  Virtual Network
-  Load Balancer
-  DNS
-  Traffic Manager
-  VPN Gateway
-  Application Gateway

Hybrid Operations

-  Azure AD Connect Health
-  AD Privileged Identity Mgmt
-  Backup
-  Operational Insights
-  Import/Export
-  StorSimple
-  Site Recovery

Getting started



Management portal



Scripting
(Windows, Linux and Mac)



REST API



Comprehensive
Networking

Select image and VM size



Windows Server



Linux

General Purpose

Basic

Standard

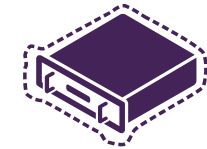
Optimized Compute

Performance Optimized

Network Optimized

New disk persisted in storage

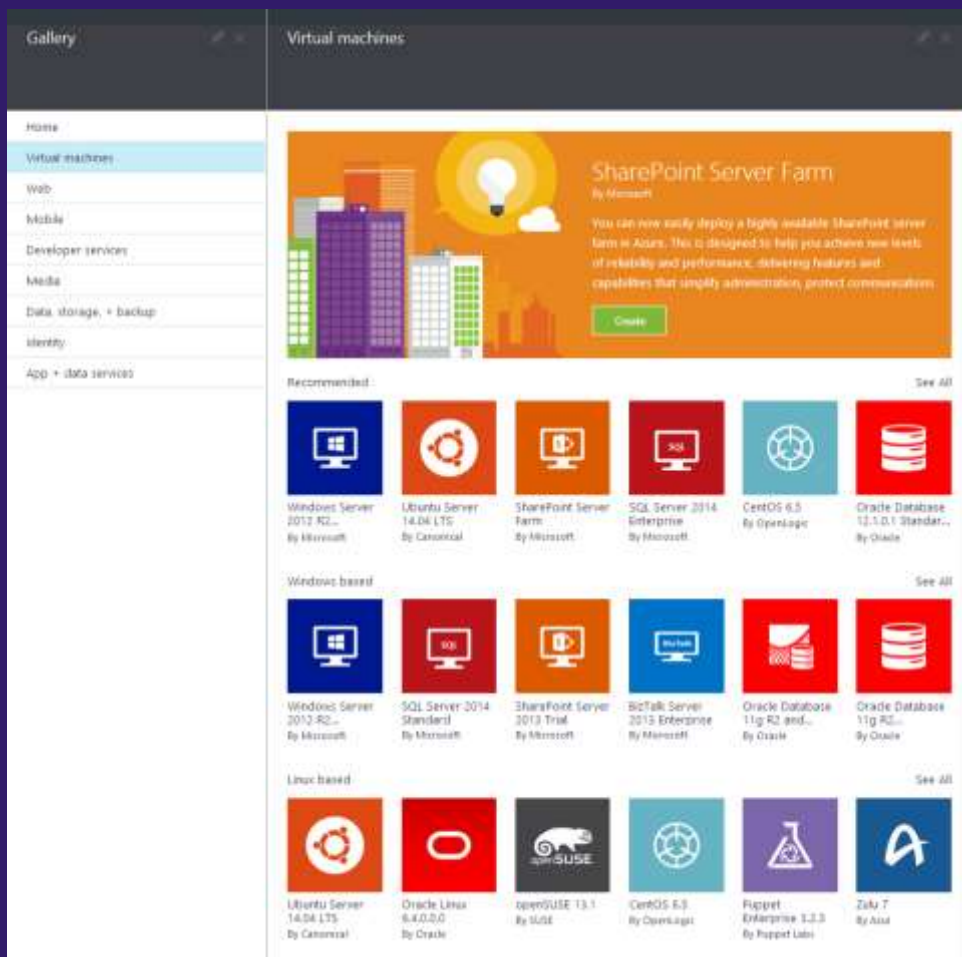
Boot VM from new disk



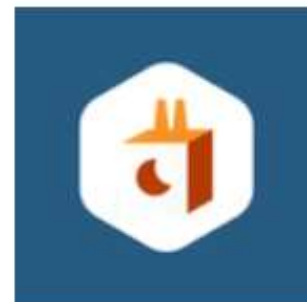
Cloud

Virtual Machines

Microsoft Azure Certified



Barracuda Web
Application
By Barracuda



DreamFactory 1.6
By Bitnami



SAP HANA
Developer Edition
By SAP



Riverbed
SteelHead CX 8.6
By Riverbed Techno...



Oracle Database
12.1.0.1 Enterprise
By Oracle

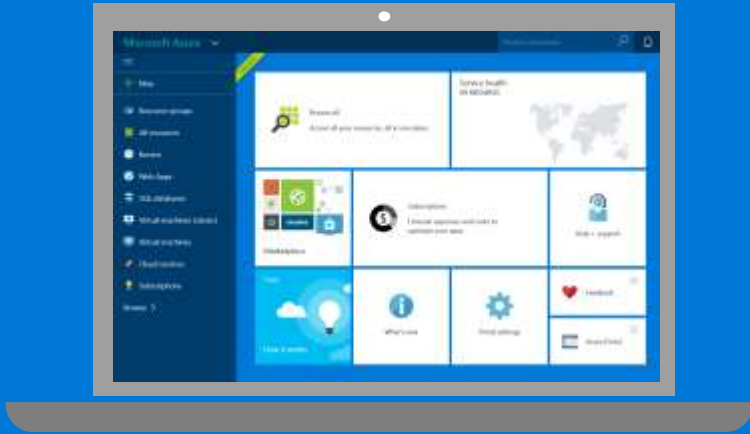


Zulu 7
By Azul

Demo: Azure Portal

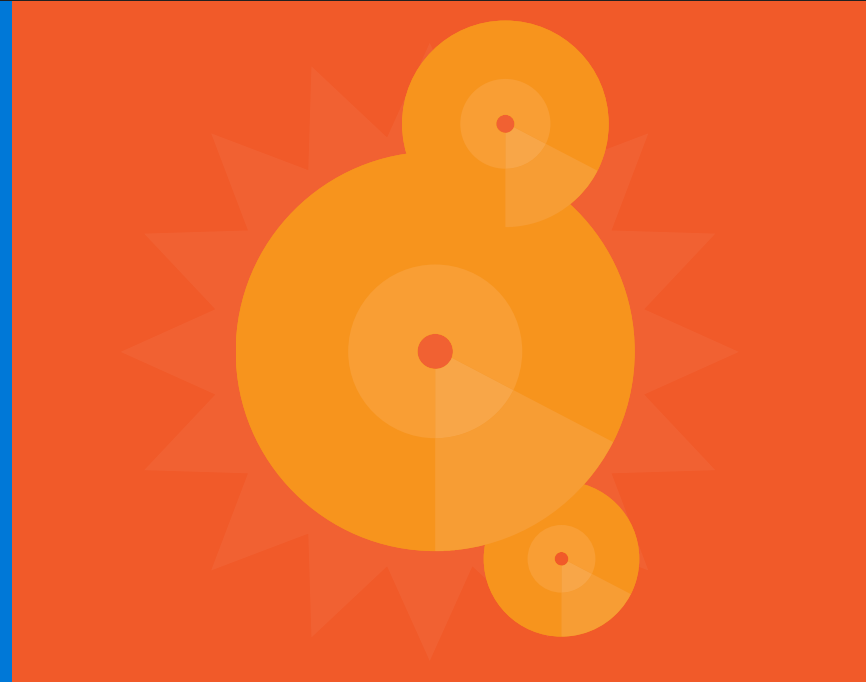


Great Infrastructure Enhancements



End to End Management

- Integrated management portal
- Application Templates
- Lifecycle Management
- Role Based Access Control
- Billing API



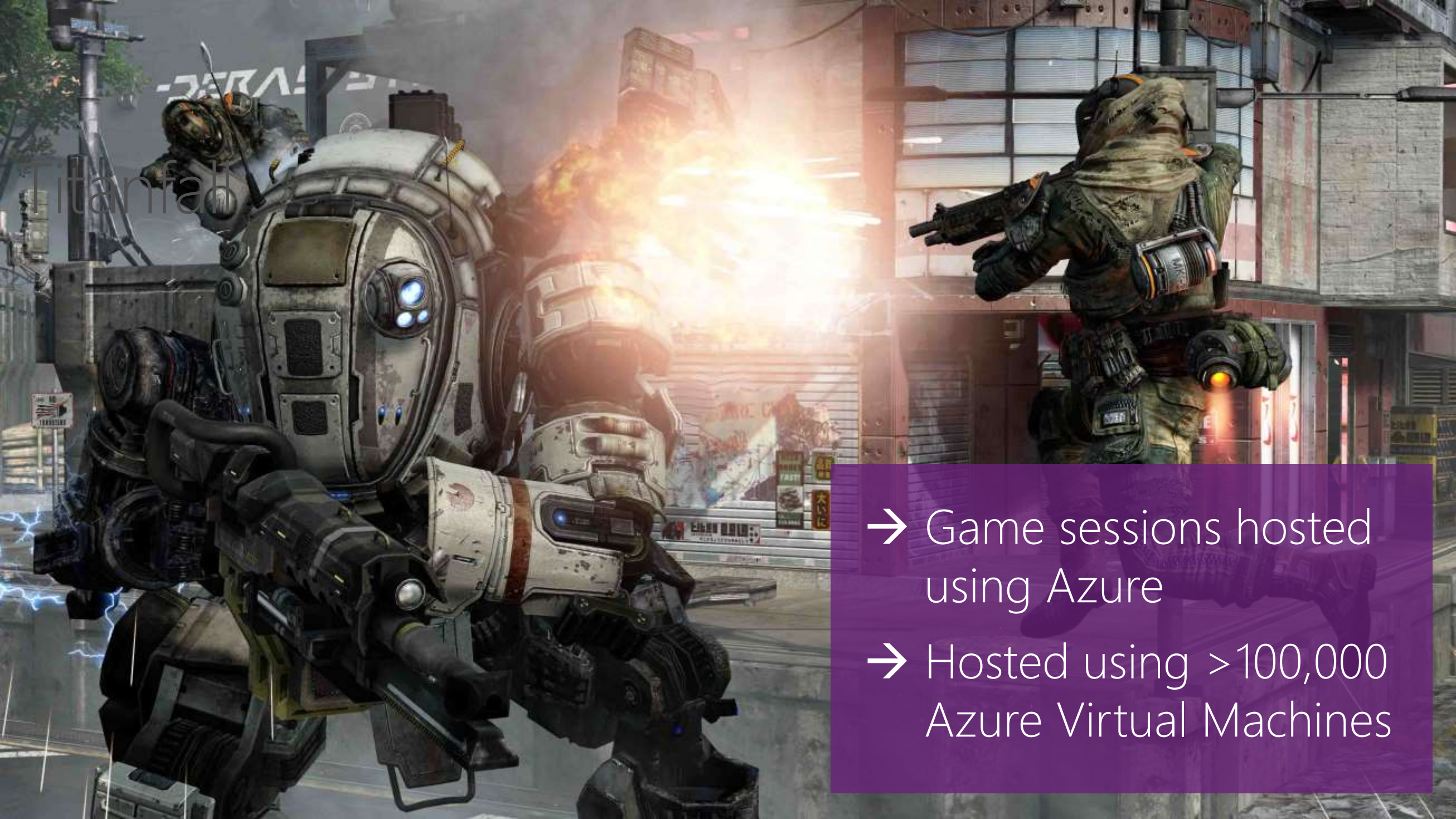
Premium Storage

- Up to 64 TB of storage per VM
- >80,000 IOPS per VM
- Less than 1ms read latency



Largest VMs in Public Cloud

- Optimized for data workloads
- Up to 32 CPU cores, 450 GB RAM, 6.5 TB local SSD
- Latest generation Intel processor

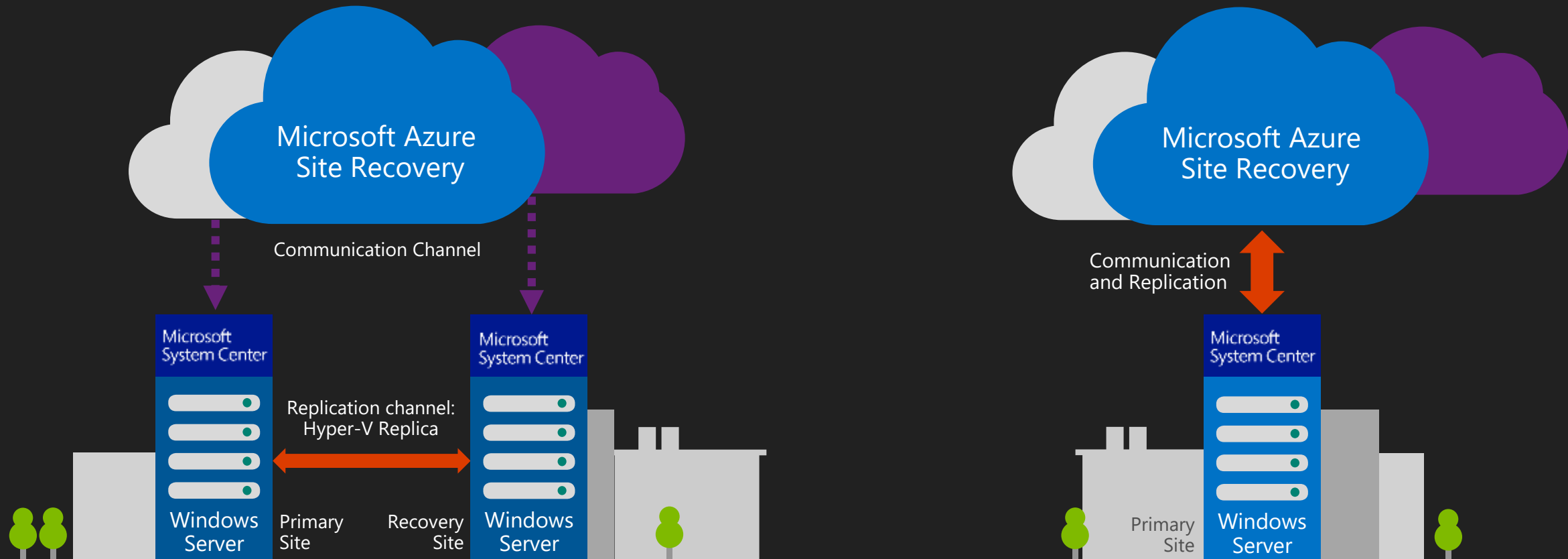


Titanfall

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

Microsoft Azure Site Recovery

Orchestrated disaster recovery to a second site or to Azure








Automated VM protection and replication
Remote health monitoring
Customizable recovery plans

No-impact recovery plan testing
Orchestrated recovery when needed



Microsoft Azure Leading 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

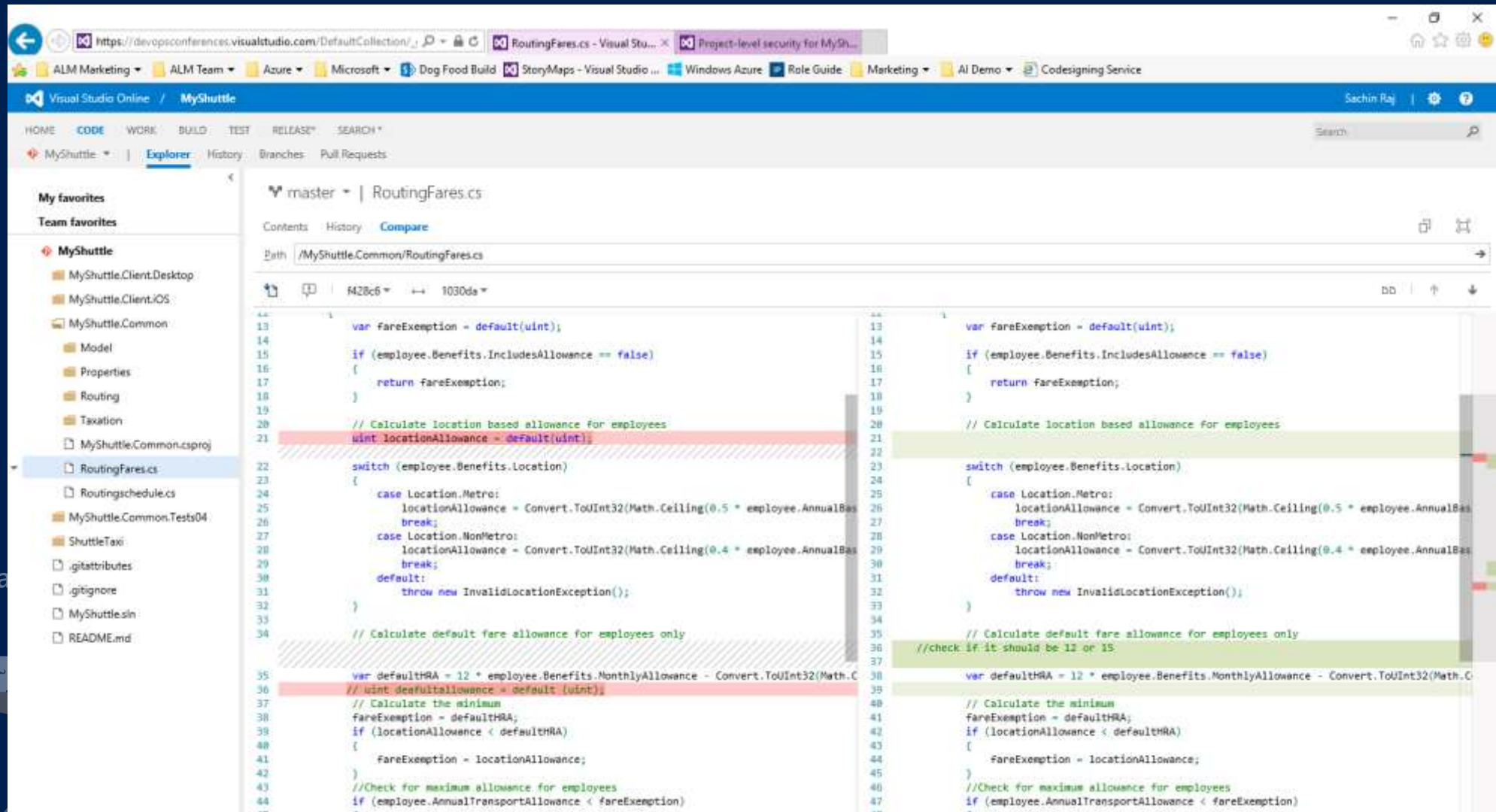
-  Content Delivery Network
-  Media Services

CLOUD INFRASTRUCTURE

Azure + Azure Stack + Operations Management Suite

Agility

Visual Studio Online: Code Repository



The screenshot displays the Visual Studio Online web interface. The top navigation bar includes links for HOME, CODE, WORK, BUILD, TEST, and RELEASE. The left sidebar shows the 'MyShuttle' project structure with folders like MyShuttle.Client.Desktop, MyShuttle.Client.iOS, MyShuttle.Common, Model, Properties, Routing, Taxation, and files like MyShuttle.Common.csproj, RoutingFares.cs, RoutingSchedule.cs, MyShuttle.Common.Tests04, ShuttleTaxi, .gitattributes, .gitignore, MyShuttlesin, and README.md. The main area shows a code comparison for 'RoutingFares.cs' between two versions: 1428c6 and 1030da. The code is written in C# and includes comments and logic for calculating location-based allowance and default fare allowance for employees. The comparison highlights changes in the code, with the left side showing the original code and the right side showing the modified code.

```
var fareExemption = default(uint);
if (employee.Benefits.IncludesAllowance == false)
{
    return fareExemption;
}

// Calculate location based allowance for employees
uint locationAllowance = default(uint);
switch (employee.Benefits.Location)
{
    case Location.Metro:
        locationAllowance = Convert.ToInt32(Math.Ceiling(0.5 * employee.AnnualBas));
        break;
    case Location.NonMetro:
        locationAllowance = Convert.ToInt32(Math.Ceiling(0.4 * employee.AnnualBas));
        break;
    default:
        throw new InvalidLocationException();
}

// Calculate default fare allowance for employees only
var defaultHRA = 12 * employee.Benefits.MonthlyAllowance - Convert.ToInt32(Math.C);
// uint defaultAllowance = default(uint);
// Calculate the minimum
fareExemption = defaultHRA;
if (locationAllowance < defaultHRA)
{
    fareExemption = locationAllowance;
}
//Check for maximum allowance for employees
if (employee.AnnualTransportAllowance < fareExemption)
```

Visual Studio Online: Build + Deploy

The screenshot displays the Visual Studio Online (VSO) Build and Release interface for a project named "MyShuttle". The browser address bar shows the URL: <https://devopsconferences.visualstudio.com/DefaultCollection/fv>. The top navigation bar includes tabs for HOME, CODE, WORK, BUILD, TEST, and RELEASE*, along with a SEARCH* button. The left sidebar contains a "Definitions" section with a search bar and a list of build definitions under "My favorites", "Team favorites", "Build definitions", and "XAML definitions". The "Build definitions" list includes "MyShuttle.Net", "MyShuttle.Java", "MyShuttle.Android", and "MyShuttle.iOS". The "XAML definitions" list includes "MyShuttle-DailyBuild".

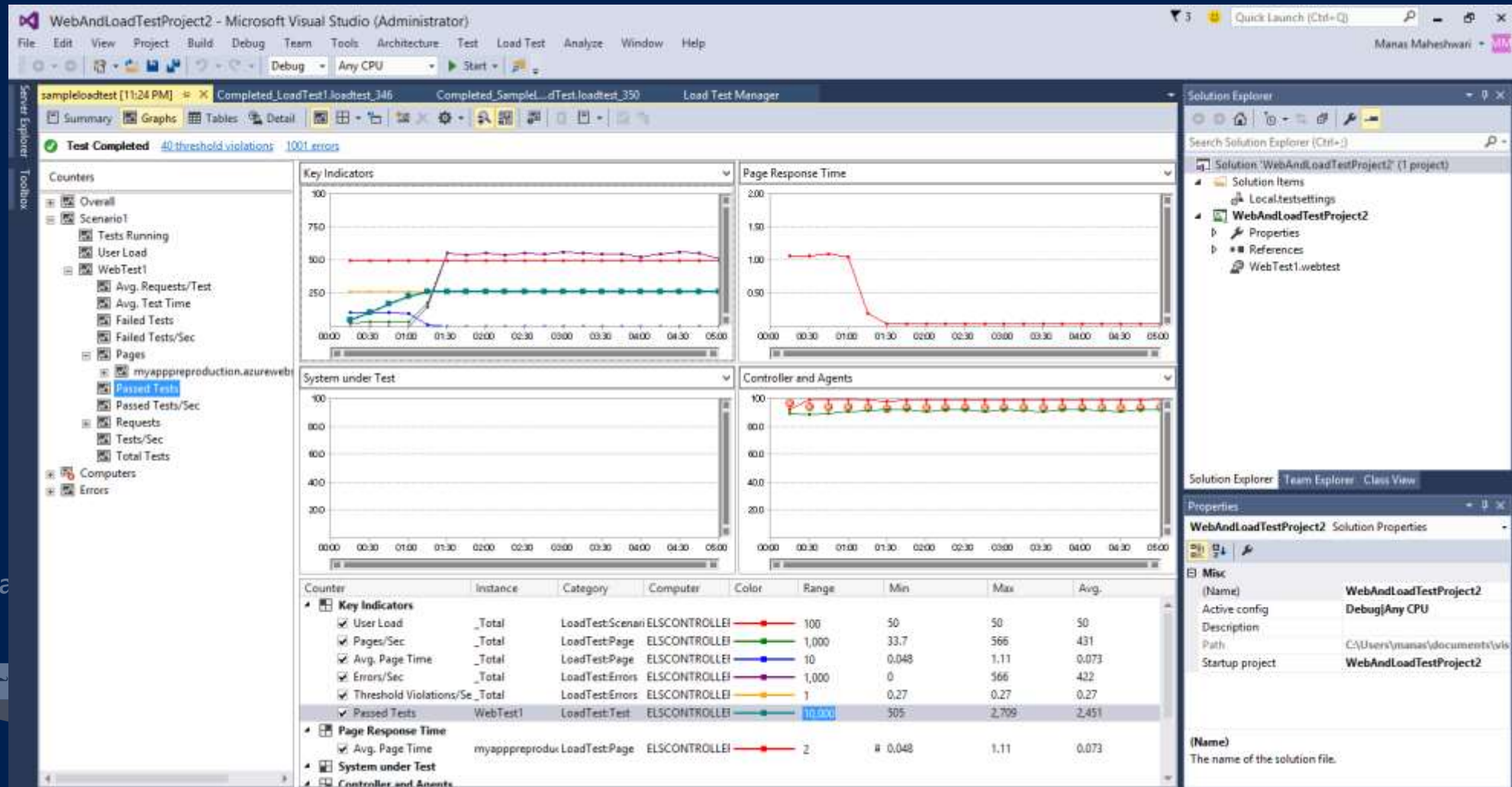
The main content area shows the "Definitions / MyShuttle-Android | Builds" page. The "Build" tab is selected, and the "Add build step..." button is visible. A list of build steps is shown, including "Xamarin License", "Android Build", "Android Signing", "NuGet Installer", "MSBuild", "Xamarin License", "Xamarin Test Cloud", and "Publish Build Artifacts". The "Android Signing" step is selected, and its configuration is displayed in the right-hand pane.

The "Android Signing" step configuration includes the following options:

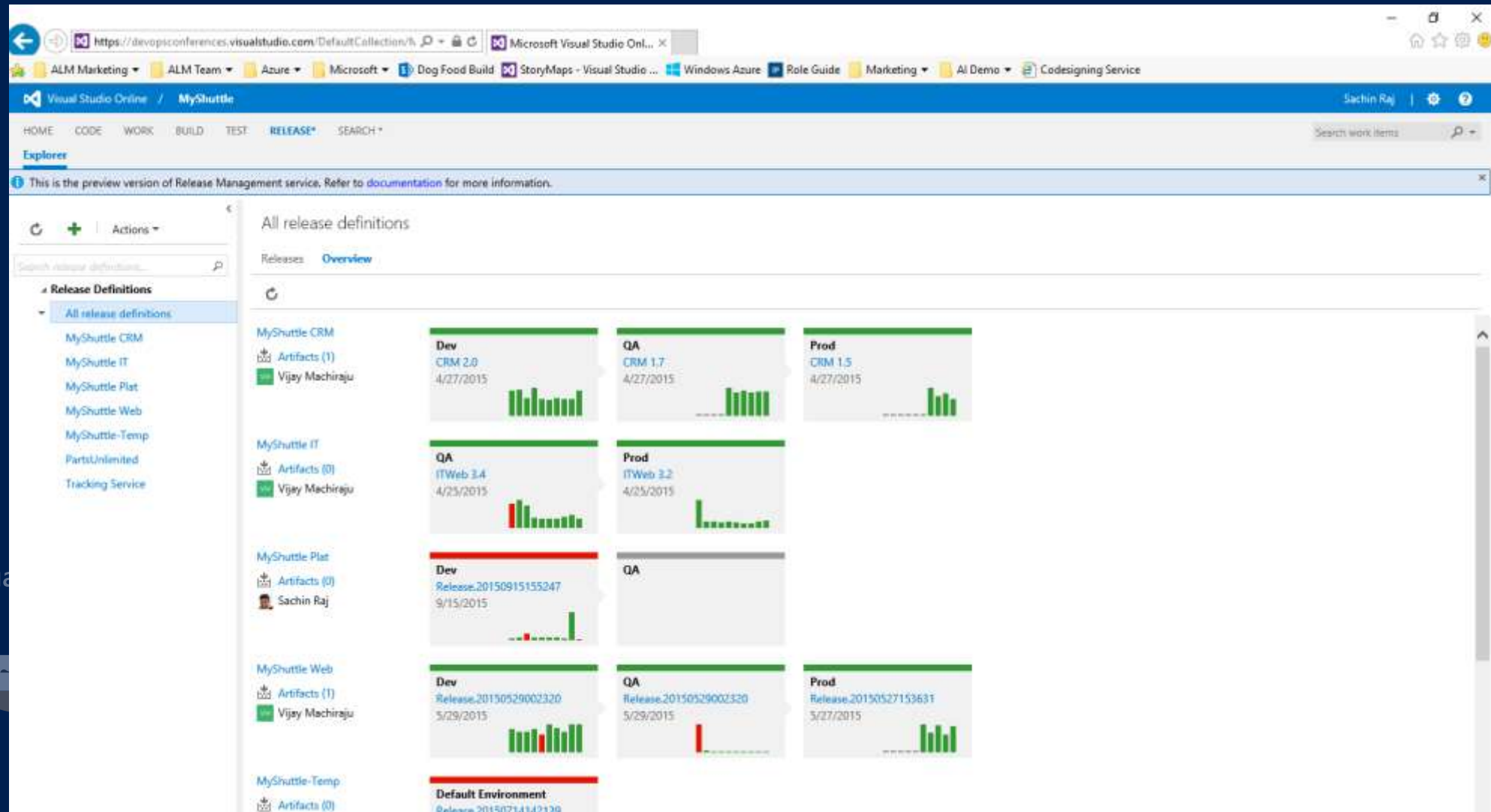
- APK Files:** \MyShuttle.Android\Myshuttle.apk
- Jarsigner Options:**
 - Sign the APK: ☒
 - Keystore File: .keystore
 - Keystore Password:
 - Alias:
 - Key Password:
 - Jarsigner Arguments: -verbose -sigalg MD5withRSA -digestalg SHA1
- Zipalign Options:**
 - Zipalign: ☒
 - Zipalign Location:
- Control Options:**
 - Enabled: ☒
 - Continue on error: ☐
 - Always run: ☐

A "More Information" link is located at the bottom of the configuration pane.

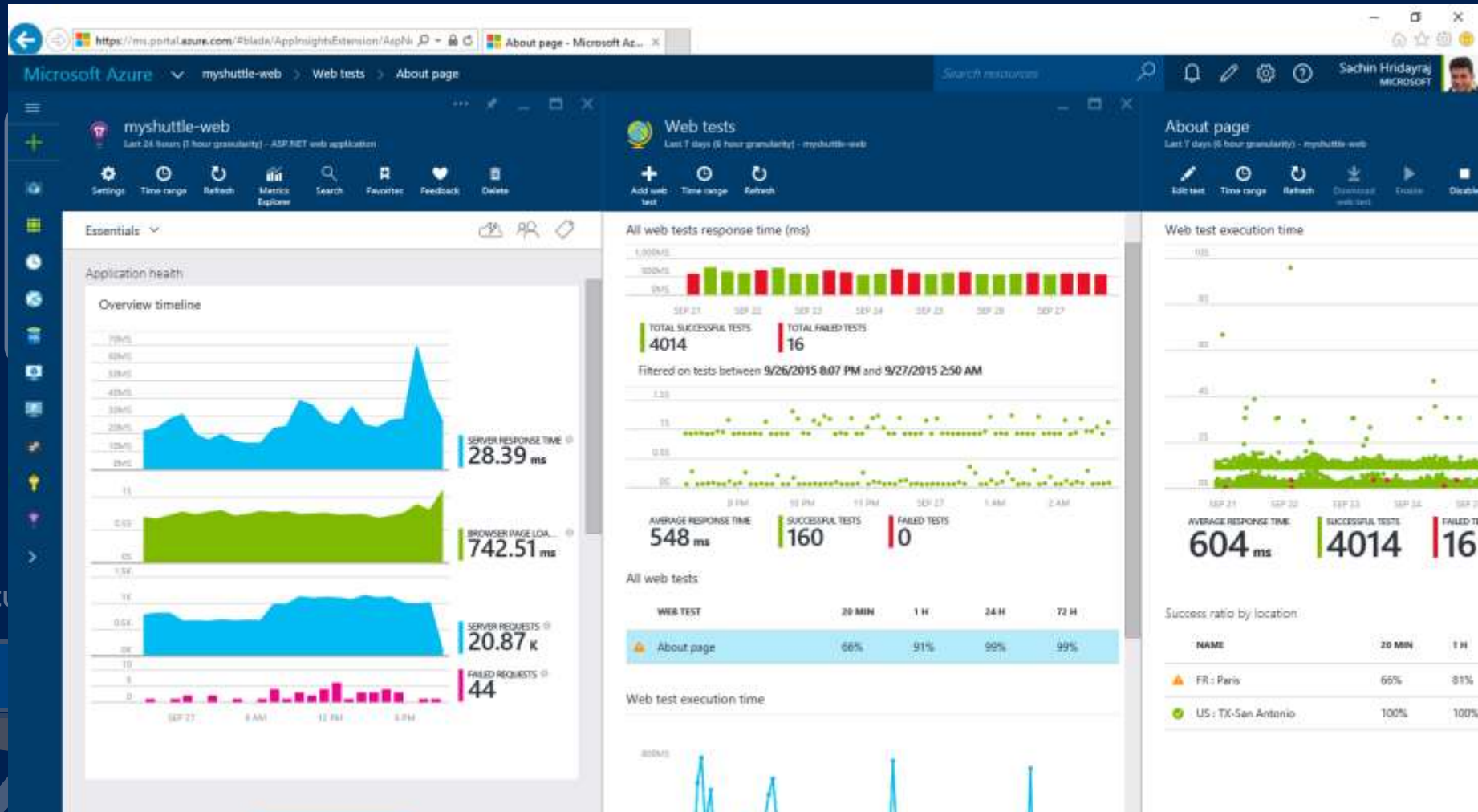
Visual Studio Online: Load Testing



Visual Studio Online: Release Management



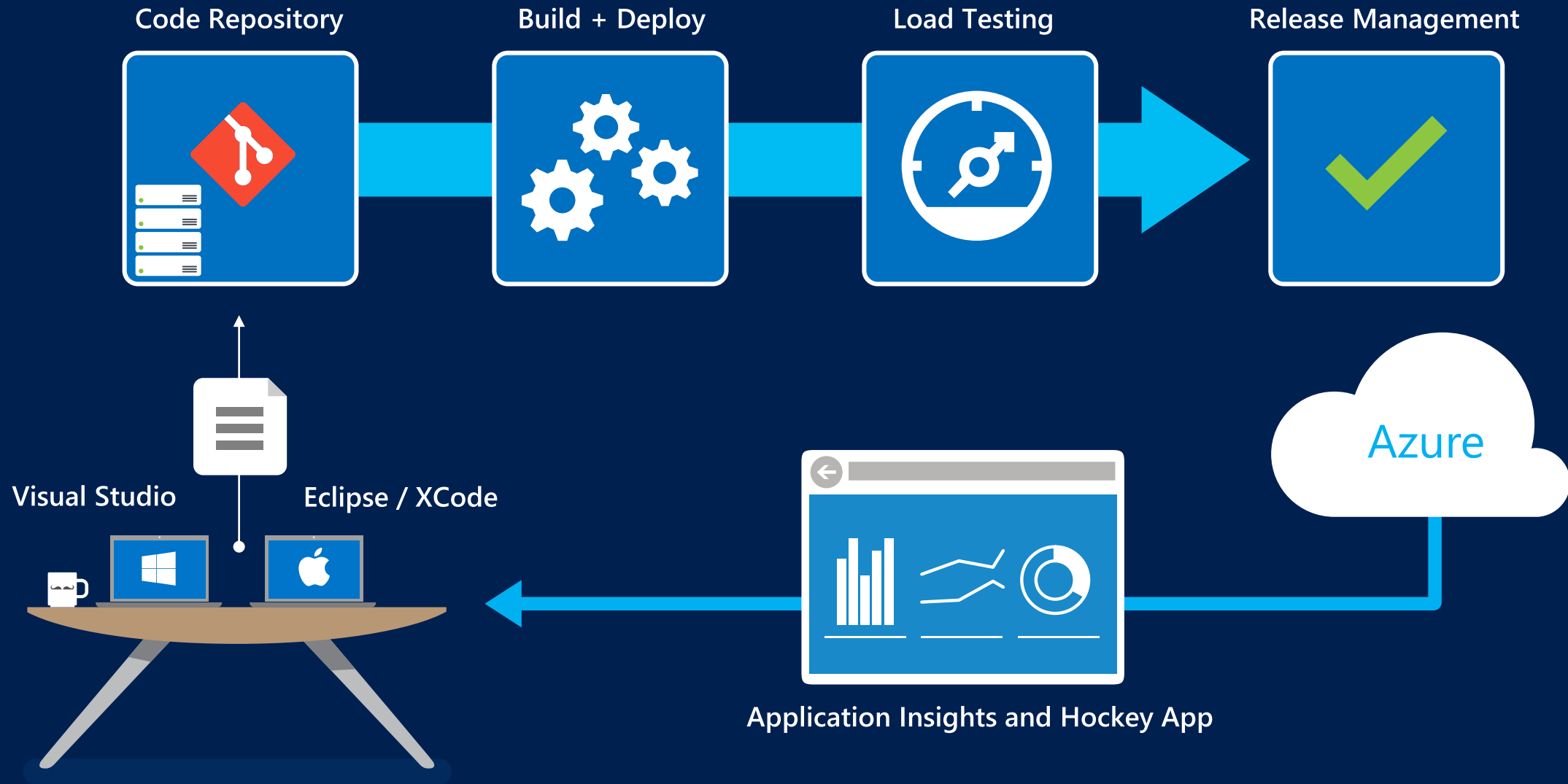
Visual Studio Online: Application Insights



Visual Studio

Application Insights and Hockey App

Visual Studio Online: DevOps



Fastest way to build for the cloud

Host your applications on Azure

Microsoft Azure



Infrastructure as a Service
IaaS



Platform as a Service
PaaS

Azure App Service

Build and scale great cloud apps



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

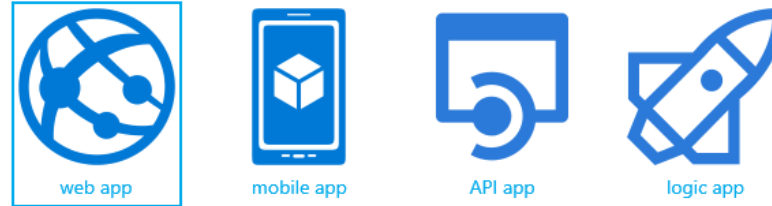
Auto patching

Auto scale

Integration with existing apps

Continuous deployment

1) Select your App Service

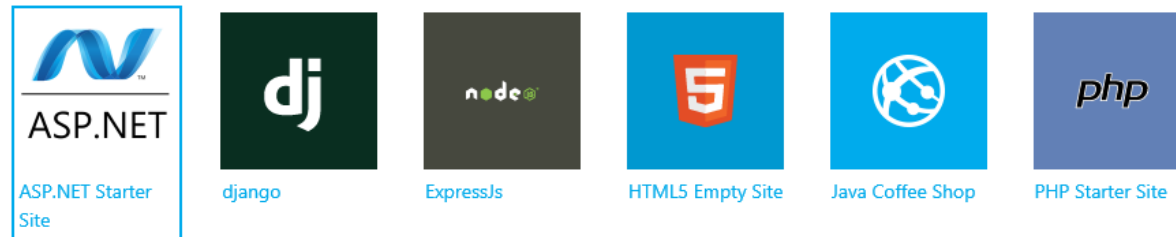


Free

No Signup or
Account Required

2) Select a template and create your web app

Change language:



Create ➔

Try App Service Today

Azure App Service Web Apps



Start simple

Easily create and scale your new sites in seconds

Automatically scale your sites that scale with your business

Quickly improve performance and reduce latency with right resources

Built-in web jobs support



Code smart

Leverage existing skills –
Languages and databases you know

Start with open source apps
and frameworks

Develop with VS and WebMatrix

Supports X-Plat development



Go live

Improve developer productivity
through continuous automated
deployment

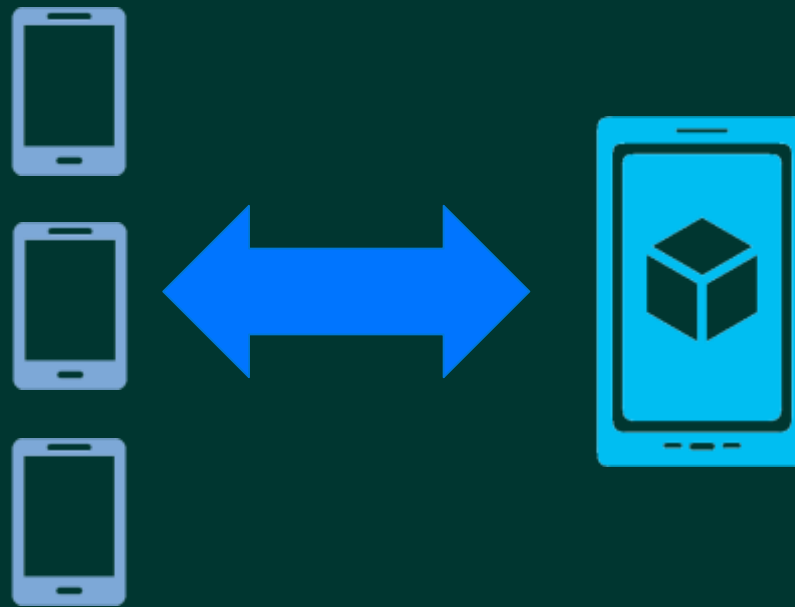
Built-in monitoring of perf and
usage data

Built-in diagnostics to assist with
debugging

Built for DevOps

Azure App Service Mobile Apps

- Provides essential services to support client development
- Client Support
 - iOS
 - Android
 - HTML5/Web
 - Xamarin
 - Windows
 - Windows Phone
 - PhoneGap
 - Sencha



Storage



Authentication



Logic



Push



Scheduler

Microsoft Azure

DATA + ANALYTICS

Data



SQL Database



DocumentDB



Redis Cache



Search



SQL Data Warehouse



Data Lake



Tables

Analytics



HDInsight



Machine Learning



Data Factory



Mobile Engagement

INTERNET OF THINGS

Azure IoT Suite

CLOUD INFRASTRUCTURE

Azure + Azure Stack + Operations Management Suite



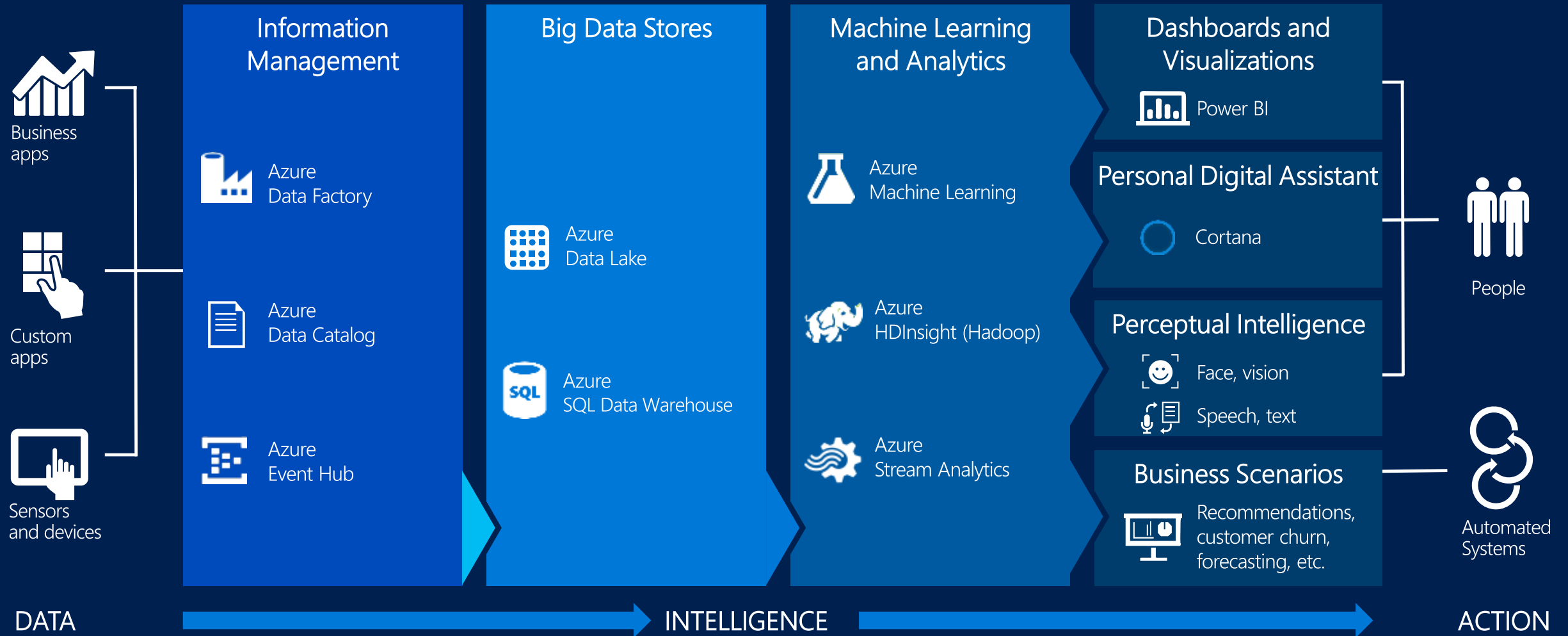
Intelligent
action

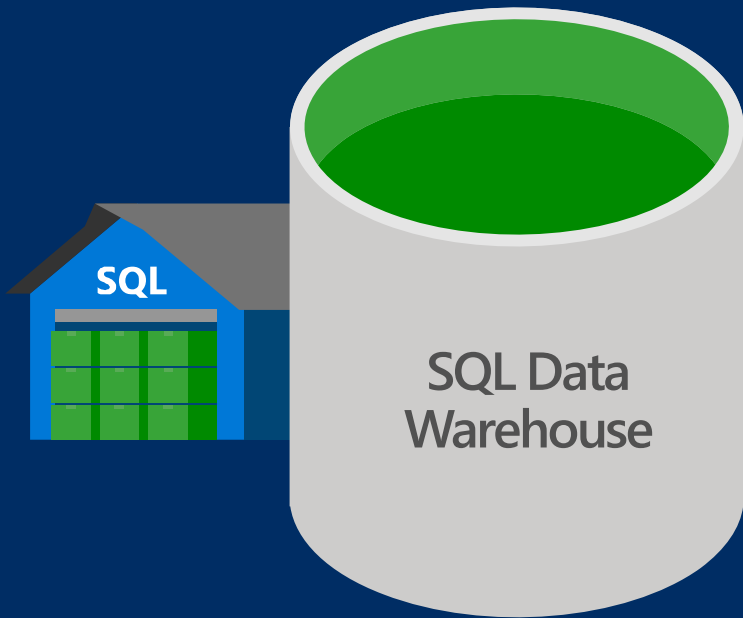
Cortana Analytics Suite



Cortana Analytics Suite

Transform data into intelligent action





SQL Data Warehouse

Aggregate + store petabytes of data
Interactively query and visualize data
Operationalize machine learning

MongoDB, MySQL, Oracle,
Cassandra, Neo4j and more

Additional Database options in Azure

- Azure Table Service is a “Big Table” entity store.
- MongoDB is a document (JSON) store.
- Cassandra is a columnar store with excellent replication.
- HBase is a Big Data (Hadoop) store available in HDInsight.
- Oracle VMs are supported in Azure.
- MySQL is offered from the partner ClearDB.

SQL Database

SQL on IaaS

DocumentDB

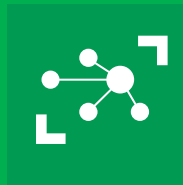
Search

HDInsight

MongoDB, MySQL,
Oracle, Cassandra,
Neo4j and more

Microsoft Azure

INTERNET OF THINGS



IoT Hub



Stream
Analytics



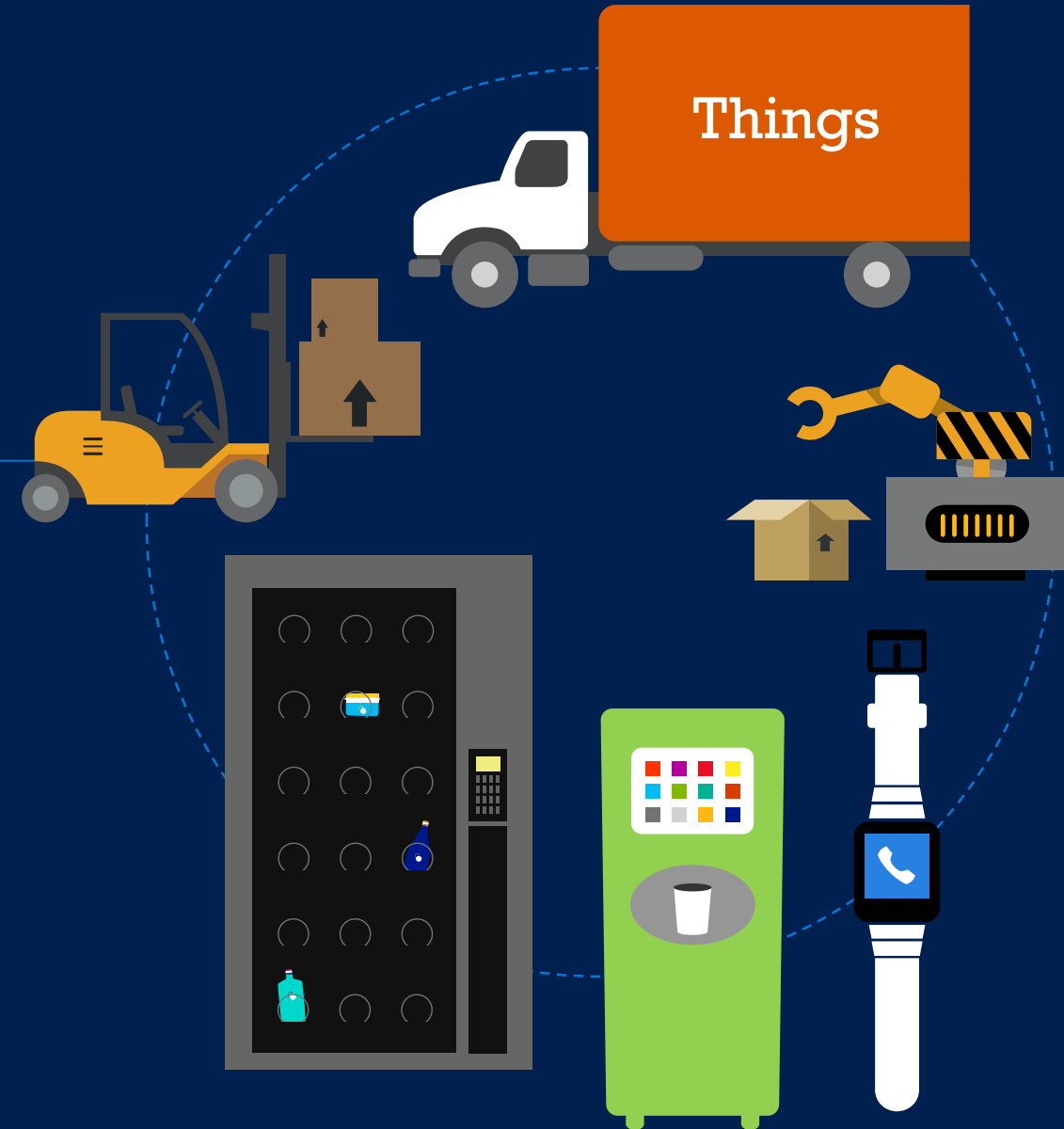
Logic Apps

CLOUD INFRASTRUCTURE

Azure + Azure Stack + Operations Management Suite

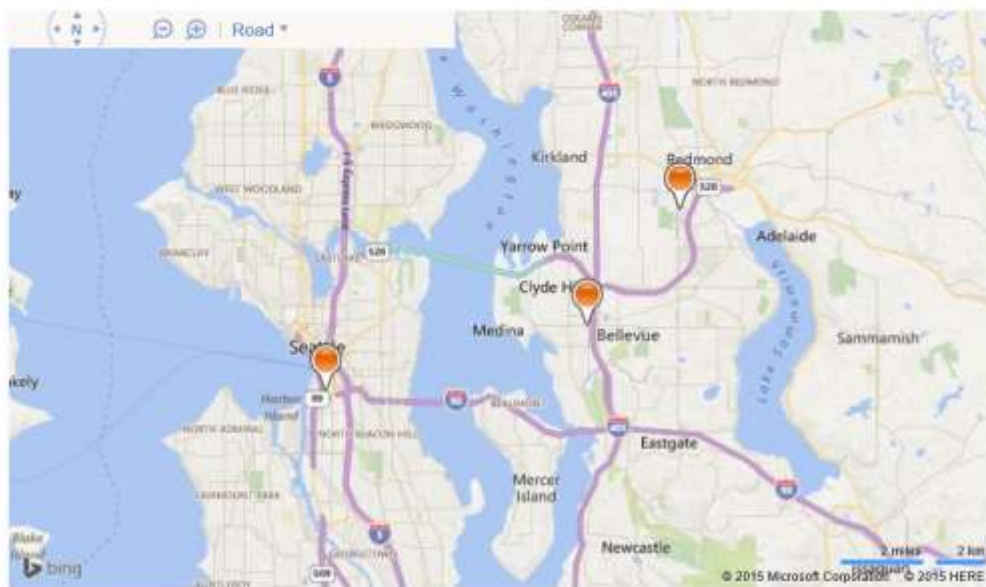
Now Available to Purchase Azure IoT Suite

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





ADD A DEVICE



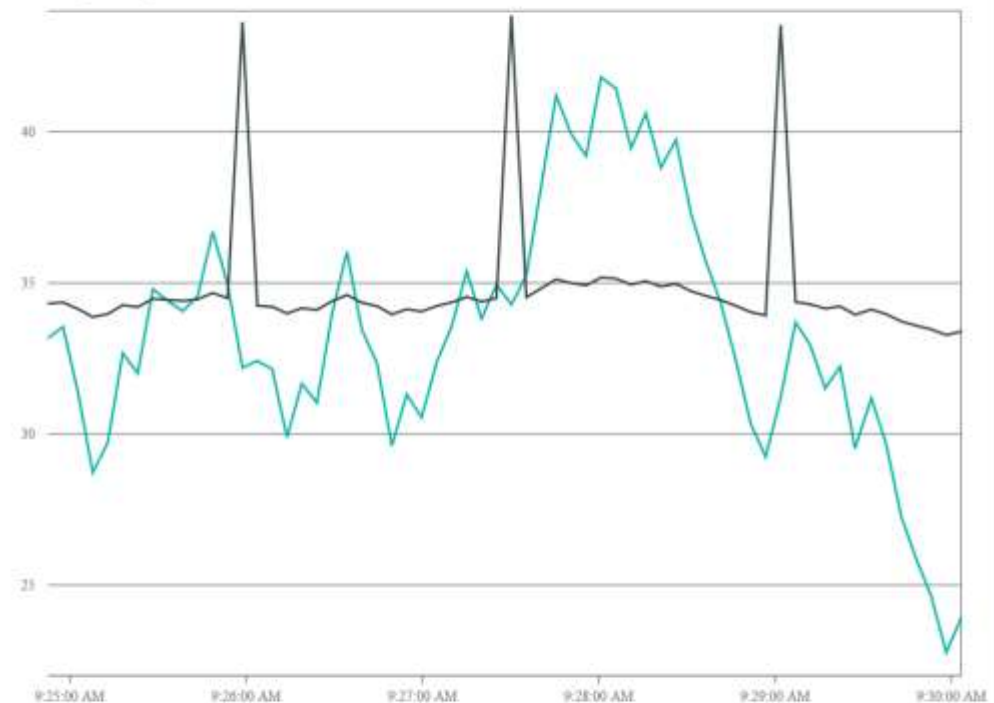
Alarm History

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

Device to View: SampleDevice001_967

Telemetry History

Humidity Temperature



Max of device humidity



Min of device humidity



Average of device humidity





DASHBOARD



DEVICES



RULES



ACTIONS



ADD A DEVICE

Rules (10)

Previous Next

STATUS	RULE ID	DEVICE ID	DATA FIELD	OPERATOR	THRESHOLD	RULE OUTPUT
Enabled	435a07fd-7897-47ef-abd2-c2d97b83613d	SampleDevice001_750	Temperature	>	42	AlarmTemp
Enabled	c5e59a36-fa2c-4f38-8b2a-a8975e494e6a	SampleDevice001_750	Humidity	>	45	AlarmHumidity
Enabled	444569d9-93b1-4b4f-80b4-92f8c6a1f463	SampleDevice001_967	Humidity	>	48	AlarmHumidity
Enabled	cba47df7-fe4b-4406-ab21-2712279bbf27	SampleDevice001_967	Temperature	>	38	AlarmTemp
Enabled	2870f066-4b2b-40c7-b383-ebd84733d1b5	SampleDevice002_967	Humidity	>	57	AlarmHumidity
Enabled	e3af247f-3111-48d5-9b88-9980749129b2	SampleDevice002_967	Temperature	>	45	AlarmTemp
Enabled	3dfa65c5-6694-4b41-988c-244c2179ab52	SampleDevice003_967	Temperature	>	45	AlarmTemp
Enabled	44c233be-2eb7-420a-b7e8-abafaa5a20e6	SampleDevice003_967	Humidity	>	54	AlarmHumidity
Enabled	5c9ebf03-21b3-48c5-85be-5643ebdf5fbb	SampleDevice004_967	Humidity	>	64	AlarmHumidity
Enabled	d165156b-9068-4df2-84ec-5225795a313b	SampleDevice004_967	Temperature	>	47	AlarmTemp

> Properties

Device Properties

DEVICE ID

SampleDevice001_967

Rule Status

Disable Rule

Rule Properties

Edit

DATA FIELD

Temperature

OPERATOR

>

THRESHOLD

38

RULE OUTPUT

AlarmTemp

Internet of Things

stackoverflow

GameStop

xerox

SAXO
BANK

SAAB

SAMSUNG

SBI Liquidity Market

**Rockwell
Automation**




ThyssenKrupp

Itaú

OPENTEXT®

NASDAQ OMX

EASTMAN

Lufthansa Systems
IT that makes your life easier

TELECOM
ITALIA

CJ E&M



ThyssenKrupp

Delivering secure apps

Announcing Azure Security Center

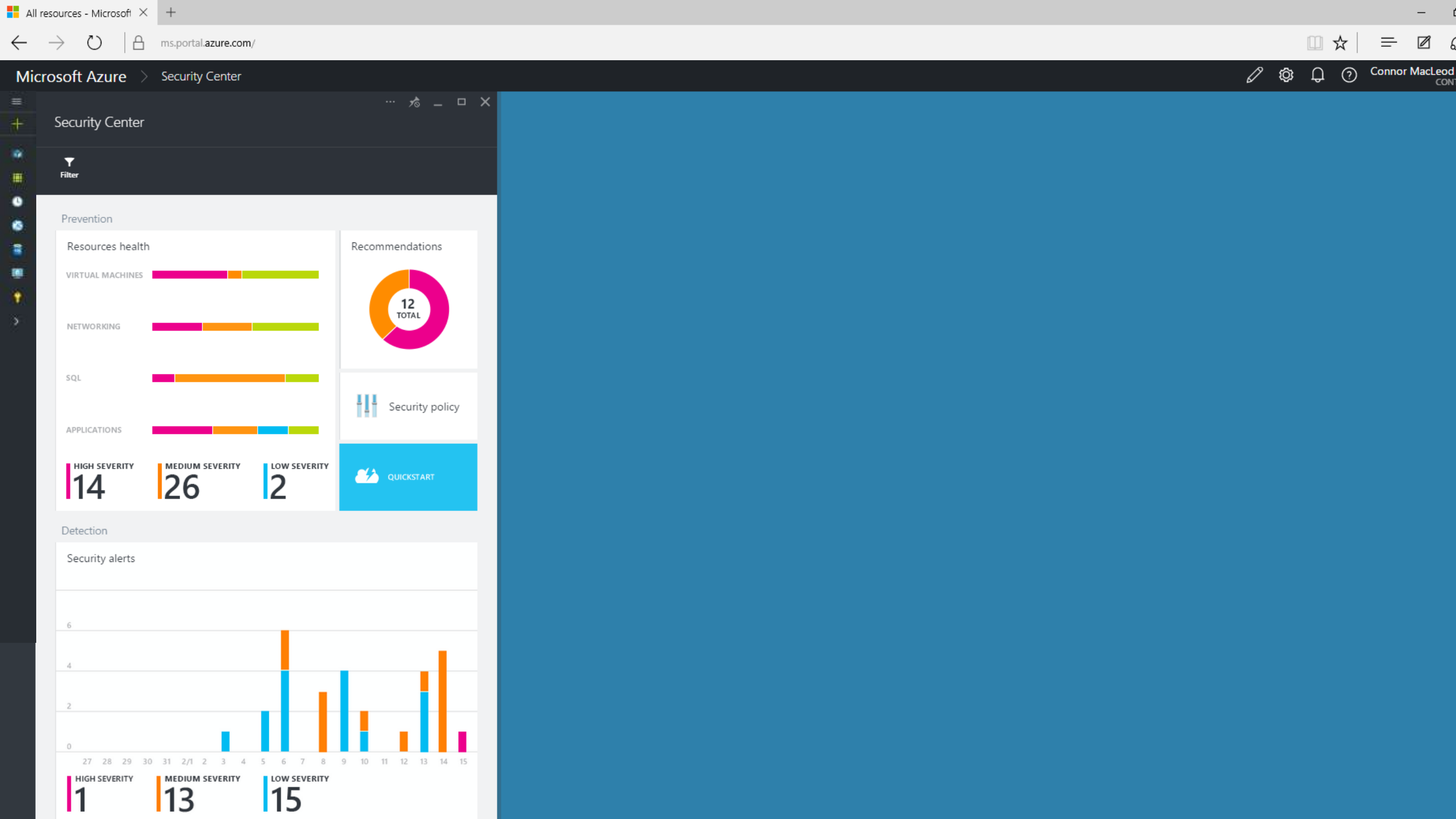
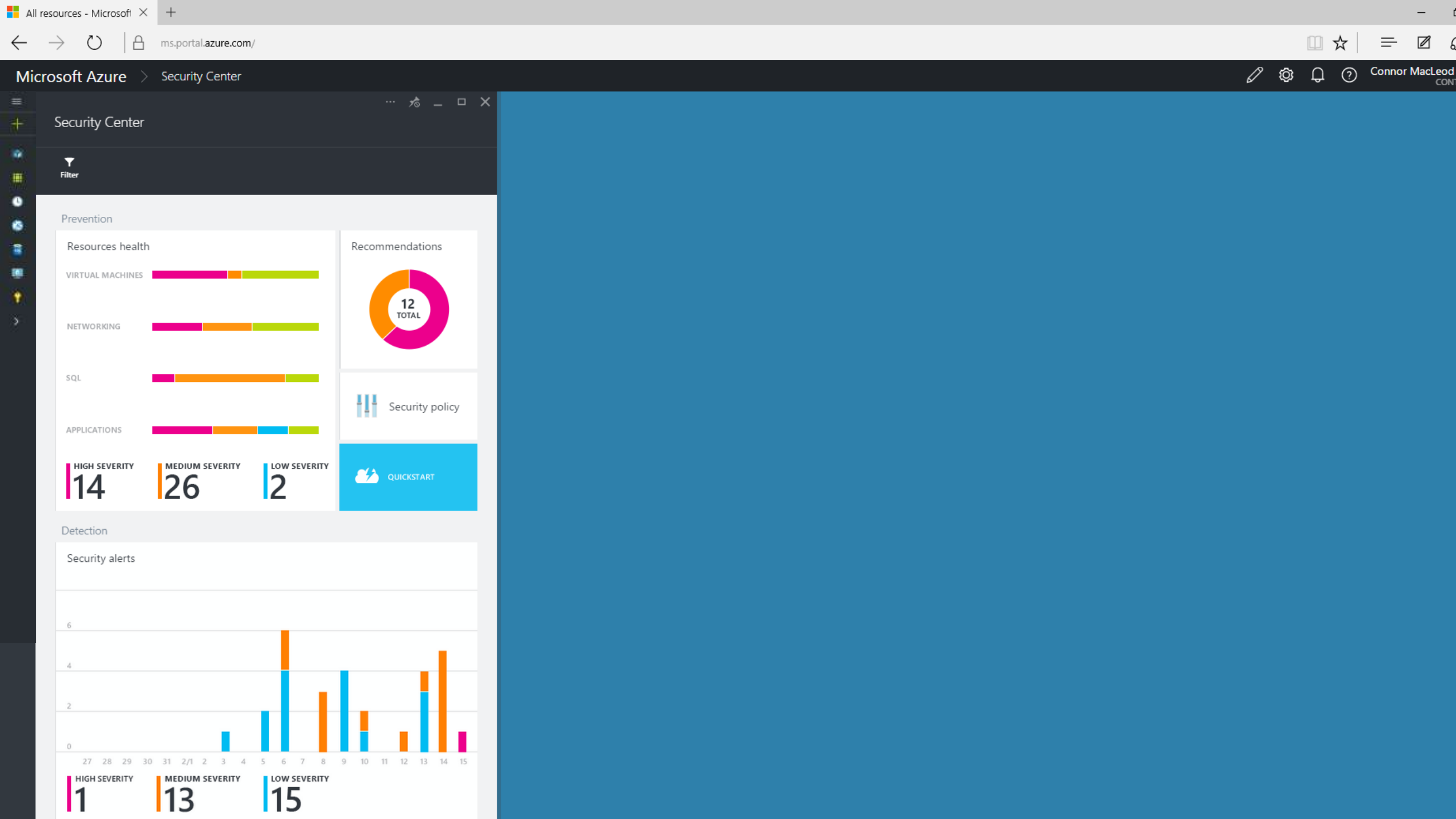
Gain visibility and control

Integrated security, monitoring, policy management

Built in threat detections and alerts

Works with broad ecosystem of security solutions





Security Center

Filter

Prevention

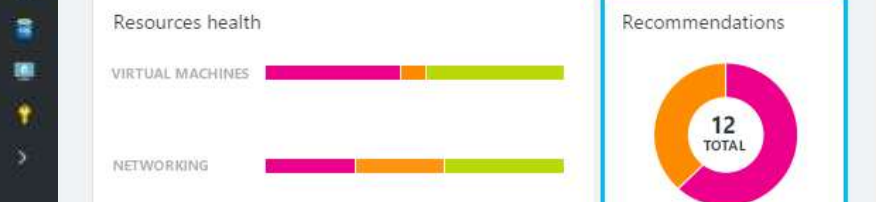
Resources health	Recommendations
------------------	-----------------



Severity Level	Count
HIGH SEVERITY	14
MEDIUM SEVERITY	26
LOW SEVERITY	2

QUICKSTART

Resources health	Recommendations
------------------	-----------------



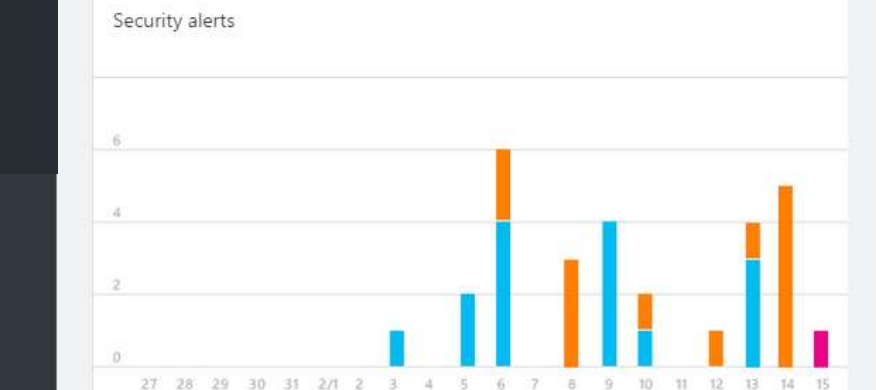
Security policy

The screenshot shows the 'APPLICATIONS' section of the Security Center dashboard. It features a horizontal bar chart with four colored segments: pink, orange, blue, and green. Below the bar, three boxes display severity counts: 'HIGH SEVERITY' with 14, 'MEDIUM SEVERITY' with 26, and 'LOW SEVERITY' with 2. To the right, there is a 'Security policy' section with a cloud icon and a 'QUICKSTART' button.

Severity	Count
HIGH SEVERITY	14
MEDIUM SEVERITY	26
LOW SEVERITY	2

Detection

Security alerts















HIGH SEVERITY 1
 MEDIUM SEVERITY 13
 LOW SEVERITY 15

Recommendations

PREVENTION STEPS

Filter


DESCRIPTION	RESOURCE	STATE	SEVERITY
Enable Data Collection	subscription1	Resolved	 High
Enable Antimalware	4 Virtual Machi...	Resolved	 High
Add a Web Application Firewall	retail.contoso.c...	Open	 High
Enable Network Security Groups	4 Subnets	Open	 High
Enable Auditing on 3 SQL servers	5 SQL servers	Open	 High
Enable Transparent Data Encryption on 7 SQL d...	7 SQL Databases	Open	 High
Restrict access through public external endpoint	2 Subnets	Open	 High
Apply 5 security updates	5 Virtual Machi...	Open	 High
Resolve 7 baseline rules mismatch	5 Virtual Machi...	Open	 High
Enable multi factor authentication	5 Users	Open	 High
Configure ACLs for 6 endpoints	4 Virtual Machi...	Open	 Medium
Reroute traffic through Web Application Firew...	2 Web Apps	In Progress	 Medium

Add a Web Application Fir...

CHOOSE THE WEB APPLICATION FIREWALL YOU WANT TO USE

Use existing web application firewall



 contoso-waf
F5 BIG-IP WAF BYOL

- Or -

Create new web application firewall



 Barracuda Web Application F...
Barracuda Networks Inc >



 F5 BIG-IP WAF BYOL
F5 Networks 



Cloud Flare
Cloud Flare Networks

Security Center

Filter

Prevention

Resources health

VIRTUAL MACHINES

NETWORKING

SQL

APPLICATIONS

HIGH SEVERITY 14

MEDIUM SEVERITY 26

LOW SEVERITY 2

Recommendations

12 TOTAL

Security policy

QUICKSTART

Detection

Security alerts

HIGH SEVERITY 1

MEDIUM SEVERITY 13

LOW SEVERITY 15

Security alerts

Filter

HIGH SEVERITY 1

MEDIUM SEVERITY 13

LOW SEVERITY 15

DESCRIPTION	DETECTED BY	EVENTS	DATE	STATE	SEVERITY
Incident detected: database breach	Microsoft	1	7/15	Open	High
A user account password has be...	Microsoft	2	7/14	Open	Medium
Critical malware action failed	Antimalware	3	7/14	Open	Medium
Traffic to malicious IP 3.3.3.3	Microsoft	2	7/13	Open	Low
Brute Force attempts were detect...	Microsoft	1	7/13	Open	Low
Exploitable Process Detected (sql-s...	Microsoft	1	7/13	Open	Medium
SQL Injection attempt from 103.3...	Web Applic...	1	7/12	Open	Medium
Non-critical malware action failed	Antimalware	1	7/10	Open	Medium
Traffic to malicious IP 104.12.112...	Microsoft	1	7/10	Open	Low
SQL Injection attempt from 103.3...	Microsoft	4	7/9	Open	Low
Traffic to malicious IP 121.14.112...	Microsoft	1	7/8	Open	Medium
Brute Force attempts were detect...	Web Applic...	2	7/8	Open	Medium
DDOS Attack from 103.14.120.12...	Web Applic...	2	7/6	Open	Medium
SQL Injection attempt from 103.3...	Web Applic...	4	7/6	Open	Low
Non-critical malware action failed	Antimalware	2	7/5	Open	Low

Brute Force attempts were detected

ATTACKER IP 90.150.112.27

ATTACKER LOCATION Russia

RDP activity per hour

0:00

0:30

1:00

Threat map

1

1

Infrastructure



TEMENOS
The Banking Software Company

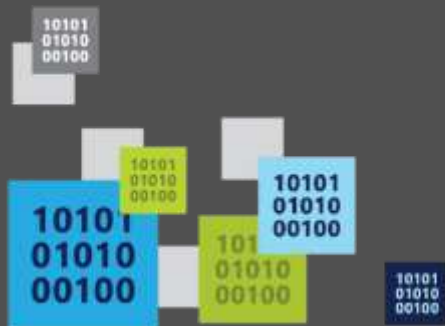


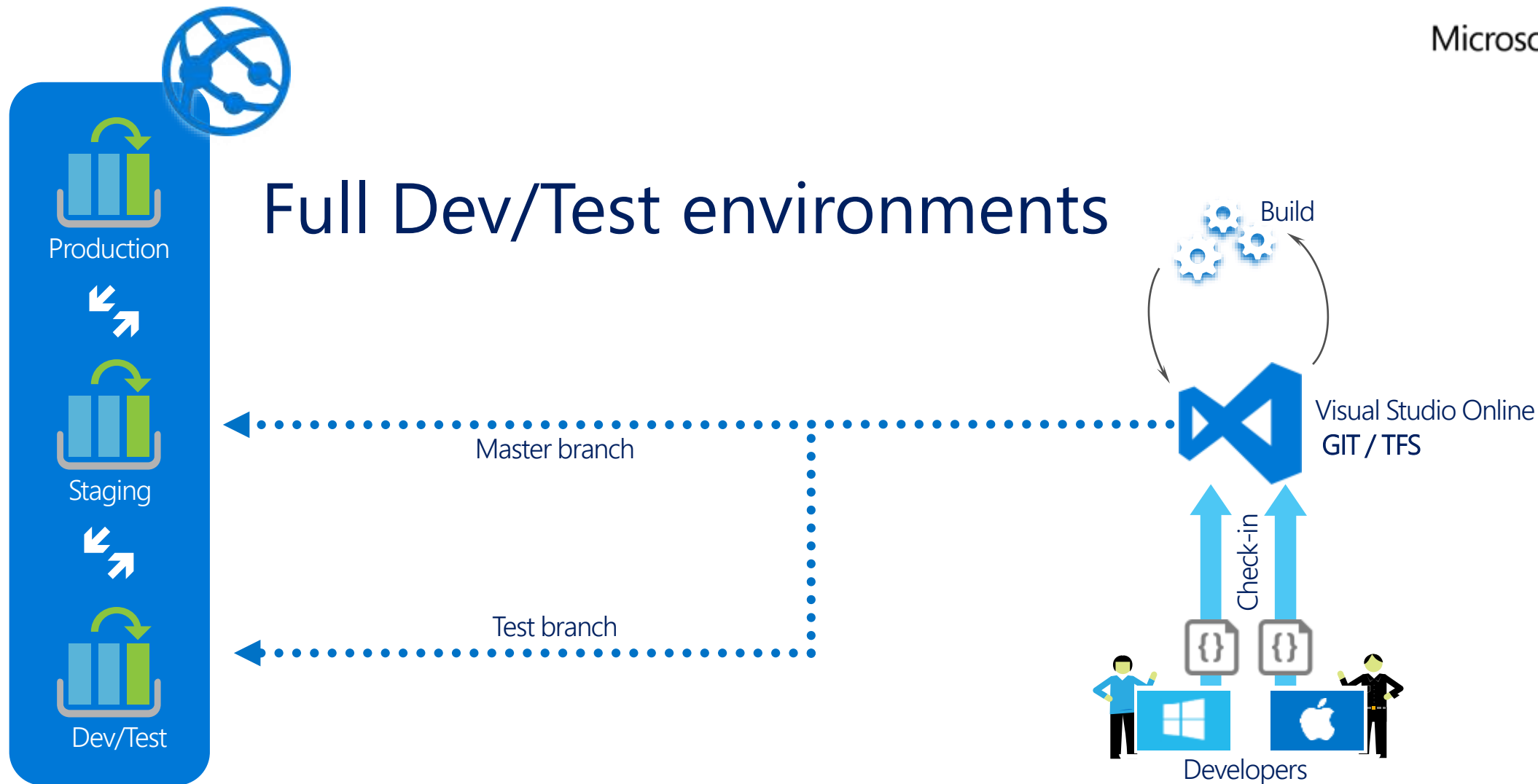
United Nations



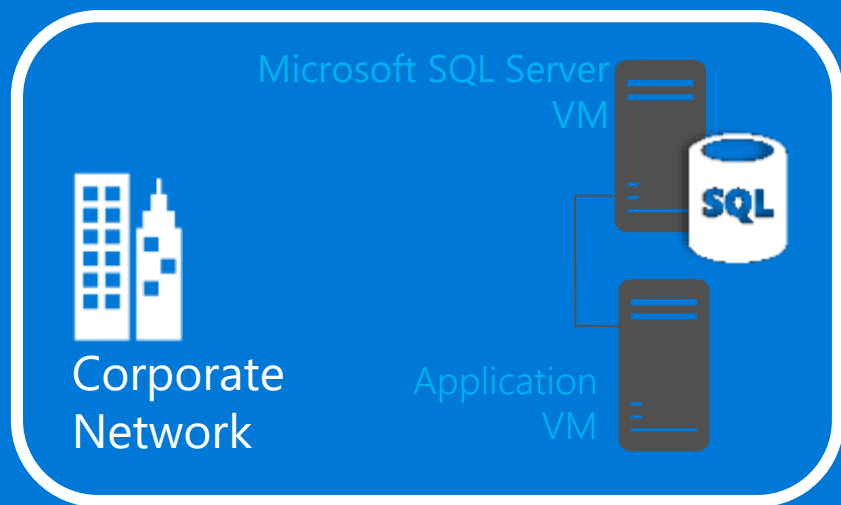
United Nations

Key Scenarios to Get Started with Microsoft Azure

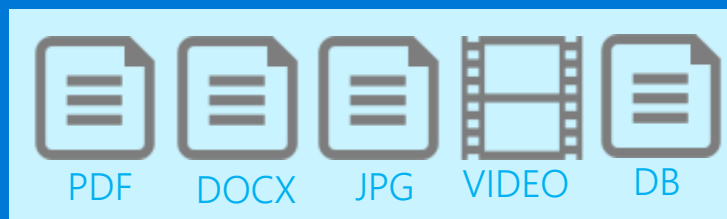
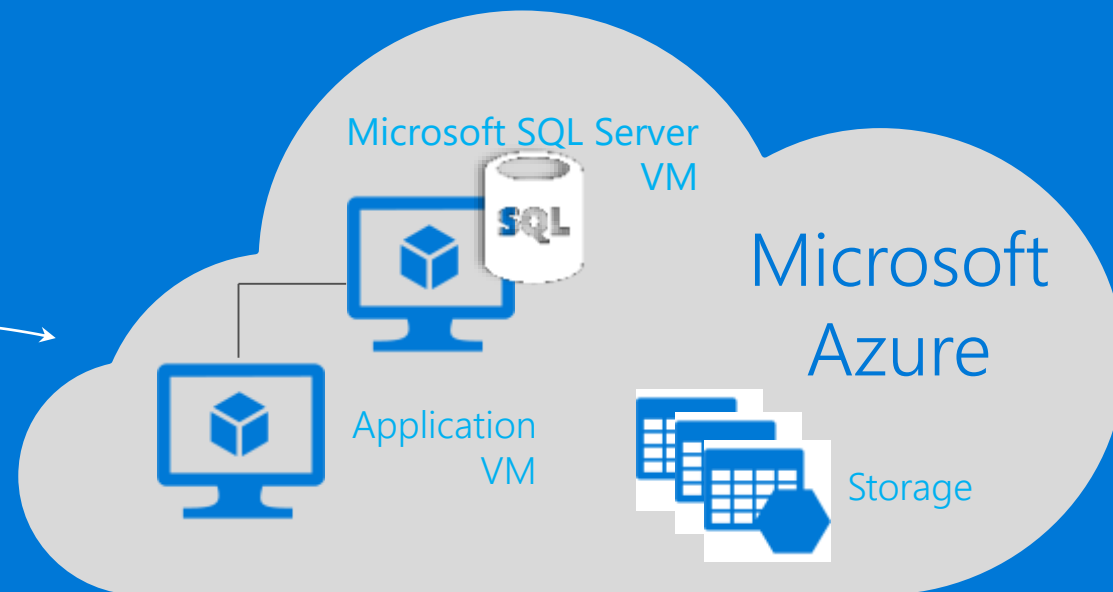




Key Scenarios to get started with
Microsoft Azure



Lift and Shift

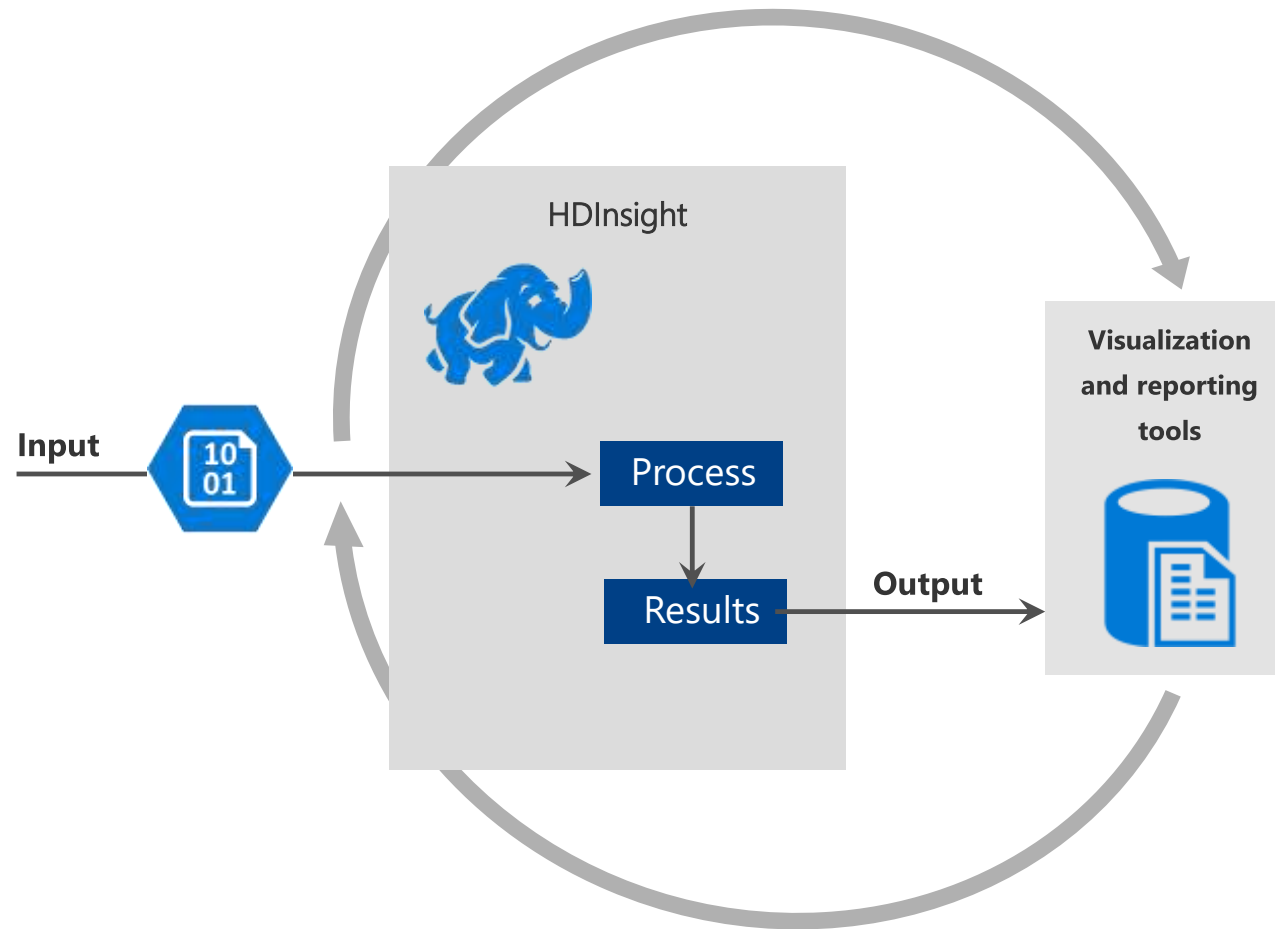


Archive

key data inexpensively



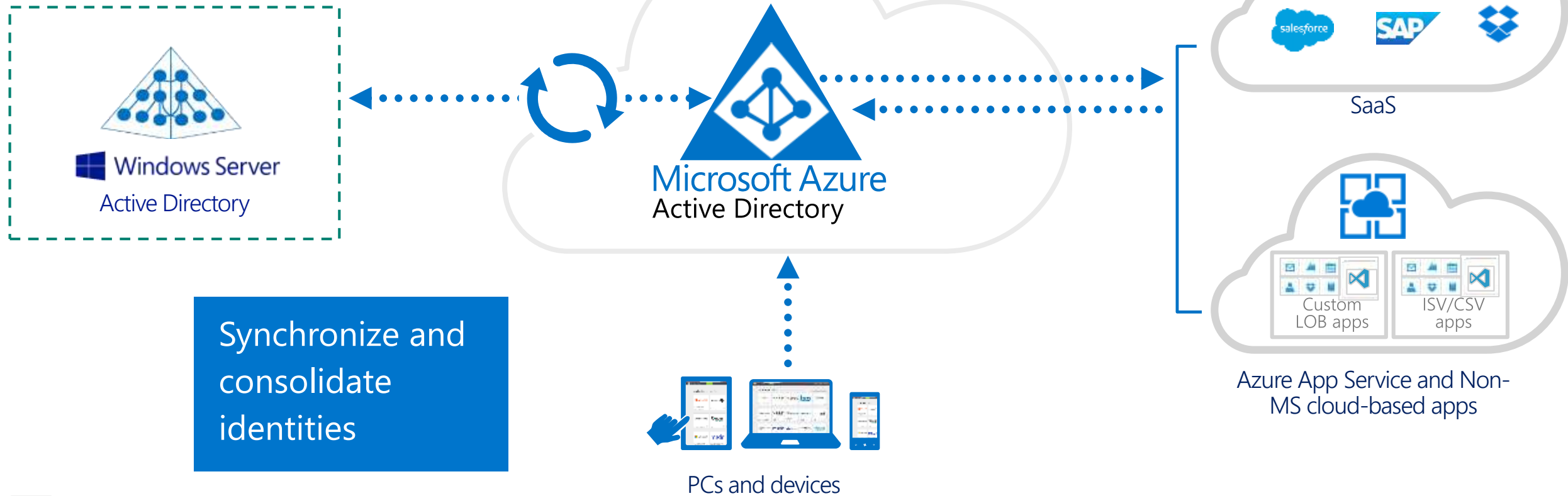
Key Scenarios to get started with Microsoft Azure



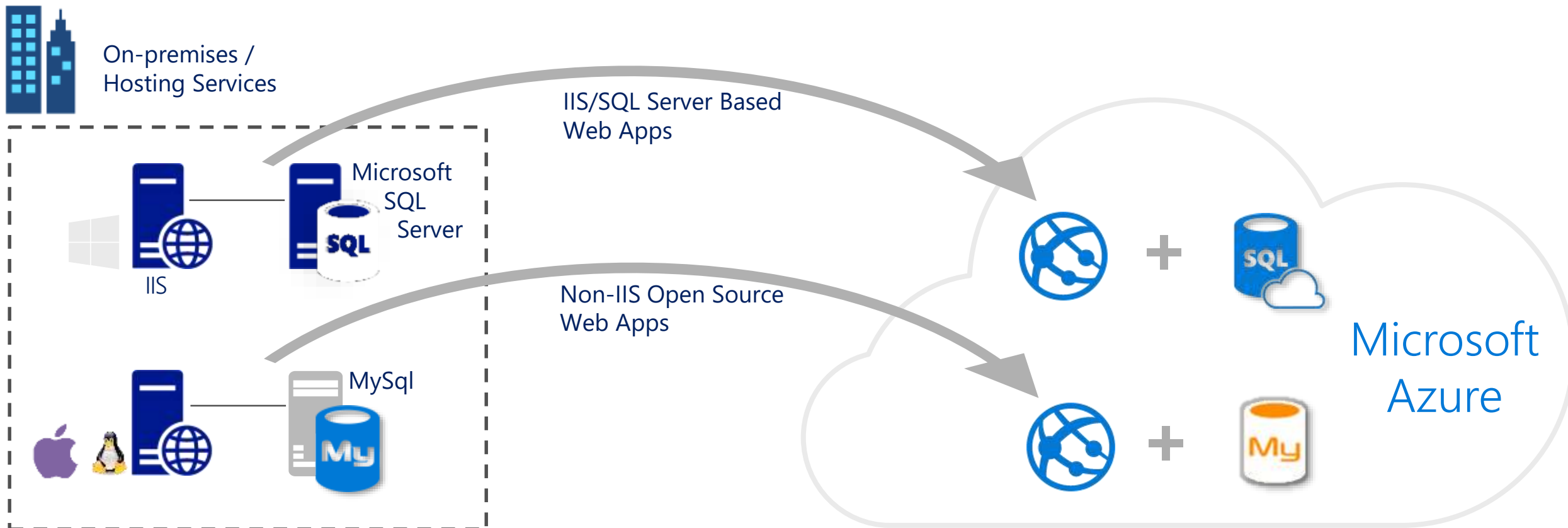
Iterative exploration - Process key data into business intelligence using Hadoop

Key Scenarios to get started with
Microsoft Azure

Identity as a Service



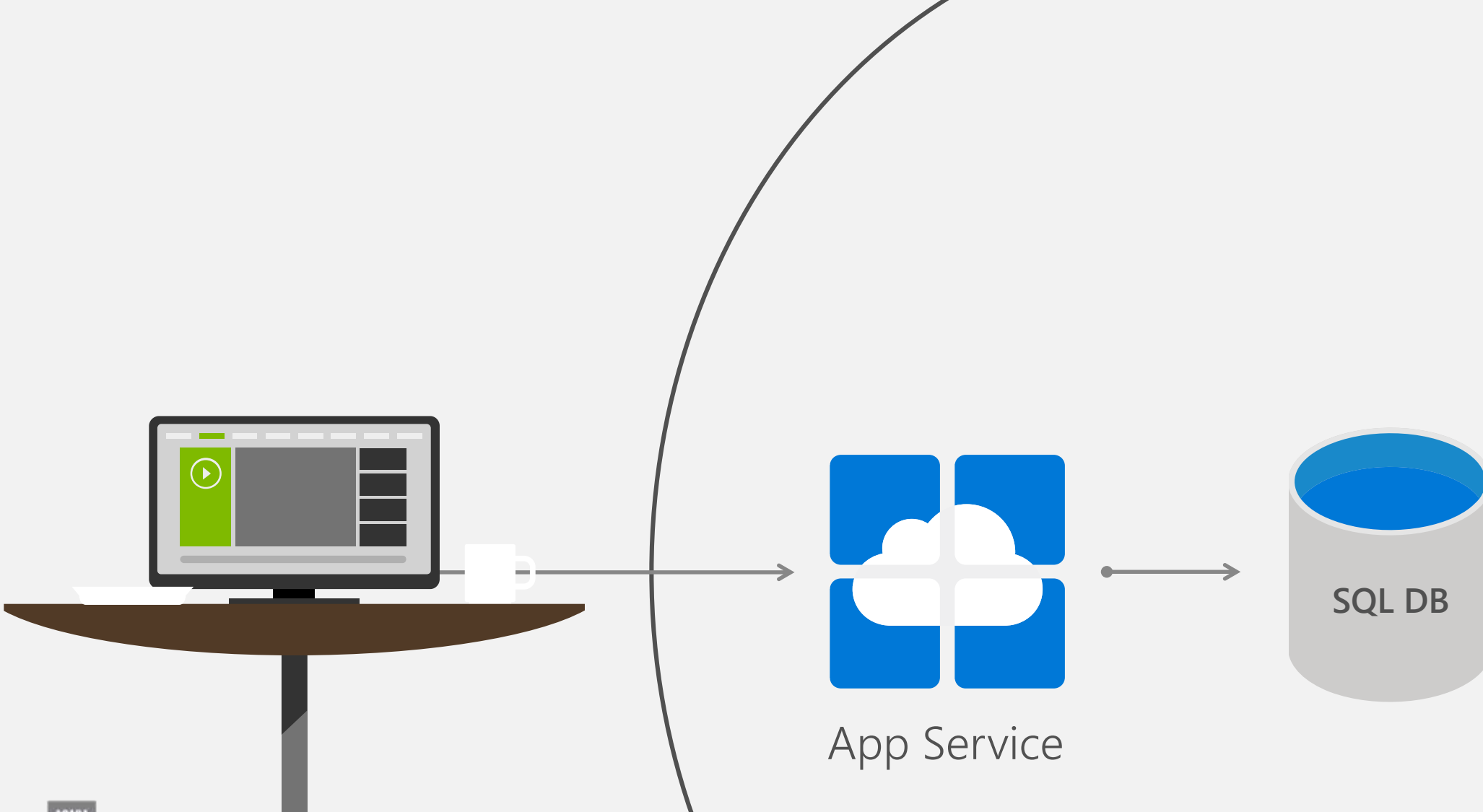
Key Scenarios to get started with
Microsoft Azure



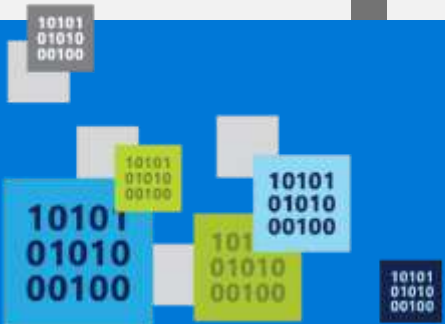
Web Apps - Take your web apps to the cloud using inexpensive App Service Web Apps

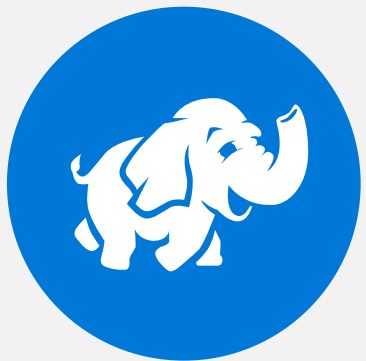
Key Scenarios to get started with
Microsoft Azure

Azure

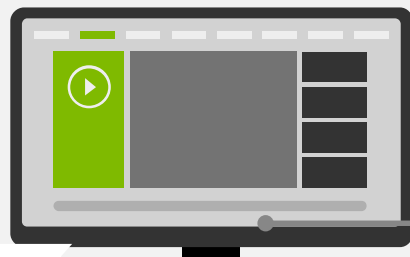


Key Scenarios to get started with
Microsoft Azure





Hadoop



SQL Data Warehouse

App Service

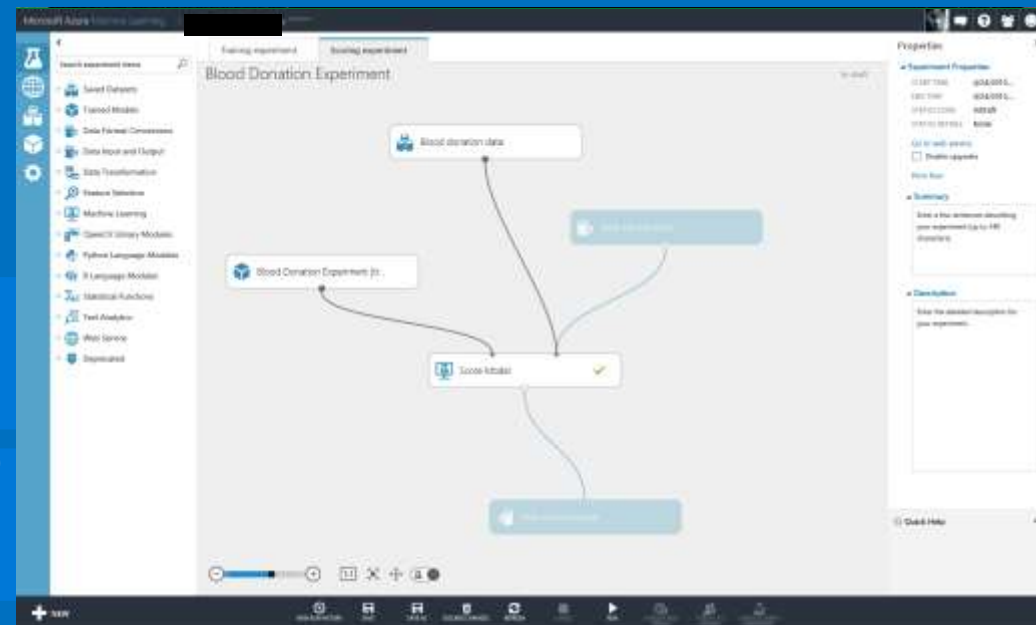
On-Premises

SAP

Oracle

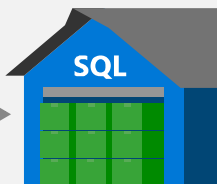
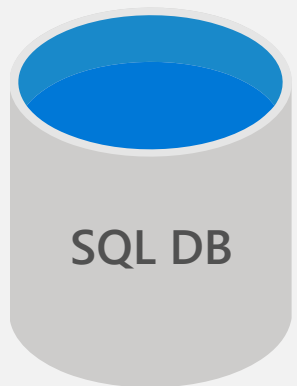
Dynamics

Machine Learning



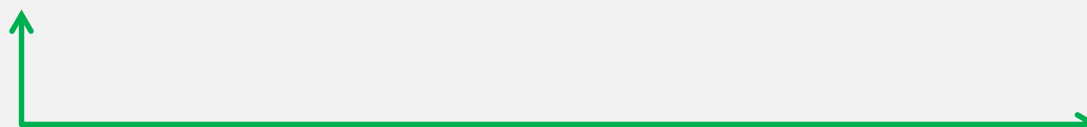
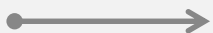
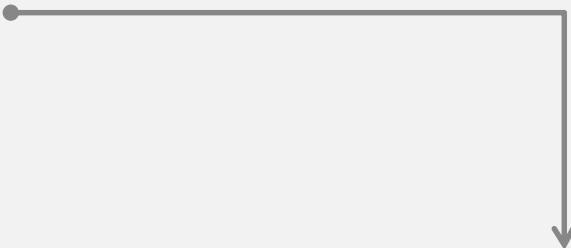
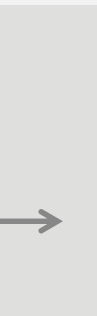


Hadoop



Machine Learning

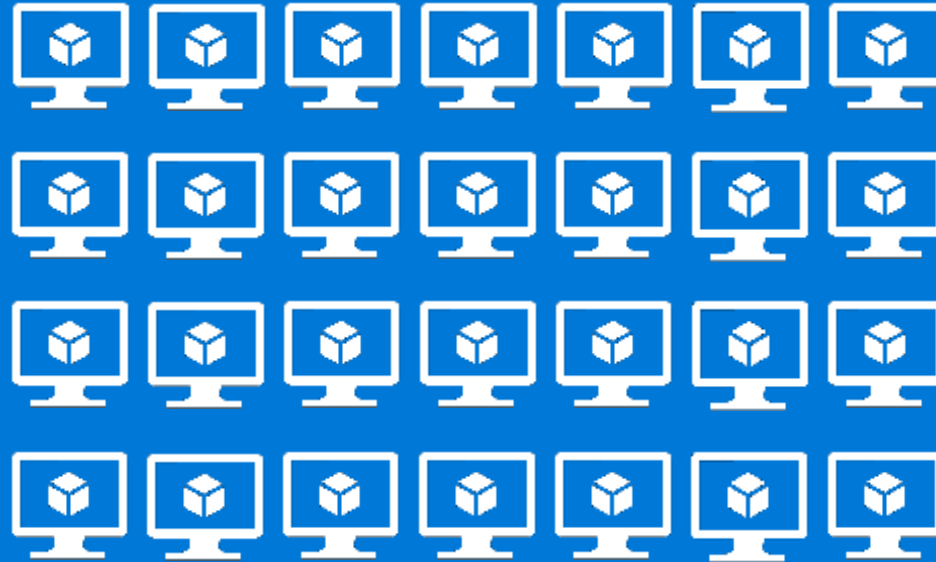
Intelligent Action



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89
Countries

A stylized background featuring a large, white, cloud-like shape with a blue outline. The top left corner of the image is dark blue, and the top right corner is a lighter blue. The text is centered within the white cloud shape.

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