Microsoft Azure

The cloud platform for digital transformation

Justin Davies, Technology Lead for OSS
Microsoft

Microsoft

Achieve global scale, in local regions

Trust

38
Azure regions

RECENTLY LAUNCHED:
US Regions: West US 2 and West Central
Germany – Launched in Sep 2016
United Kingdom – Launched in Sep 2016

NEWLY ANNOUNCED:
France: France Central and France South
Korea: Korea Central and Korea South
DoD East and Central

Microsoft Azure

Trust
Protect your business

Open and Hybrid
Build freely, deploy consistently in the cloud & on-prem

App Innovation
Accelerate innovation with the cloud

Data-Driven Intelligence
Power decisions & apps with insights
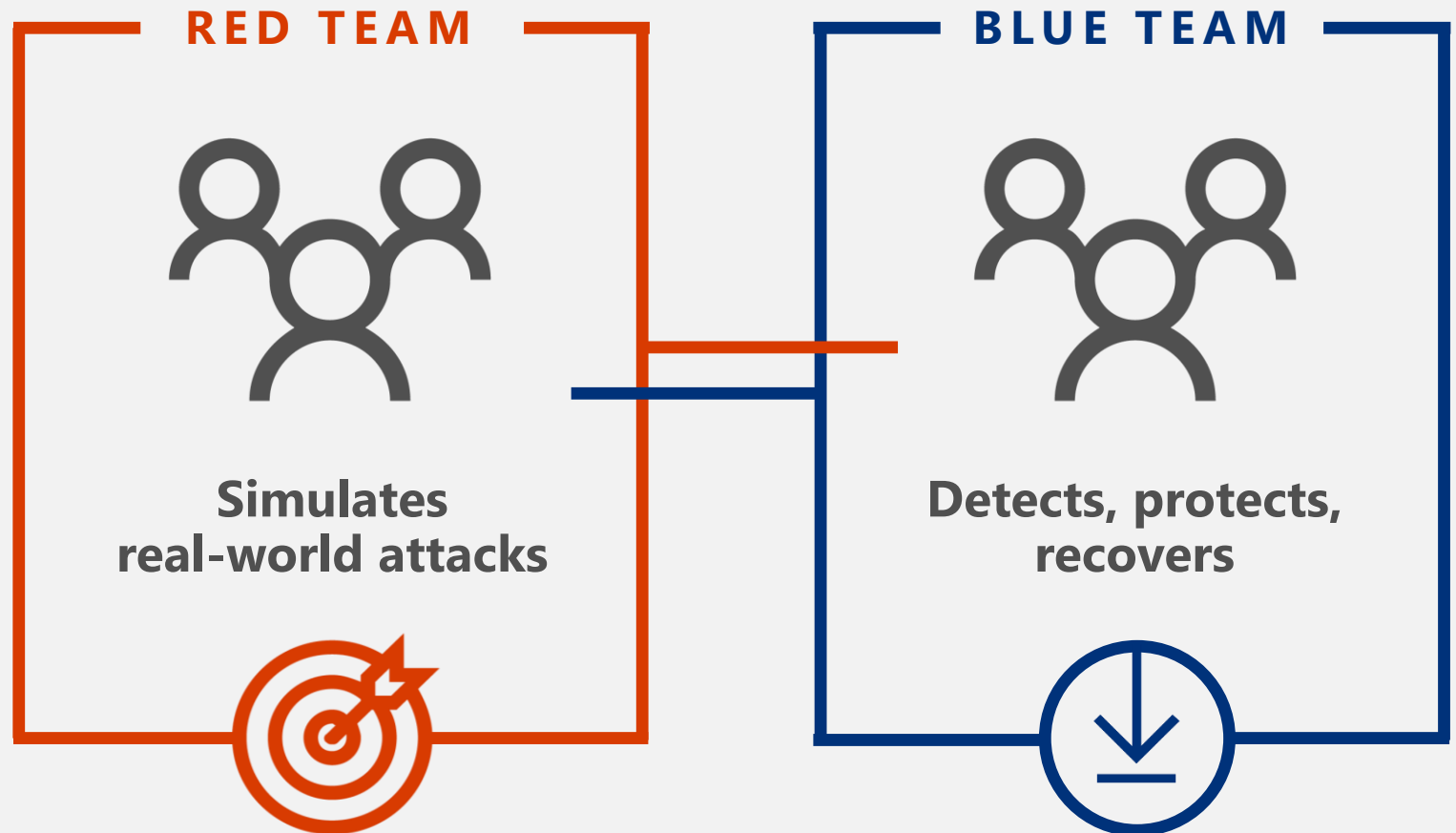
Detect and mitigate threats

Trust

Assume Breach

Identify Attacks

Restore Environment

RED TEAM

Simulates real-world attacks

BLUE TEAM

Detects, protects, recovers

The most trusted and compliant cloud

Trust

GLOBAL

ISO 27001	ISO 27018	ISO 27017	ISO 22301	SOC 1 Type 2	SOC 2 Type 2	SOC 3	CSA STAR Self-Assessment	CSA STAR Certification	CSA STAR Attestation

US GOV

Moderate JAB P-ATO	High JAB P-ATO	DoD DISA SRG Level 2	DoD DISA SRG Level 4	SP 800-171	FIPS 140-2	Section 508 VPAT	ITAR	CJIS	IRS 1075

INDUSTRY

PCI DSS Level 1	CDSA	MPAA	FACT UK	Shared Assessments	FISC Japan	HIPAA / HITECH Act	HITRUST	GxP 21 CFR Part 11	MARS-E	IG Toolkit UK	FERPA	GLBA	FFIEC

REGIONAL

Argentina PDPA	EU Model Clauses	UK G-Cloud	China DJCP	China GB 18030	China TRUCS	Singapore MTCS	Australia IRAP/CCSL	New Zealand GCIO	Japan My Number Act	ENISA IAF	Japan CS Mark Gold	Spain ENS	Spain DPA	India MeitY	Canada Privacy Laws	Privacy Shield	Germany IT Grundschutz workbook

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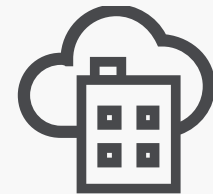# Build freely, deploy consistently

Open and Hybrid

Build and run
open source
solutions

Consistent
identity, apps,
data &
management

Deploy
the cloud
on-premises

Build and run open source solutions

Applications	WordPress	Drupal	OpenShift Enterprise by Red Hat	Cloud Foundry		
DevOps	Chef	Ansible	GitHub	puppet labs		
Frameworks	Microsoft .NET	node.js	python	Java	php	R
Databases & middleware		cloudera Ask Bigger Questions		Hortonworks	MariaDB	cassandra
Containers		docker	DC/OS	Core OS	kubernetes	
Infrastructure	DC/OS	redhat	CONSENSYS blockstack	ubuntu		docker FreeBSD

Consistent identity, apps, data & management

Open and Hybrid

Cloud

Azure Active Directory

Azure management and security

Azure data services

Azure services

Common Identity

Integrated Management and Security

Consistent Data Platform

Unified Development and DevOps

On-Premises

Active Directory

On-premises infrastructure

SQL Server

Azure Stack
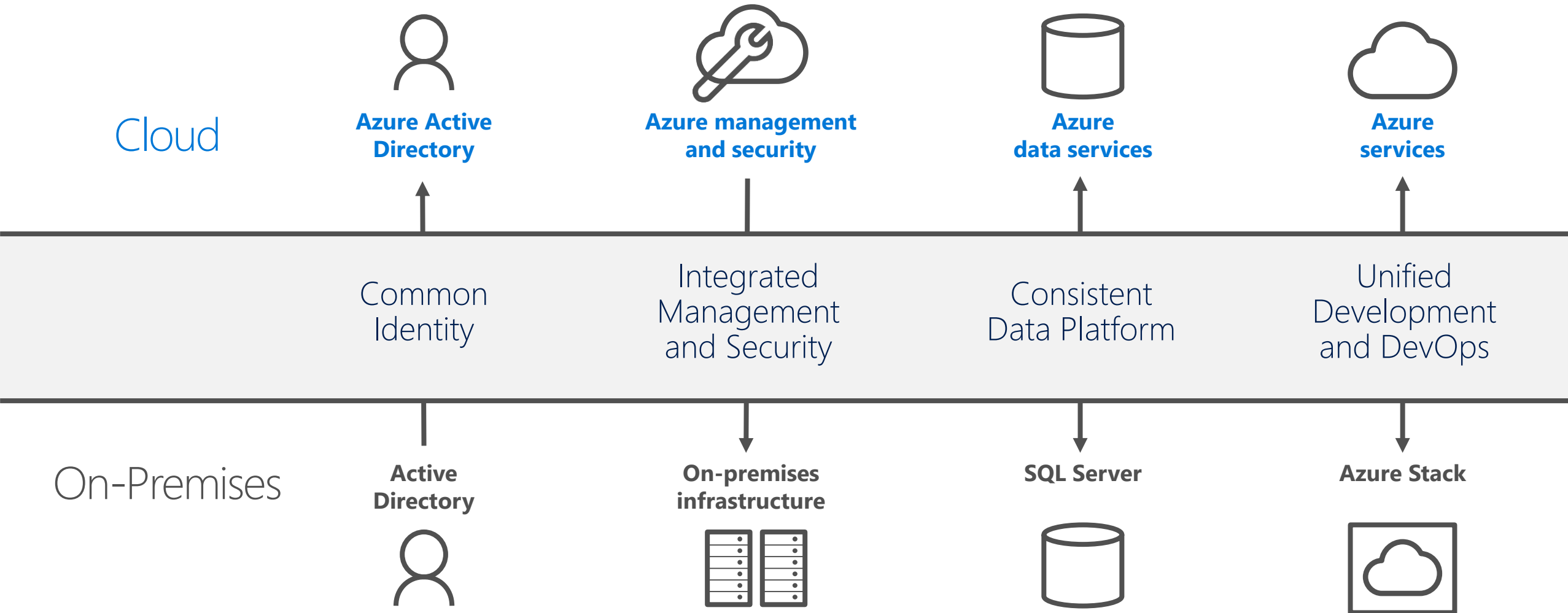
Deploy the cloud on-premises

Open and Hybrid
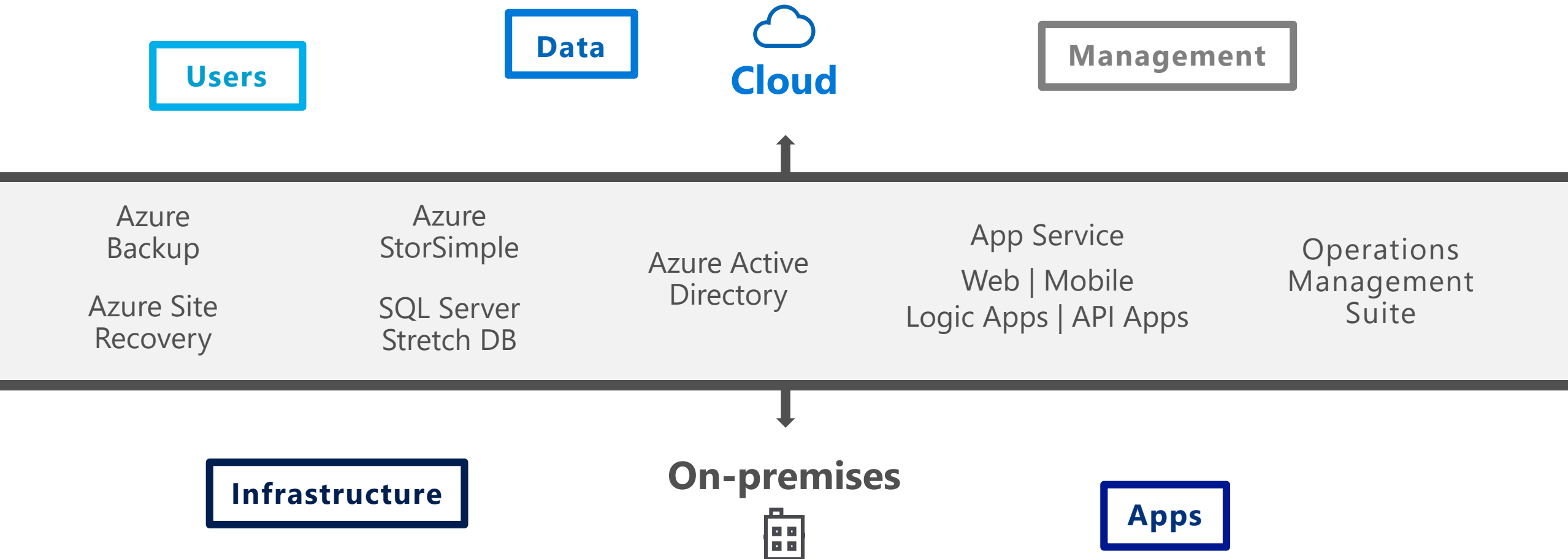
Users

Data

Cloud

Management

Azure Backup

Azure StorSimple

Azure Active Directory

App Service

Operations Management Suite

Azure Site Recovery

SQL Server Stretch DB

Web | Mobile

Logic Apps | API Apps

Infrastructure

On-premises

Apps

Microsoft Azure

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Build apps faster and easier - IAAS

App Innovation

| VM	Containers	Service Fabric	Other
Legacy applications, no change	Efficiency and speed	Always-on, scalable, distributed applications	Cloud Foundry, OpenShift, Apprenda, Jelastic, etc.
Lift and shift	Improved DevOps	Hyperscale (e.g. IOT)	Third-party frameworks

Build apps faster and easier – PAAS

App Innovation
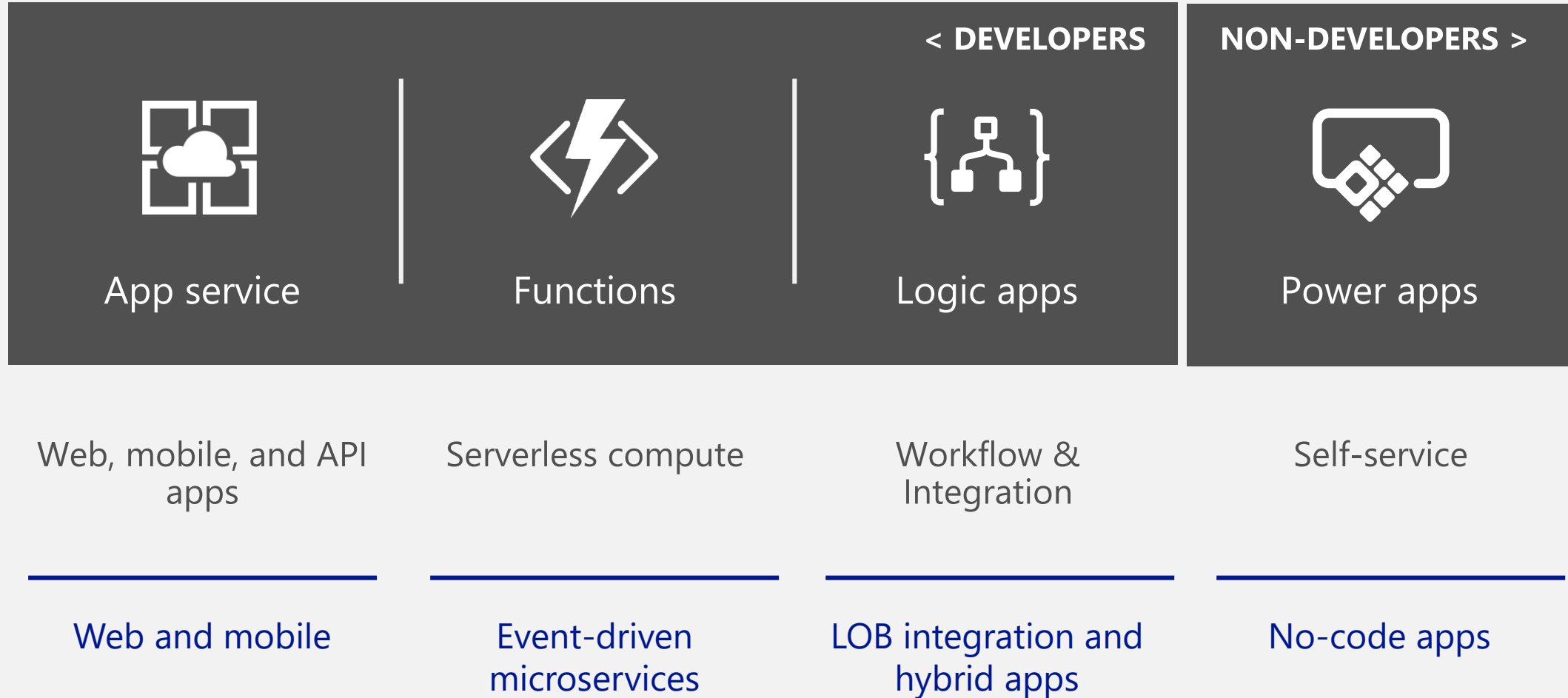
< DEVELOPERS			NON-DEVELOPERS >
App service	Functions	Logic apps	Power apps
Web, mobile, and API apps	Serverless compute	Workflow & Integration	Self-service
Web and mobile	Event-driven microservices	LOB integration and hybrid apps	No-code apps

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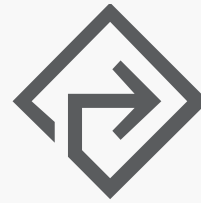
Support business strategy with any data
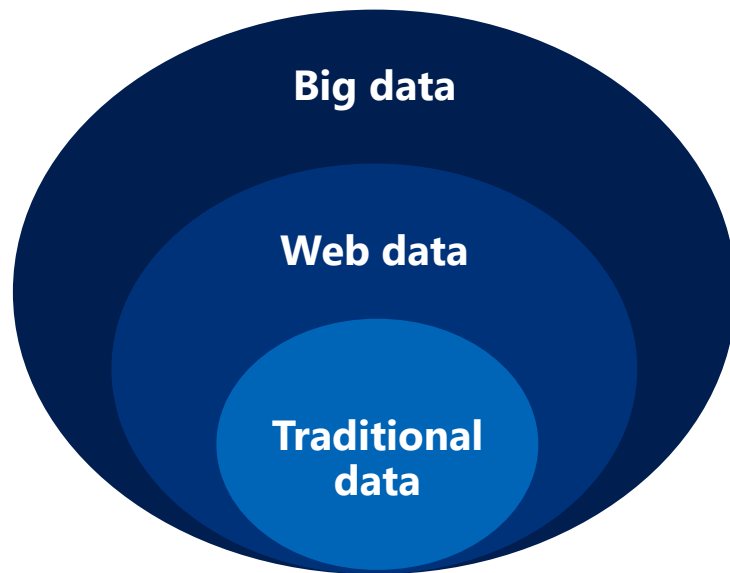
Predict and respond proactively

Learn and engage with artificial intelligence

Support business strategy with any data

Data-Driven Intelligence

Back-end power
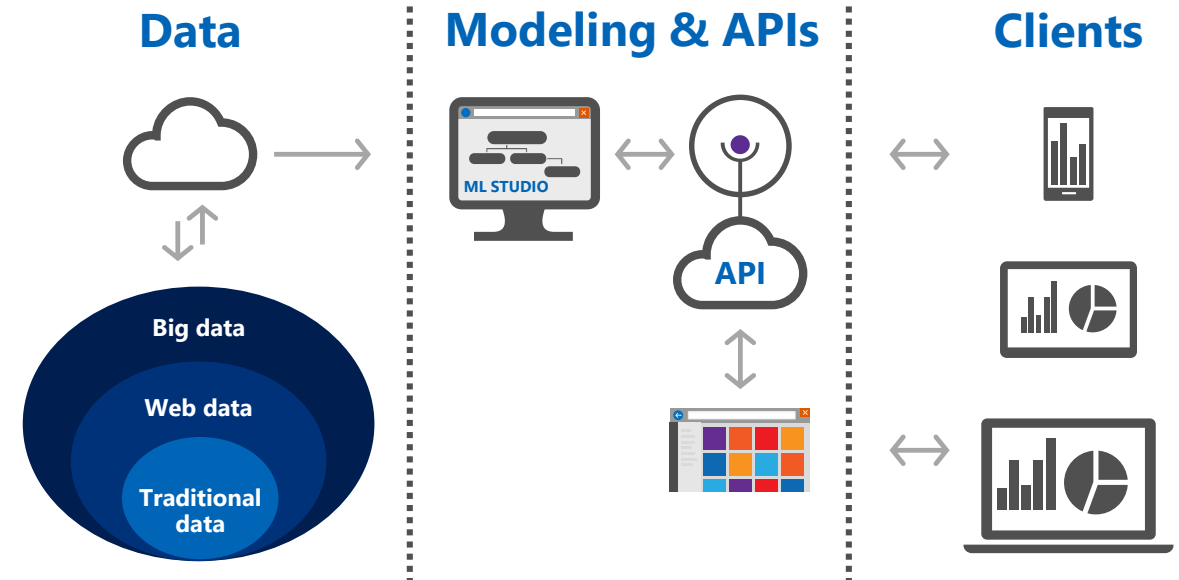
Front-end insights

Inner Sourcing

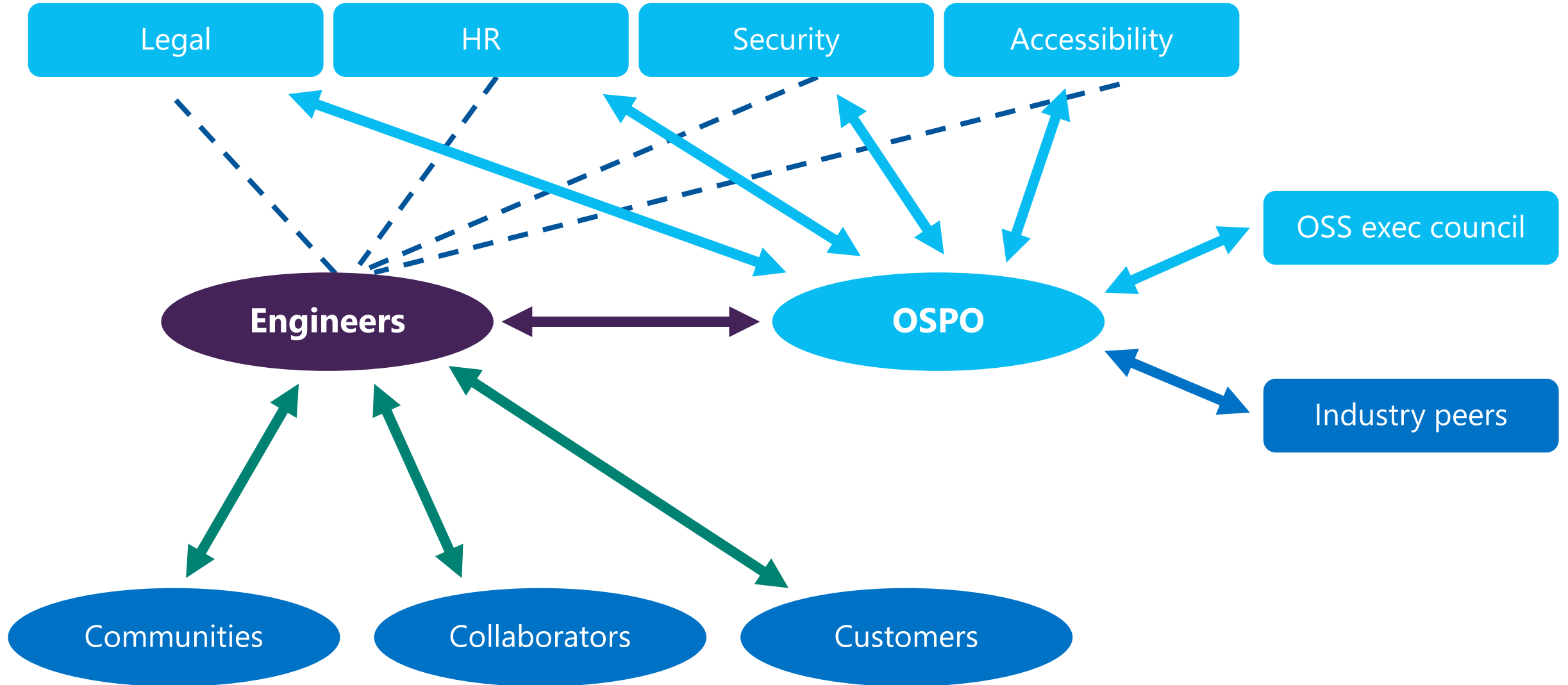In 2014, Microsoft CEO Satya Nadella directed all Microsoft engineers to "open source internally" - anyone at the company can see anyone else's code and use it as needed.

This vision is now a day-to-day reality for Microsoft engineers.

Facilitating Communication

Open Source at Enterprise Scale

April 2004, Windows Installer (WiX) on SourceForge
Feb 2005, Microsoft InterOp Systems licensing
May 2005, PHP on IIS Open Source
Feb 2006, SugarCRM collaboration
April 2006, JBoss
June 2006, CodePlex
Sept 2006, Open Specification Promise
Sept 2006, IronPython
Oct 2006, Zend Technologies PHP
Nov 2006, Microsoft / Novell interop alliance
April 2007, Windows Media Player Plugin for Firefox
April 2007, Open source contribution to Firefox
Sept 2007, Silverlight contribution to Eclipse
Oct 2007, OSI approves MPL & MRL licenses
Oct 2007, TurboLinux collaboration
Dec 2007, Microsoft & Samba agreement
Feb 2008, Microsoft Interoperability Principles
Mar 2008, Sun/Microsoft Interoperability Center
Oct 2008, First contribution to Apache projects (QPID)
Oct 2008, Apache contribution (Hbase)
July 2008, jQuery adopted for Visual Studio
Dec 2008, Over 80,000 OSS apps run on Windows reports SourceForge
April 2009, PHP SDK for Azure
Sept 2009, Outercurve (CodePlex) Foundation
July 2009, 20K lines of code contributed to Linux kernel
July 2009, System Center Operations Manager Linux/UNIX
Nov 2009, Over 400 OSS projects
Dec 2010, Over 350,000 OSS apps on Microsoft platforms

June 2011, Node.js on Windows
Dec 2011, Hadoop on Windows Open source
April 2012, IIS Open Source Launch
April 2012, Redis on Windows
Oct 2012, TypeScript
Dec 2012, WebKit contribution
Jan 2013, VM Depot
April 2013, Azure VMs running Linux
January 2013: Git support added to Visual Studio, Visual Studio Online and TFS
April 2014, .NET Foundation
April 2014, WinJS & Roslyn open sourced
Oct 2014, PowerShell Desired State Configuration (DSC) for Linux
Nov 2014, .NET Core open sourced
Oct 2014, OpenJDK contribution
Oct 2014, announced Docker support in Windows Server
April 2015, GitHub Enterprise/Azure
Aug, 2015, Windows Bridge for iOS open sourced
Nov 2015, Microsoft and Red Hat partnership
Nov 2015, Visual Studio Code open sourced
Dec 2015, MySQL Linux certification
Jan 2016, Microsoft Edge Chakra JavaScript engine open-sourced
Mar 2016, Eclipse Foundation
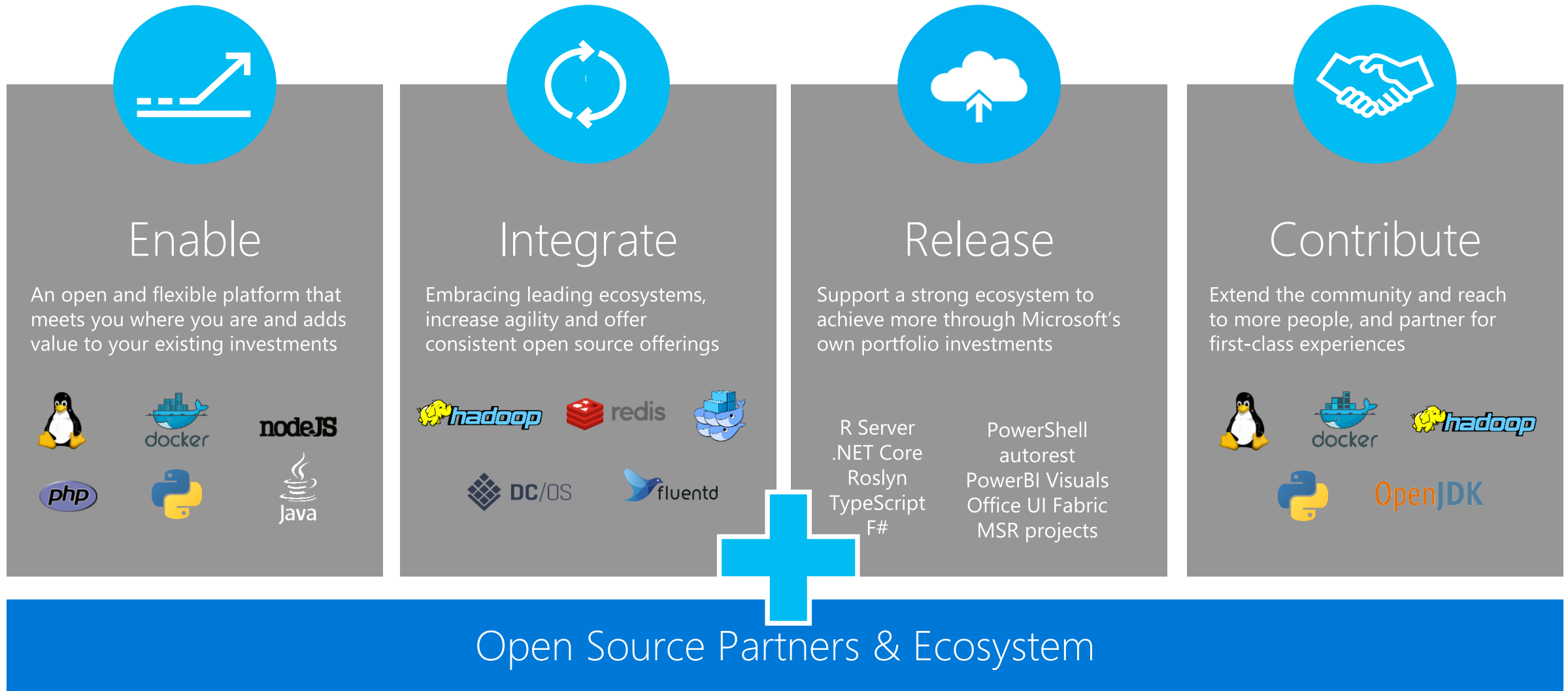**Mar 2016, SQL on Linux**
Mar 2016, Bash on Ubuntu on Windows
Mar 2016, Xamarin acquisition, open source
June 2016, .NET Core RTM at Red Hat DevNation
Today, Over 2,000 OSS projects on CodePlex and GitHub

9,700 open source components used

6,000 employees working on open source

3,000 open source projects released

Our approach to open source in the cloud

Enable

An open and flexible platform that meets you where you are and adds value to your existing investments

Integrate

Embracing leading ecosystems, increase agility and offer consistent open source offerings

Release

Support a strong ecosystem to achieve more through Microsoft's own portfolio investments

R Server
.NET Core
Roslyn
TypeScript
F#

PowerShell
autorest
PowerBI Visuals
Office UI Fabric
MSR projects

Contribute

Extend the community and reach to more people, and partner for first-class experiences

Open Source Partners & Ecosystem

Azure is an open cloud

DevOps
Nagios · VAGRANT · Jenkins · GRUNT · Gradle · Clients (Android, iOS) · Xamarin · APACHE CORDOVA™

Management
CHEF · puppet labs · ANSIBLE · SALTSTACK · mist.io · libcloud · SCALR CLOUD MANAGEMENT

Applications
WordPress · Joomla! · Drupal · PaaS & DevOps · apprenda® · Jelastic · CLOUD FOUNDRY · GitHub

App Frameworks & Tools
php · nodeJS · Python · Java · Ruby · IntelliJ IDEA · eclipse

Databases & Middleware
hadoop · redis · cleardb · cloudera · MySQL · mongoDB · Couchbase

Infrastructure
Linux · Ubuntu · redhat · SUSE · Debian · bitnami · ORACLE LINUX · freeBSD · docker

Azure Open Source App Platform

Stakeholders

Developers	Operations	DBAs and data scientists	Business

Office
PowerBI

Build on the infrastructure

Virtual Machines
Stateful and stateless one-off solutions

VM Scale Sets
Scalable solutions

Container Service
Scalable, orchestrated Docker images deployed into containers

Lift-and-shift + net new on Linux   Docker

Build on the platform

Batch
Custom High Performance Computing solutions

Open Source PaaS
Cloud Foundry, OpenShift

Service Fabric
Custom Microservice-based stateless and stateful solutions

App Service

Environments	Web, Mobile & API	Logic	Functions
All the goodness of App Service in a dedicated environment	Template based rapid development web, mobile and API solutions	Orchestrated workflow based integration solutions	Serverless event driven experience

Cloud-born   LOB

Microsoft Azure

Azure Open Source Data Platform

Stakeholders
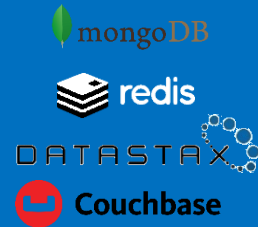
DBAs and data scientists	Operations	Developers	Business

Relational

MariaDB, PostgreSQL, bitnami

Collective set of multiple data sets organized by tables, records and columns

NoSQL & Cache

mongoDB, redis, DATASTAX, Couchbase

Non-relational DBs where data is modelled in means other than the tabular relations used in relational databases
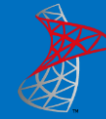
Big Data

cloudera, Hortonworks, MAPR

Accept data at a very high velocity, and store structured and unstructured data in an efficient and scalable way across nodes

Relational

Azure SQL Database including revamped client driver support for PHP, Node.js, Java, Linux ODBC and more

NoSQL & Cache

Azure DocumentDB, including native MongoDB wire protocol support, and Redis Cache

Big Data

Azure HDInsight – full Hadoop solution available as a service on Windows and Linux

Leverage cloud infrastructure

Dev/Test, Production and Lift & Shift   Docker, incl. via DC/OS

Build rapidly and connect to the platform

Cloud-born   LOB

redhat, SUSE, ORACLE LINUX, docker, DC/OS, freeBSD

nodeJS, Java, php, python, Ruby

Microsoft Azure

Azure Open Source Container Portfolio

Developer & Data Agility with Containers in the Cloud

Developers

Operations

Data scientists

Docker VM Extension for Azure

Easy and programmatic way to add Docker capabilities to your VMs

Open source container-based PaaS platforms in Azure

Container-ready application platforms that benefit from Azure's native partitioning, capacity management and high availability

Azure Container Service

Optimized container hosting in the cloud with familiar tooling and your choice of orchestrator

Azure Marketplace container partners

Partner solutions that address management challenges of containers

Microsoft Azure

Workload portability

Cross-cloud orchestration

Tools integration

| Windows Server (preview) | Azure Stack (roadmap) | DC/OS | Your own platform |

Products.... Its been a busy year...

November 2015	Red Hat partnership announcement and BYOS launch OMS Log Analytics – Linux (Preview)
December 2015	Container Service Preview Azure/MCSA Certification with LF
February 2016	Red Hat PAYG Launch VM Depot Shutdown Phase 1
March 2016	SQL Server on Linux announcement Service Fabric on Linux announcement New Java Dev Center in ACOM Azure Batch – Linux CentOS – Azure Government Container Service GA
April 2016	PCF in Azure (POC) Elasticsearch in Azure Parse Server PHP7 Support Terraform/Packer ARM Support
May 2016	Service Broker for PCF
June 2016	More SQL Server on Linux announcements .NET Core RTM Docker Datacenter in Marketplace FreeBSD & CoreOS in China
July 2016	RHEL BYOS in Azure Government MySQL in-app

Thankyou

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