Agenda de la journée

8:00-09:00	Accueil
9:00-9:30	Survol et partenariat
9:30-10:15	SQL Linux, SQL sur RHEL, SQL en Container
10:15-11:00	Automatisation - Ansible
11:00-11:45	OpenShift sur Azure
11:45-12:45	Lunch
12:45-13:30	Visual Studio Team Services - Azure Container Registry
13:30-13:45	Open Service Broker API + Azure SQL Database
13:45-14:30	Cloudforms (Hybrid cloud management)
14:30-14:45	Période de questions
14:45-15:00	Mot de la fin

.NET Core + SQL + Azure DevOps with OpenShift Container Platform

Mathieu Benoit
Cloud Solution Architect
Microsoft Canada

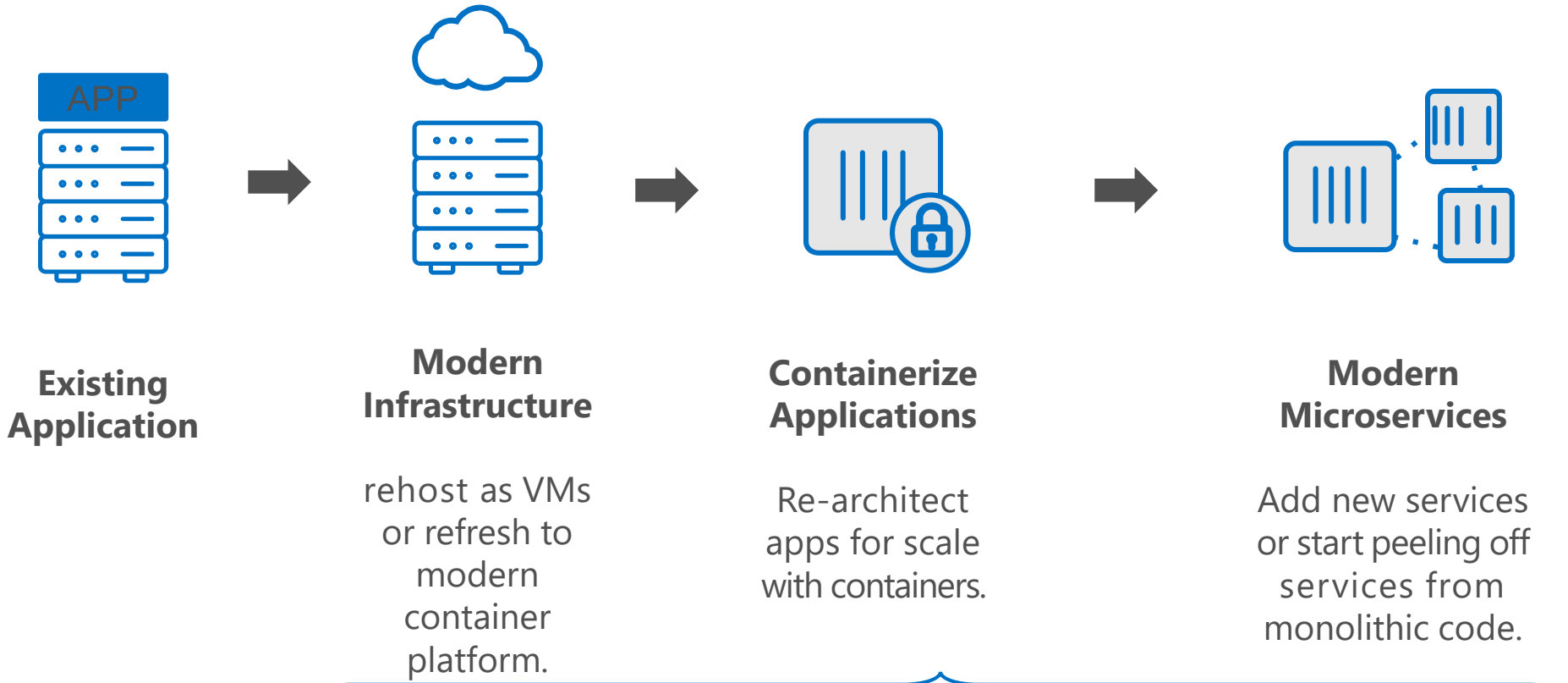
Microsoft | redhat

Resources

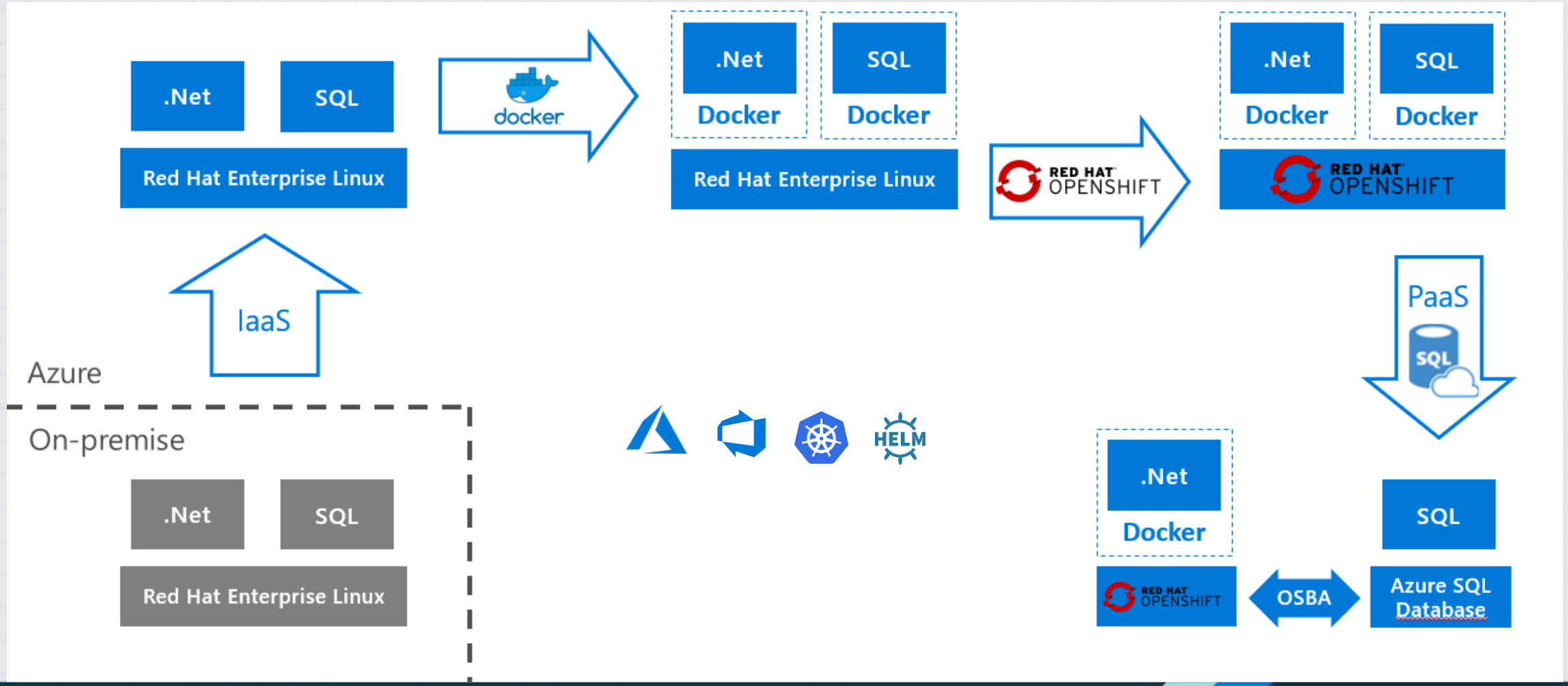
Presentation:
http://bit.ly/19-09-2018

Demos on GitHub:
https://github.com/mathieu-benoit/RedHatOpenShiftAndMicrosoftAzureWorkshop

OCP is meant for DevOps: IaaS & PaaS



From On-premise to OpenShift on Azure



Demo – Containers in OCP

OCP dashboard

pre-prod, prod, deployment, pods, services, secrets

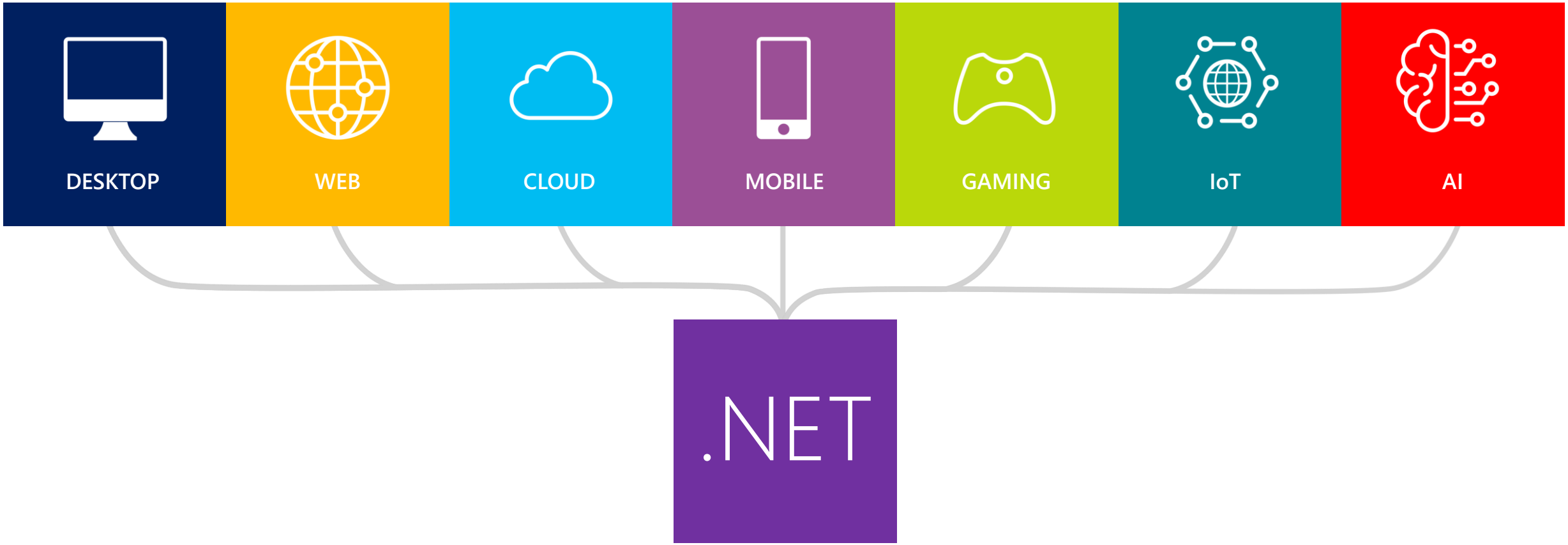
Azure Cloud Shell

http://shell.azure.com

OCP CLI

K8S CLI

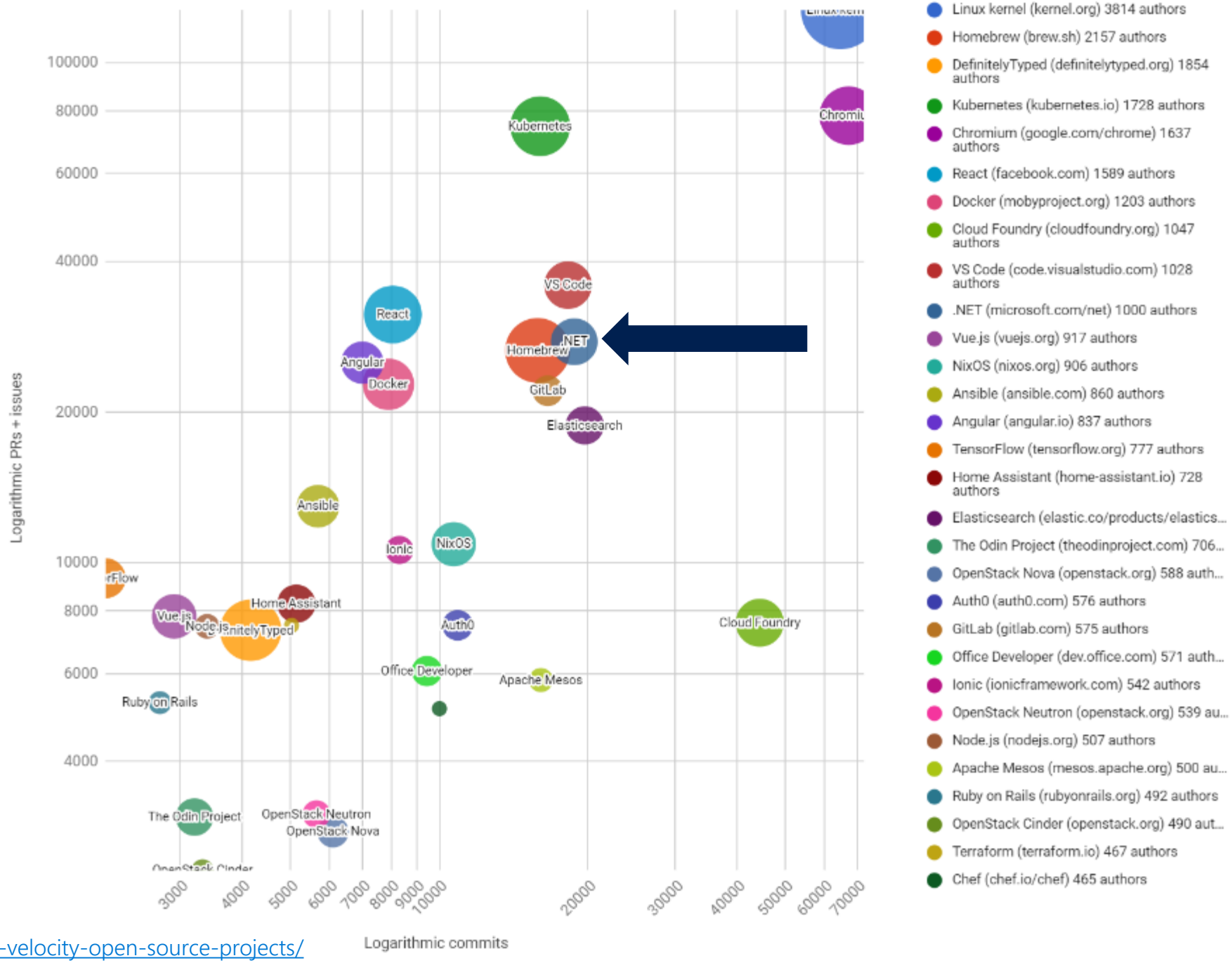
.NET, your platform for building **anything**



Open Source Momentum

ASP.NET Core
MEF
IdentityManager
.NET Core
Mono
Mailkit
Kudu
Cecil
Microsoft Azure SDK for .NET
Cake
Xamarin.Auth
xUnit.net
Open Live Writer
Mimekit
Nancy
WCF
Couchbase Lite for .NET
ASP.NET Web Pages
Umbraco
LLILC
Orchard CMS
.NET foundation
System.Drawing
IdentityServer
Open XML SDK
ASP.NET MVC
OWIN Authentication Middleware
NuGet
Polly
Orleans
Microsoft Azure WebJobs SDK
Prism
Xamarin.Mobile
Salesforce Toolkits for .NET
ASP.NET SignalR
ASP.NET Web API
Xamarin SDK
.NET SDK for Hadoop
WorldWide Telescope
Entity Framework
Benchmark.NET
MVVM Light Toolkit
.NET Compiler Platform ("Roslyn")
MSBuild
ASP.NET AJAX Control Toolkit
ProtoBuild

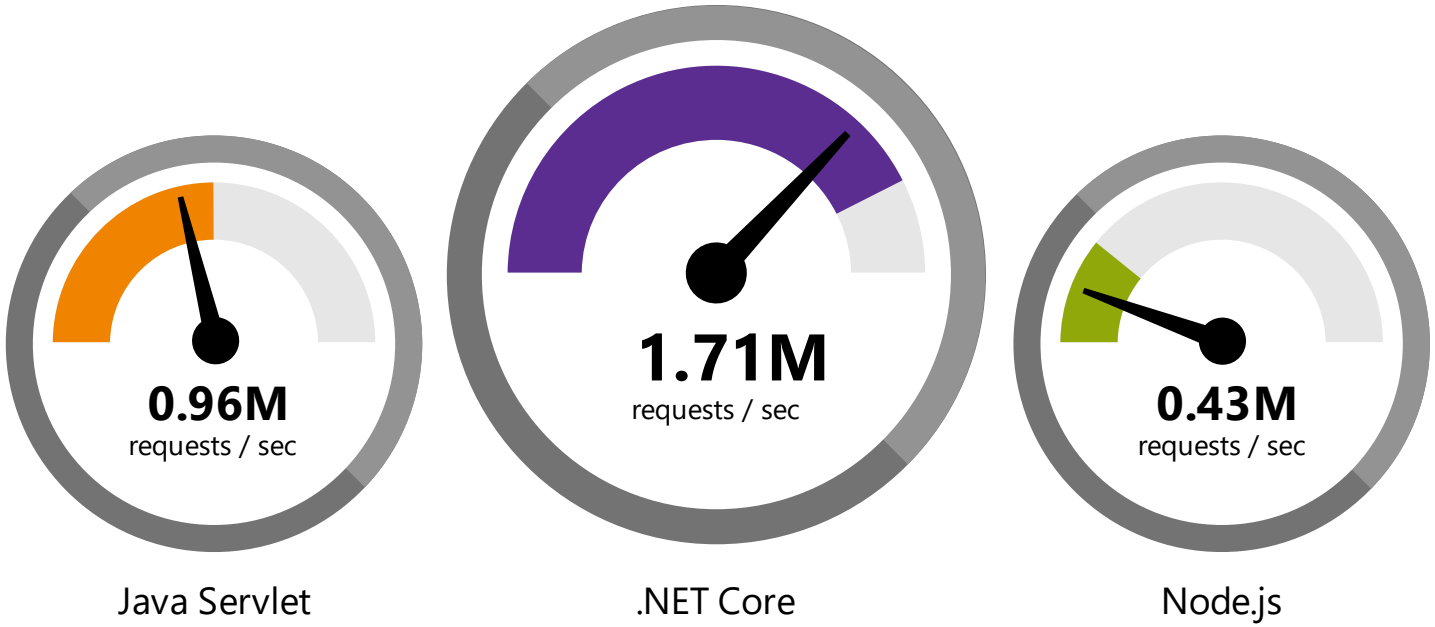
Top 30 Highest Velocity OSS Projects



CLOUD NATIVE COMPUTING FOUNDATION

https://www.cncf.io/blog/2017/06/05/30-highest-velocity-open-source-projects/

.NET Core 2 is Fast



Data sourced from official tests available at TechEmpower Round 14.

"Using the same-size server, we were able to go from 1,000 requests per second per node with Node.js to 20,000 requests per second with .NET Core."
— Raygun

https://www.microsoft.com/net/customers

.NET Application Architecture

www.dot.net/architecture

Microservices & Docker

Microservices are small, modular, and independently deployable services. Docker containers (for Linux and Windows) simplify deployment and testing by bundling a service and its dependencies into a single unit, which is then run in an isolated environment.

- Architecture e-book: PDF | Web | MOBI | EPUB
- DevOps e-book: PDF | Web
- Video
- Sample App
- Patterns

Modernizing .NET Apps

Lift and shift your existing .NET applications by optimizing your deployments with Windows Containers and by improving your DevOps operations for your dev/test/production environments, ultimately making your application cloud DevOps-ready.

- Architecture e-book: PDF | Web | MOBI | EPUB
- ASP.NET Sample Apps
- Migrate to cloud

Deploying with Azure

Production ready cloud applications need to be built for scalability, monitoring, management, security, resiliency, and more. The patterns covered in this guidance include example implementations for Microsoft Azure.

- Reference Architectures
- Best Practices
- Patterns
- Free Course

ASP.NET Web Applications

ASP.NET Core allows you to build high-performance, cross-platform web applications. Patterns like MVC and built-in support for Dependency Injection allow you to build applications that are easier to test and maintain.

- Architecture e-book: PDF | Web
- Sample App
- Migrate to cloud

Xamarin Mobile Apps

Xamarin allows you to build native Android, iOS, and Windows applications using .NET. Common patterns, such as MVVM, combined with good application layering, will maximize code sharing and result in an application that is easier to understand, test and maintain.

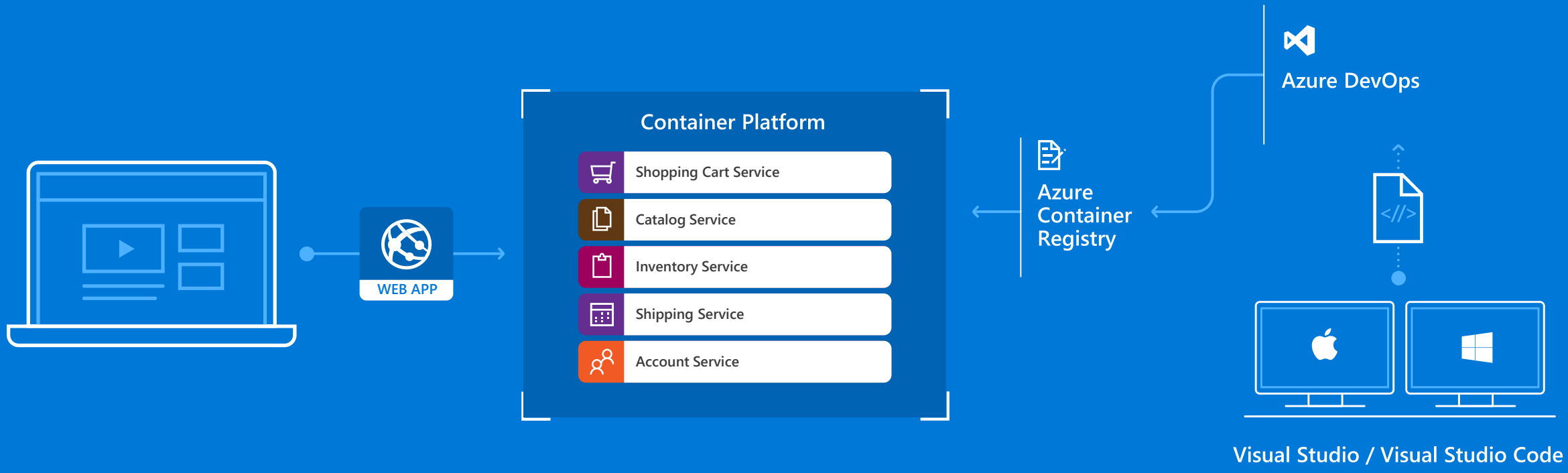
- Architecture e-book: PDF | Web
- Sample App
- Patterns

UWP Apps

Windows gives you the tools and capabilities to build modern experiences that empower your customers to do more. The Universal Windows Platform (UWP) lets you create a single app package that can run on a wide range of devices, and the Windows Store provides a unified distribution channel you can use to safely reach customers worldwide.

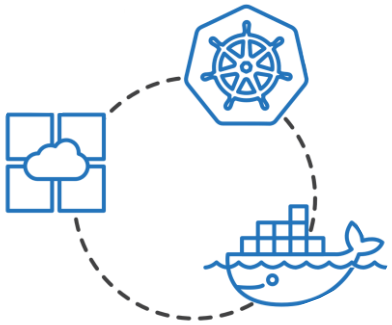
- Sample App
- Get Started
- Design Guidance

CI/CD with Containers

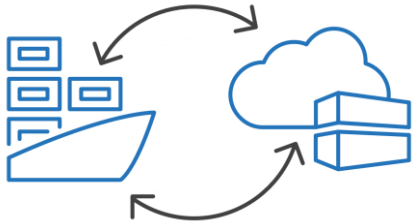


Azure Container Registry (ACR)

Manage a Docker private registry as a first-class Azure resource



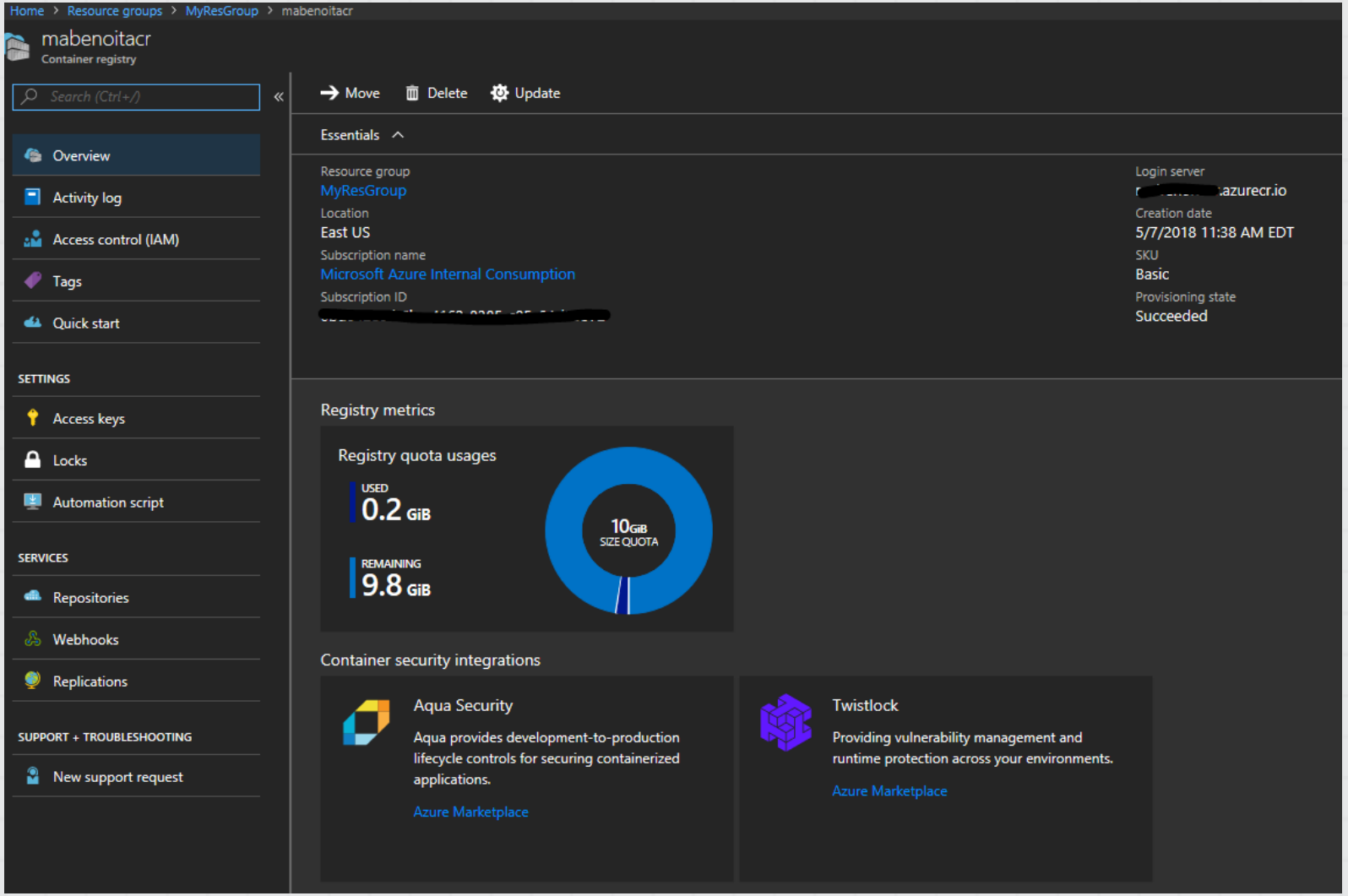
Manage images for all types of containers



Use familiar, open-source Docker CLI tools

Azure Container Registry geo-replication

Demo – ACR from within the portal



Microsoft | redhat

Azure DevOps*

Azure Boards

Azure Repos

Azure Pipelines

Azure Test Plans

Azure Artifacts

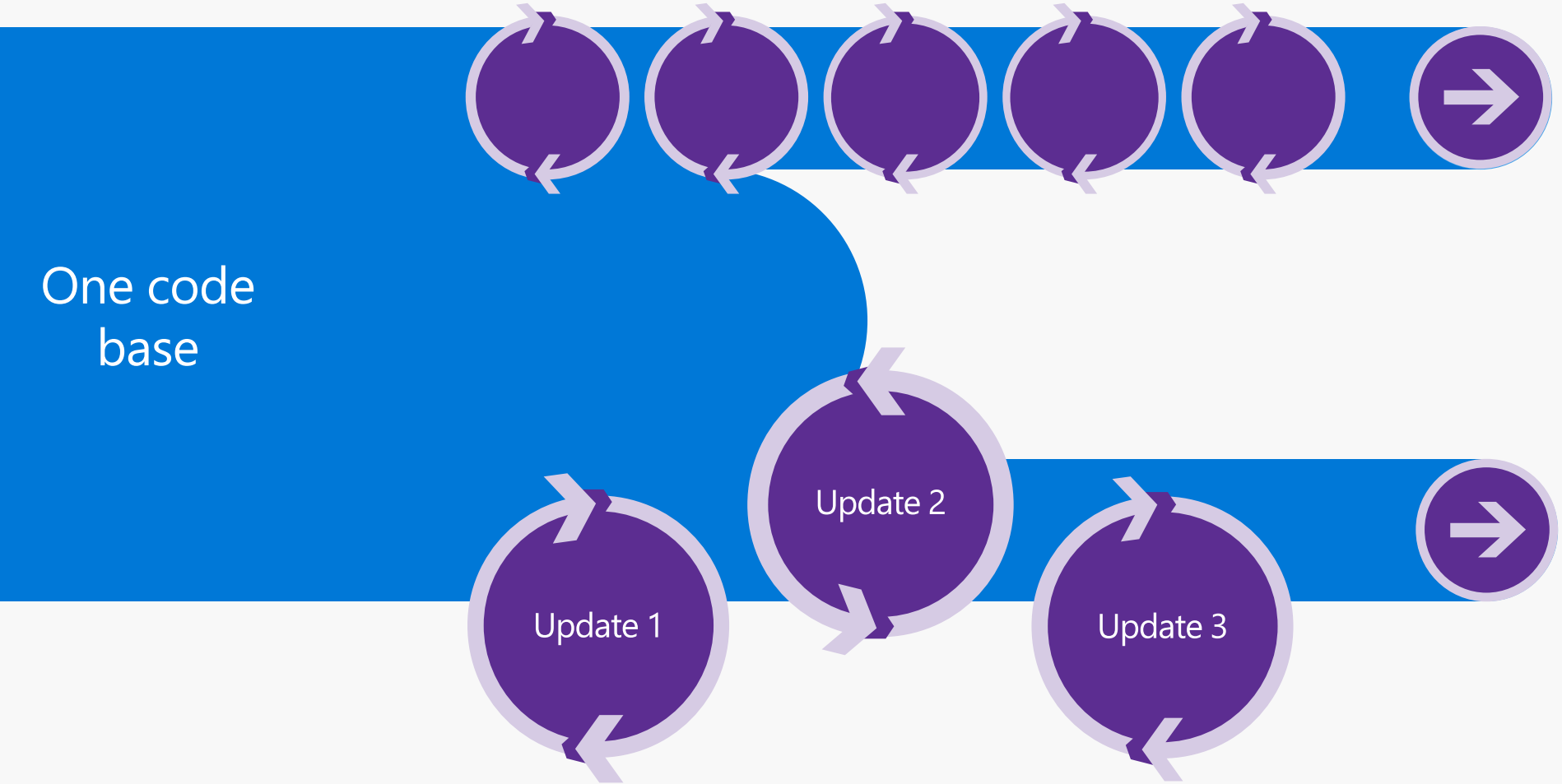
An end-to-end solution for organizations looking for an enterprise-grade toolchain

Fully Integrated with end to end traceability	Scalable to any team and project size	Highly available, multi region, hybrid cloud & on-prem	Customer Support	Consistent admin and access control

*formerly knows as VSTS

https://azure.com/devops

Azure DevOps and TFS



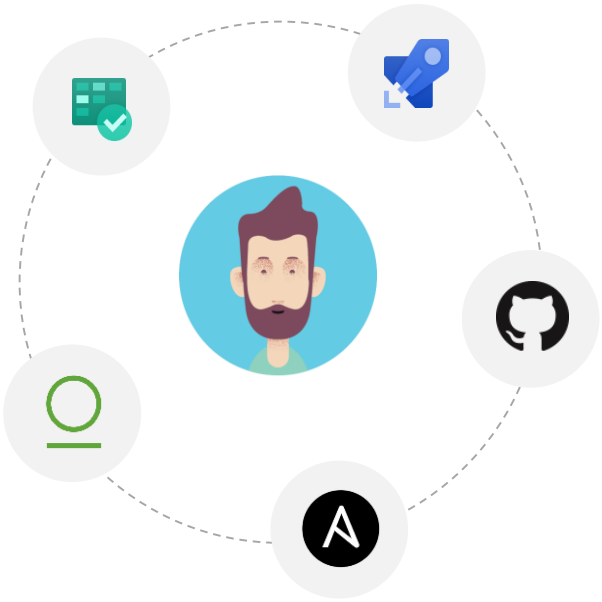
Azure DevOps

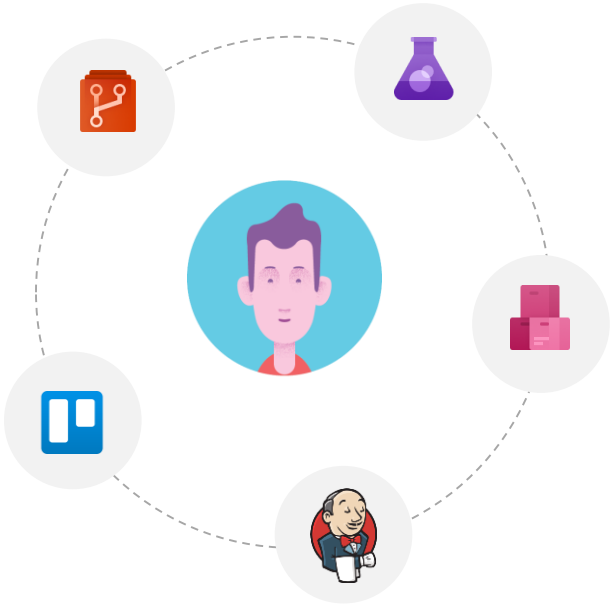
Team Foundation Server

Migrate to Azure DevOps: https://aka.ms/TFSImportData

Azure DevOps: Choose the tools and clouds you love

Azure DevOps lets developers choose the tools that are right for them

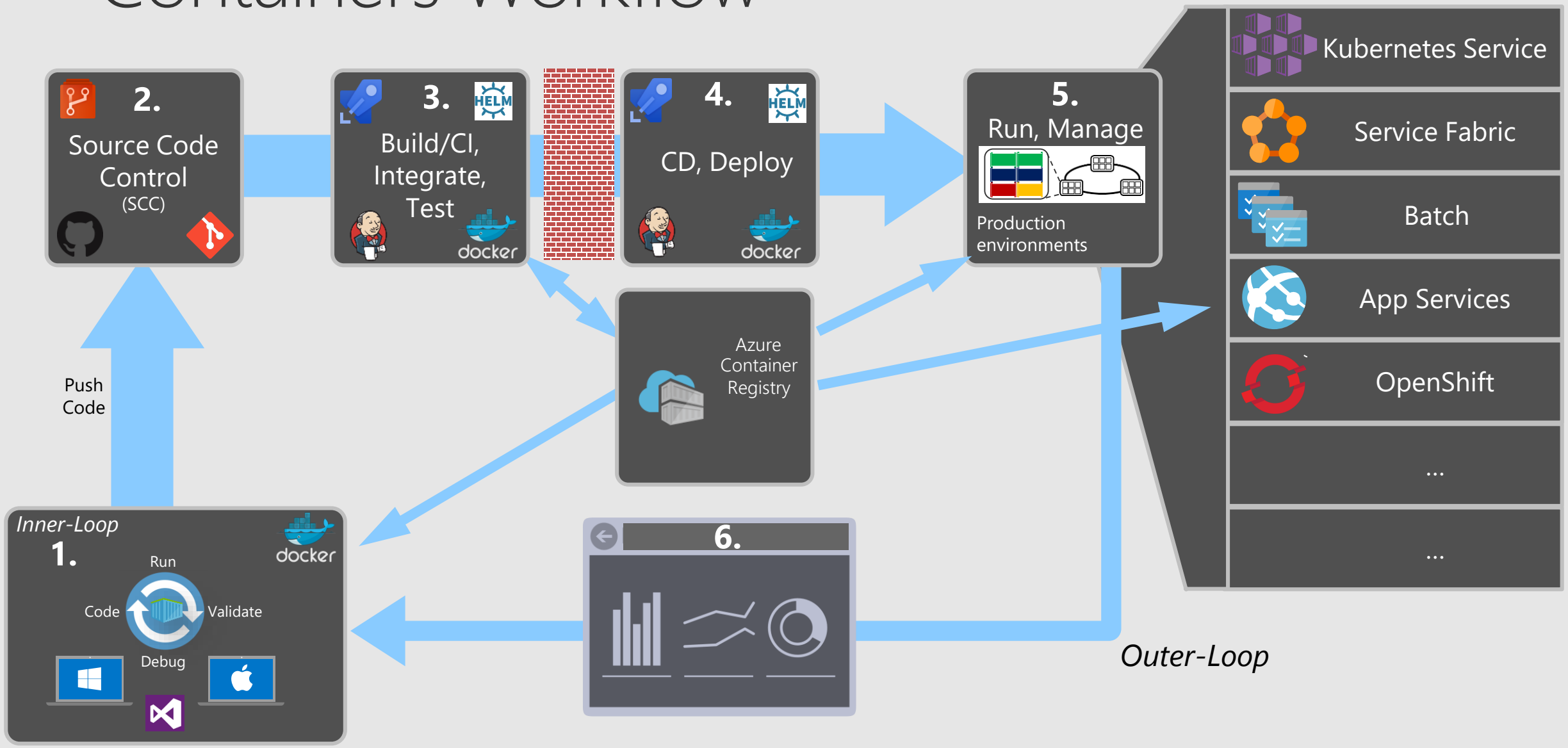




Mix and match to create workflows with tools from Microsoft, open source or your favorite 3rd party tools

Target any cloud, on-prem or both and deploy to the servers you need

Containers Workflow



Helm

The best way to find, share, and use software built for Kubernetes

Manage complexity

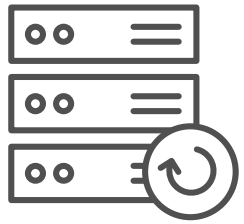
Charts can describe complex apps; provide repeatable app installs, and serve as a single point of authority

Easy updates

Take the pain out of updates with in-place upgrades and custom hooks

Simple sharing

Charts are easy to version, share, and host on public or private servers

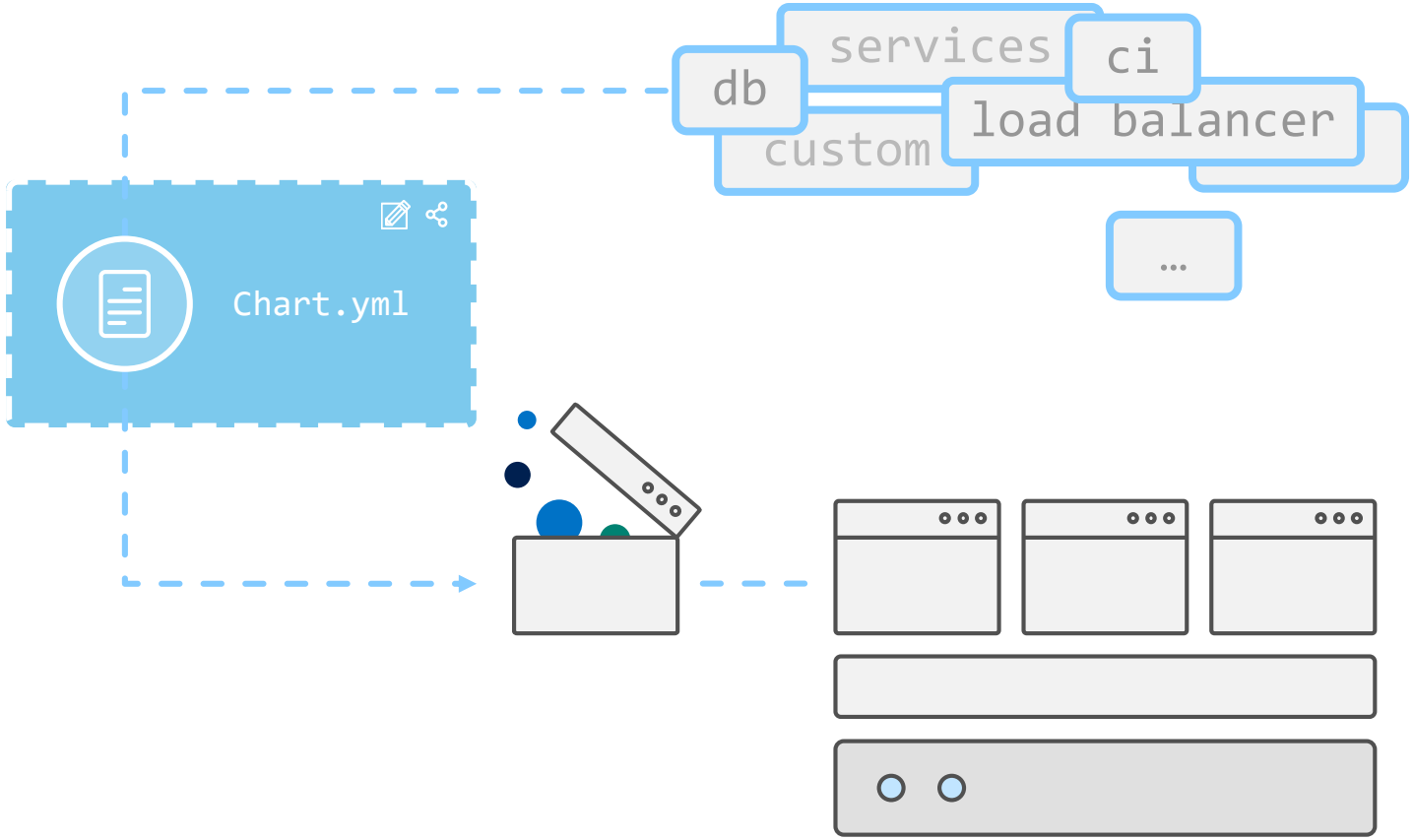


Rollbacks

Use `helm rollback` to roll back to an older version of a release with ease

Helm

Helm Charts helps you define, install, and upgrade even the most complex Kubernetes application



Demo – Azure DevOps

Azure Boards

Kanban boards, workitem, create branch

Azure Repos

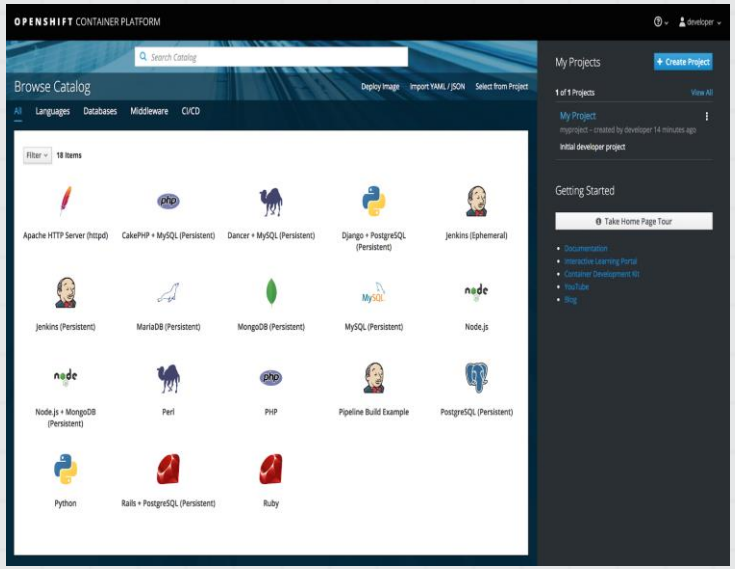
git, branch, pull request

Azure Pipelines

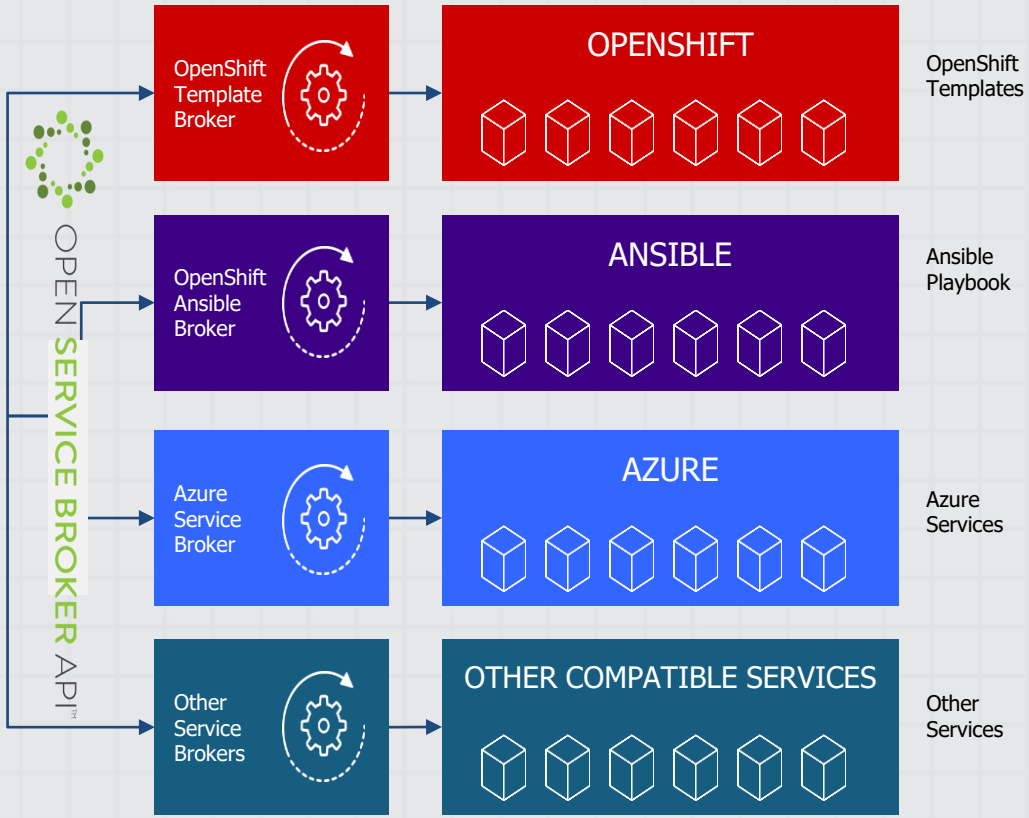
build: docker, acr, helm

release: helm, ocp, pre-prod/prod

OpenShift Service Catalog



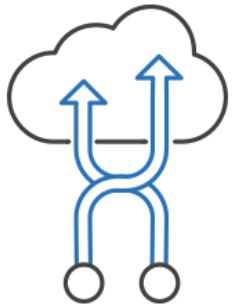
OpenShift Service Catalog



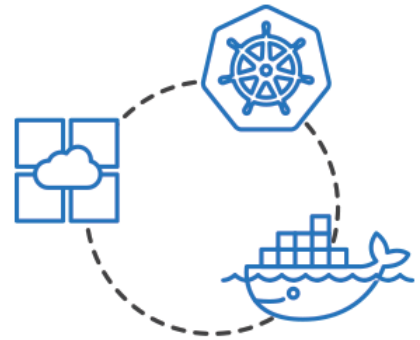
Open Service Broker for Azure (OSBA)

Connecting containers to Azure services and platforms

A standardized way to connect with Azure services



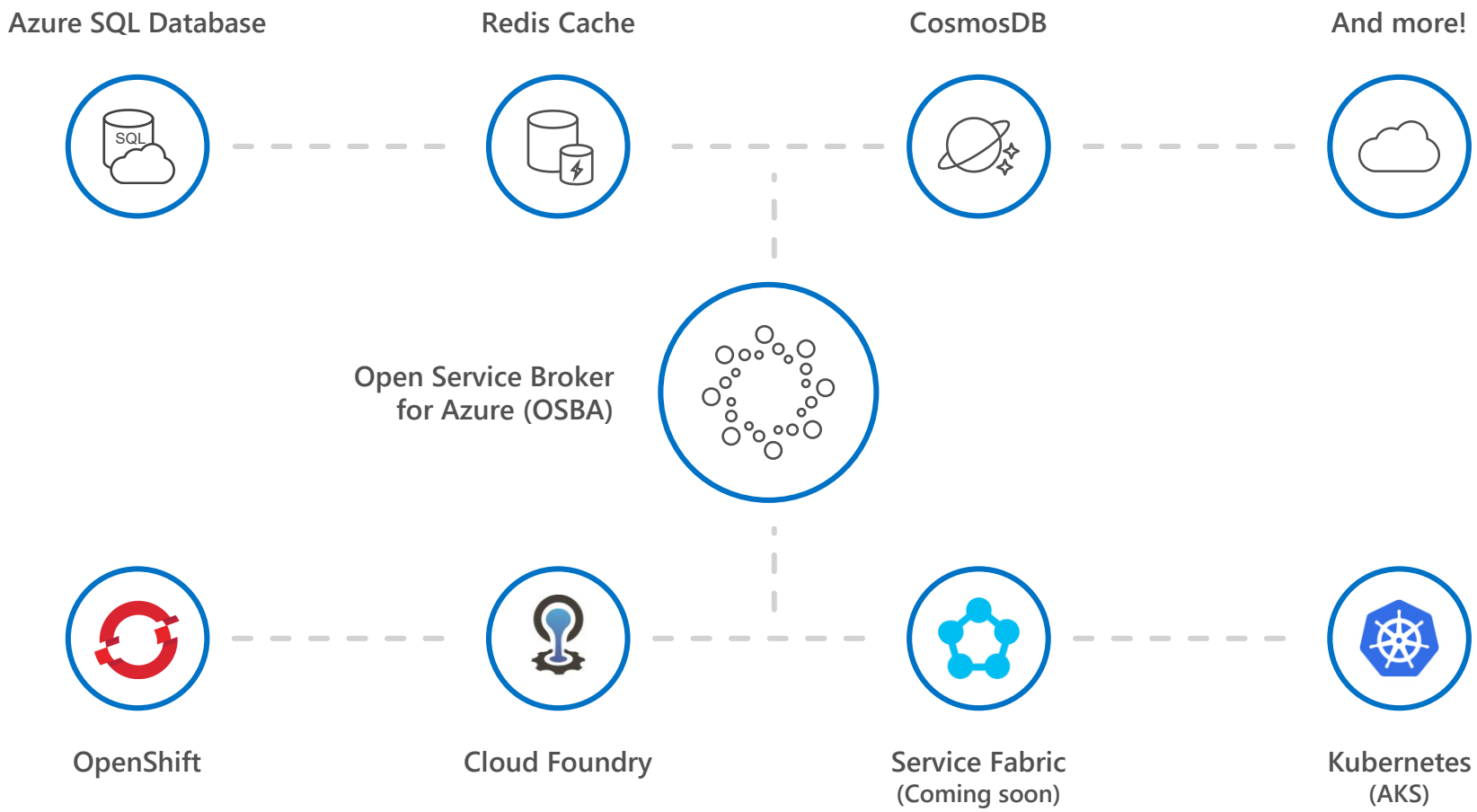
Simple and flexible service integration



Compatible across numerous platforms

Open Service Broker for Azure (OSBA)

An implementation of the Open Service Broker API



AZURE SQL DATABASE

THE INTELLIGENT RELATIONAL CLOUD DATABASE SERVICE

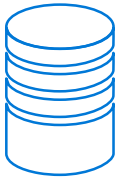
Learns & adapts

Realize automatic performance improvements from continuous assessments

Scales on the fly

Change service tiers, performance levels, and storage dynamically with minimal downtime.

Enables multi-tenant SaaS apps



Easily manage and monitor multitenant apps, and benefit from database isolation

Works in your environment

Develop your app and connect to SQL Database with the tools and platforms you prefer

Secures & protects

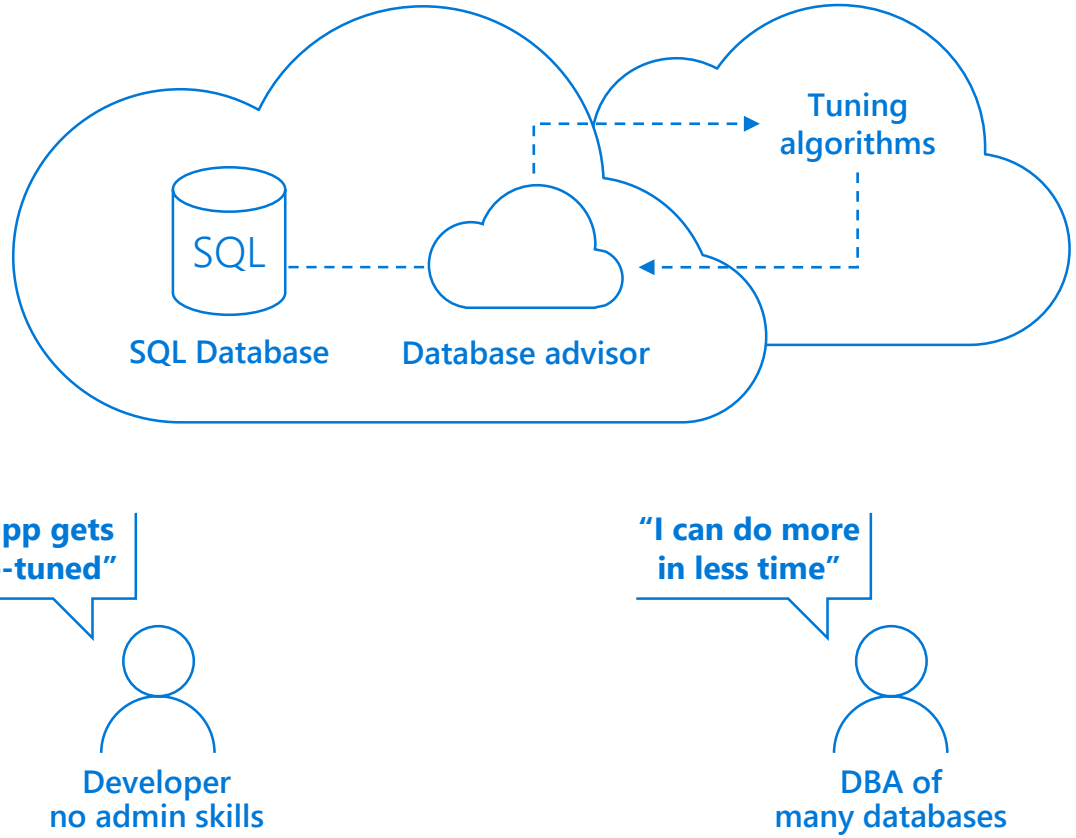
Build security-enhanced, highly compliant apps with built-in protection and intelligent Threat Detection

BUILT-IN INTELLIGENCE TO PROTECT AND OPTIMIZE

Built-in intelligence learns unique database patterns and automatically tunes for improved performance

Intelligent Threat Detection monitors, detects, and alerts on malicious activities

Vulnerability Assessment discovers, tracks and remediates potential database vulnerabilities



CONTINUOUSLY OPTIMIZED BY THE PLATFORM

One-click to enable

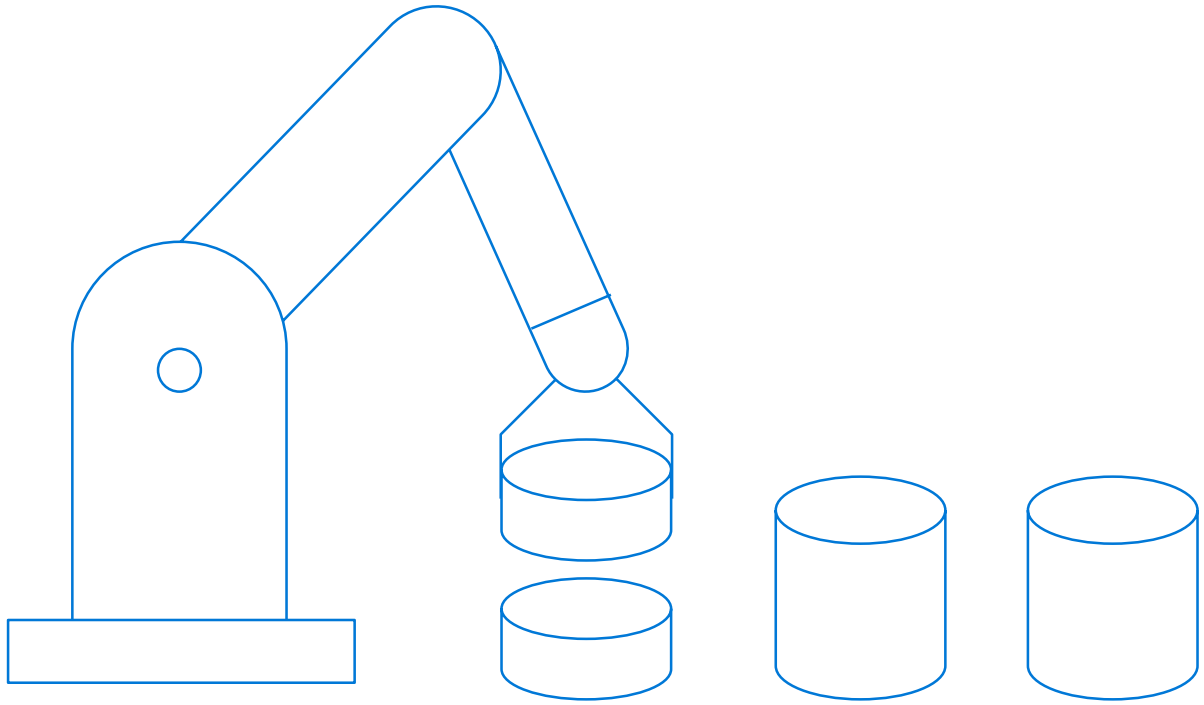
Prevent and mitigate issues

No app changes needed

Tuning actions

- Create missing indexes
- Drop unused/duplicate indexes
- Force last good plan

Automatic tuning



ACCELERATING YOUR JOURNEY TO THE CLOUD

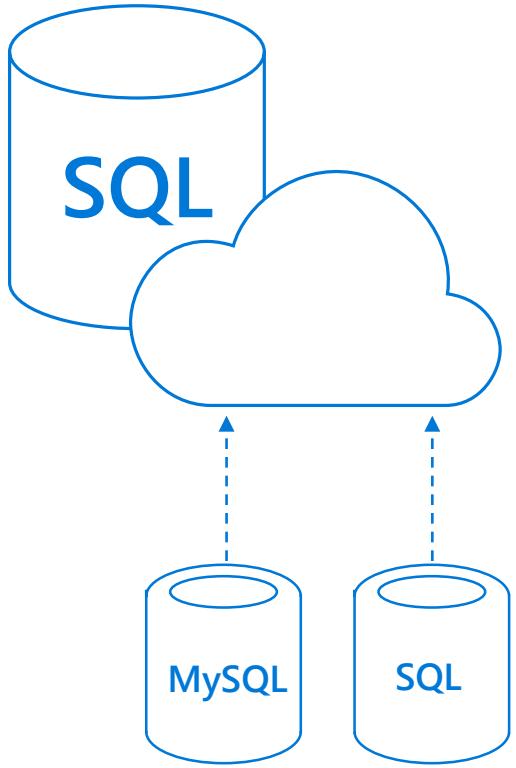
Fully managed database migration service for both operational databases and data warehouses

Enables reliable and seamless migrations to the cloud *at scale and minimal downtime*

Migrate SQL Server & 3rd party databases to Azure SQL Database

azure.com/migration

Azure Database Migration Service



SQL Server	Azure SQL Database single, elastic pools and Managed Instance
MySQL	Azure Database for MySQL
PostgreSQL	Azure Database for PostgreSQL
Oracle, …	Azure SQL Database & Managed Instance
Netezza, …	Azure SQL Data Warehouse

Demo – OSBA with OCP

Create

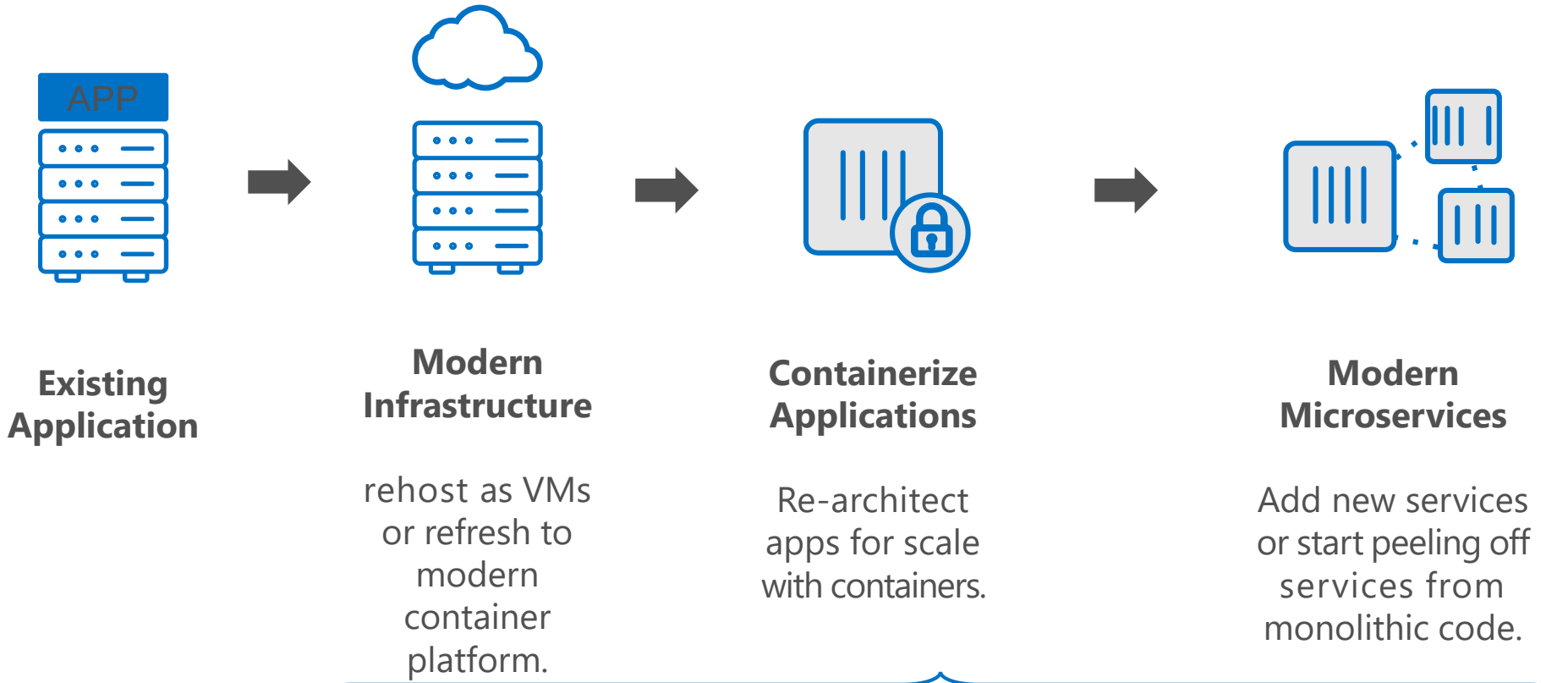
service catalog, azure sql database

Integrate

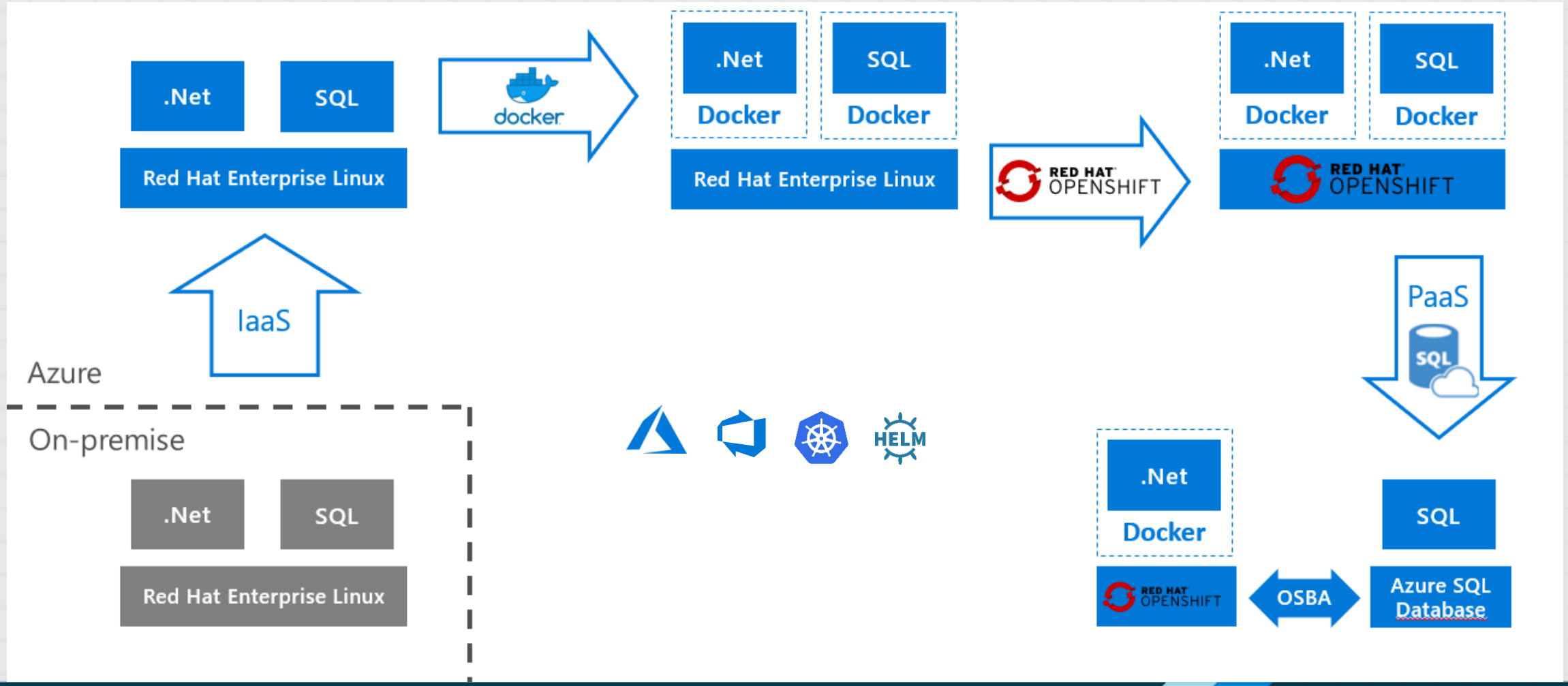
deployment, pod, secret, binding

OPEN SERVICE BROKER API™

OCP is meant for DevOps: IaaS & PaaS



From On-premise to OpenShift on Azure



Microsoft Azure <3 Open Source

Azure is a strong platform for Open Source

Microsoft announced GitHub acquisition

Several leads or co-leads of K8S SIGs

#2 overall individual contributor to K8S (Brendan Burns)

70 Microsoft employees have made contributions to K8S

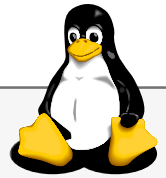
Virtual Kubelet

OSBA

Helm
Draft

VS Code

Azure Dev Spaces



1 in 3 VMs on Azure are Linux (growing at ~2 times Windows VMs)

Board member of the Linux Foundation

Microsoft joined Cloud Native Computing Foundation as Platinum Member (Technical Board)

redhat

suse CLOUD FOUNDRY

docker Terraform

Pivotal

Jenkins

Partnerships

Resources

Presentation:
http://bit.ly/19-09-2018

Demos on GitHub:
https://github.com/mathieu-benoit/RedHatOpenShiftAndMicrosoftAzureWorkshop

Microsoft redhat

Merci !
Thank you!