



**UNLEASHING THE POWER
OF CLOUD COMPUTING**

Who is Chad Green

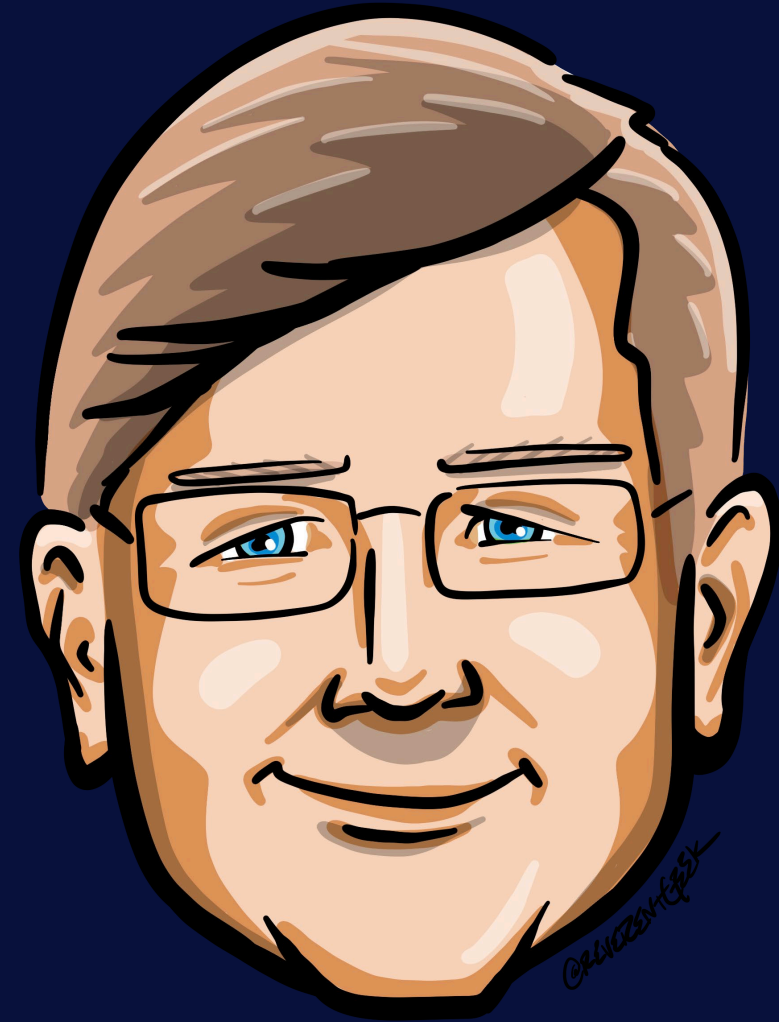
✉ chadgreen@chadgreen.com

💬 TaleLearnCode

🌐 ChadGreen.com

🐦 ChadGreen & TaleLearnCode

🌐 ChadwickEGreen



Memphis Azure User Group



MEMPHIS AZURE USER GROUP
MEMPHISAZURE.COM

- October 2023 – Azure: Unleashing the Power of Cloud Computing
- November 2023 – Azure on the Cheap – Your First Azure Application
- December 2023 – Automating my Dog with Azure Cognitive Services

<https://memphisazure.com/>

Louisville Azure Meetup

- October 12 – Implementing Multi-Tenant AKS
- November 9 – Enterprise Scale IaC using Terraform



<https://meetup.com/louisville-azure-meetup>

DevSpace



- Development without Downloads: Using Online Developer Tools 2023
- Multidevice Applications with Flutter



- Building Great Libraries
- Time Travelling Data: A Quick Overview of SQL Server Temporal Tables

Unleashing the Power of Cloud Computing

- Understanding Cloud Computing
 - History
 - Importance of Cloud Computing
 - Cloud Service and Deployment Models
 - Cloud Marketplace
- Microsoft Azure
 - History
 - Azure Regions
 - Azure Services
 - Example Architectures



Understanding Cloud Computing

Azure: Unleashing the Power of Cloud Computing



History of Cloud Computing

- 1950s and 1960's – Precursors to Cloud Computing



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- 1990s – Internet and Web Services



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- 2000s – Emergence of Cloud Computing



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- 2010s – Maturation and Market Grown



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- 2020s – Ongoing Evolution



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- 2020s – Ongoing Evolution
- Future – AI, Edge, and Quantum Computing

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- 2020s – Ongoing Evolution
- Future – Edge and Quantum Computing



Importance of Cloud Computing

**Scalability and
Flexibility**



Importance of Cloud Computing

Scalability and
Flexibility

Cost Efficiency



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Global Accessibility



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Cloud Service Models

**Infrastructure as a
Service (IaaS)**



Cloud Service Models

**Infrastructure as a
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**Platform as a
Service (PaaS)**



Cloud Service Models

Infrastructure as a
Service (IaaS)

Platform as a
Service (PaaS)

Serverless



Cloud Service Models

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Service (SaaS)**



Cloud Deployment Models

Public Cloud



Cloud Deployment Models

Public Cloud

Private Cloud



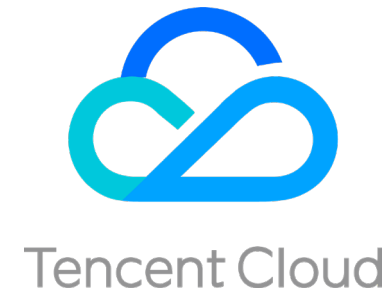
Cloud Deployment Models

Public Cloud

Private Cloud

Hybrid Cloud

Cloud Marketplace



Microsoft Azure

Azure: Unleashing the Power of Cloud Computing



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- AI and Machine Learning Advancements



Microsoft Azure History

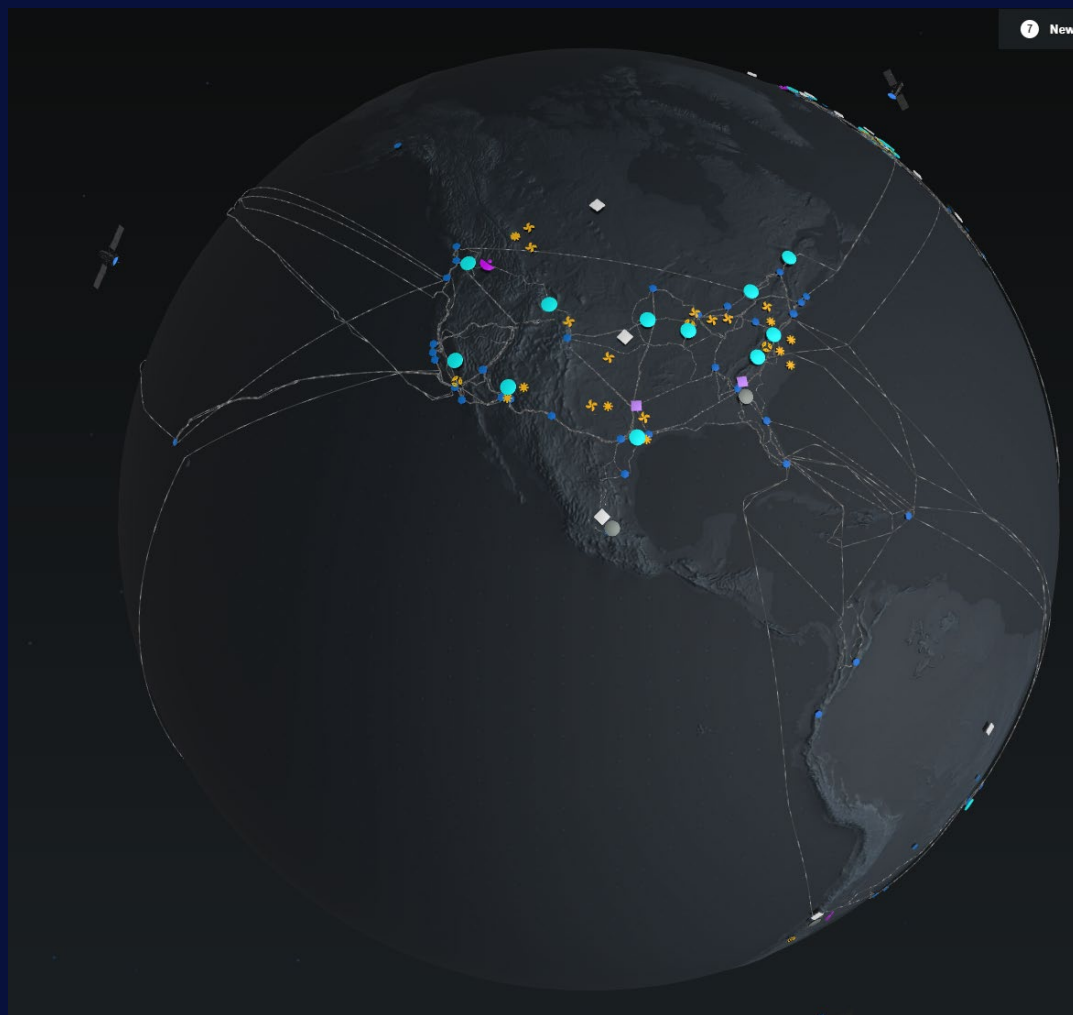
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- Global Data Center Expansion
- AI and Machine Learning Advancements
- Edge Computing
- Sustainability Commitments

Azure Regions



48 Active Regions
17 Regions In-Development

Azure Regions

United States

- Central US (Iowa)
- East US (Virginia)
- East US 2 (Virginia)
- East US 3 (Georgia) *
- North Central US (Illinois)
- South Central US (Texas)
- West Central US (Wyoming)
- West US (California)
- West US 2 (Washington)
- West US 3 (Arizona)

United States Government

- US DoD Central (Iowa)
- US DoD East (Virginia)
- US Government Arizona (Arizona)
- US Government Texas (Texas)
- US Government Virginia (Virginia)
- US Secret East (Undisclosed)
- US Secret West (Undisclosed)
- US Secret West Central (Undisclosed) *

Azure Regions

Americas

- Brazil South (São Paulo)
- Canada Central
- Canada East
- Chile Central *
- Mexico Central *

Oceania / Africa

- Australia Central (Canberra)
- Australia East (New South Wales)
- Australia Southeast (Victoria)
- New Zealand North (Auckland) *
- South Africa North (Johannesburg)

Azure Regions (Europe)

- Austria East (Vienna) *
- Belgium Central (Brussels) *
- Denmark East (Copenhagen) *
- North Europe (Ireland)
- West Europe (Netherlands)
- Finland Central (Helsinki) *
- France Central (Paris)
- Germany West Central (Frankfurt)
- Greece Central (Athens) *
- Italy North (Milan)
- Norway East (Oslo)
- Poland Central
- Spain Central (Madrid) *
- Sweden Central (Gävle)
- Switzerland North (Zürich)
- UK South (London)
- UK West (Cardiff)

Azure Regions (Asia)

- Israel Central (Israel) *
- Qatar Central (Doha)
- UAE North (Dubai)
- Southeast Asia (Singapore)
- China East (Shanghai)
- China East 2 (Shanghai)
- China North (Beijing)
- China North 2 (Beijing)
- China North 3 (Hebei)
- Central India (Pune)
- India South Central (Hyderabad) *
- South India (Chennai)
- Indonesia Central (Jakarta) *
- Japan East (Tokyo)
- Japan West (Osaka)
- Korea Central (Seoul)
- Malaysia West (Kuala Lumpur) *
- Saudi Arabia Central (Saudi Arabia) *
- Taiwan North (Taipei) *

Azure Services

- Compute



Virtual
Machines



VM Scale
Sets



Azure Red
Hat
OpenShift



Azure
VMware
Solution



Dedicated
Host



CycleCloud



Virtual
Desktop



Kubernetes
Service



Container
Instances



Container
Registry



Container
Apps



App Service



Azure
Functions



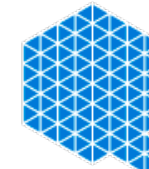
Azure Batch



Cloud
Services



Service
Fabric



Azure
Quantum

Azure Services

- Networking



Application Gateway



Azure Bastion



Azure DNS



Azure Firewall



Azure Front Door



Azure Orbital



ExpressRoute



Internet Analyzer



Load Balancer



Network Watcher



Private Link



Route Server



Traffic Manager



Virtual Network



Virtual WAN



VPN Gateway

Azure Services

- Identity and Security



Azure
Active
Directory



Azure AD
External
Identities



Azure AD
Domain
Services



Defender
for Cloud



Microsoft
Sentinel



Dedicated
HSM



Azure Key
Vault



Information
Protection



DDoS
Protection

Azure Services

- Management & Governance



Automation



Azure
Advisor



Azure Arc



Azure
Automanage



Azure
Backup



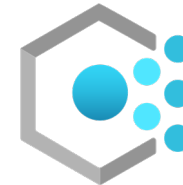
Azure
Blueprints



Azure
Lighthouse



Azure
Monitor



Azure Policy



Azure
Portal



Cloud Shell



Cost
Management



Kubernetes
Fleet
Manager



Managed
Apps

Azure Services

- Storage



Avere vFXT



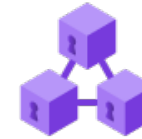
Azure
Elastic SAN



Azure
NetApp
Files



Azure
Storage



Confidential
Ledger



Data Lake
Storage



Data Share



HPC Cache



Managed
Disks



Managed
Lustre



StorSimple

Azure Services

- Databases



SQL
Database



SQL
Managed
Instance



SQL Server
Stretch DB



Cosmos DB



Database
for MariaDB



Database
for MySQL



Database
for
PostgreSQL



Apache
Cassandra
Managed
Instance



Azure
Cache for
Redis

NoSQL

NoSQL



MongoDB



Apache
Cassandra



Apache
Gremlin



Table



PostgreSQL

Azure Services

- Analytics



Analysis
Services



Azure
Purview



Data
Catalog



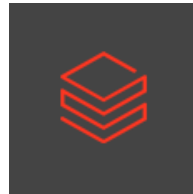
Data
Explorer



Data
Factory



Data Lake
Analytics



Databricks



HDInsight



Microsoft
Fabric



Operator
Insights



Power BI
Embedded



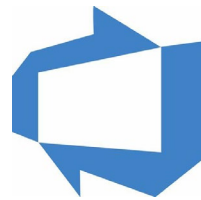
Stream
Analytics



Synapse
Analytics

Azure Services

- Development



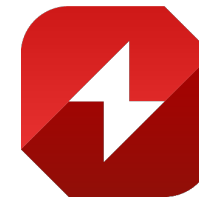
Azure
DevOps



Visual
Studio App
Center



Managed
Grafana



Azure
Chaos
Studio



App
Configuration



Deployment
Environments



DevTest
Labs



Load
Testing



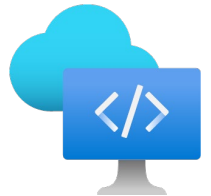
Lab
Services



SingaIR
Service



Azure
Spring Apps



Microsoft
Dev Box

Azure Services

- Integration



Event Hubs



Service Bus



Web
PubSub



Notification
Hub



Event Grid



Logic Apps



API
Management



Energy Data
Manager



Health Data
Services



Azure Services

- Media



Azure CDN



Media
Service



Azure Services

- Communications



Azure
Communications
Gateway



Communication
Services



Azure Services

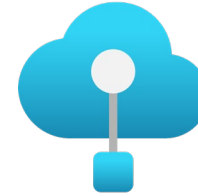
- IoT



IoT Hub



IoT Central



IoT Edge



Azure
Sphere



Digital
Twins



Defender
for IoT



Azure Maps

Azure Services

- AI and Machine Learning



Cognitive Services



Machine Learning



OpenAI Service



Cognitive Search



AI Vision



AI Speech



AI Language



AI Translator



AI Document Intelligence



AI Bot Service



AI Video Indexer



AI Anomaly Detector



AI Content Safety



AI Personalizer



AI Metrics Advisor



AI Immersive Reader

Azure Services

- AI and Machine Learning



Machine Learning



Cognitive Services



OpenAI Services



Applied AI Services



Open Datasets



Project Bonsai



Microsoft Genomics



Azure Services

- Mixed Reality



Remote
Rendering



Object
Anchors



Spatial
Anchors



Time Series
Insights



Azure Services

- Migration



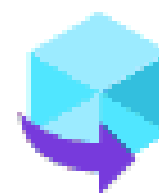
Azure
Migrate



Data Box



DB
Migration
Service



Resource
Mover

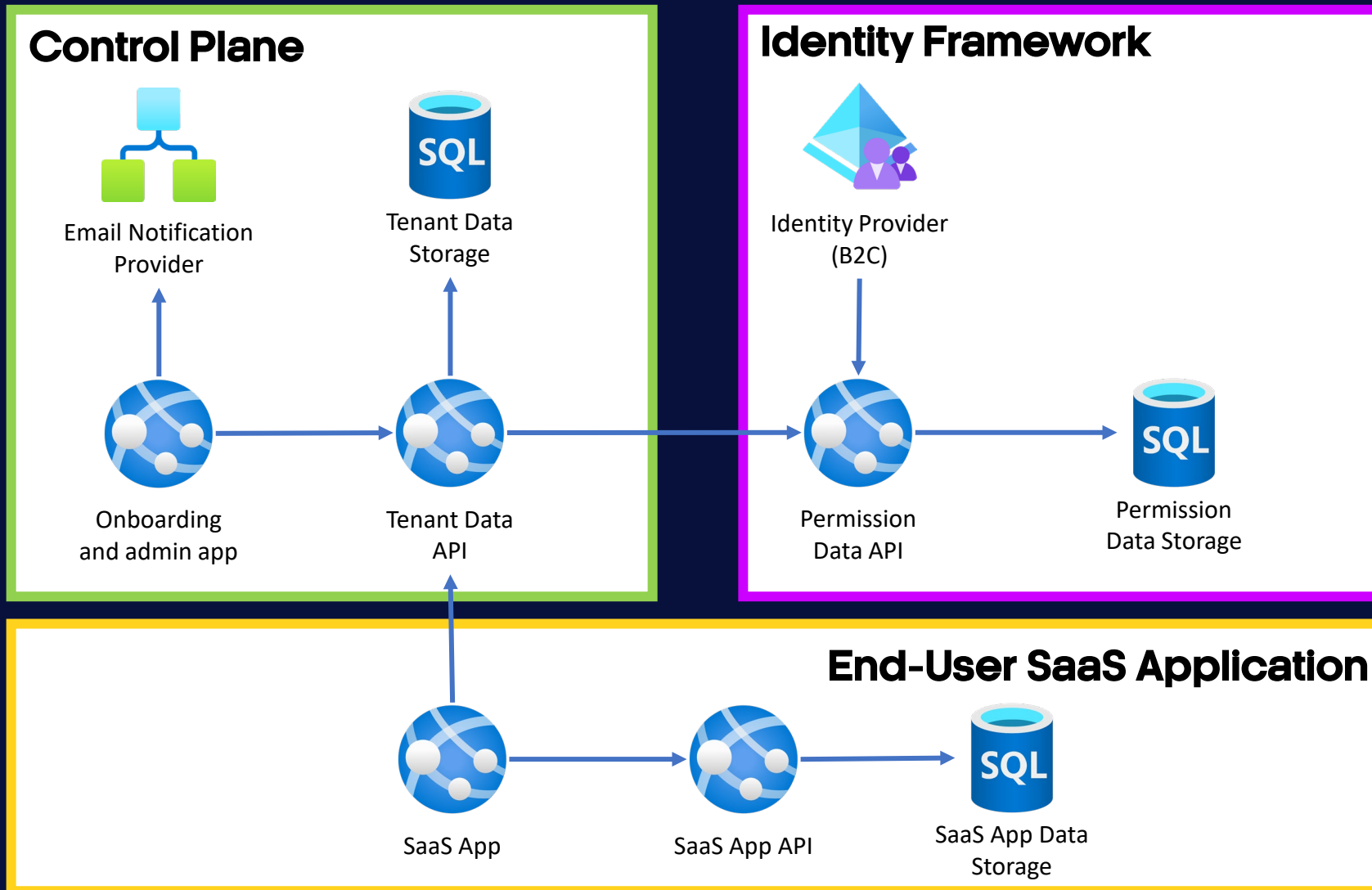


Site
Recovery

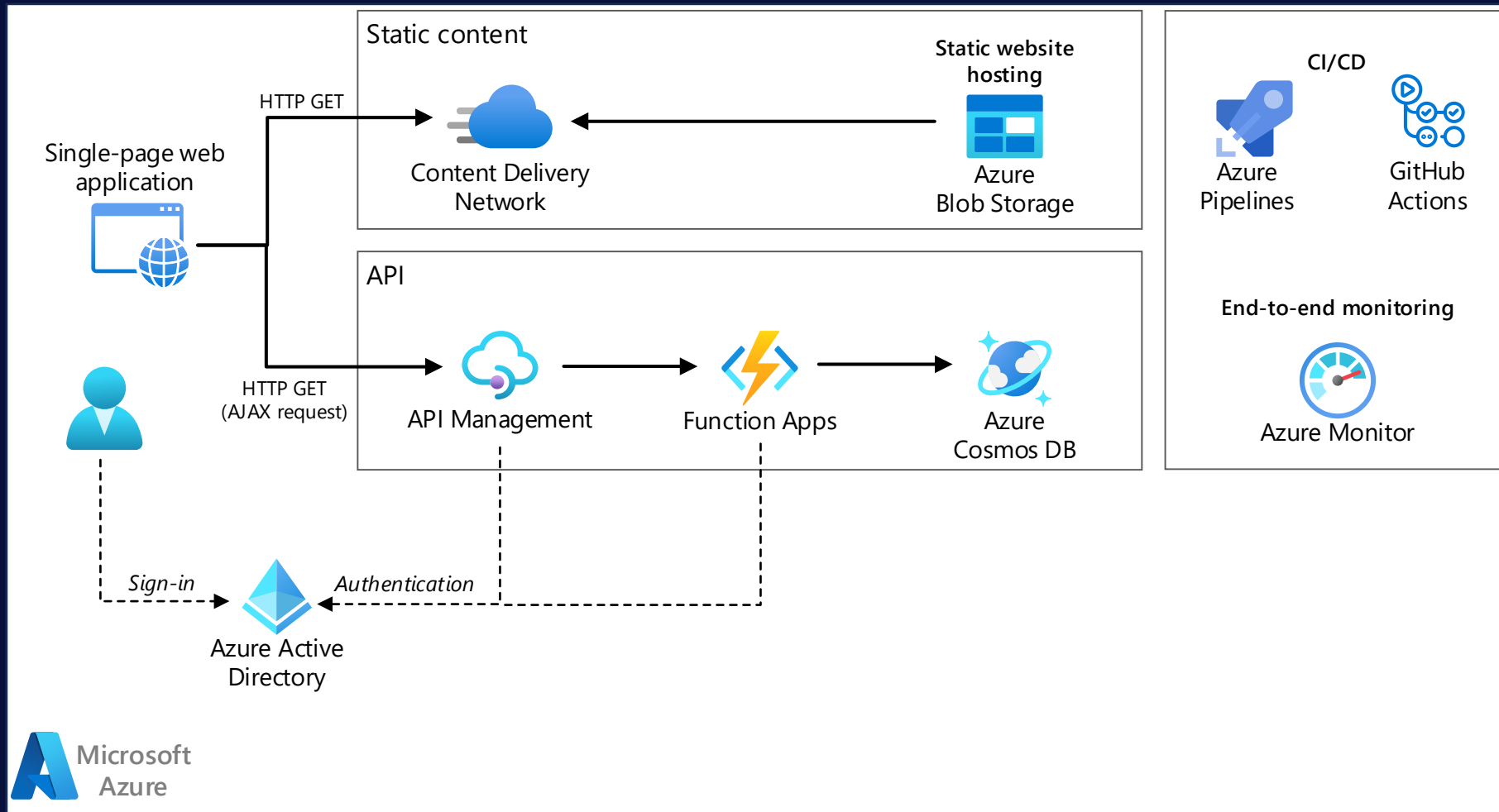
Example Architectures

Azure: Unleashing the Power of Cloud Computing

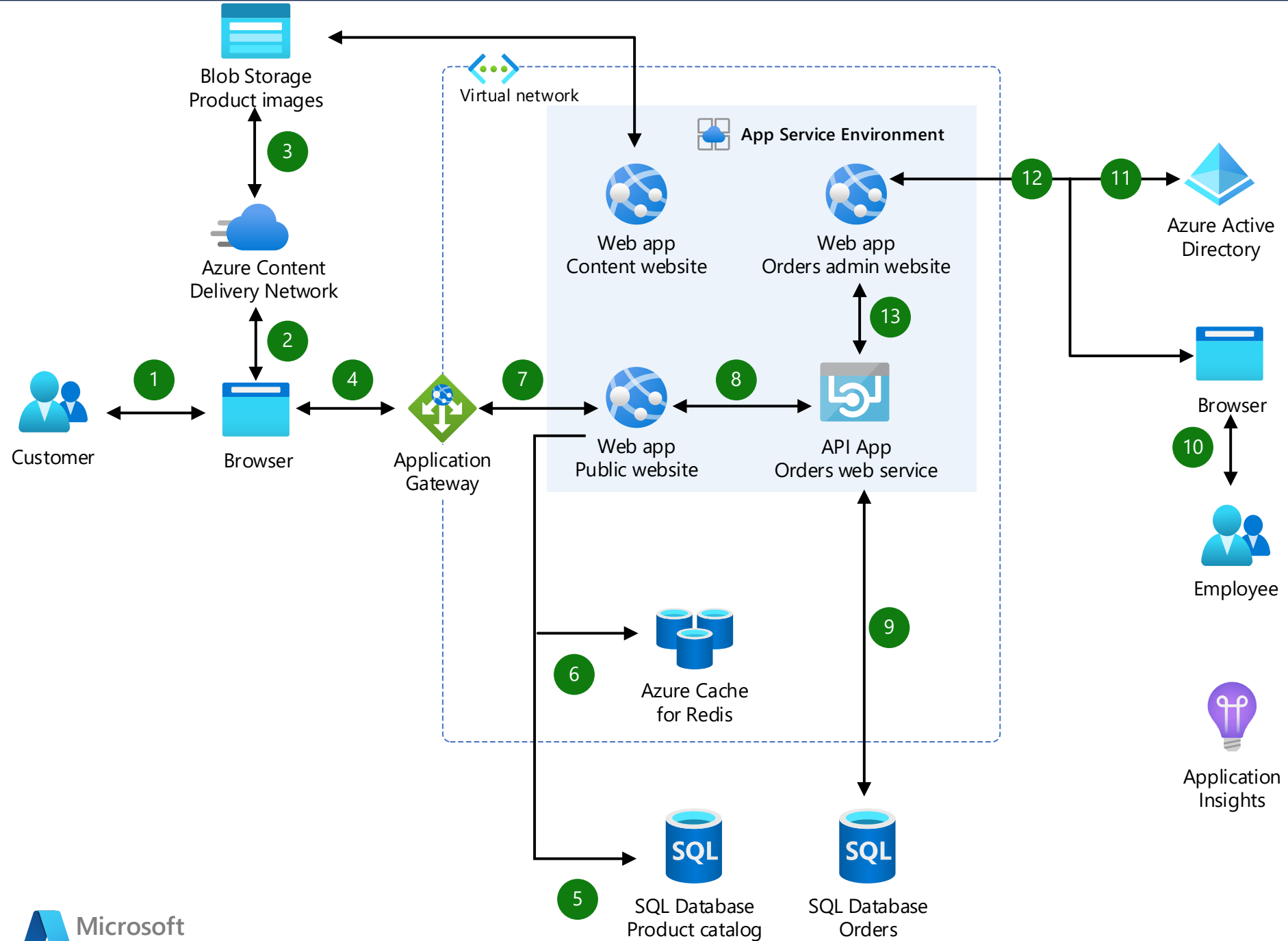
Simple SaaS Application



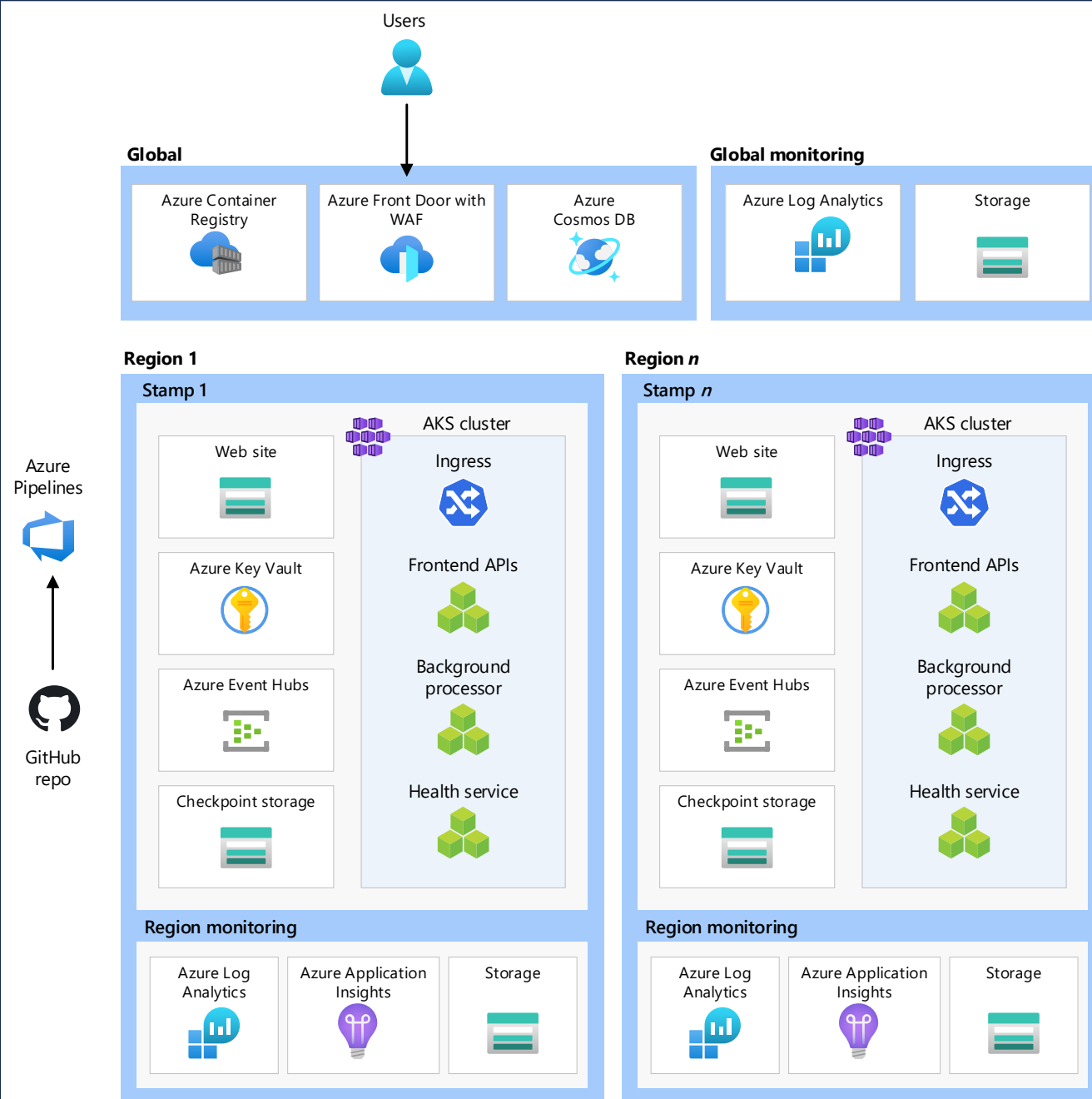
Serverless Web Application



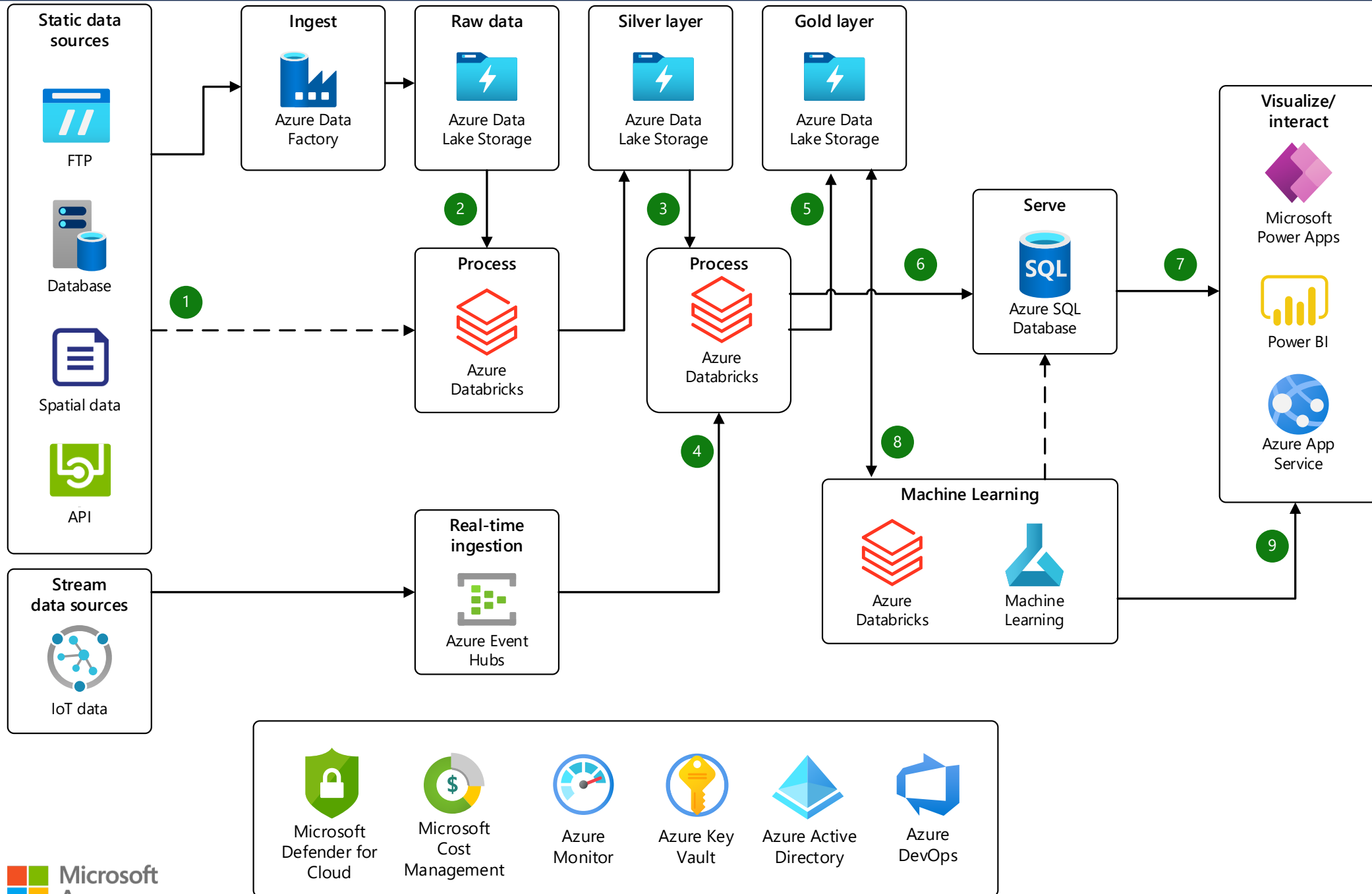
E-Commerce Website



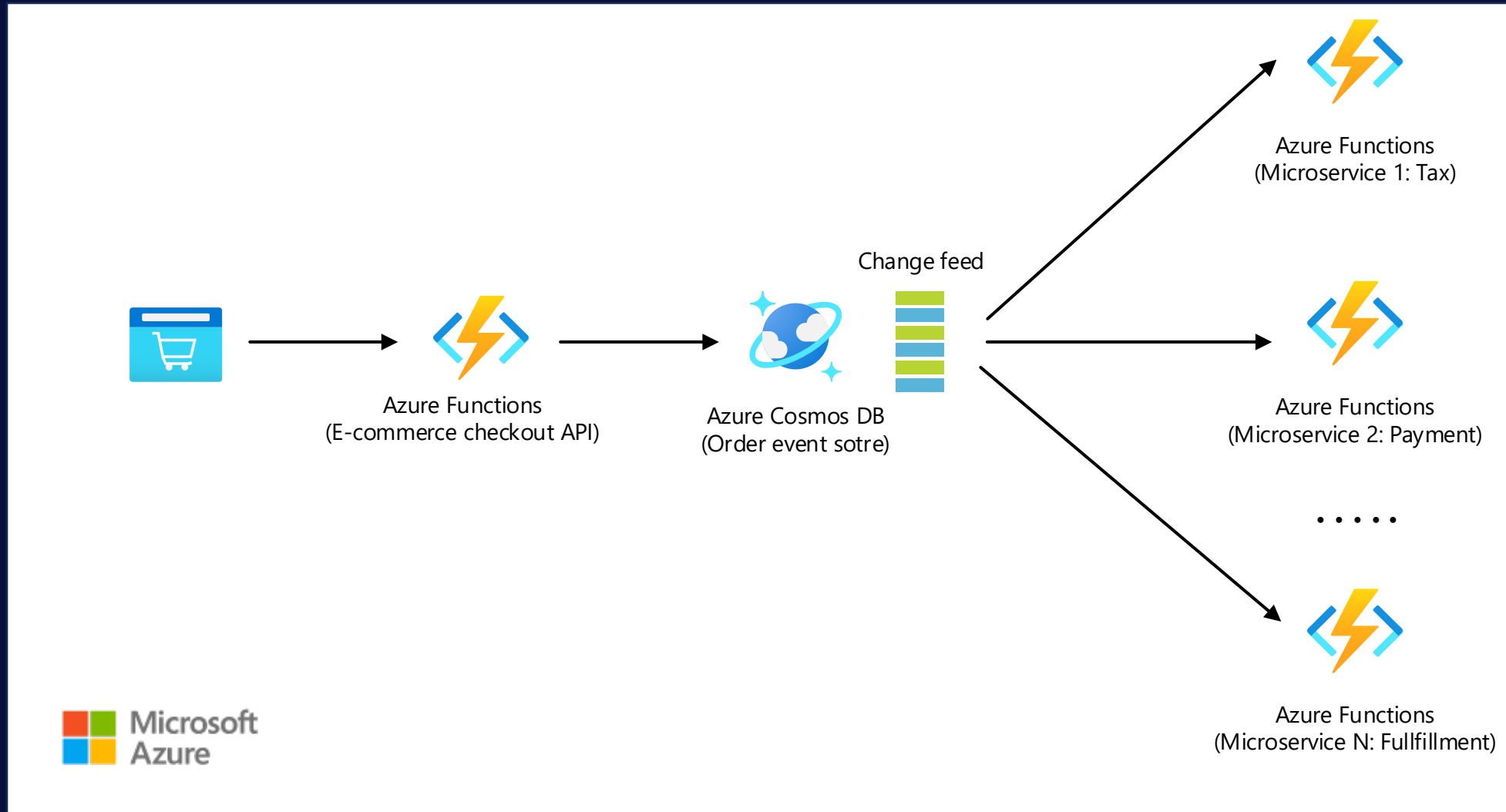
Mission-Critical Baseline Architecture



Sports Analytics



Serverless Apps using Cosmos DB



Summary

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 - History
 - Importance of Cloud Computing
 - Scalability and Flexibility
 - Cost Efficiency
 - Global Accessibility
 - Innovation Acceleration
 - Faster Time-to-Market
 - Disaster Recovery and Business Continuity
 - Security and Compliance
 - Environmental Impact
 - Collaboration and Mobility
 - Focus on Core Competencies
 - Support for Modern Workloads

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- Storage
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- Analytics
- Development
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Thank You

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🌐 ChadwickEGreen

