Microsoft Azure Workshop

Welcome

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Microsoft

#UKDXAzure

Agenda

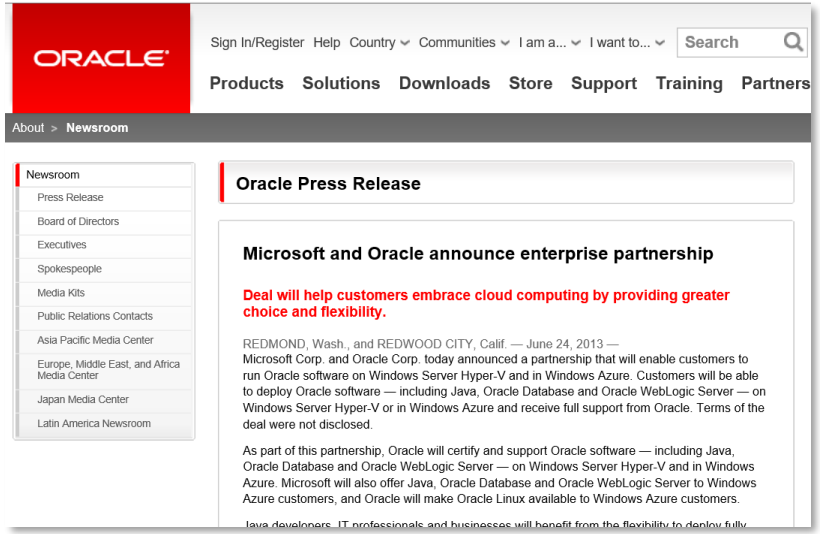
- *9:30am Registration opens*
- *10am Workshop starts, with breaks for coffee and lunch*
- *2pm Networking and informal one to one discussions*
- *3pm Machine Learning and DevOps 'workshops'*
- *4pm Close*

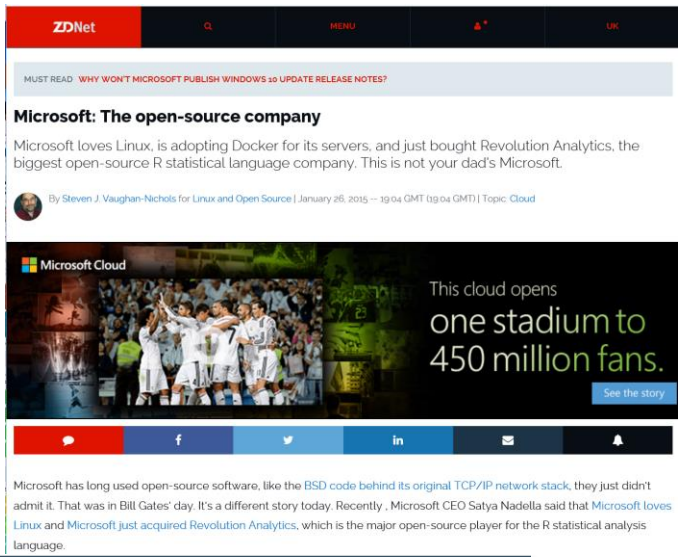
- The Road to the Modern Cloud
- Micro-services in Azure
- DevOps on Azure
- The Internet of Things and Azure
- The Azure data platform + machine learning

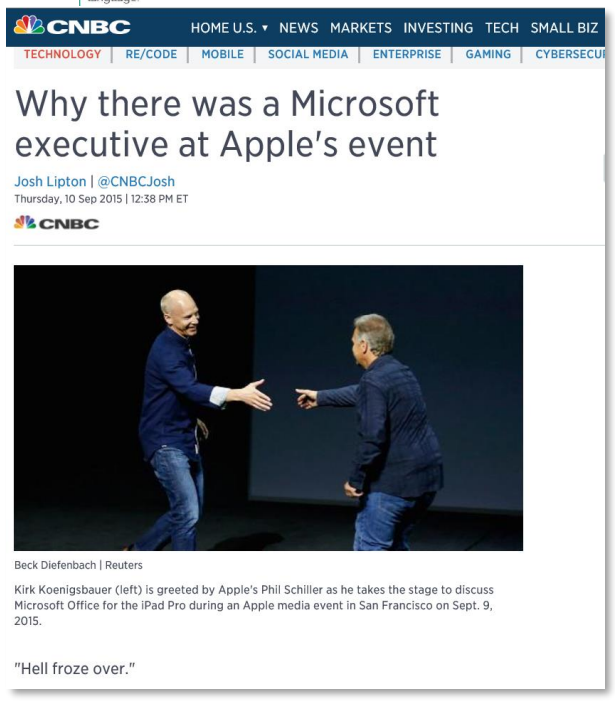
The Road to the modern cloud

David Gristwood

Microsoft over the last few years … the only constant is CHANGE

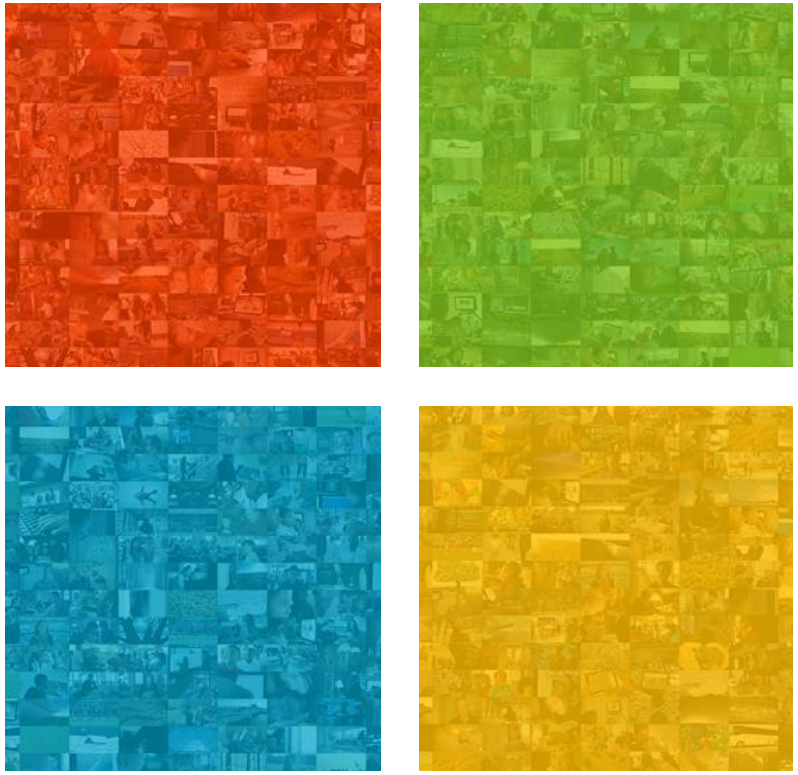






Microsoft mission

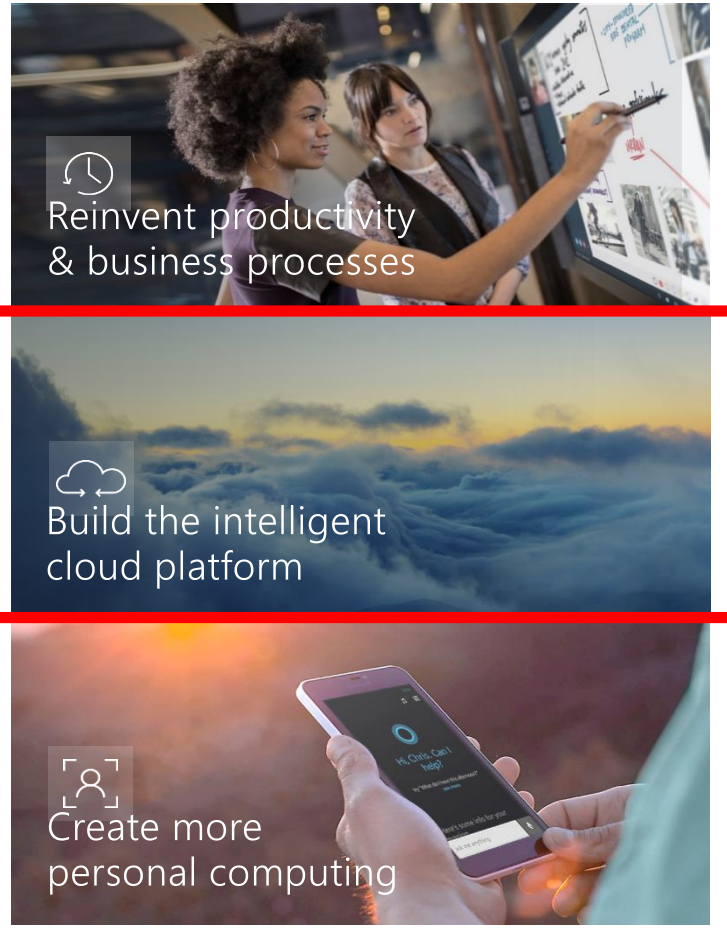
Empower every person and every organization on the planet to achieve more



Microsoft

Microsoft Strategy

Build best-in-class platforms and productivity services for a mobile-first, cloud-first world



Office 365

Microsoft Azure

Windows

Microsoft

Microsoft Azure

The cloud platform built for business and innovation

Why are people moving to the Cloud?

"Cloud is a given. CIOs no longer ask *whether* they should use cloud, but rather *how*."

QUICK & EASY

- Deploy in minutes
- Shorter development cycles
- Building blocks allow quick value (and failure)

ELASTIC SCALE

- Scale/burst to your needs
- Global Coverage for global scale

ECONOMICS

- No upfront costs
- No long-term commitments
- No wasted, under-used capacity

CREATE VALUE

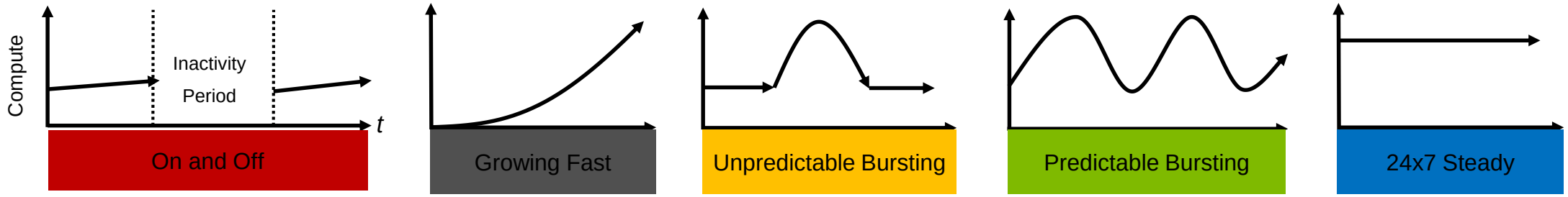
- Engage customers with Web/Mobile apps
- Unlock insights with Big Data & ML
- Create your own Internet of Things (IoT)

....and to quote real customers:

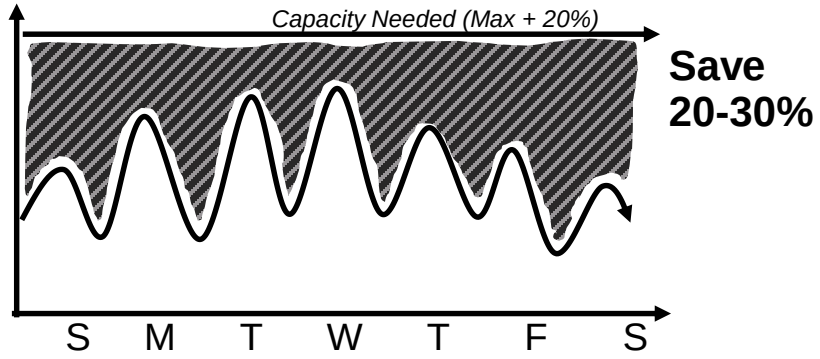
- *"I am a Start-up, I have no option"*
- *"Current hoster is too expensive"*
- *"We need to get our skunkworks project launched"*
- *"We hate IT"*
- *"We need to gain Control from IT"*
- *"It's cool to do cloud"*
- *$127bn spend on public Cloud by 2018*
- *"My customer is demanding it"*
- *"New entrants in marketplace cheaper"*
- *"Cloud to service long tail"*
- *"Headache managing many instances"*
- *"My hoster only has a DC in the UK"*

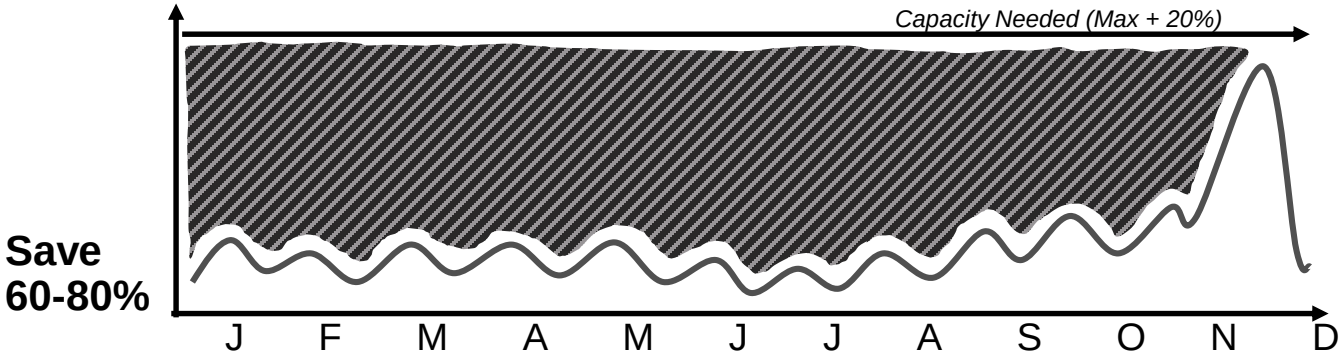
What workloads are moving to the Cloud?

ISV Application Patterns



Typical Capacity Planning vs Cloud Cost Savings





What Application Patterns are moving to the cloud?

On and Off (30%)	Growing Fast (15%)	Unpredictable Bursting (25%)	Predictable Bursting (20%)	24x7 Steady (10%)

Disruption and uncertainty

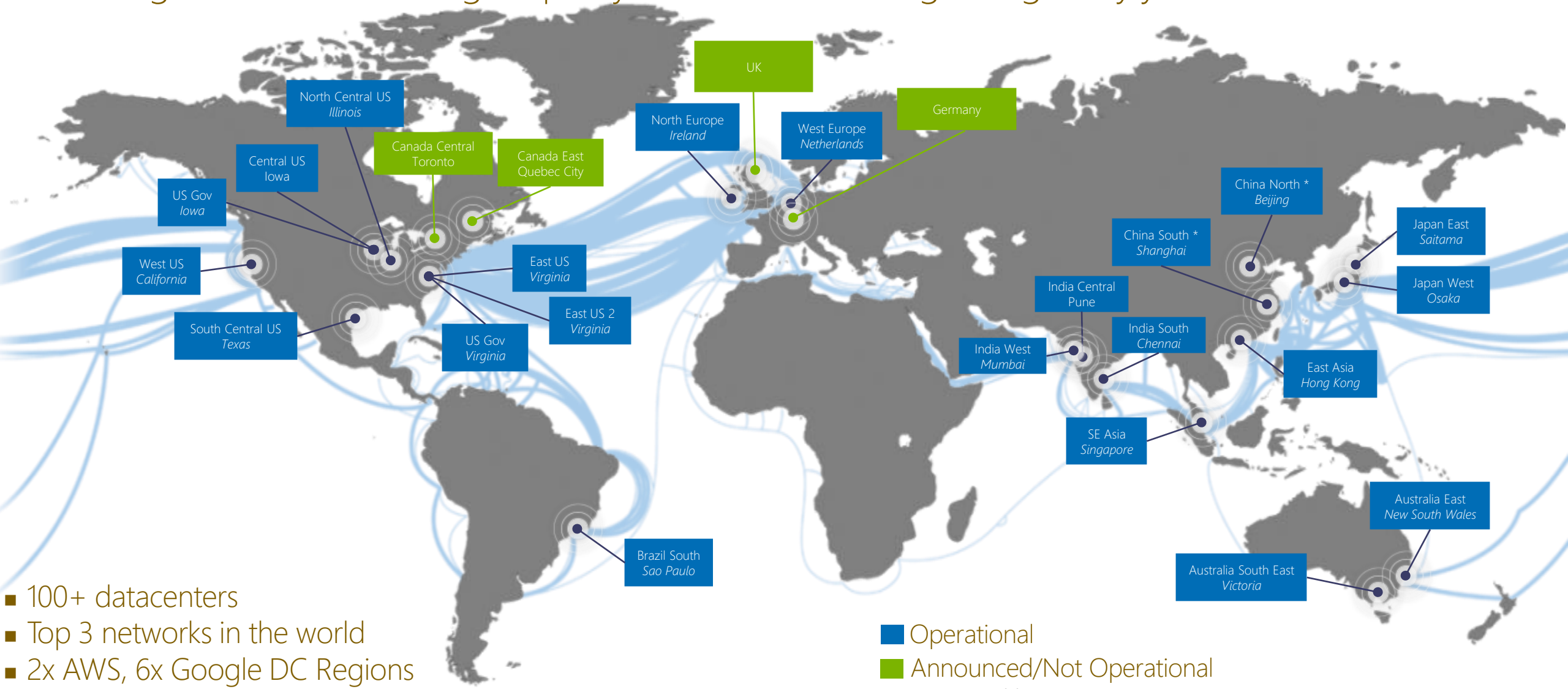
- Can I move to the cloud?
- How will it change my sales model?
- How to I work out my costs?
- How do I migrate my customers?
- What new products will I develop?
- Will customers want to go to the cloud?

Common ISV options for “On-Prem”

- Co-existence of same on-prem and cloud offering
  - Single(-ish) code base, different deployment
- Move to the cloud
  - Deprecate on-prem solution
  - Slowly move customers to cloud, only sell new cloud offering
- Create new low-cost cloud offering
  - Less features than the on-prem solution
  - Capture the “long tail” of customers who can’t afford on-prem
- Hybrid solution
  - Leave some parts of the system on-prem and burst out to the cloud

Huge infrastructure scale is the enabler

24 Regions Worldwide…huge capacity around the world…growing every year



- 100+ datacenters
- Top 3 networks in the world
- 2x AWS, 6x Google DC Regions
- G Series – Largest VM in World, 32 cores, 448GB Ram, SSD…

Operational

Announced/Not Operational

* Operated by 21Vianet

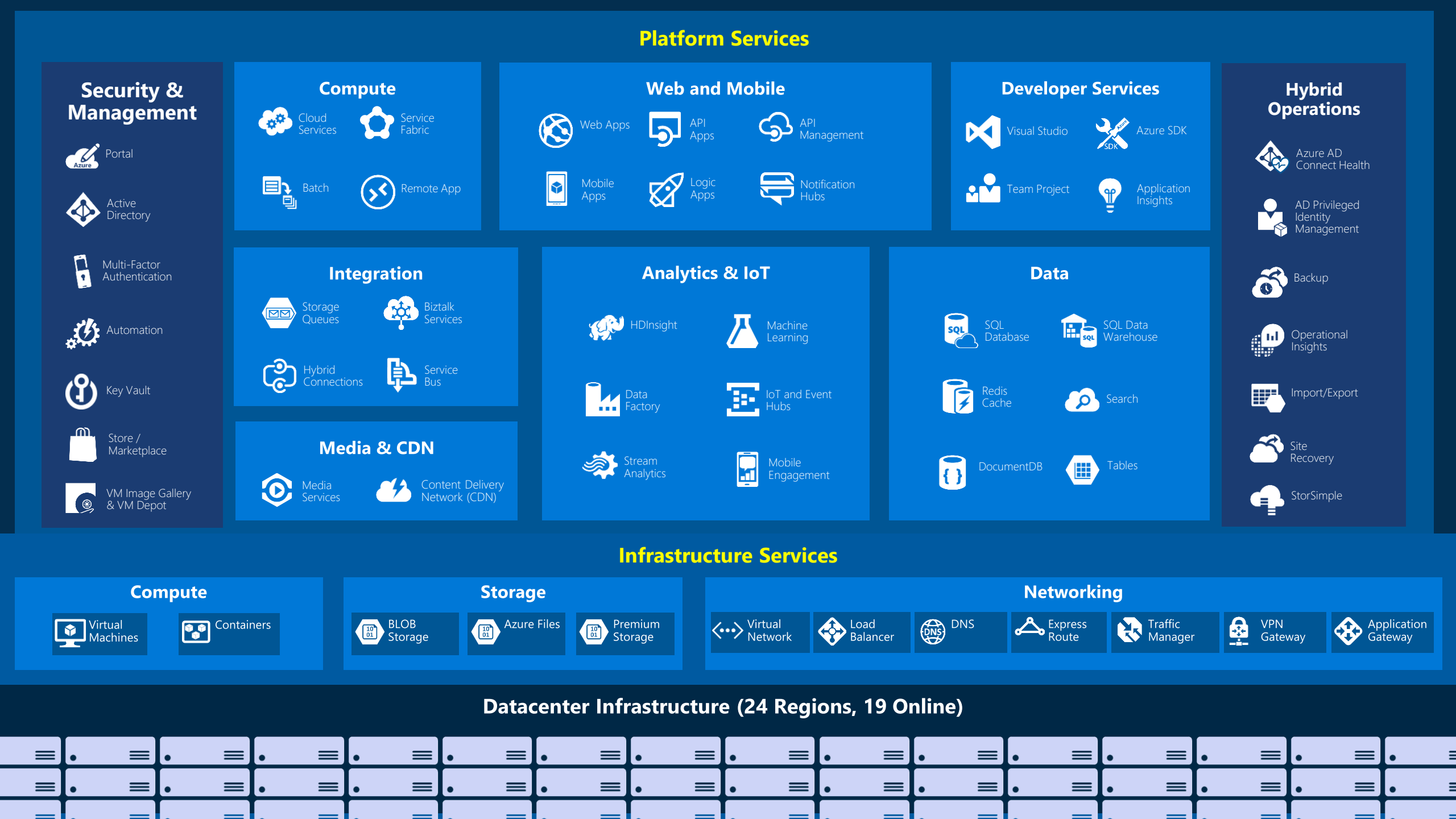
Azure momentum

~100,000 New Azure customer subscriptions/month	20 Million SQL database hours used every day	>50 Trillion Storage objects in Azure	>5 Trillion Storage transactions every month
425 Million Azure Active Directory Users	60 Billion Hits to Websites run on Azure Web App Service	57% Of Fortune 500 Companies use Microsoft Azure	1 Trillion Messages delivered every month with Event Hubs

OPEN - Azure is an Open Cloud

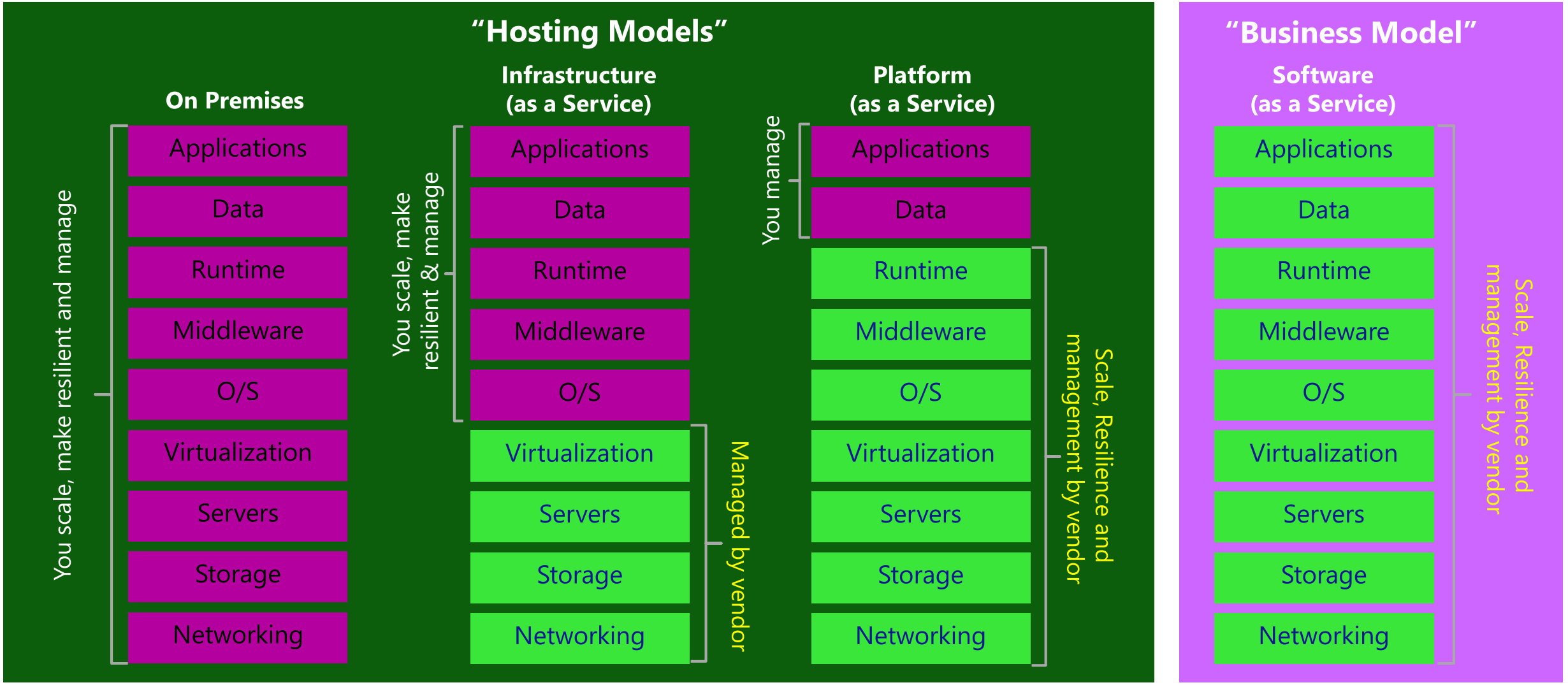
	Microsoft Integrated	Ecosystem Provided
Languages, Dev Tools and App Containers	docker, Visual Studio Online, node, .NET, php, python, Java, AZUL SYSTEMS	Ruby, Bring your own, Jenkins
CMS and Apps	WordPress, Joomla!, Drupal	Windows Web App Gallery — Dozens of .NET and PHP CMS and Web applications
Devices		Xamarin, Apache Cordova — Via HTML/JS, cross-platform and native
Databases	Microsoft SQL Server, hadoop, redis	cleardb, MySQL, mongoDB, DocDB, DATASTAX
Management	CHEF, puppet labs	ANSIBLE, SALTSTACK, libcloud, jclouds
Operating systems	Windows, Ubuntu, SUSE, OpenSUSE, OpenLogic CentOS-based, Oracle Linux, CoreOS	VM Depot, Microsoft Open Technologies, FreeBSD, Bring your own

- Microsoft is an active and mature participant & contributor to OSS projects
- Broad OSS ecosystem in Azure marketplace and validated/curated by Microsoft
- Visual Studio 2015 are supporting developers not running our platform
- > 20% of Azure deployments are on Linux

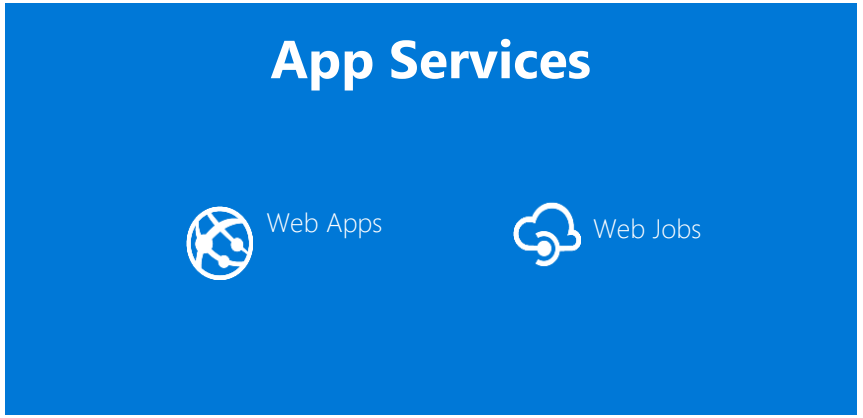

Platform Services
Security & Management
Portal
Active Directory
Multi-Factor Authentication
Automation
Key Vault
Store / Marketplace
VM Image Gallery & VM Depot
Compute
Cloud Services
Service Fabric
Batch
Remote App
Web and Mobile
Web Apps
API Apps
API Management
Mobile Apps
Logic Apps
Notification Hubs
Developer Services
Visual Studio
Azure SDK
Team Project
Application Insights
Hybrid Operations
Azure AD Connect Health
AD Privileged Identity Management
Backup
Operational Insights
Import/Export
Site Recovery
StorSimple
Integration
Storage Queues
Biztalk Services
Hybrid Connections
Service Bus
Media & CDN
Media Services
Content Delivery Network (CDN)
Analytics & IoT
HDInsight
Machine Learning
Data Factory
IoT and Event Hubs
Stream Analytics
Mobile Engagement
Data
SQL Database
SQL Data Warehouse
Redis Cache
Search
DocumentDB
Tables
Infrastructure Services
Compute
Virtual Machines
Containers
Storage
BLOB Storage
Azure Files
Premium Storage
Networking
Virtual Network
Load Balancer
DNS
Express Route
Traffic Manager
VPN Gateway
Application Gateway
Datacenter Infrastructure (24 Regions, 19 Online)

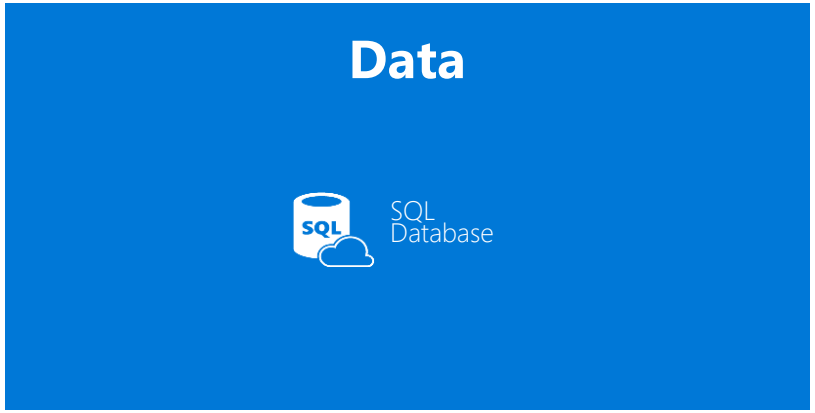
Cloud choices – IaaS and PaaS

Where to put the development effort?

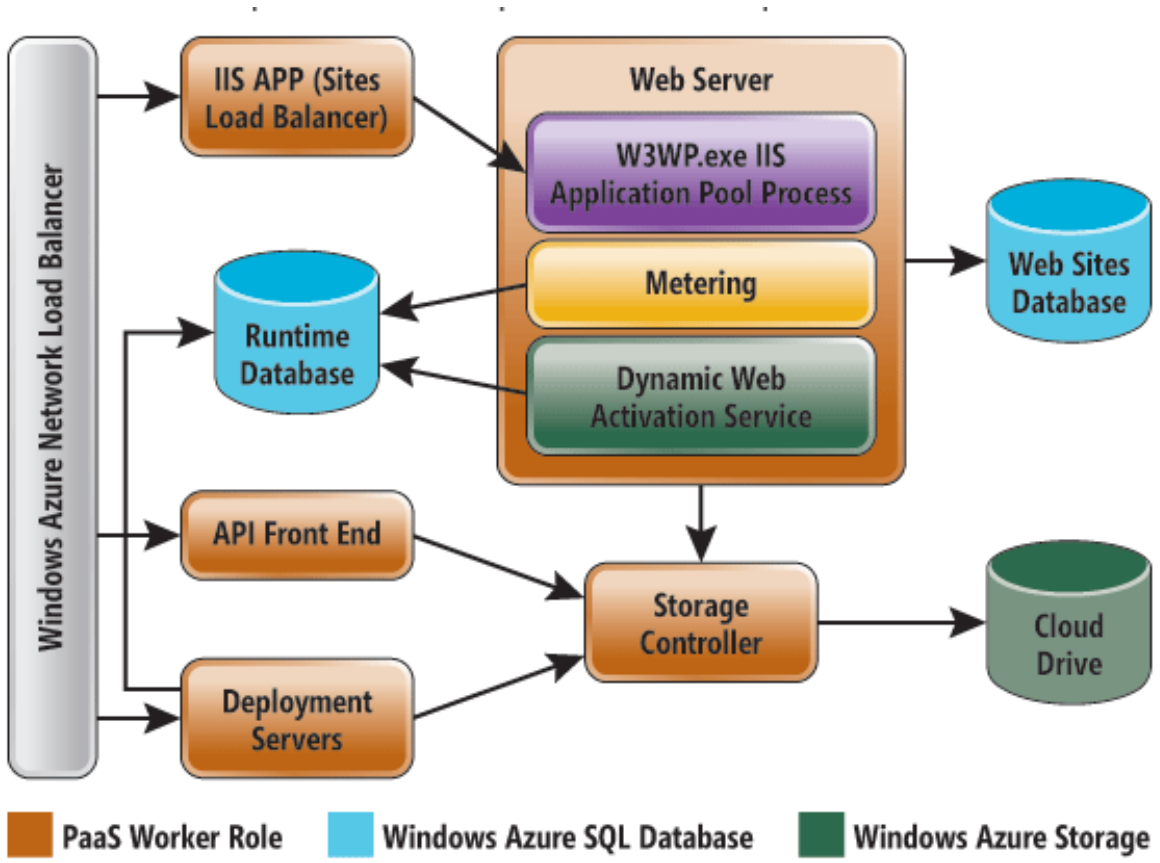


Two really popular PaaS offerings for ISVs



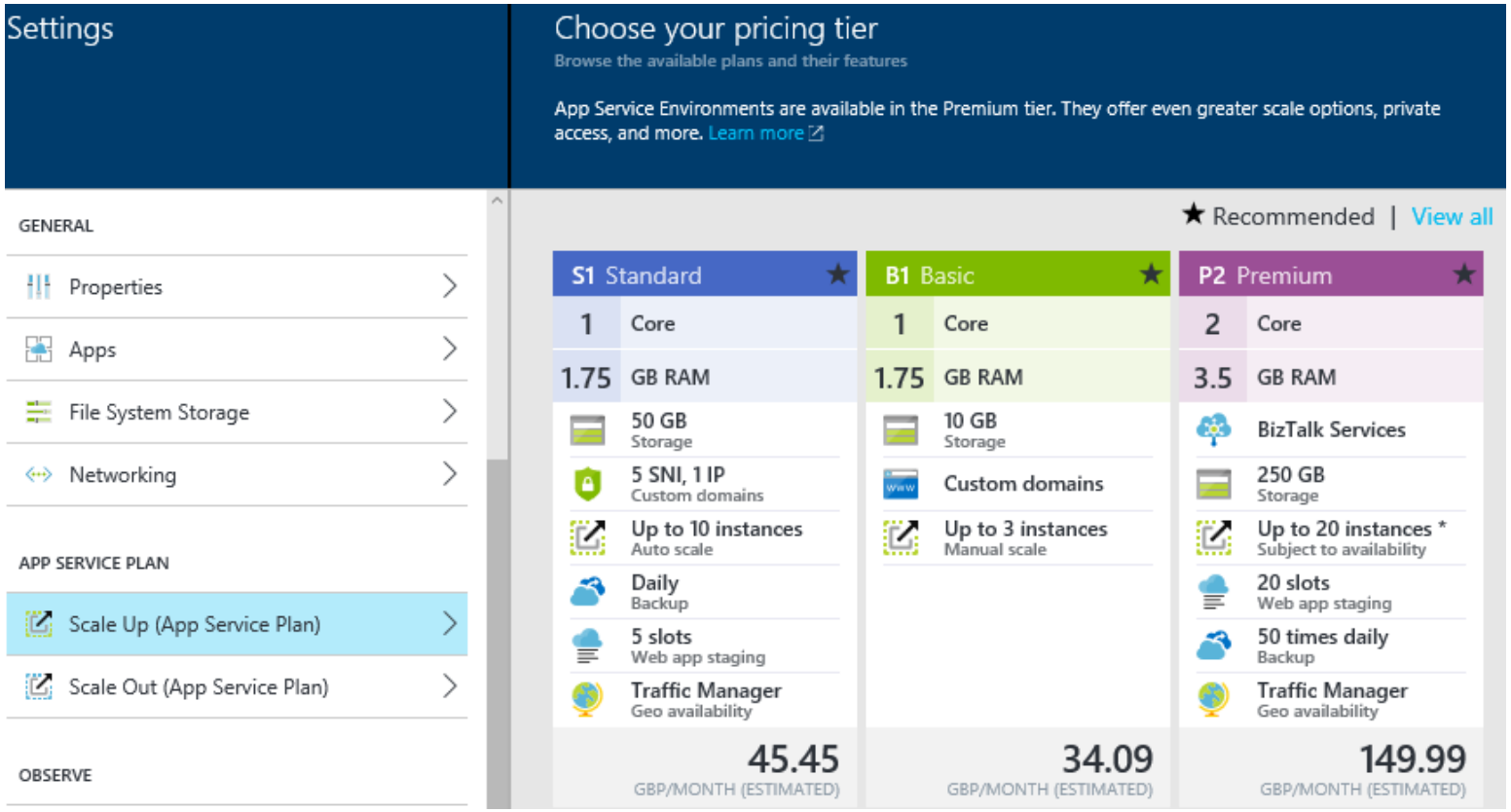


“Web sites as a service”



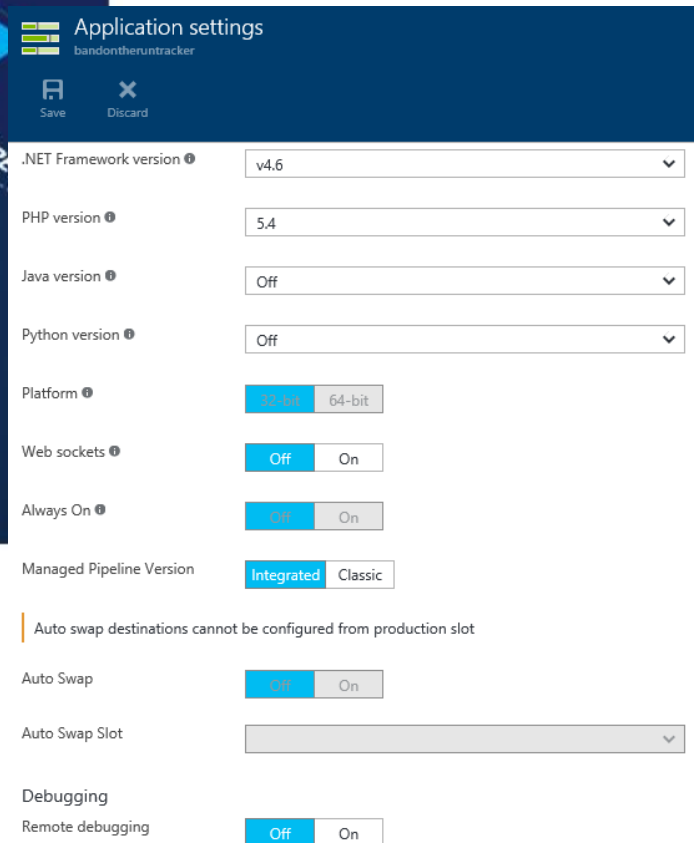
App Service is a cloud platform to build powerful web and mobile apps that connect to data anywhere, in the cloud or on-premises

Azure App Services



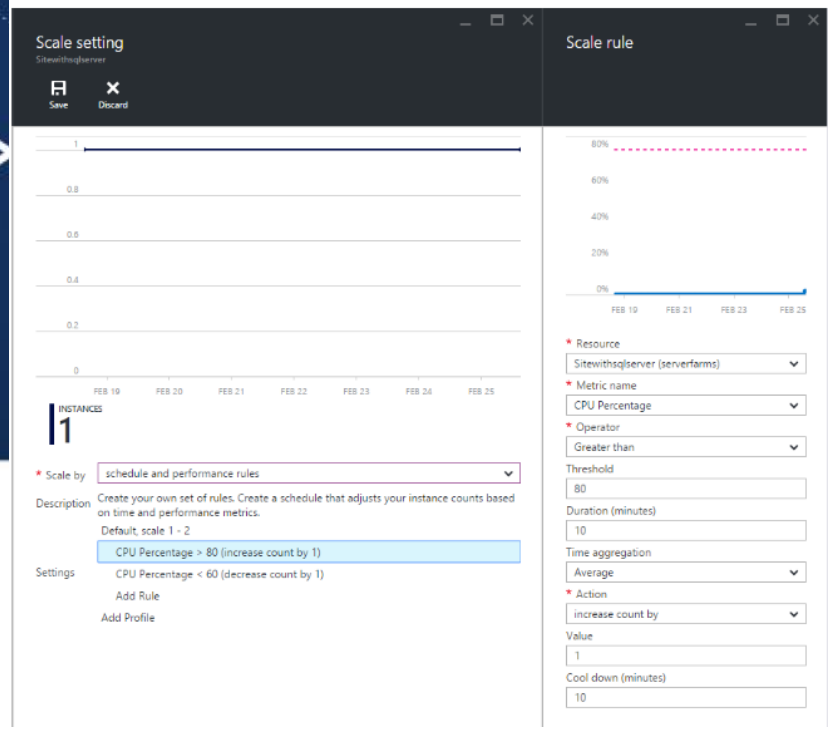
Choose pricing tier

Azure App Services



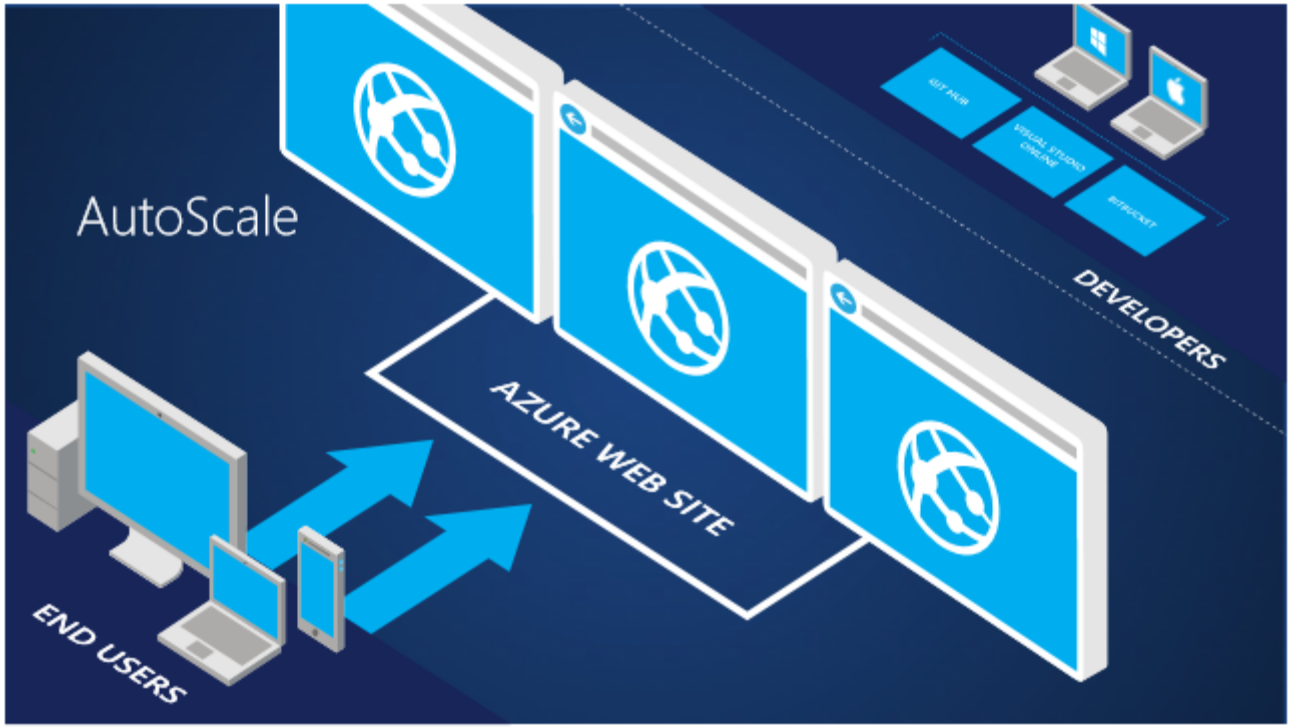
Choose of dev languages

Azure App Services



Auto scale

Azure App Services



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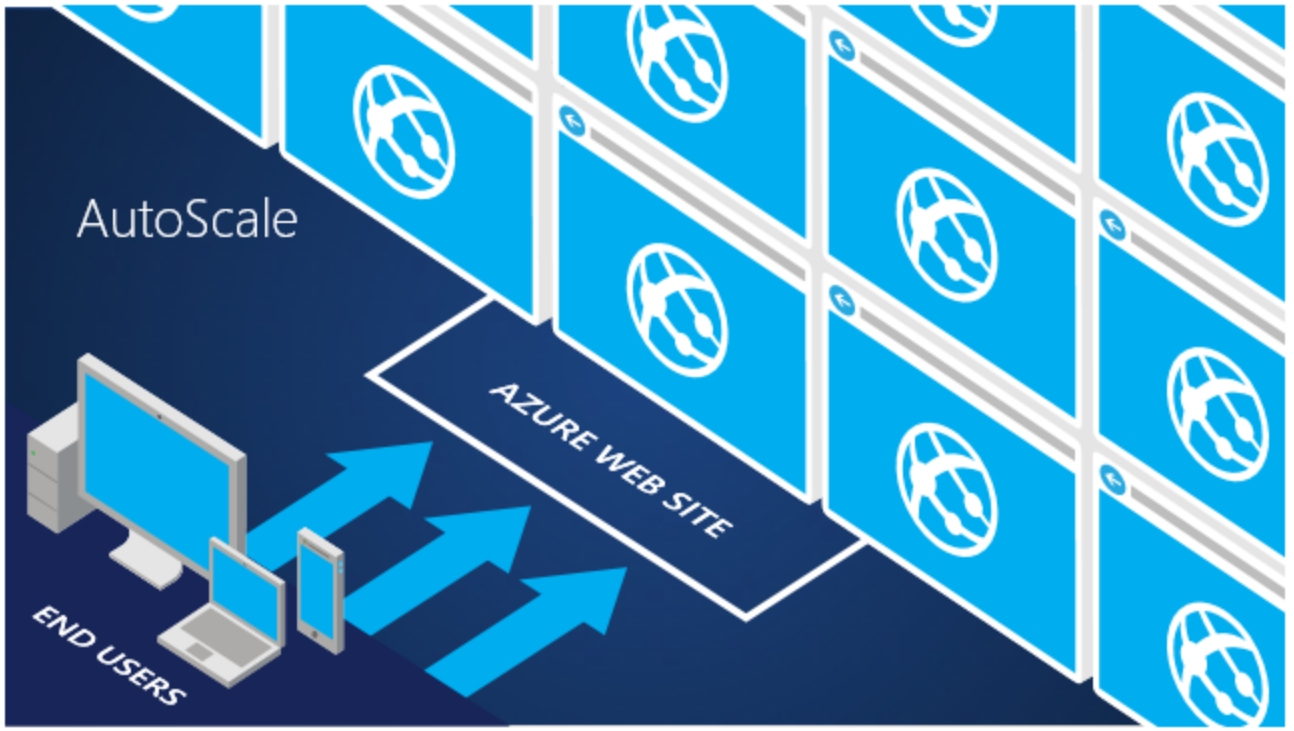

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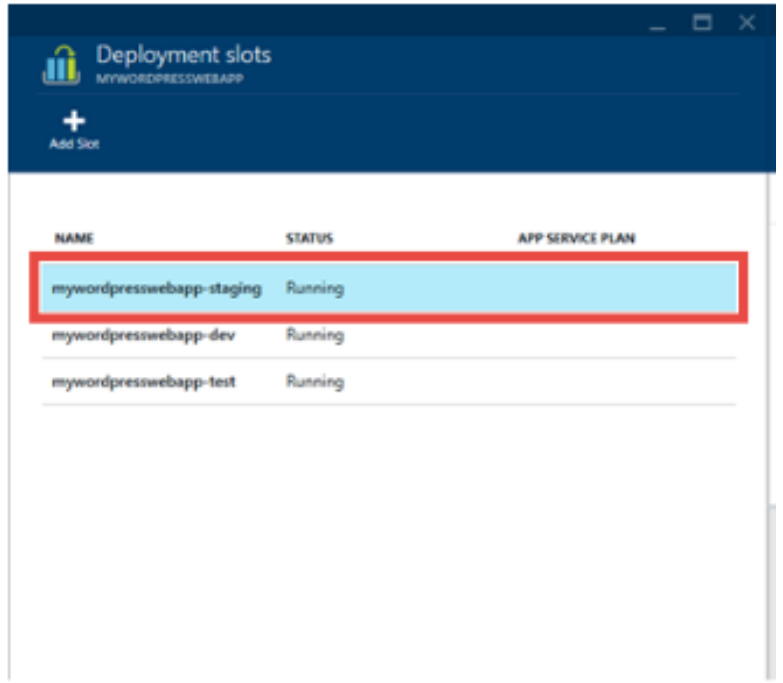
Azure App Services

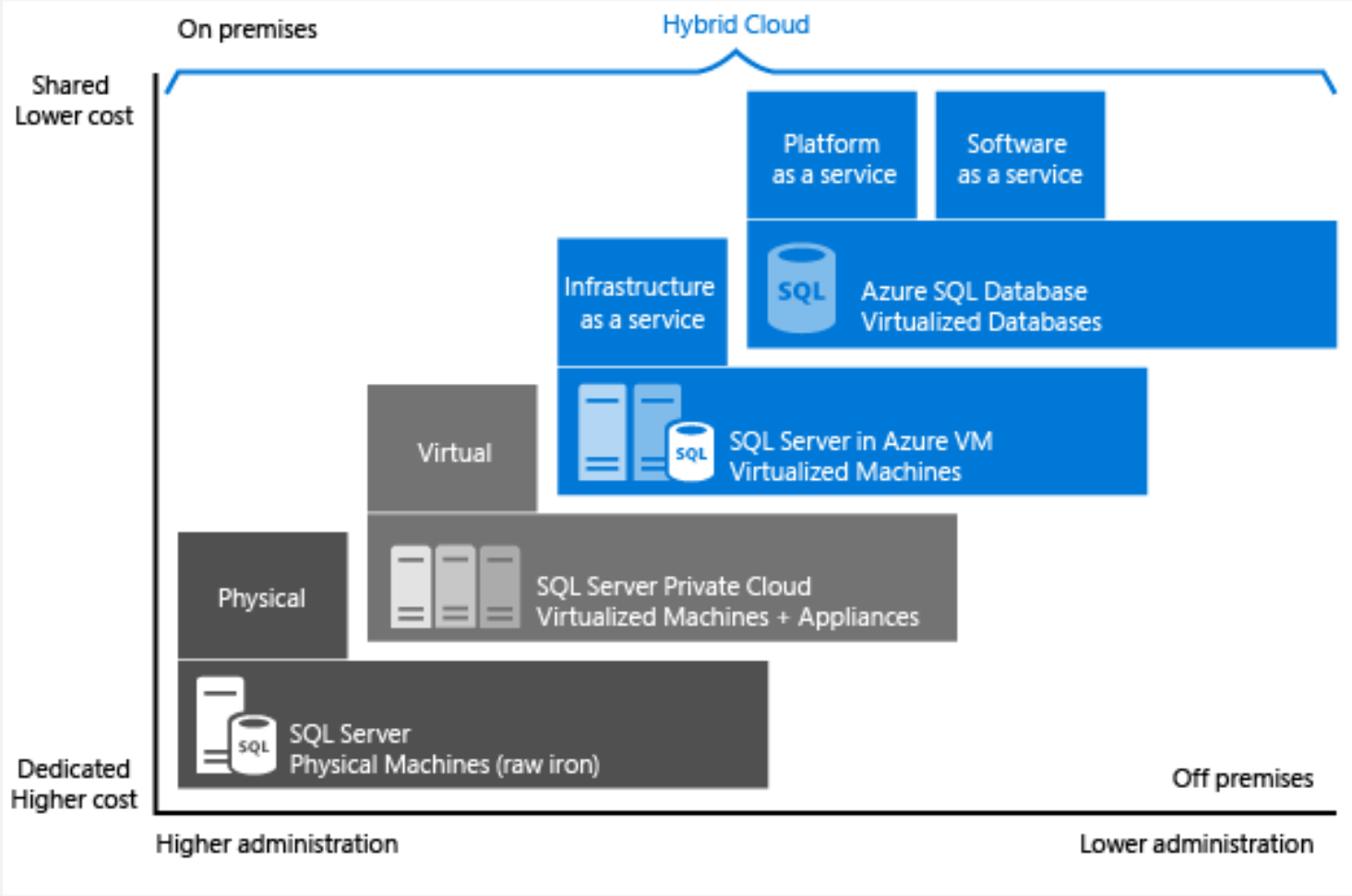


Staging slots

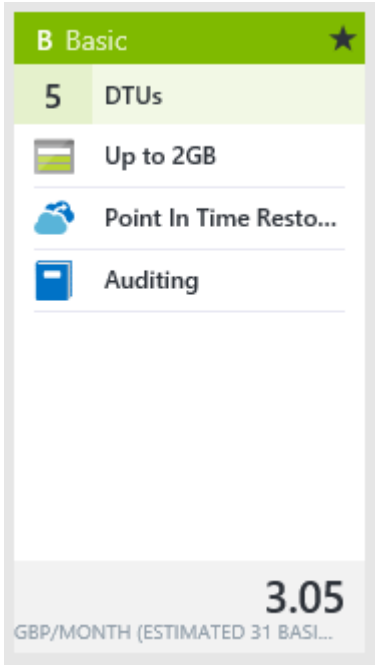
Azure App Services

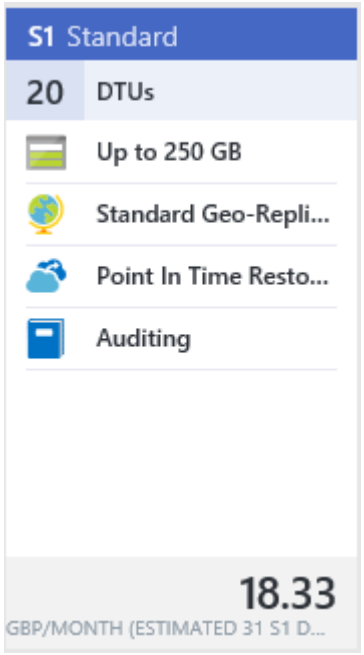
Integration with Traffic Manager

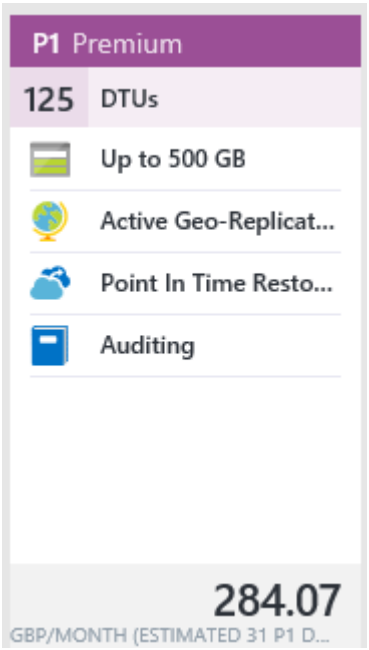
SQL Database (aka 'SQL Azure')



SQL Database

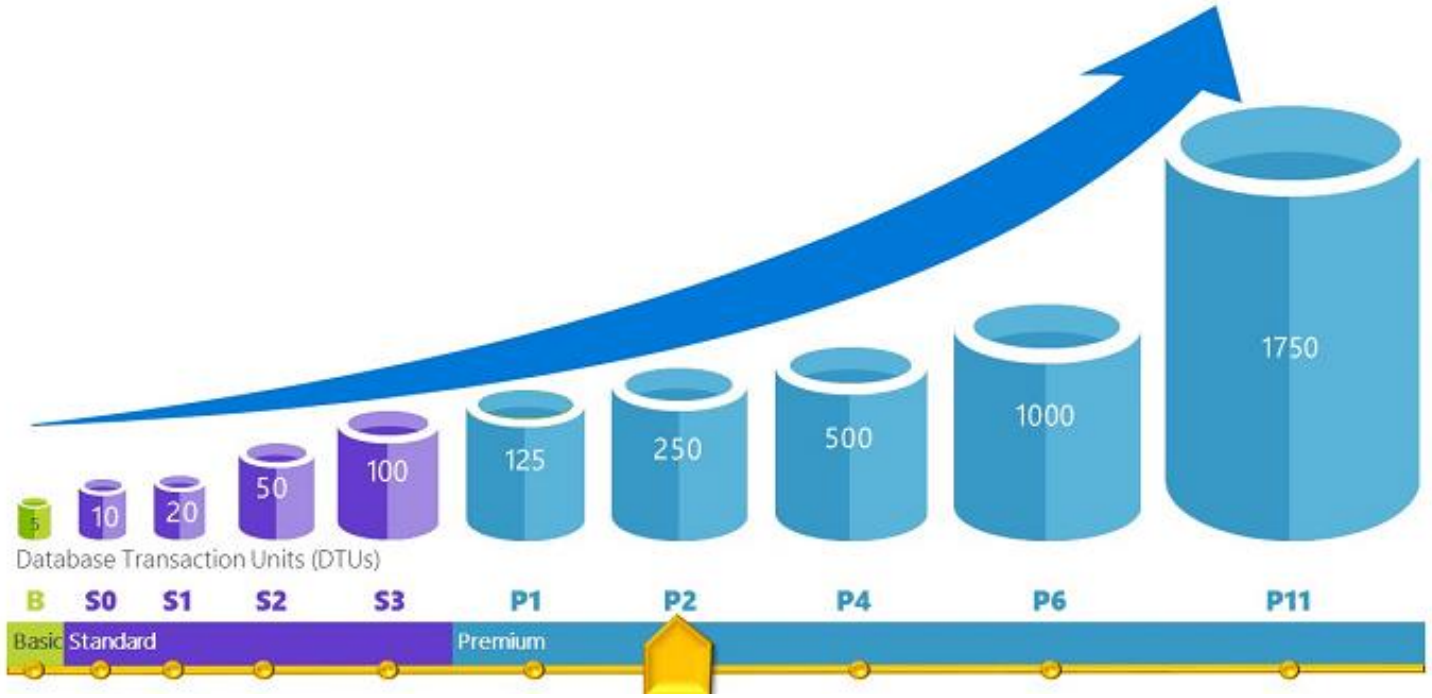






- **Available in Basic, Standard, and Premium *service tiers***
- **Supports lightweight to heavyweight database workloads**
- **Change the service tier manually or programmatically**

SQL Database



- **Database Transaction Unit (DTU) is unit of measure represents relative power databases**
- **Each performance level provides increasing set of resources (‘power’) designed to deliver increasingly higher throughput.**
- **Rating measured using the Azure SQL Database Benchmark (ASDB)**