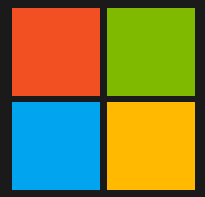
Microsoft

Introduction to Azure

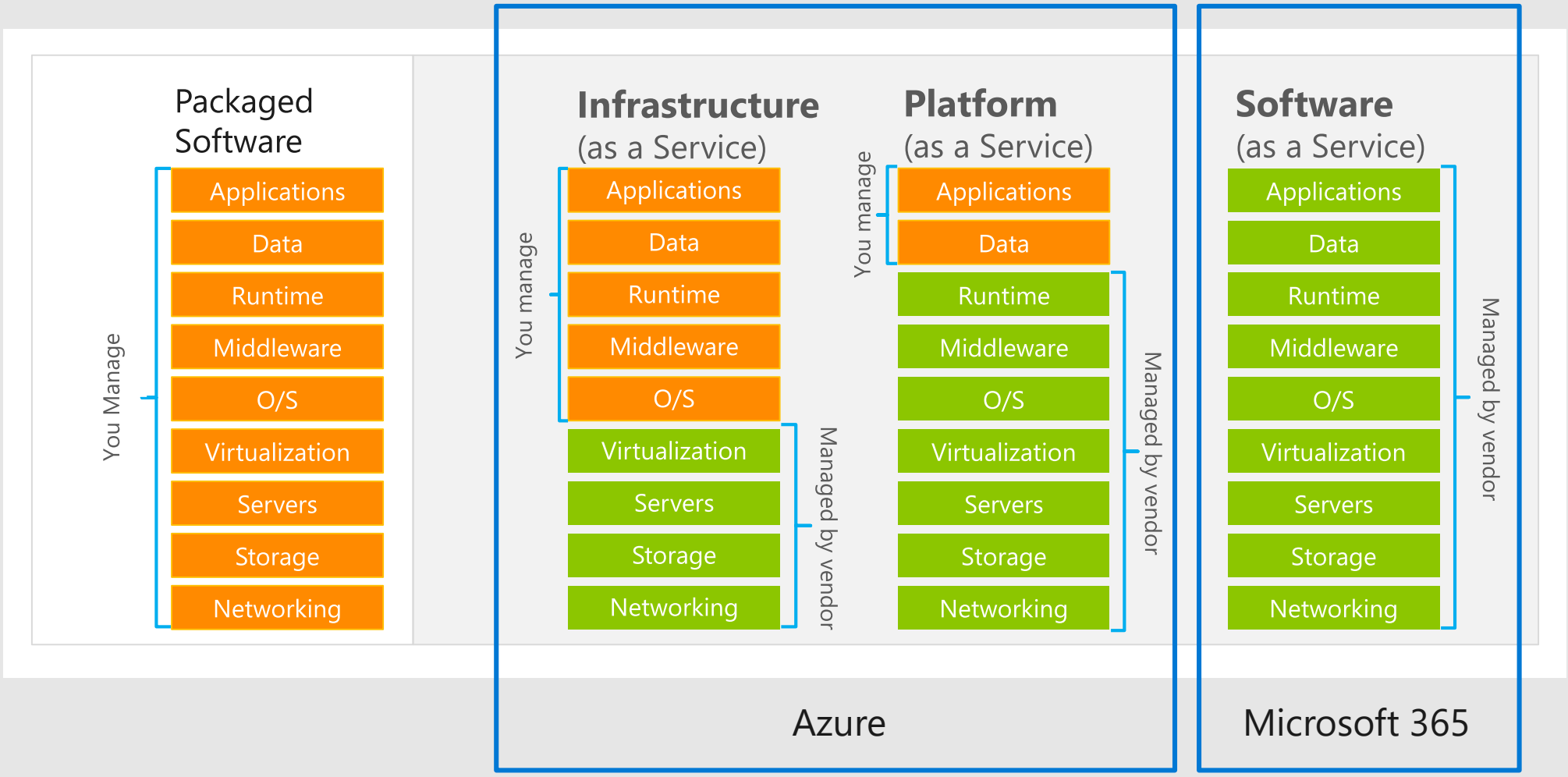
July 2019

Kellyn Pot'Vin-Gorman
Azure Data Platform Architect
Microsoft



Azure Overview

Azure is Microsoft's cloud computing platform



Build, manage and deploy applications on a massive global network

54

Azure regions

90+

Compliance standards

Works with popular tools and frameworks

Management

Databases & middleware

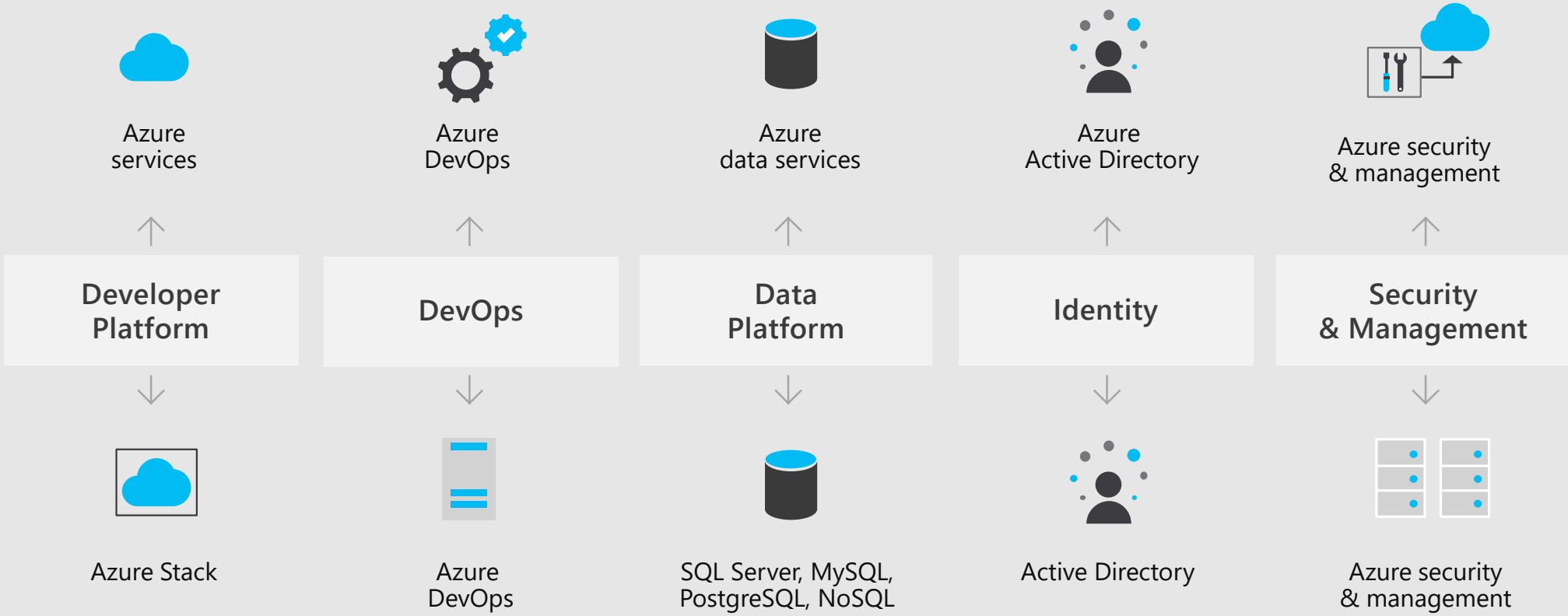
Applications

Infrastructure

App frameworks

Azure: Hybrid

Consistent, comprehensive hybrid cloud



Azure: Trusted

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

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

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

Us Gov

- Moderate JAB P-ATO
- High JAB P-ATO
- DoD DISA SRG Level 2
- DoD DISA SRG Level 4
- DoD DISA SRG Level 5
- SP 800-171
- FIPS 140-2
- Section 508 VPAT
- ITAR
- CJIS
- IRS 1075

Azure policy for enterprise cloud control and compliance

Enforcement and compliance

Turn on built-in policies or build custom ones for all resource types

Real-time policy evaluation and enforcement

Periodic and on-demand compliance evaluation

Apply policies at scale

Apply policies to a Management Group with control across your entire organization

Apply multiple policies and aggregate policy states with policy initiative

Exclusion scope

Remediation

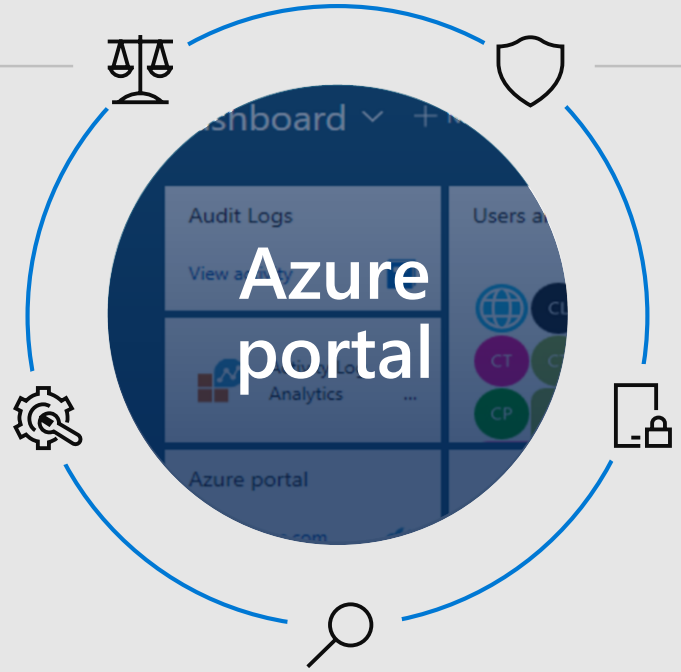
Real time remediation

Remediation on existing resources (Ignite 2018)

Azure portal offers enterprise-grade management

Govern
Policy management
Cost management

Secure
Security management
Threat protection



Configure
Update management, scripting
automation, configuration

Protect
Backup and
disaster recovery

Monitor
App, infrastructure and network monitoring
log analytics, and diagnostics

Azure Service Health

aka.ms/AzureServiceHealth

Access a personalized dashboard

Find timely information about service issues, planned maintenance, and health advisories for your resources right from the Azure portal, and pin a filtered view that helps you focus on what's important.

Set up targeted notifications

Azure Service Health integrates into Azure Monitor to alert you and your teams via emails, text messages, and webhook notifications when your business-critical resources are impacted.

Receive guidance and support

When an Azure issue impacts your resources, Service Health helps you diagnose and get support. You'll receive updates on how Azure is fixing the issue until everything is resolved.

Share details and updates easily

Get a link for the issue to use in your problem-management system and download a PDF summary of the issue to share with people who don't have access to the Azure portal.

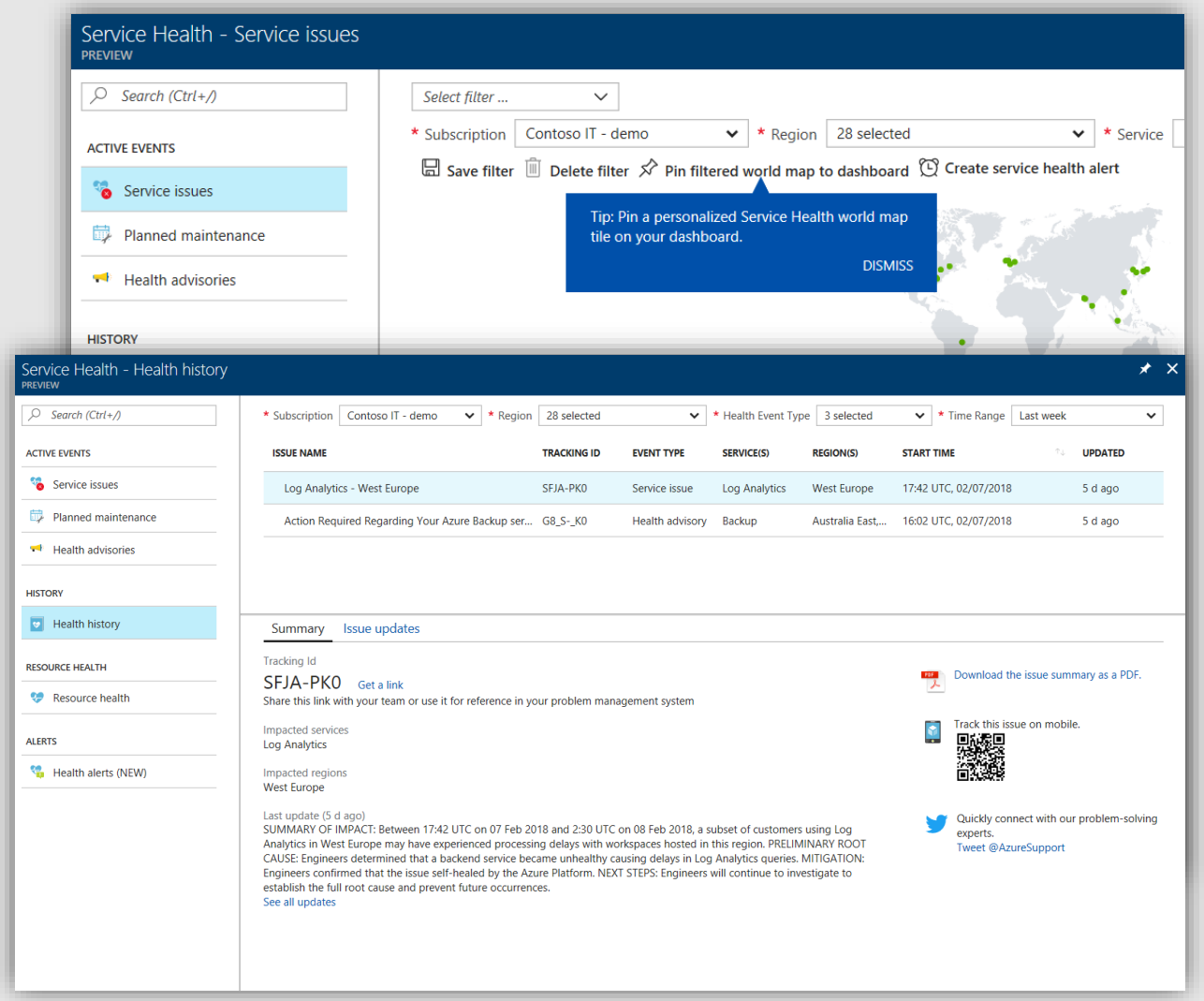
More information: aka.ms/ash-docs

Azure communicates incidents, upcoming maintenance, and health advisories via Azure Service Health

Using Azure Service Health alerts is **strongly recommended**

Examples of alerts include:

- An alert to email your dev team when a resource in a test/dev subscription is impacted
- An alert to update ServiceNow via webhook when a resource in production is impacted
- An alert to send an SMS to a specific number when resources in a given region are impacted



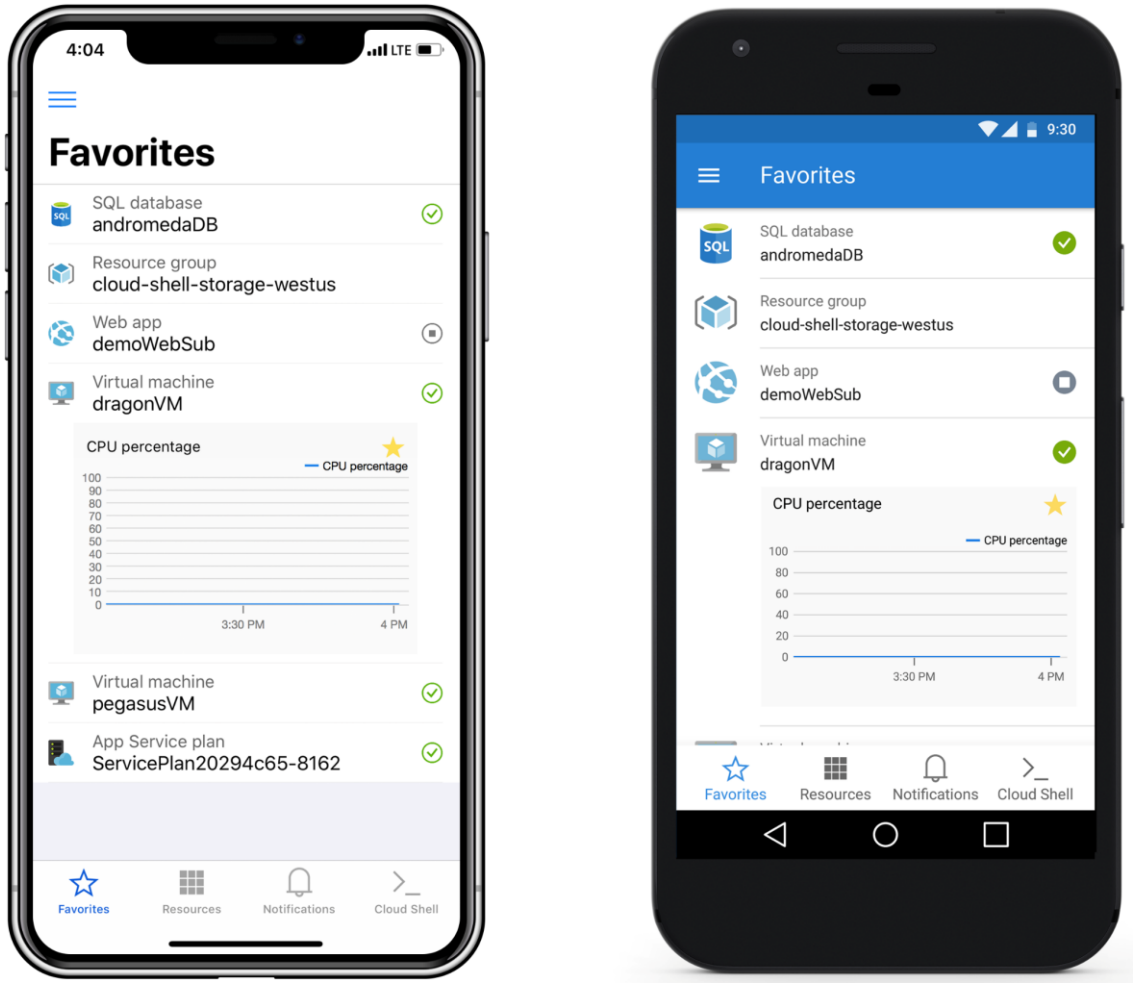
Azure mobile app

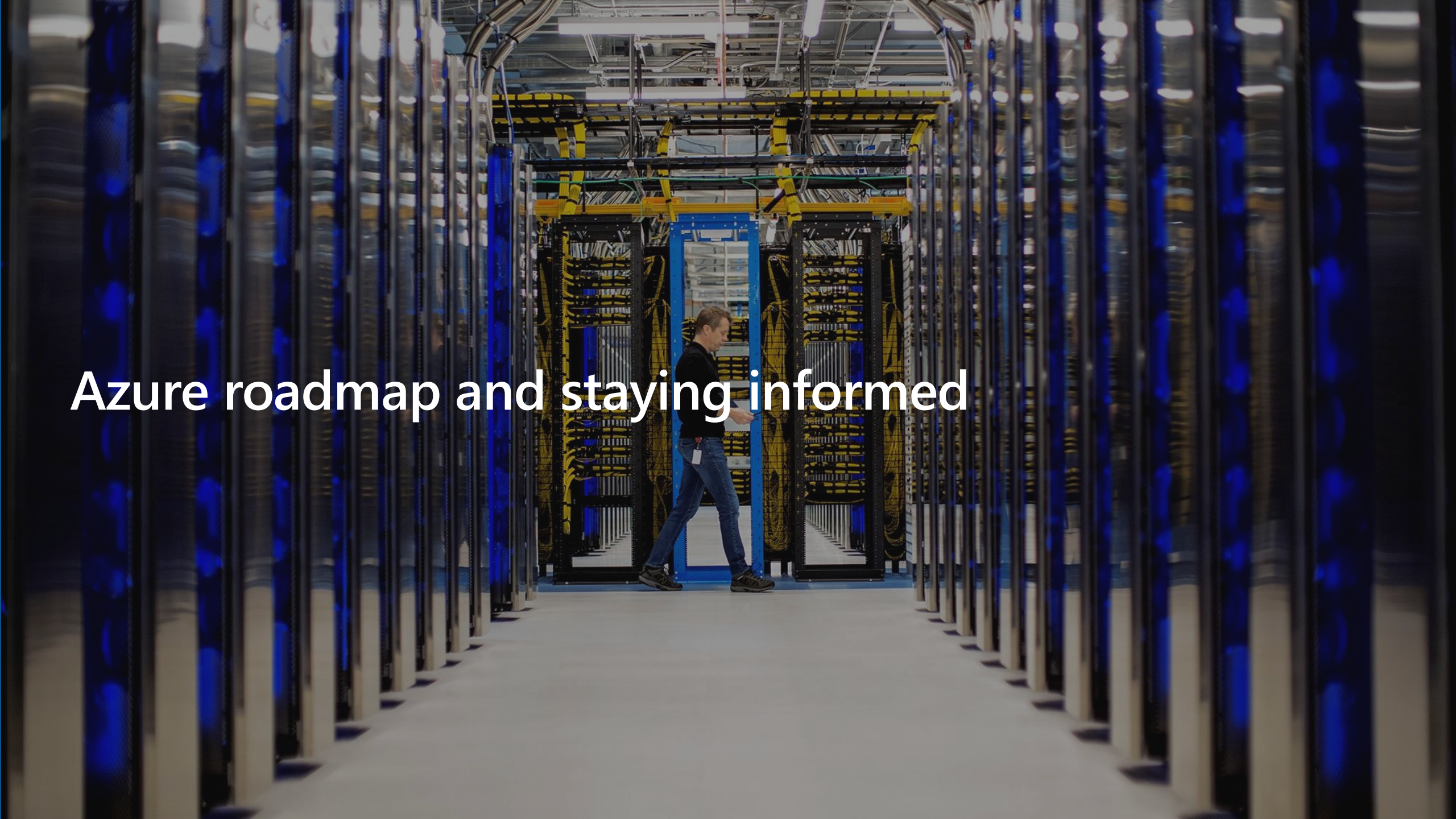
Stay connected to your Azure resources—anytime, anywhere

- Monitor the health and status of your Azure resources on the go
- Get quick access to your favorite resources
- Get notifications and alerts about important health issues
- Quickly diagnose and fix issues from your mobile device
- Run Azure Cloud Shell scripts (PowerShell or Bash) from the app
- Azure Alerts can be set up to be sent as push notifications

Now available on iOS and Android

[Learn more.]





Azure roadmap and staying informed

Microsoft Azure roadmap—disclaimer

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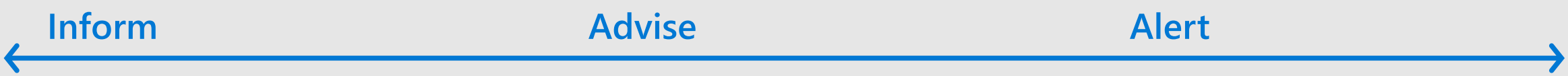
How does Azure communicate at scale?



Inform	Advise	Alert
Roadmap		
Azure updates	Azure Advisor	Azure Service Health
Product available by region	Cost Management	Service emails
Blogs and newsletters	Azure Security Center	Azure Monitor
Documentation		

How we listen at scale:

Service telemetry | Support requests | User voice | Research | Events | Community

Stay informed of changes in Azure

Azure.com/updates

Azure updates is where you go for product updates and roadmap changes

Filter by products and the types of updates of interest

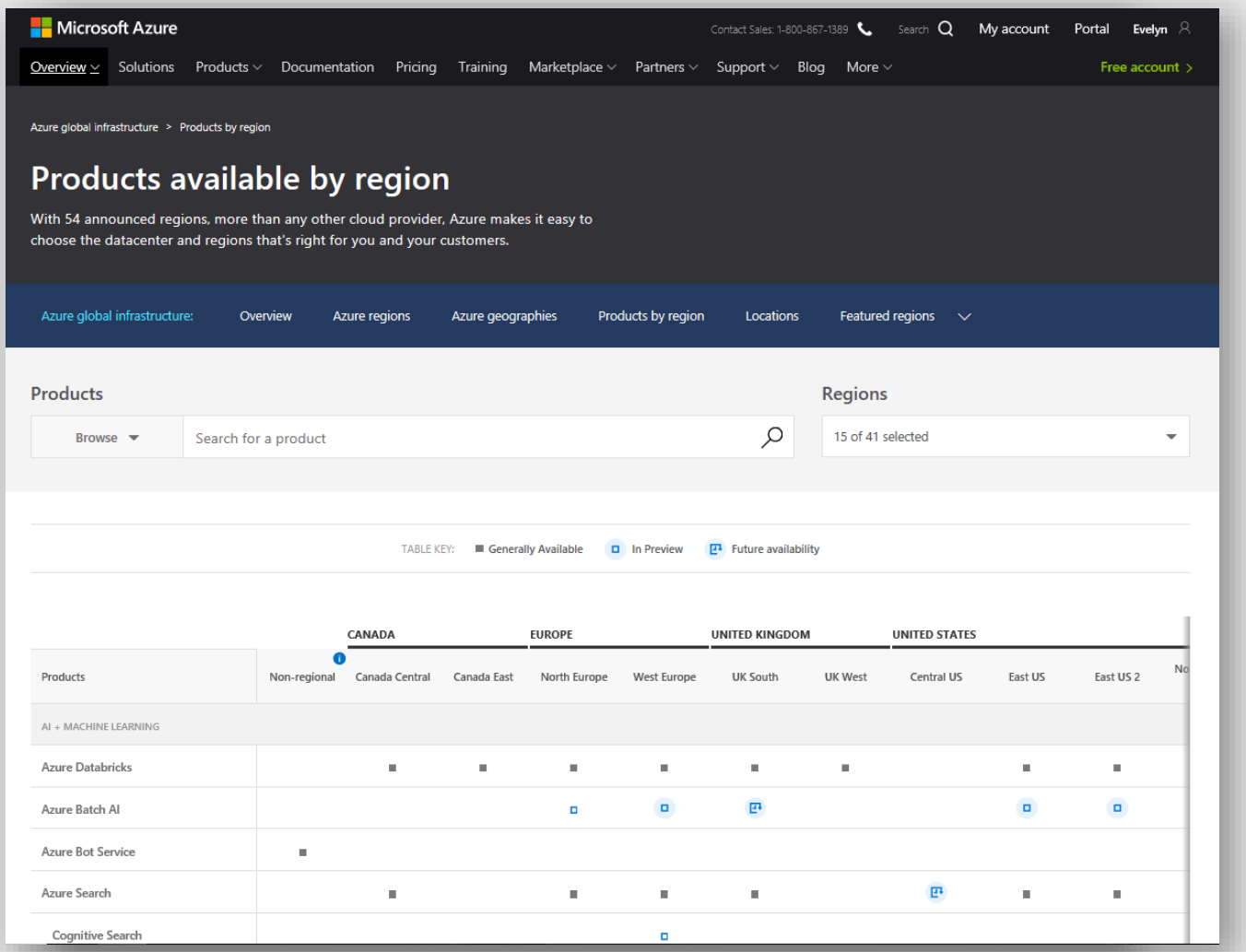
Subscribe to customized RSS Feed to stay informed on updates you care about

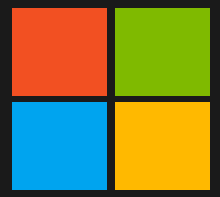
Includes packaging, licensing and region availability changes

Azure.com/productsbyregion

Products available by region shows what features/services are available and where

Source of truth—integrated with engineering roadmap tools to deliver future release timeframes for services in Preview or Future Availability





Compute on Azure

Azure products

- AI + Machine Learning
- Analytics
- Blockchain
- Compute
- Containers
- Databases
- Developer Tools
- DevOps
- Identity
- Integration
- Internet of Things
- Management
- Media
- Microsoft Azure Stack
- Migration
- Mixed Reality
- Mobile
- Networking
- Security
- Storage
- Web
- Microsoft Game Development

Compute

Access cloud compute capacity and scale on demand—and only pay for the resources you use

Virtual Machines
Provision Windows and Linux virtual machines in seconds

Virtual Machine Scale Sets
Manage and scale up to thousands of Linux and Windows virtual machines

Azure Kubernetes Service (AKS)
Simplify the deployment, management, and operations of Kubernetes

Functions
Process events with serverless code

Service Fabric
Develop microservices and orchestrate containers on Windows or Linux

App Service
Quickly create powerful cloud apps for web and mobile

Container Instances
Easily run containers on Azure without managing servers

Batch
Cloud-scale job scheduling and compute management

SQL Server on Virtual Machines
Host enterprise SQL Server apps in the cloud

* Preview Services

http://azureplatform.azurewebsites.net/

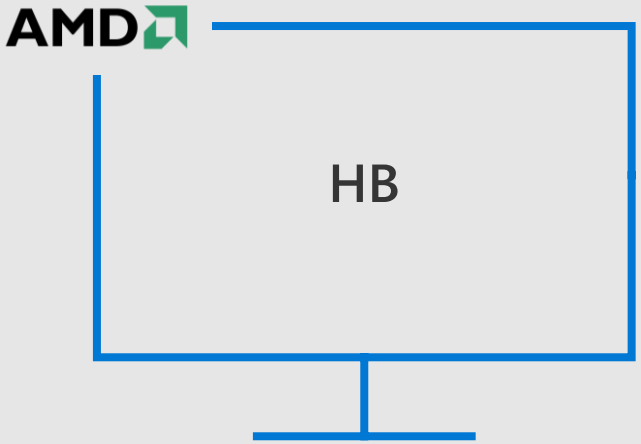
New H-Series Azure VMs—HB

GA
Released
April 2019

The HB-series is a new VM type architected to support workloads driven by memory bandwidth

- Performance and cost optimized for large scale HPC workloads
- 240 GiB of system memory (4 GB/core)
- HPC-optimized hypervisor that delivers performance and hardware access on par with a bare-metal experience
- Ideal for fluid dynamics, energy exploration, weather forecasting, risk analysis

Coming Soon



- Highest memory bandwidth in the cloud - 260 GB/sec
- 60 AMD EPYC cores and 100 Gbs InfiniBand
- Memory bandwidth driven HPC workloads

Learn more.

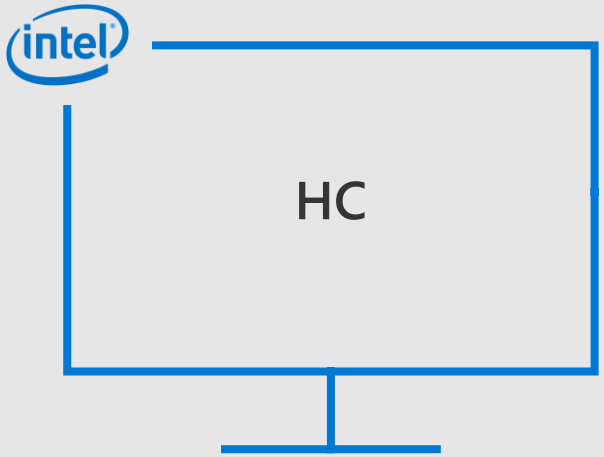
New H-Series Azure VMs—HC

GA
Released
June 2019

The HC-series is a new VM type architected to support computationally intensive workloads.

- Performance and cost optimized for large scale HPC workloads
- 352 GiB of system memory (8 GB/core)
- HPC-optimized hypervisor that delivers performance and hardware access on par with a bare-metal experience
- Ideal for structural mechanics, energy exploration, risk analysis

Coming Soon



- High clock speed > 3Ghz
- 44 Intel Skylake cores and 100 Gbs InfiniBand
- Compute driven HPC workloads

Learn more.

Azure VMware Solutions

Run your native VMware workloads in Azure

GA
Released
April 2019

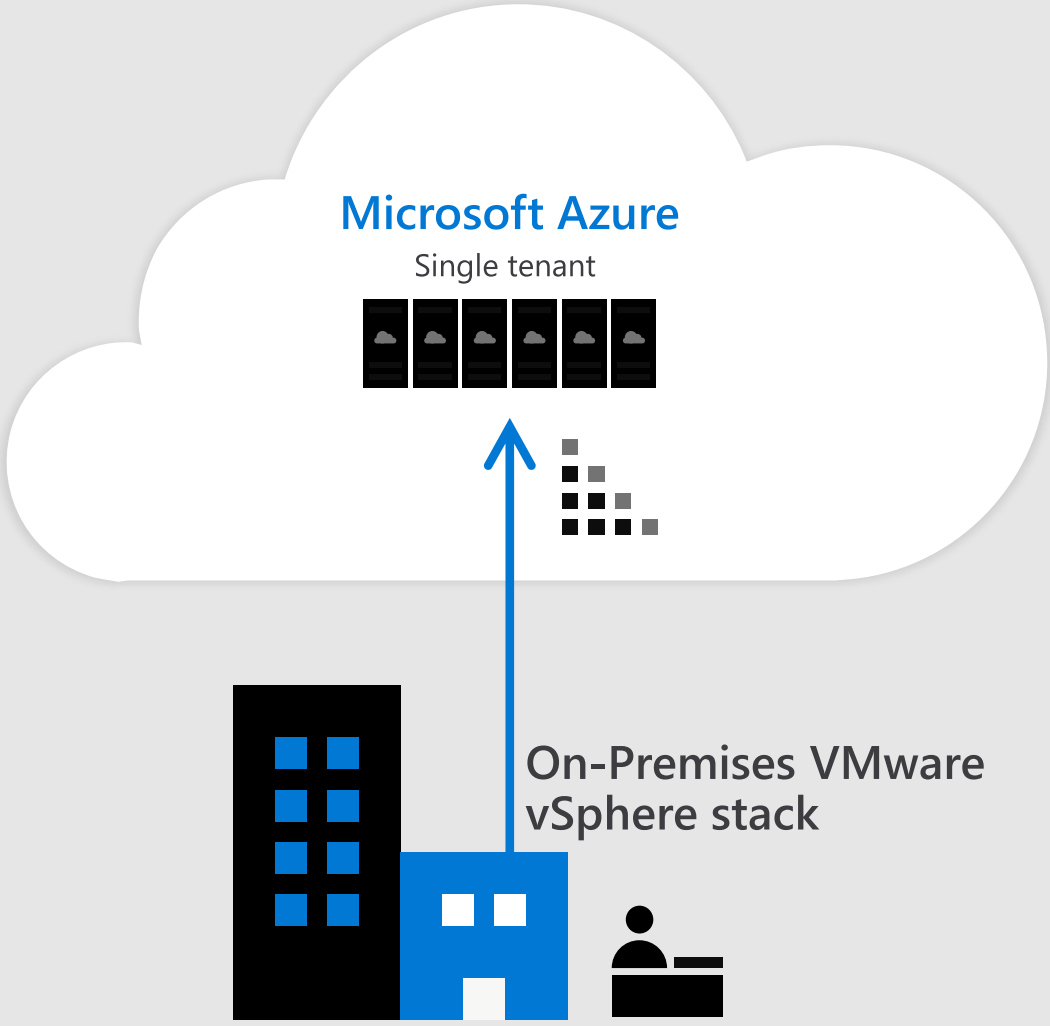
Azure VMware Solutions deliver a comprehensive VMware environment in Azure allowing customers to run native VMware workloads on Azure.

Seamlessly run, manage, and secure applications across VMware environments and Microsoft Azure with a common operating framework.

Capitalize on your existing VMware investments, skills, and tools, including VMware vSphere, vSAN, and vCenter while leveraging the scale, performance and innovation of Azure.

Modernize your VMware workloads in Azure through integration with Azure services such as Azure Active Directory, Azure AI, and Analytics enabling new, intelligent experiences.

Learn more or start now



Generation 2 Azure Virtual Machines

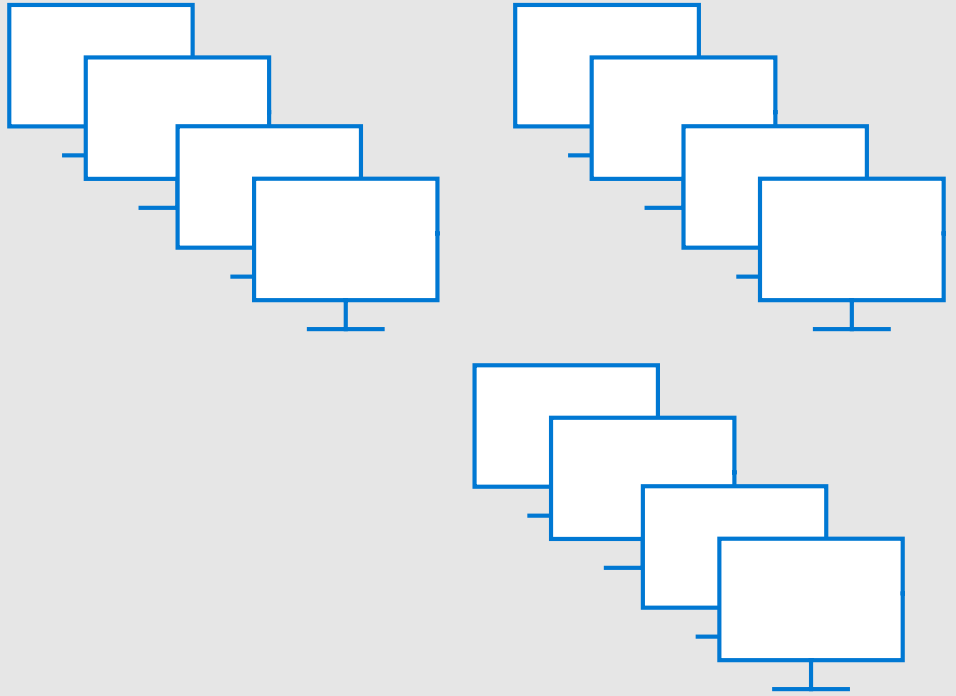
Public Preview
Released
June 2019

Public Preview

Native support for Generation 2 virtual machines in Azure.

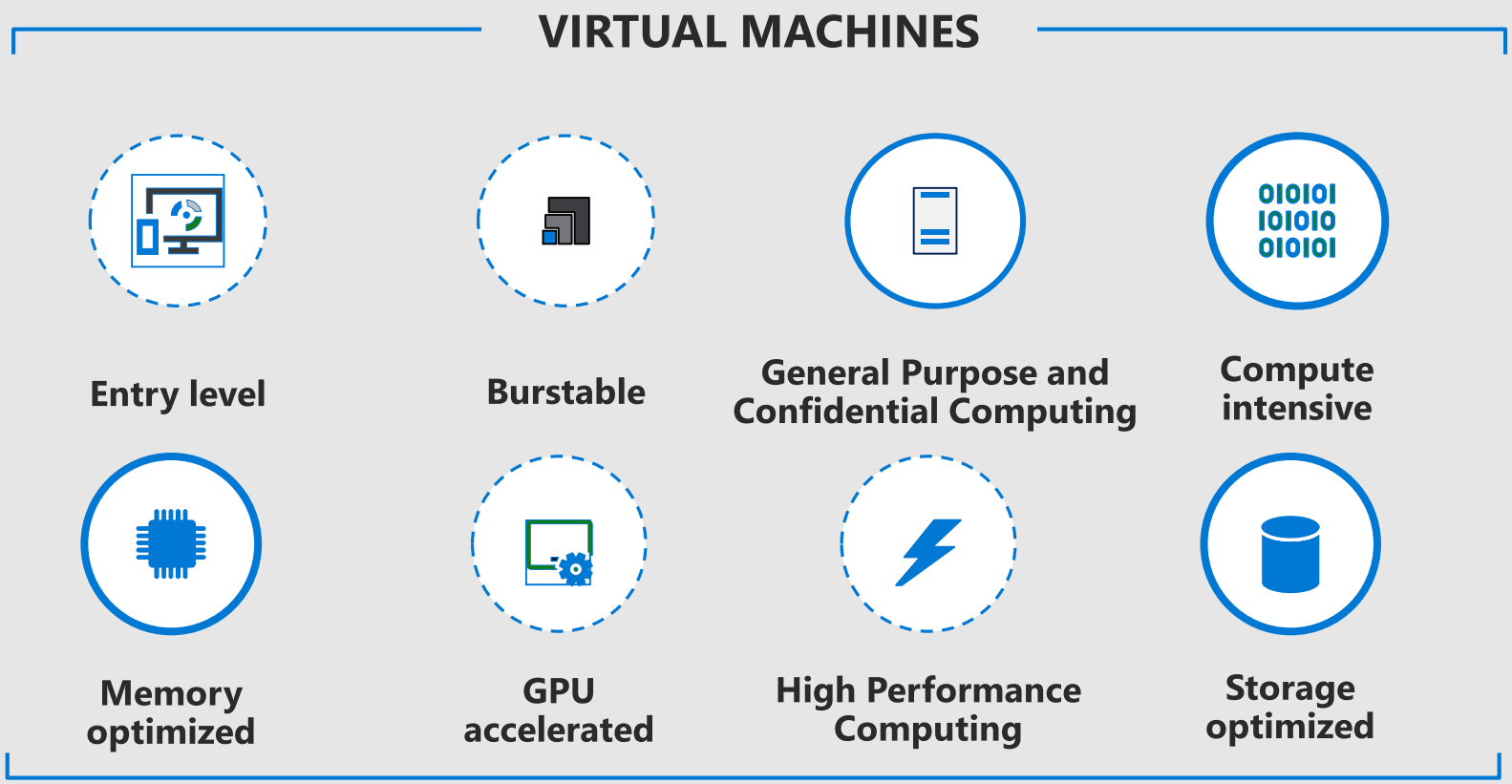
- Modernizing the underlying infrastructure
- New UEFI-based boot architecture vs. the BIOS-based architecture used by Generation 1 VMs.
- Build large virtual machines - up to 12TB
- Provision OS disks sizes that exceed 2TB

Learn more.



New Azure VM sizes—48vCPUs

GA
Released
July 2019



48 vCPUs Azure VM sizes

- Available for the Dv3, Dsv3, Ev3, Esv3, Fsv2, and Lsv2 VM series.
- Increased flexibility and choice to match your workload requirements
- Available in the geos in which the existing VM series are sold

Learn more.

Incremental Snapshots for Managed Disks

Public Preview
Released
July 2019

Independent

Available independent of parent disk

Incremental billing

Billed for delta writes

Incremental Storage

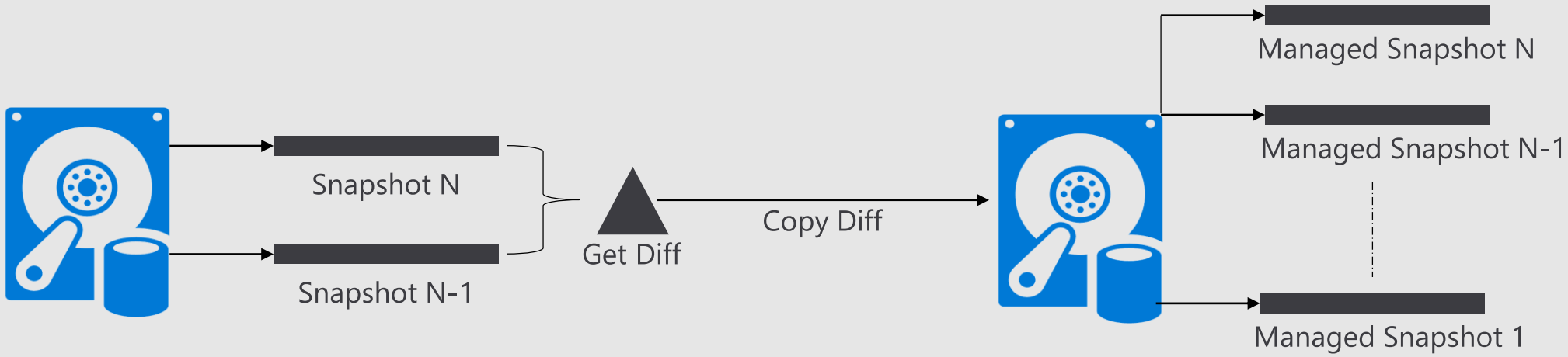
Storage consumed grows with the delta writes

Zonal

In regions with Az support

Good performance

Disk creation from snapshot in seconds



New Azure Ultra SSD Managed Disks

GA
ETA
Q3 2019

Ultra SSD is a new Managed Disk offering for the most IO-intensive and latency-sensitive workloads, and they:

- Choose disk sizes from 4 GiB up to 64 TiB
- Achieve required optimal performance per disk even at low storage capacities
- Rely on our flexible and innovative architecture so you can scale performance to 80,000–160,000* IOPS and throughput up to 2 GB/s per disk without restarting your virtual machines
- Use cases: Latency-sensitive and high IOPS applications like SAP HANA or noSQL databases like MongoDB and Cassandra

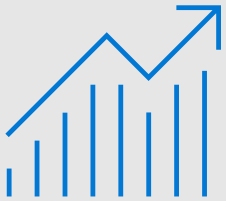
Learn more.

Low latency

High IOPS

Best single disk performance in the public cloud

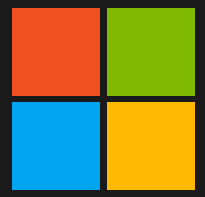
High throughput



Flexibility

Request access to the Public Preview

* Requires new VM type



Databases on Azure

Azure products

- AI + Machine Learning
- Analytics
- Blockchain
- Compute
- Containers
- Databases
- Developer Tools
- DevOps
- Identity
- Integration
- Internet of Things
- Management
- Media
- Microsoft Azure Stack
- Migration
- Mixed Reality
- Mobile
- Networking
- Security
- Storage
- Web
- Microsoft Game Development

Databases

Support rapid growth and innovate faster with secure, enterprise-grade, and fully managed database services

Azure Cosmos DB
Globally distributed, multi-model database for any scale

Azure SQL Database
Managed relational SQL Database as a service

Azure Database for MySQL
Managed MySQL database service for app developers

Azure Database for PostgreSQL
Manage PostgreSQL database service for app developers

Azure Database for MariaDB
Managed MariaDB database service for app developers

SQL Server on Virtual Machines
Host enterprise SQL Server apps in the cloud

Azure Database Migration Service
Simplify on-premises database migration to the cloud

Azure Cache for Redis
Power applications with high-throughput, low-latency data access

SQL Server Stretch Database
Dynamically stretch on-premises SQL Server databases to Azure

Table storage
NoSQL key-value store using semi-structured datasets

* Preview Services

http://azureplatform.azurewebsites.net/

Azure Database for PostgreSQL

Public Preview
Updates
June 2019

Azure Database for PostgreSQL offers enterprise-ready and fully managed services for the community version of PostgreSQL.

Easily migrate to the cloud, using languages and frameworks of choice, and deploy an enterprise-ready PostgreSQL server with built-in high availability.

Get multi-layered security, Azure IP Advantage, and the industry-leading reach of Azure, all with flexible pricing.

- **April 2019 – Query Performance insights for Azure Database for PostgreSQL now available**
- **April 2019 – Query Store for Azure Database for PostgreSQL now available**
- **April 2019 – Performance Recommendations for Azure Database for PostgreSQL now available**
- **April 2019 – Azure Database for PostgreSQL Read Replica (same region) now available**
- **May 2019 – Hyperscale (Citus) on Azure Database for PostgreSQL now in preview**
- **May 2019 – Azure Database for PostgreSQL Read Replica (cross region) now in preview**
- **May 2019 – The Orafce extension on Azure Database for PostgreSQL now available**
- **June 2019 – Azure Database for PostgreSQL support for PostgreSQL 11 now in preview**
- **June 2019 – Storage auto-grow for Azure Database for PostgreSQL now available**

Learn more about PostgreSQL

Azure Database for MySQL, PostgreSQL, and MariaDB

GA
Updates @ Inspire
July 2019

Azure databases for MySQL, PostgreSQL, and MariaDB offer enterprise-ready and fully managed community versions of the popular open source database engines.

Released

- Intelligent Performance for PostgreSQL—GA June 2019
- Intelligent Performance for MySQL and MariaDB—Preview June 2019
- MariaDB v10.3 support—GA June 2019
- Read Replica across regions for MySQL and PostgreSQL—Preview June 2019
- 16TB/20K IOPS for MySQL and PostgreSQL—Preview June 2019
- Read Replica across regions for MariaDB—Preview @ Inspire - July 2019

Coming Soon

- Advanced customer notification for upcoming maintenance for MySQL, PostgreSQL, and MariaDB—GA—July 2019
- Azure Active Directory integration for MySQL, Maria DB and PostgreSQL—Preview July 2019
- Preview16TB/20K IOPS for MySQL and PostgreSQL—GA—August 2019
- Intelligent Performance for MySQL and MariaDB—GA—August 2019

Learn more about MySQL

Learn more about PostgreSQL

Learn more about MariaDB

Azure SQL Database improvements

GA/Public Preview Updates/ETA Q2–Q4 CY19

Released

- Hyperscale for single databases—GA May CY19
- SQL Database serverless—Public Preview May CY19
- 4 vCore option for Managed Instance General Purpose - GA June CY19
- Azure Dev/Test pricing for SQL Database Managed Instance—GA June CY19

Upcoming

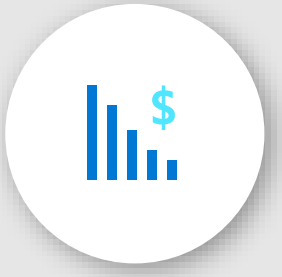
- UTF-8 support – Public Preview ETA July CY19
- Updated availability SLA – GA ETA July CY19
- Auto-failover for managed instance—GA ETA Q3 CY19
- Instance Pools—Public Preview ETA Q3 CY19
- Private link for single database – Public Preview ETA Q3 CY19
- Manual pause/resume for provisioned compute—Public Preview ETA Q3 CY19
- SQL Database with Machine Learning Services—GA ETA Q3 CY19
- Data Sync Premium—Public Preview ETA Q3 CY19
- Elastic Database Jobs—GA ETA Q4 CY19
- Data classification – GA ETA Q4 CY19
- Always Encrypted with TEE—Public Preview ETA Q4 CY19
- Hyperscale for managed instance—Public Preview ETA Q4 CY19

Learn more about Azure SQL Database

Azure SQL Data Warehouse

GA/Public Preview
Updates @ //build
May 2019

Best in class price per performance

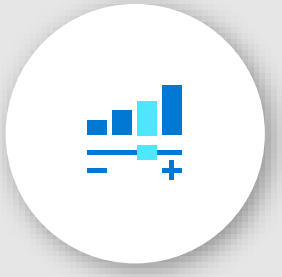


Up to 94% less expensive than competitors

Industry-leading security

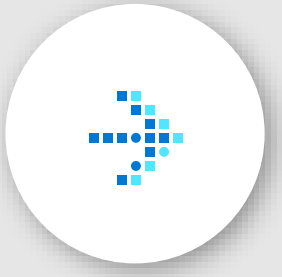
Defense-in-depth security and 99.9% financially backed availability SLA

Intelligent workload management



Prioritize resources for the most valuable workloads

Data flexibility



Ingest variety of data sources to derive the maximum benefit

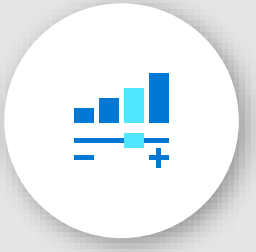
Developer productivity

Use preferred tooling for SQL data warehouse development

Learn more.

Azure SQL Data Warehouse new features

GA/Public Preview
Updates @ //build
May 2019

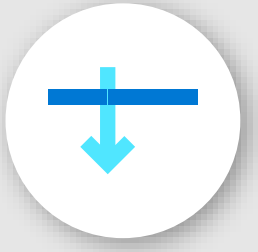


Workload Management

*GA at Build

Dynamic Data Masking

*Preview at Build



Columnar Ordering

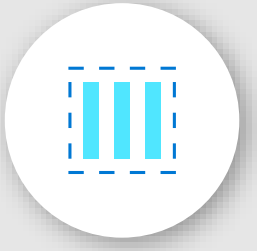
*Preview at Build

Heterogenous Data

*GA

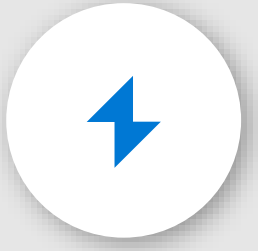
Auto-Update Statistics

*Preview at Build



Materialized Views

*Preview at Build



Resultset Cache

*Preview at Build

Learn more.

SQL Database serverless

Public Preview
Released @ //build
May 2019

Fully-managed and flexible computing

Fast, transparent auto-scaling

Automatically pauses during inactivity and resumes upon login

True pay-as-you-go billing for compute resources

Ideal for “bursty” or unpredictable workloads

Learn more.

Azure SQL Database Hyperscale

GA
Released @ //build
May 2019

A new, highly scalable service tier that adapts on-demand to your workload's needs, auto-scaling up to 100TB per database.

Storage dynamically adapts to your workloads' needs, auto-scaling up to 100TB.

Provision one or more additional compute nodes that can serve your read-only workload and use them as a hot-standby, in case of failover.

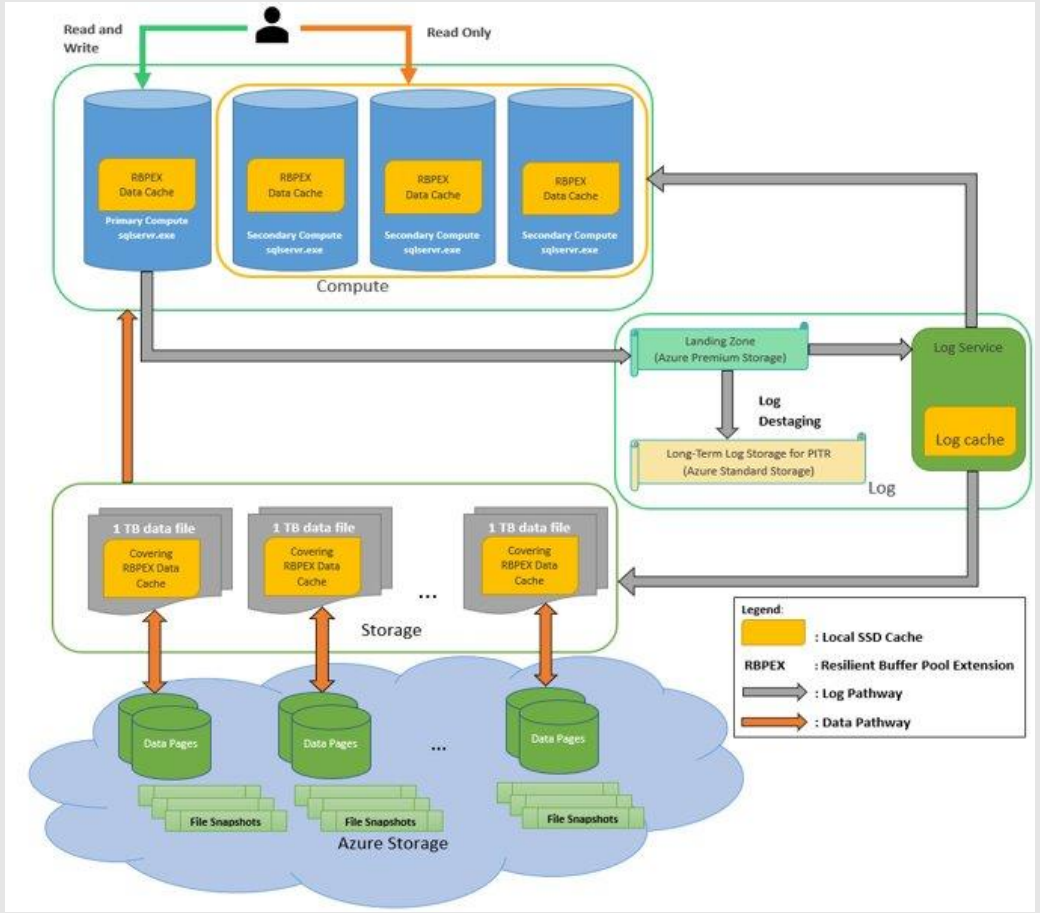
Perform operations in constant time, regardless of the size of the data operation.

Compute and storage resources scale rapidly and independently without sacrificing performance.

Hyperscale for single databases is in public preview. **GA ETA May CY2019**

Hyperscale for managed instance public preview, **ETA Q3 CY2019**

[Learn More.]



Hyperscale is built based on a new cloud-born architecture which decouples compute, log and storage.

Hyperscale is initially available for single databases in the following regions, with more regions added over time: West US1, West US2, East US1, Central US, West Europe, North Europe, UK West, SouthEast Asia, Japan East, Korea Central, Australia SouthEast, Australia East

4 vCore compute in Azure SQL Database Managed Instance General Purpose

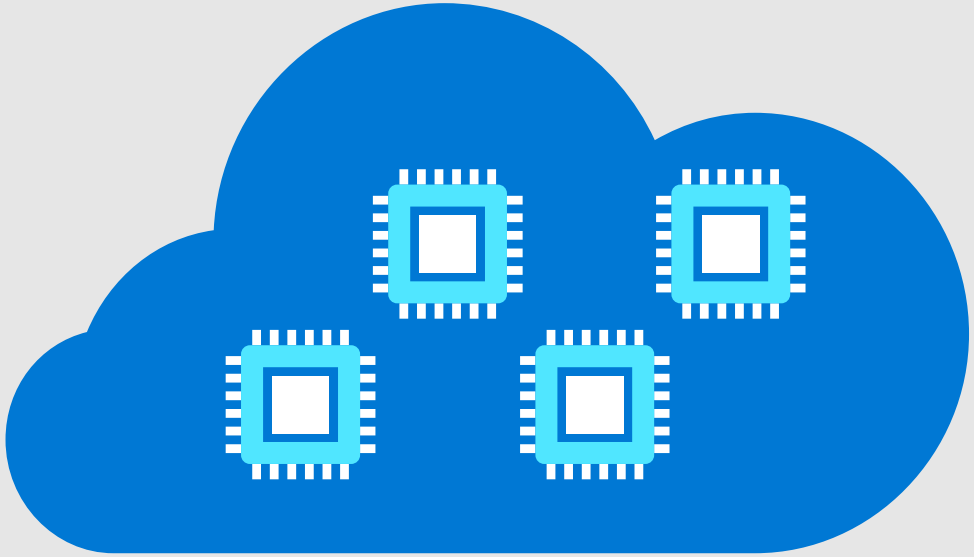
Public Preview
Released
June 2019

Migrate your less compute-intensive SQL Server workloads to Managed Instance

Right-size resources to your workloads' requirements

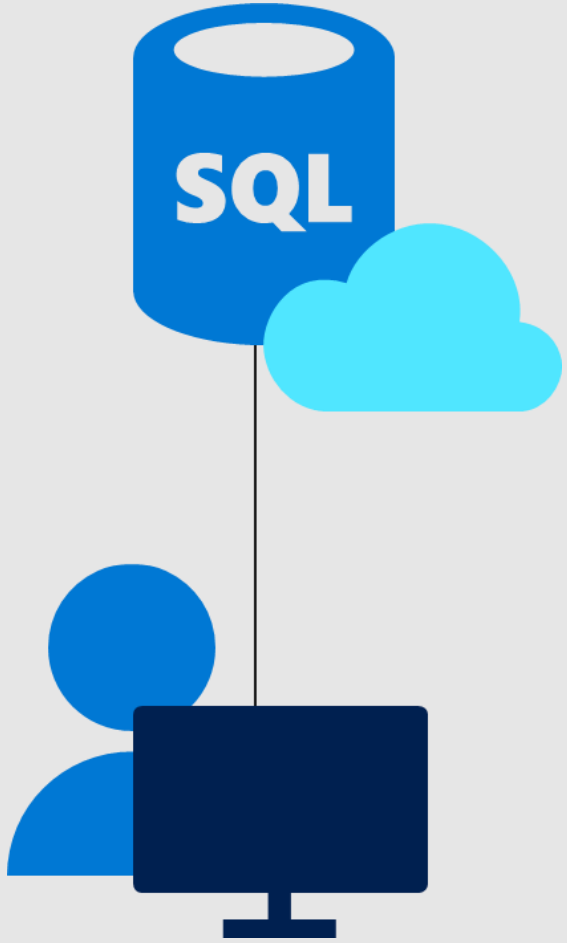
Save money on compute

Learn more.



Azure Dev/Test pricing for SQL Database Managed Instance

Public Preview
Released
June 2019



Discounted rates on Azure SQL Database Managed Instance to support your ongoing development and testing

Available to Visual Studio subscribers

Get started with a Visual Studio subscription

Determine your savings with our pricing calculator

Learn more.

Data classification

GA
ETA
Q4 2019

Discover, classify and protect your sensitive data

Protect the data, not just the database

Gain visibility to sensitive data located in servers, databases and table columns

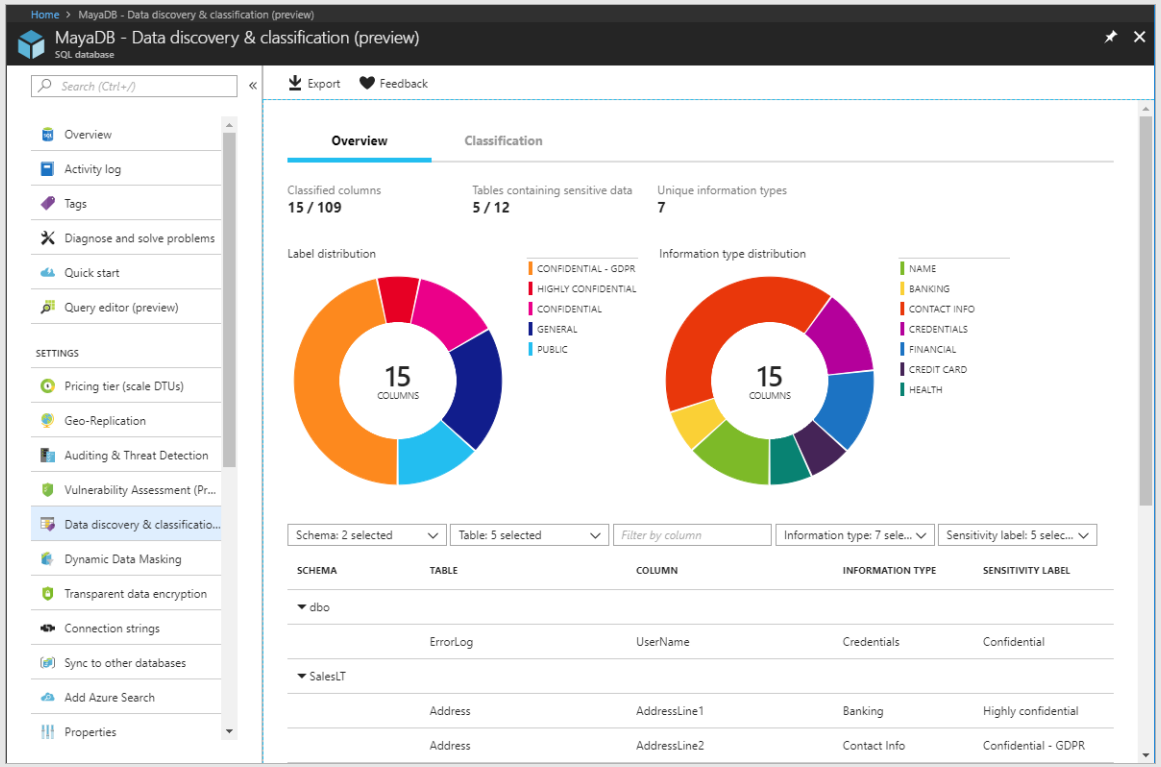
Promote compliance and adherence to GDPR

Enable persistent labeling with metadata that flows with data outside the database boundaries

Classify sensitive data through multiple approaches: manual, recommended, automatic classification, E2E with MIP

Audit access to sensitive data

[Learn more.]



Azure ExpressRoute

GA
Updates Released
April/May 2019

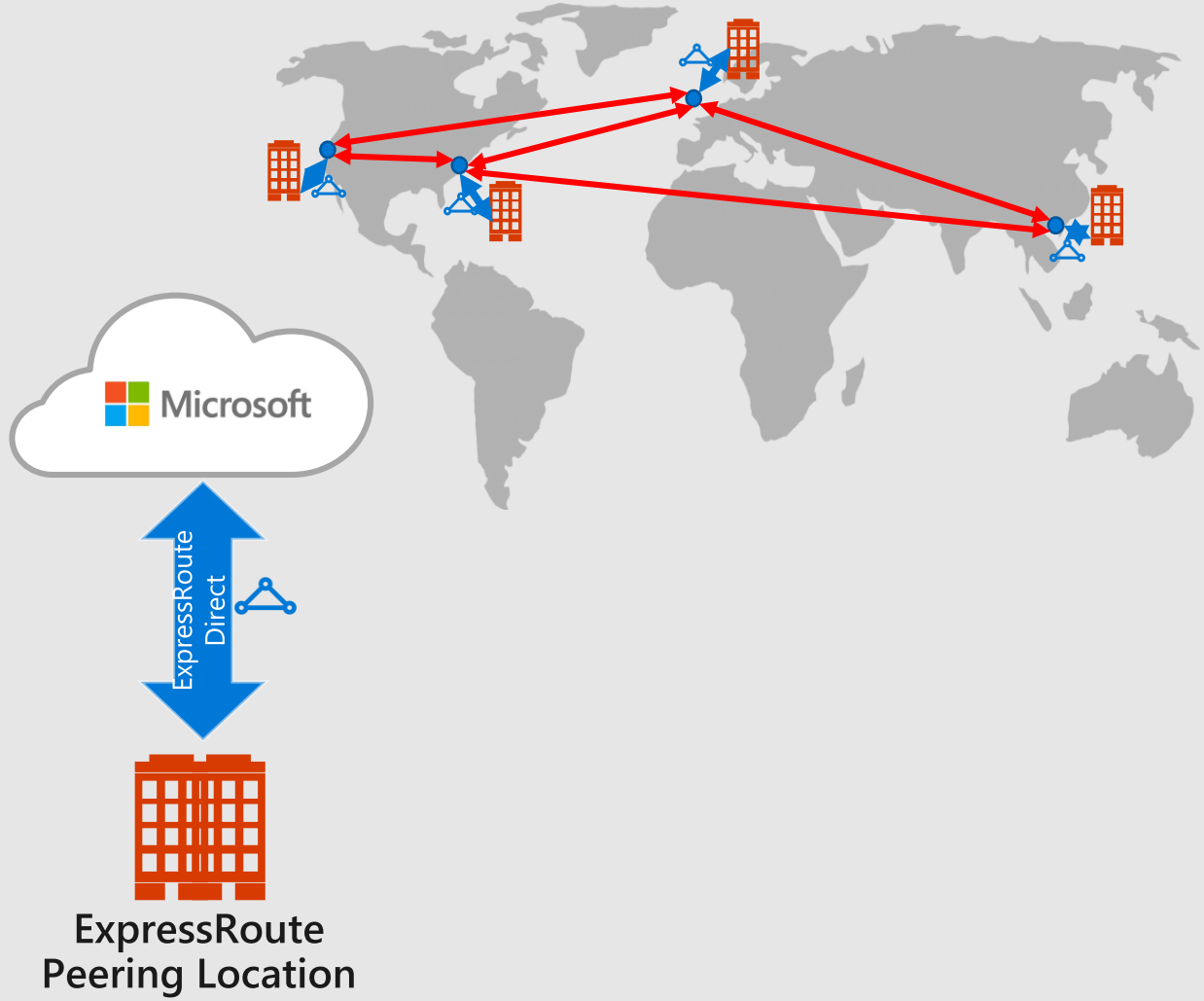
Global Reach

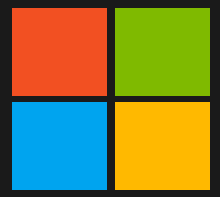
Global reach is an enhancement to Azure ER offering end to end IP transport. Compared to current functionality which allows customers to attach Azure to their WAN to consume services, Global Reach adds endpoint to end point transit allowing customers to the Azure backbone to route traffic between connected offices or entities.

Direct—100Gbps to Azure Customers given LOA for dual 100G connections to ExpressRoute routers

- Optimized for massive data ingestion to Azure Storage, Cosmos DB, Azure SQL
- New 40G, 100G circuits

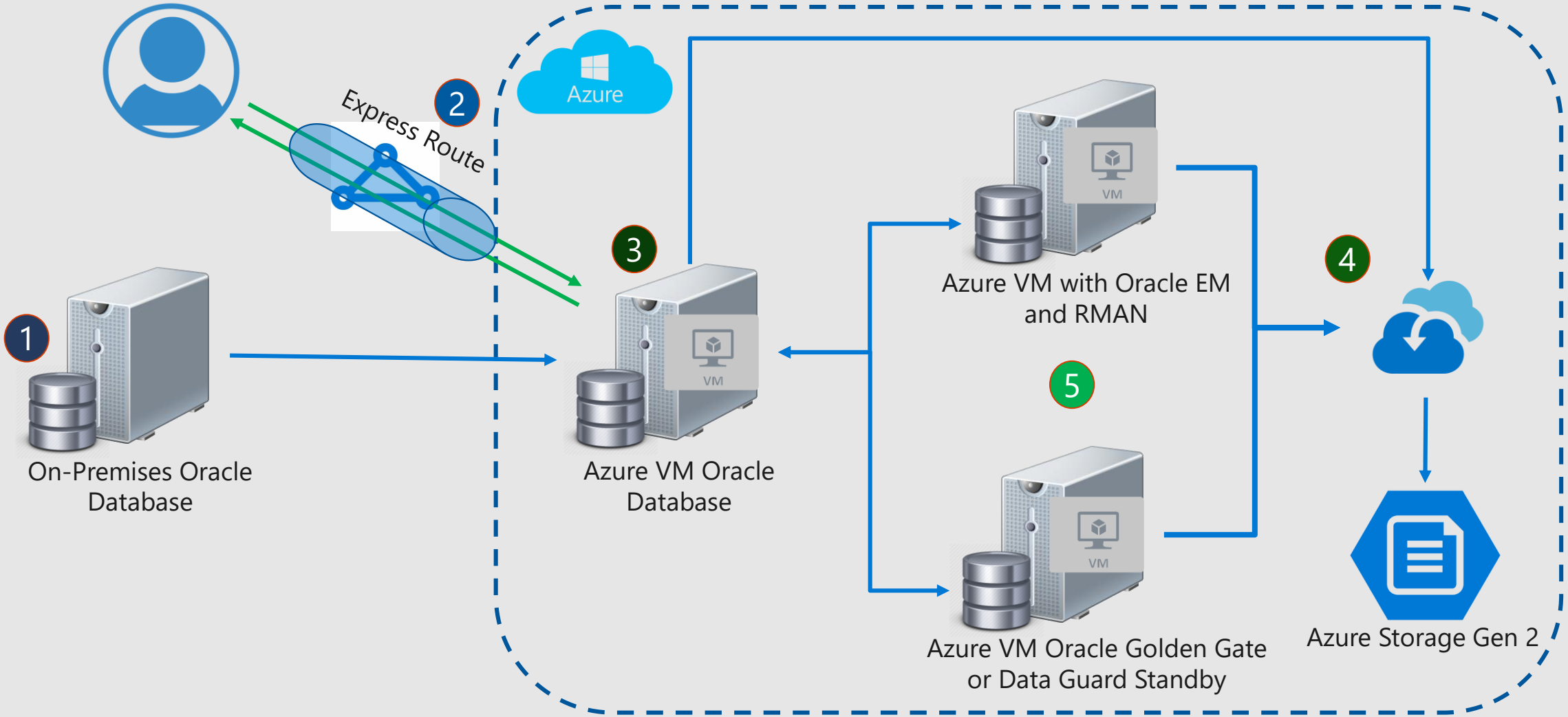
[Learn more](#).

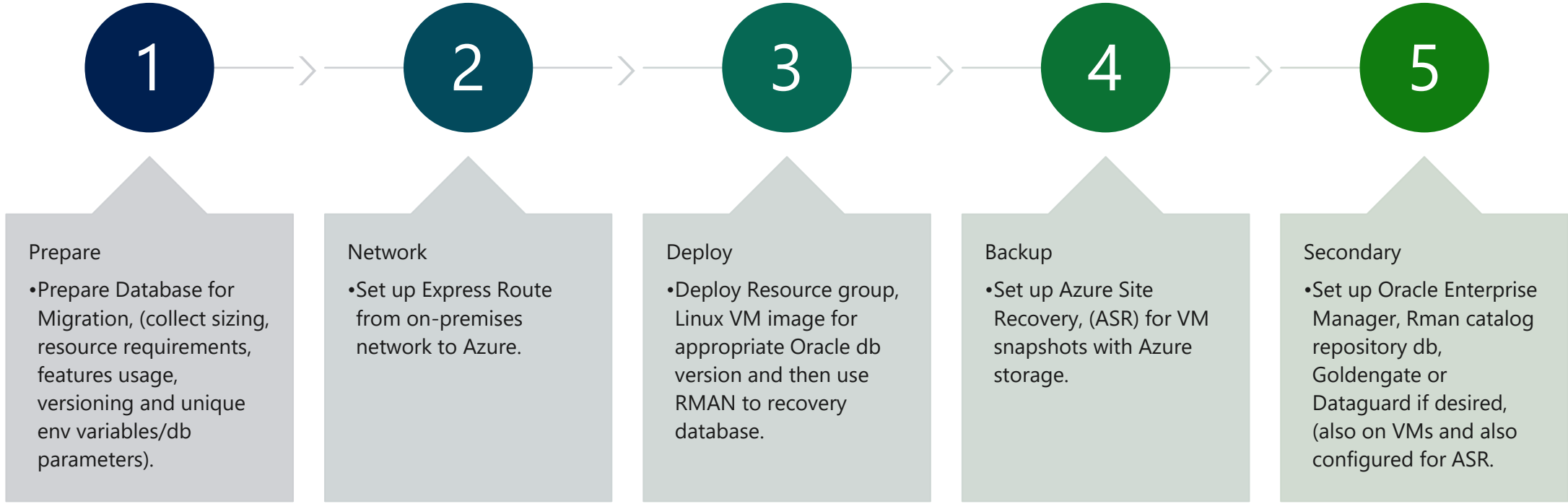




Oracle on Azure

Oracle Standard Architecture in Azure

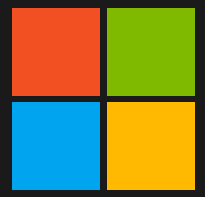




High Level Migration Steps

FAQ

- Database Configuration Asst., (DBCA) silent installation with a response file is used to create the database on an Azure Linux VM Image
- Network Configuration Asst., (NETCA) is used to configure services, tnsnames and sqlnet configurations, but the listener requires LSNRCTL
- Azure Cloud Shell from the Azure Portal is an excellent shell to interact with Azure VM- Consider setting up Azure cloud storage to store automation and other support scripts.
- Azure Site Recovery, (ASR) snapshots can replace RMAN for backup and recovery. Data Guard can create a failover environment.
- Express Route ensures sufficient network performance between the customer and Azure resources.
- (Real Application Cluster),RAC isn't supported in Azure, but can be built with the use of a third party tool such as FlexGrid or FlashGrid.



The Azure Portal

https://portal.azure.com

Azure Quickstart Center

GA
Released @//build
May 2019

Need a comprehensive guide to set up Azure for your organization? No worries

The Introduction to Azure Setup guide helps you to make key decisions as you prepare to deploy resources in Azure.

Accelerate your Azure deployment

A focused view of the hero Azure services guides you through options to help you easily build, test, and deploy your project to the cloud.

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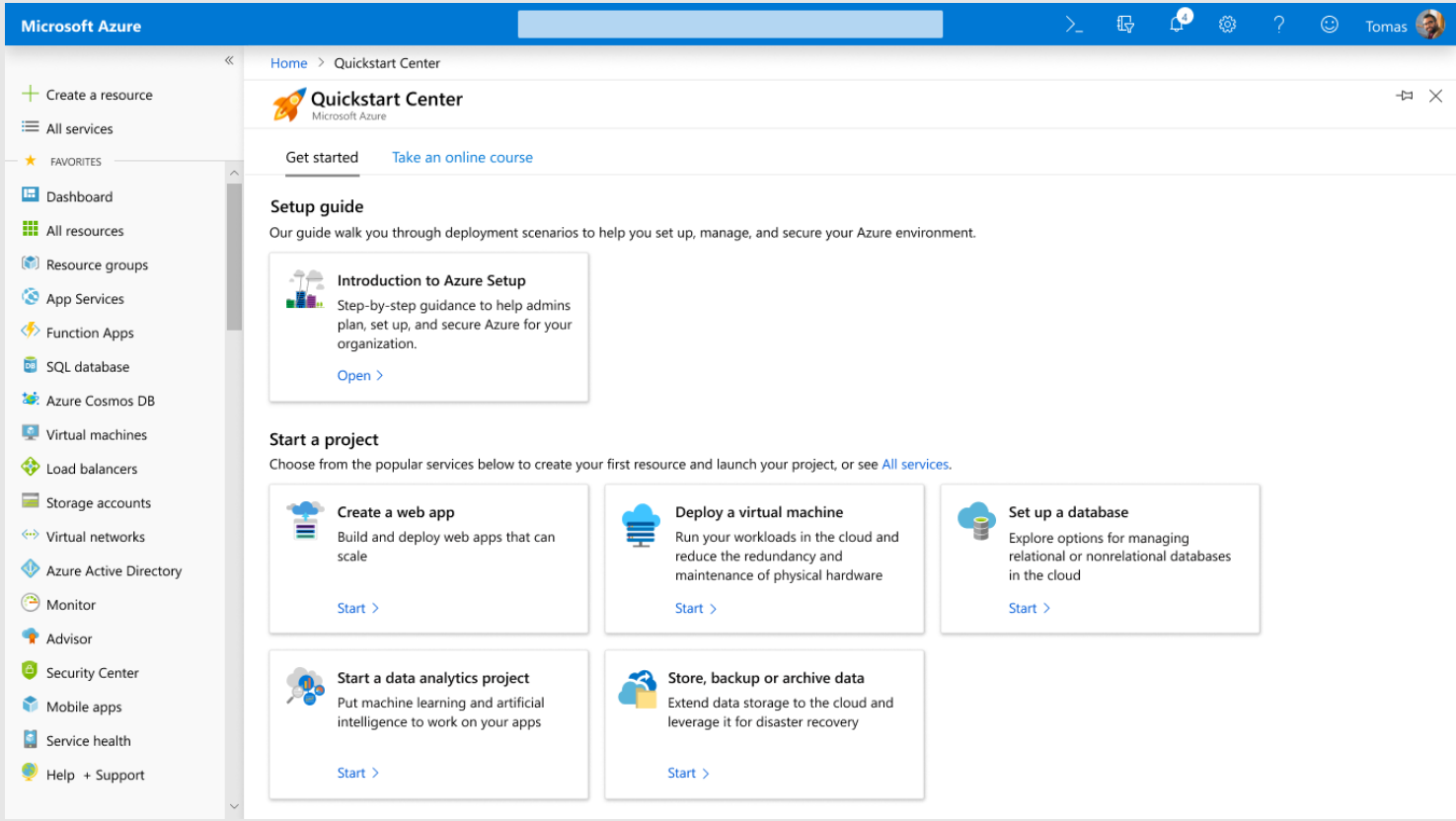
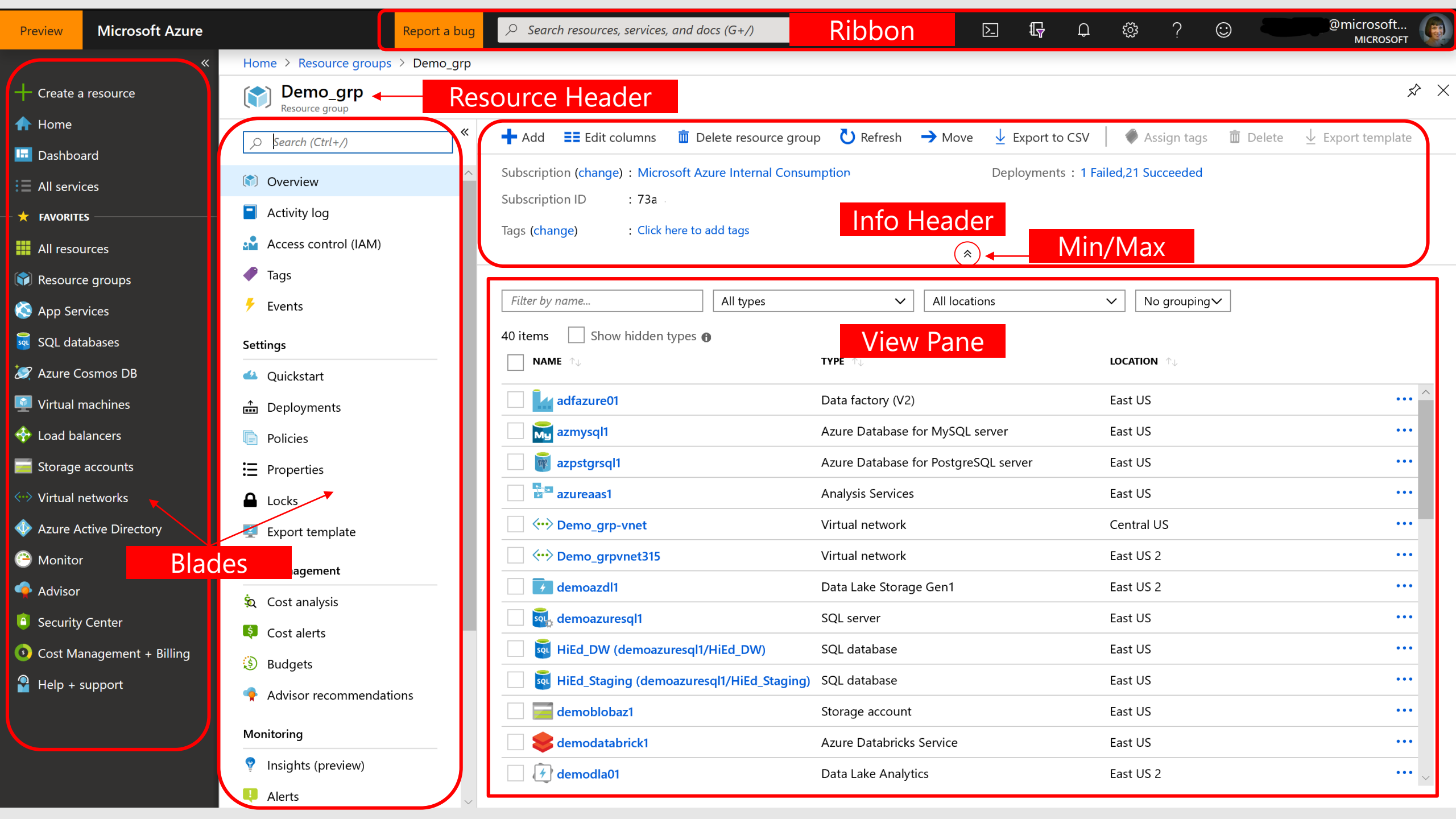
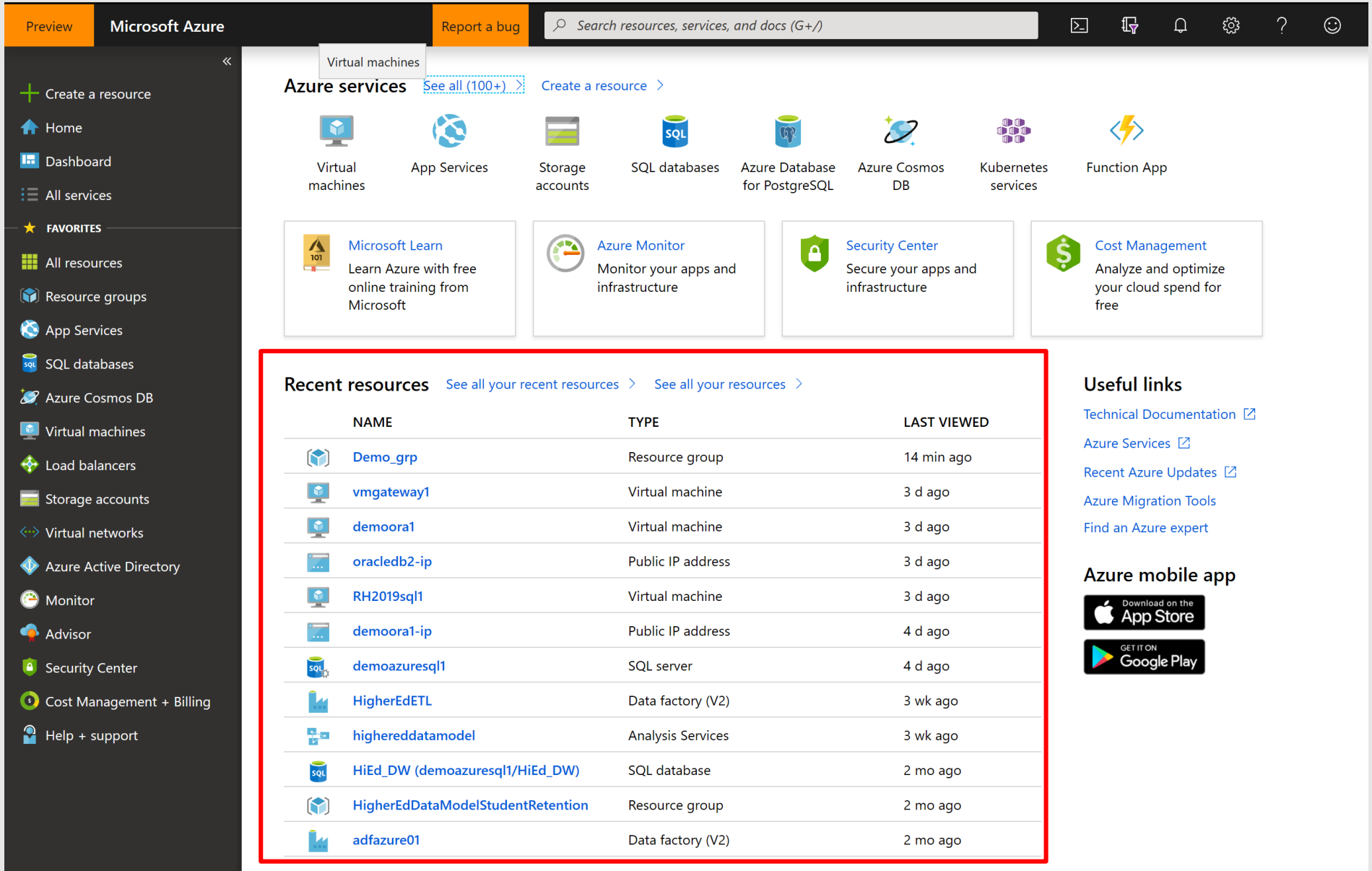


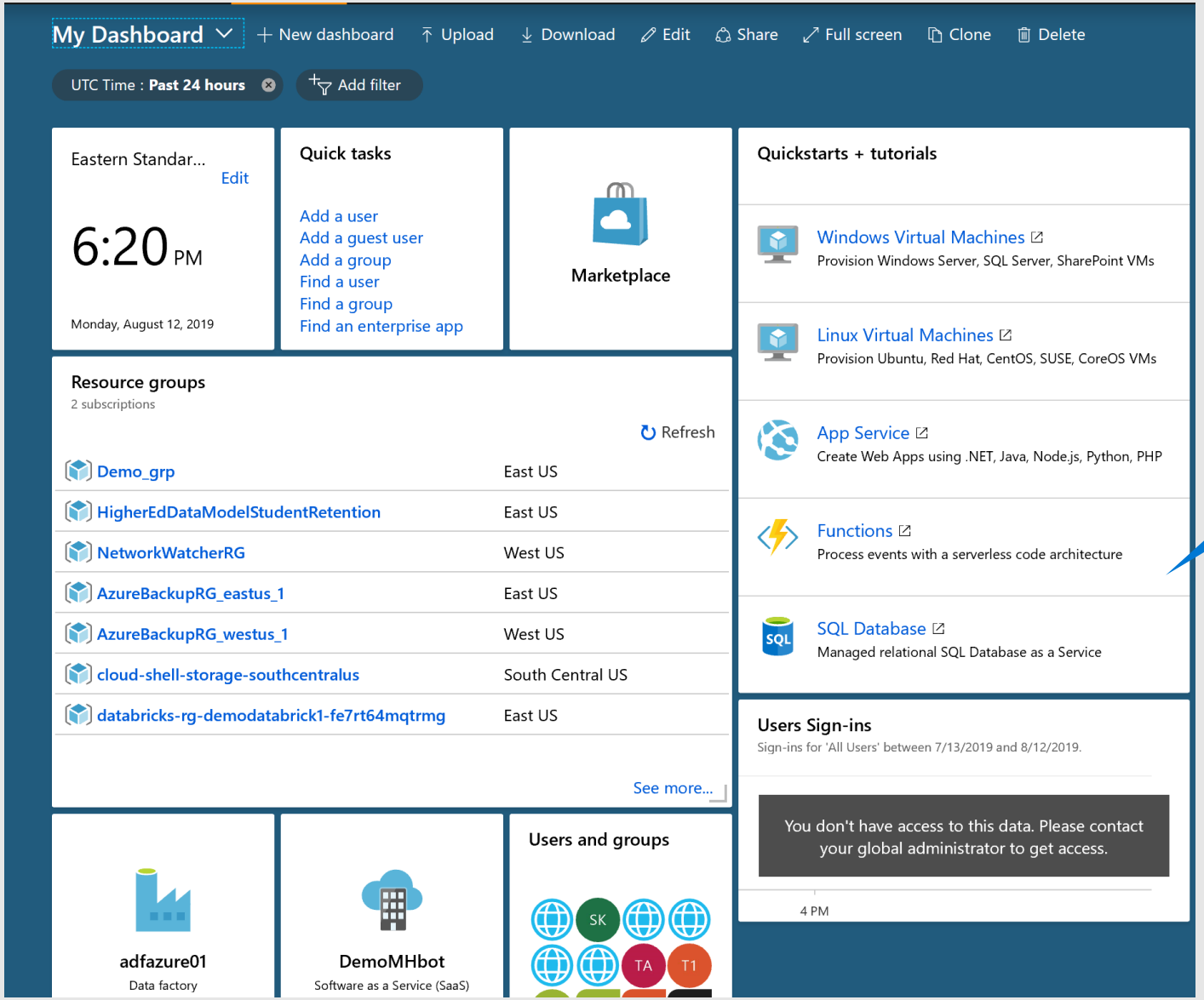
Link to Azure Quickstart Center in Azure portal


Preview
Microsoft Azure
Report a bug
Search resources, services, and docs (G+/)
Ribbon
@microsoft...
MICROSOFT
Create a resource
Home
Dashboard
All services
FAVORITES
All resources
Resource groups
App Services
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
Monitor
Advisor
Security Center
Cost Management + Billing
Help + support
Blades
Home > Resource groups > Demo_grp
Demo_grp
Resource group
Resource Header
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Events
Settings
Quickstart
Deployments
Policies
Properties
Locks
Export template
Cost analysis
Cost alerts
Budgets
Advisor recommendations
Monitoring
Insights (preview)
Alerts
Add
Edit columns
Delete resource group
Refresh
Move
Export to CSV
Assign tags
Delete
Export template
Subscription (change) : Microsoft Azure Internal Consumption
Deployments : 1 Failed,21 Succeeded
Subscription ID : 73a
Tags (change) : Click here to add tags
Info Header
Min/Max
Filter by name...
All types
All locations
No grouping
40 items
Show hidden types
View Pane
NAME
TYPE
LOCATION
adfazure01 Data factory (V2) East US
azmysql1 Azure Database for MySQL server East US
azpstgrsql1 Azure Database for PostgreSQL server East US
azureaas1 Analysis Services East US
Demo_grp-vnet Virtual network Central US
Demo_grpvnet315 Virtual network East US 2
demoazdl1 Data Lake Storage Gen1 East US 2
demoazuresql1 SQL server East US
HiEd_DW (demoazuresql1/HiEd_DW) SQL database East US
HiEd_Staging (demoazuresql1/HiEd_Staging) SQL database East US
demoblobaz1 Storage account East US
demodatabrick1 Azure Databricks Service East US
demodla01 Data Lake Analytics East US 2

Home Page

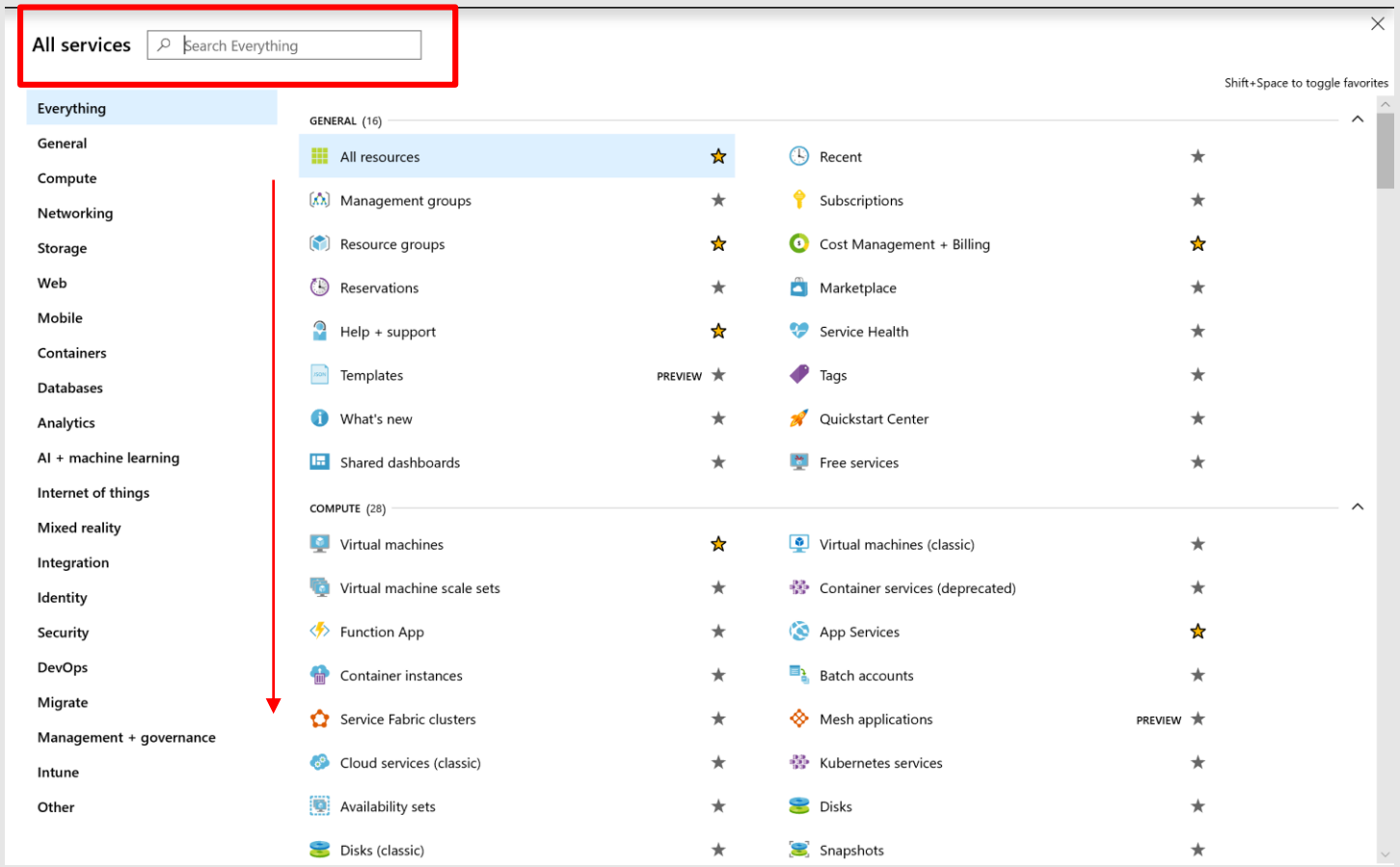

Preview
Microsoft Azure
Report a bug
Search resources, services, and docs (G+/)
Virtual machines
Create a resource
Home
Dashboard
All services
FAVORITES
All resources
Resource groups
App Services
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
Monitor
Advisor
Security Center
Cost Management + Billing
Help + support
Azure services
See all (100+)
Create a resource
Virtual machines
App Services
Storage accounts
SQL databases
Azure Database for PostgreSQL
Azure Cosmos DB
Kubernetes services
Function App
Microsoft Learn
Learn Azure with free online training from Microsoft
Azure Monitor
Monitor your apps and infrastructure
Security Center
Secure your apps and infrastructure
Cost Management
Analyze and optimize your cloud spend for free
Recent resources
See all your recent resources
See all your resources
NAME
TYPE
LAST VIEWED
Demo_grp
Resource group
14 min ago
vmgateway1
Virtual machine
3 d ago
demoora1
Virtual machine
3 d ago
oracledb2-ip
Public IP address
3 d ago
RH2019sql1
Virtual machine
3 d ago
demoora1-ip
Public IP address
4 d ago
demoazuresql1
SQL server
4 d ago
HigherEdETL
Data factory (V2)
3 wk ago
highereddatamodel
Analysis Services
3 wk ago
HiEd_DW (demoazuresql1/HiEd_DW)
SQL database
2 mo ago
HigherEdDataModelStudentRetention
Resource group
2 mo ago
adfazure01
Data factory (V2)
2 mo ago
Useful links
Technical Documentation
Azure Services
Recent Azure Updates
Azure Migration Tools
Find an Azure expert
Azure mobile app
Download on the App Store
GET IT ON Google Play

Dashboard

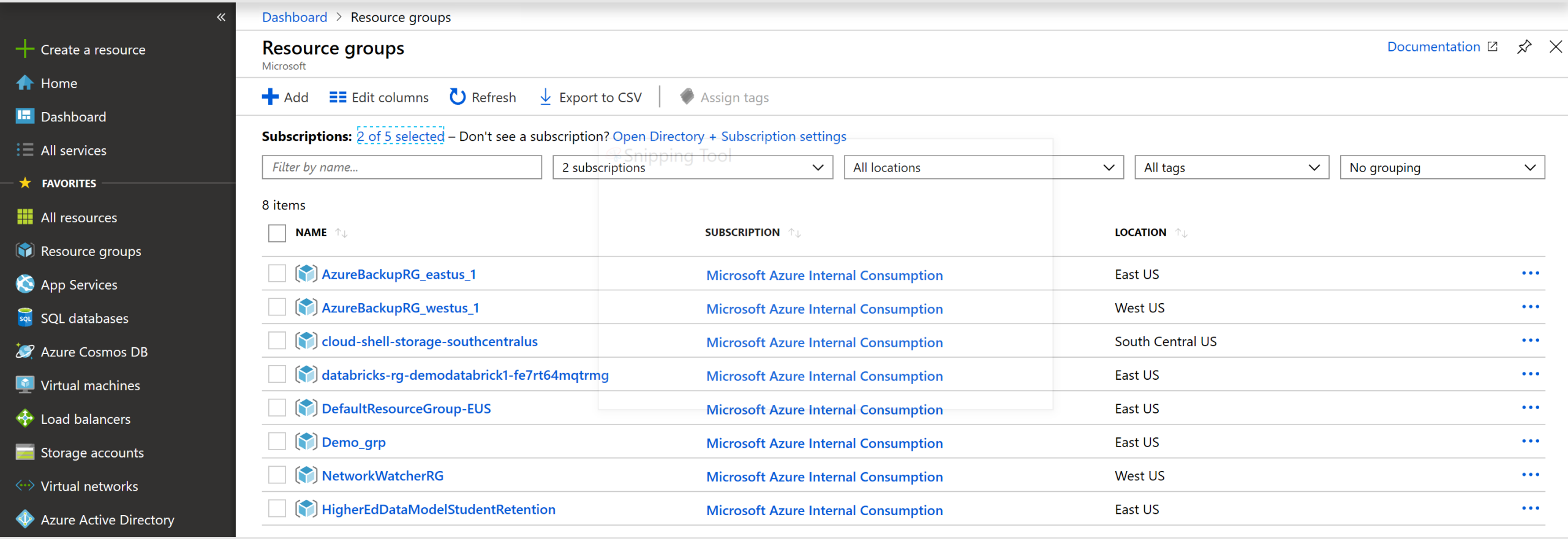


Your important info, your design, your choice.

All Services



Resource Groups

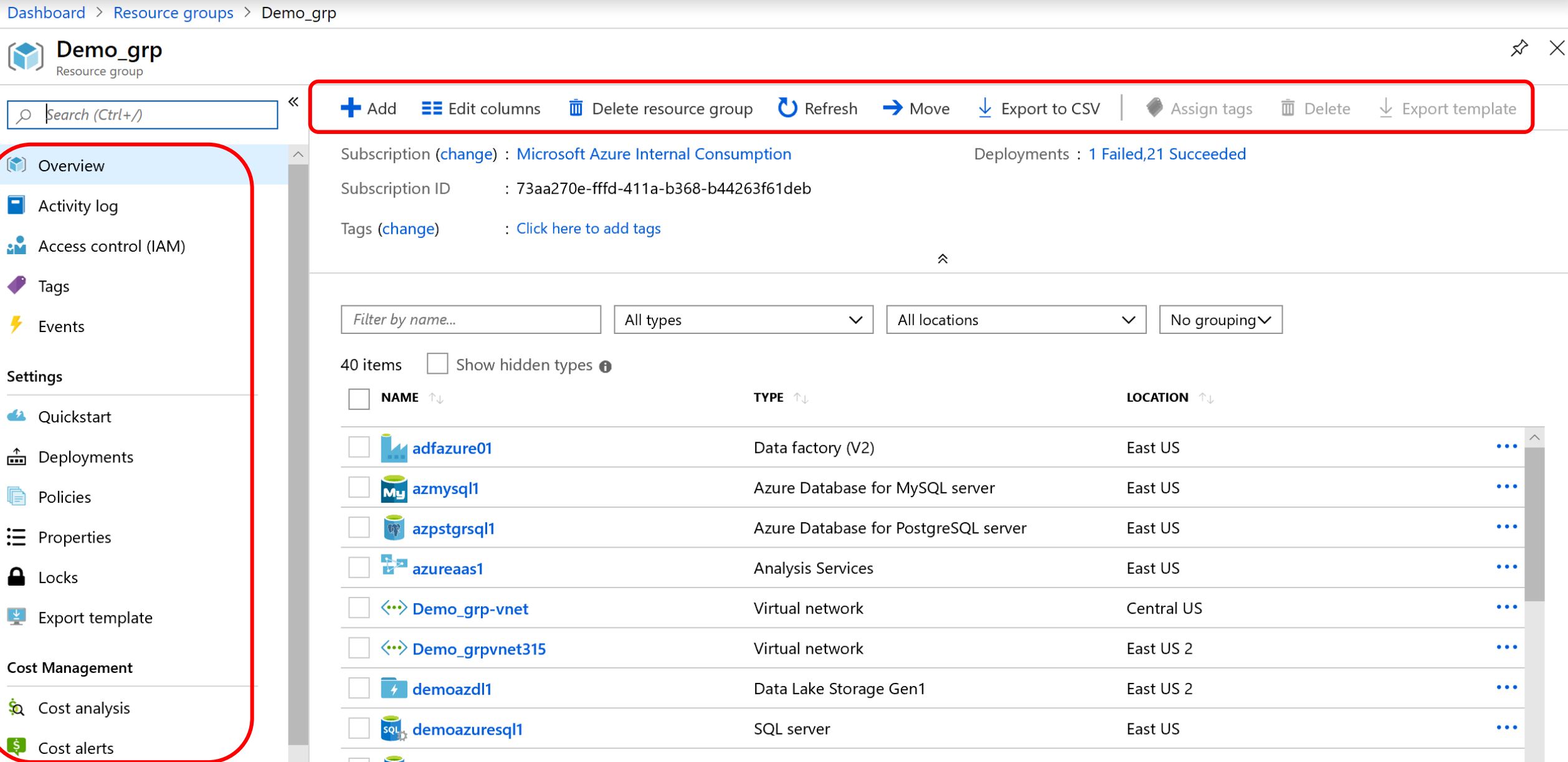


Managing Resources

- Resources are deployed as part of groups
- Resource Groups ensure easier management, maintenance and interaction.
- Easily identified from Azure Portal
- Can be set at the session or as a default from the command line with:

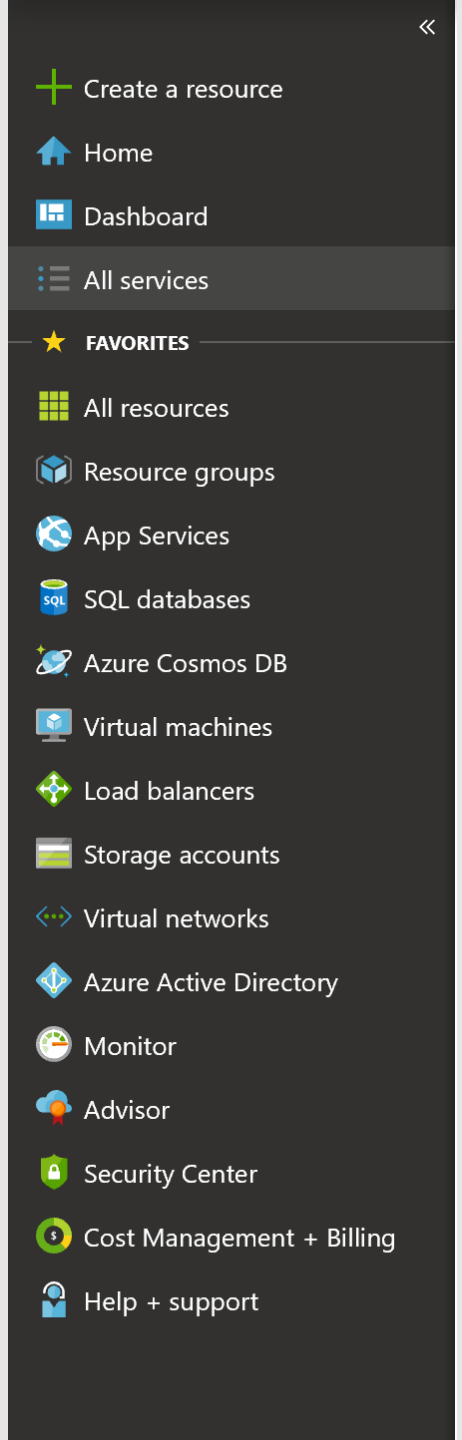
```
az configure --defaults group=$groupname
```

Inside a Resource Group

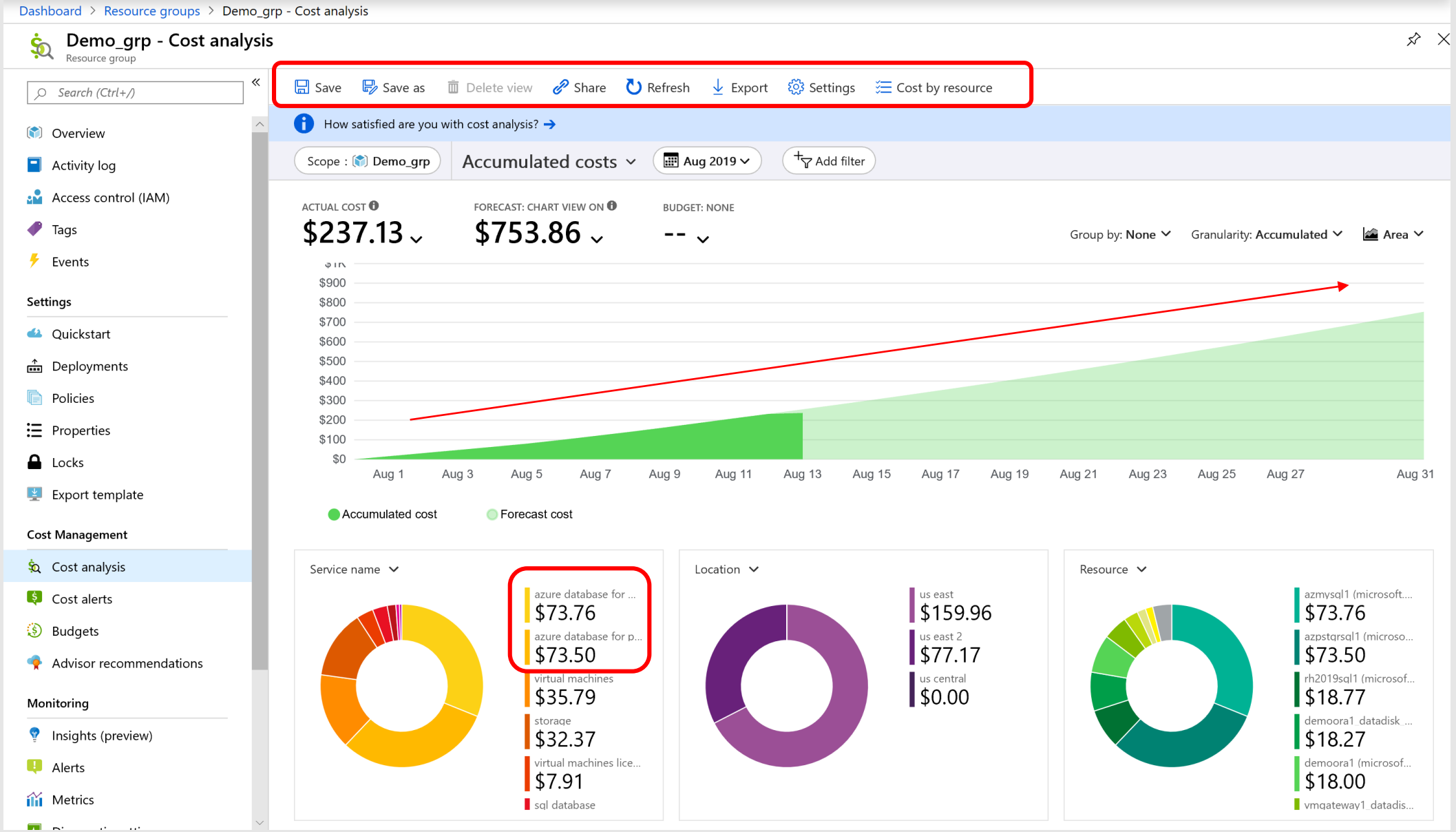


Azure Control Blade

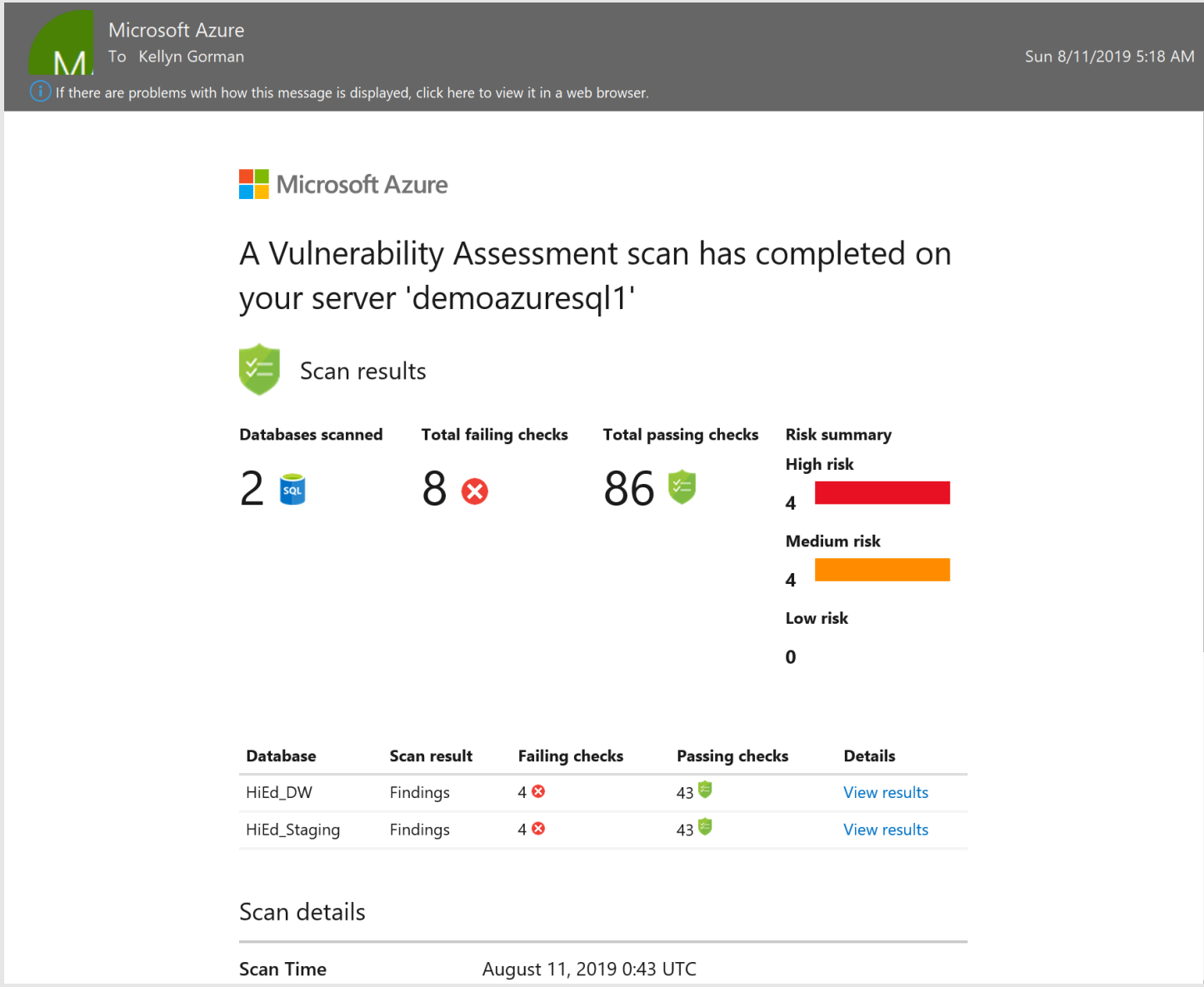
Dashboard and Resource Groups are the most common place you'll click, but there are other important areas- Security Center, Advisor, Monitor.



Resource Groups Cost Analysis



Vulnerability Assessments



Microsoft Azure
To Kellyn Gorman
Sun 8/11/2019 5:18 AM

If there are problems with how this message is displayed, click here to view it in a web browser.

Microsoft Azure

A Vulnerability Assessment scan has completed on your server 'demoazuresql1'

Scan results

Databases scanned	Total failing checks	Total passing checks	Risk summary
2	8	86	High risk 4
			Medium risk 4
			Low risk 0

Database	Scan result	Failing checks	Passing checks	Details
HiEd_DW	Findings	4	43	View results
HiEd_Staging	Findings	4	43	View results

Scan details

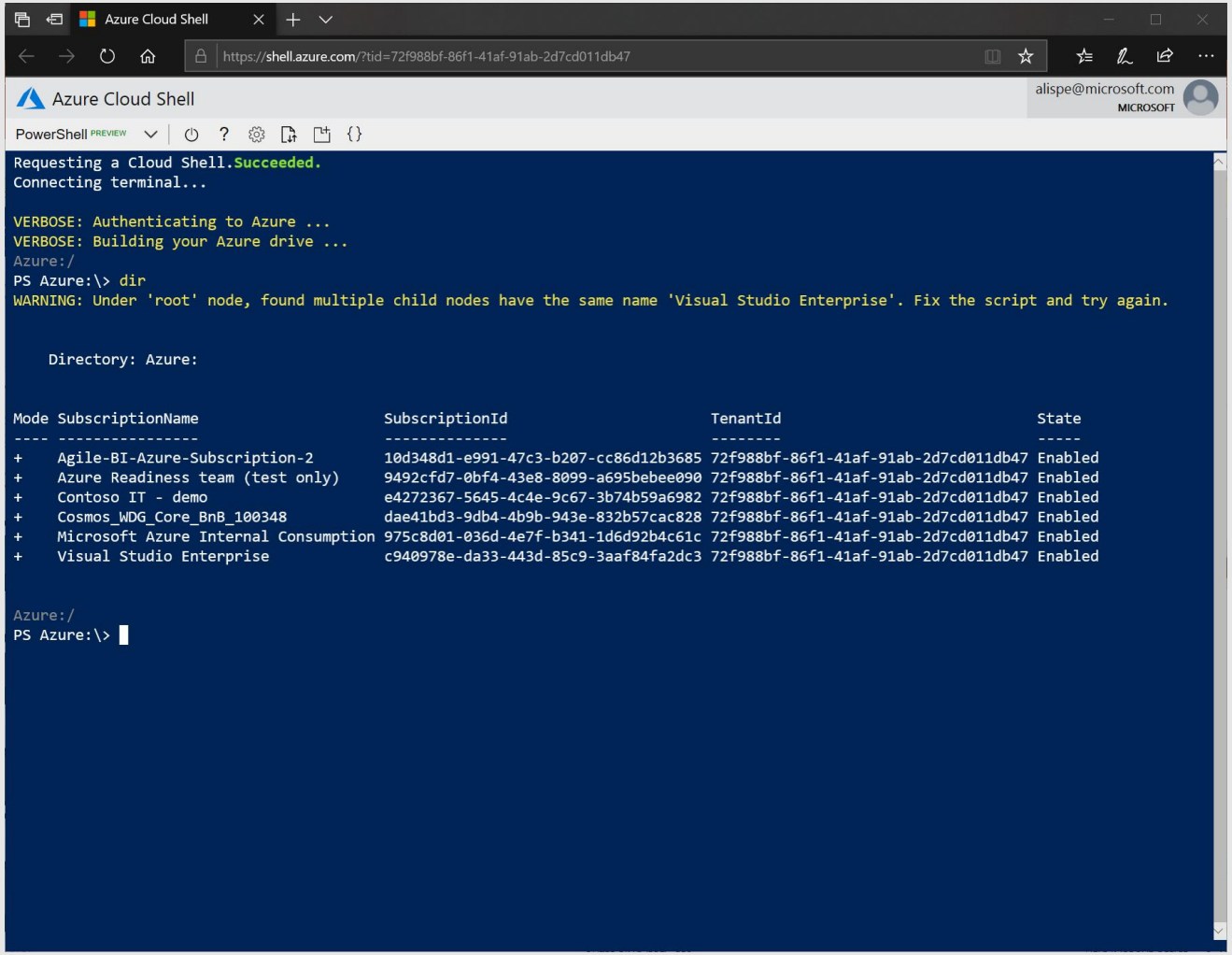
Scan Time	August 11, 2019 0:43 UTC

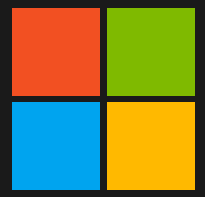
Azure supports automation

Recommendations:

Define ARM templates for commonly used resource configurations

Use Azure Policy to define which resources you allow teams to provision





Azure Management

Azure products

- AI + Machine Learning
- Analytics
- Blockchain
- Compute
- Containers
- Databases
- Developer Tools
- DevOps
- Identity
- Integration
- Internet of Things
- Management
- Media
- Microsoft Azure Stack
- Migration
- Mixed Reality
- Mobile
- Networking
- Security
- Storage
- Web
- Microsoft Game Development

Management

Simplify, automate, and optimize the management and compliance of your cloud resources

Azure Portal
Build, manage, and monitor all Azure products in a single, unified console

Advisor
Your personalized Azure best practices recommendation engine

Azure Cost Management
Optimize what you spend on the cloud, while maximizing cloud potential

Monitor
Highly granular and real-time monitoring data for any Azure resource

Scheduler
Run your jobs on simple or complex recurring schedules

Cloud Shell
Streamline Azure administration with a browser-based shell

Backup
Simple and reliable server backup to the cloud

Azure Policy
Implement corporate governance and standards at scale for Azure resources

Site Recovery
Orchestrate protection and recovery of private clouds

* Preview Services

http://azureplatform.azurewebsites.net/

Azure Quickstart Center

GA
Released @ //build
May 2019

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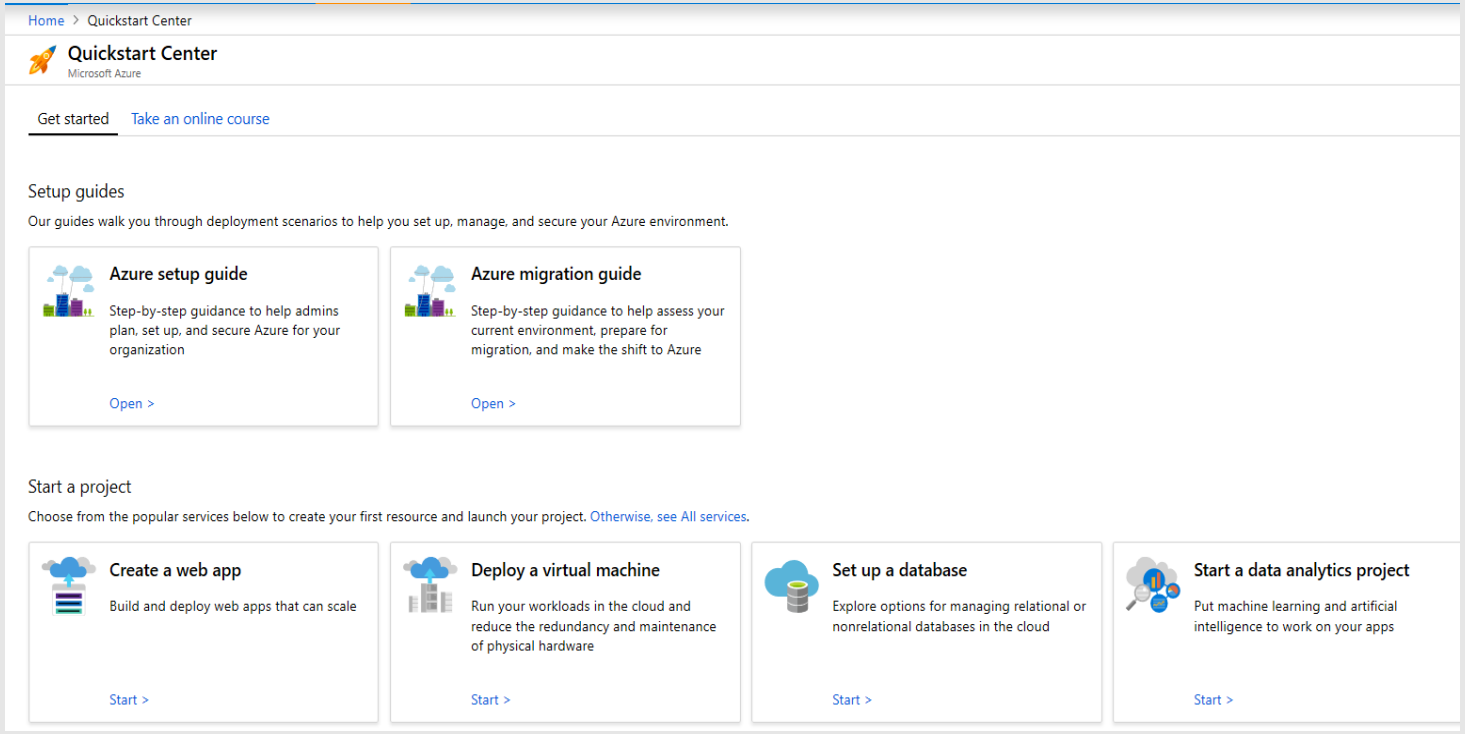
[Link to Azure Quickstart Center](#) **in Azure portal.**



Azure Advisor

GA Update
New Feature
Q3 2019

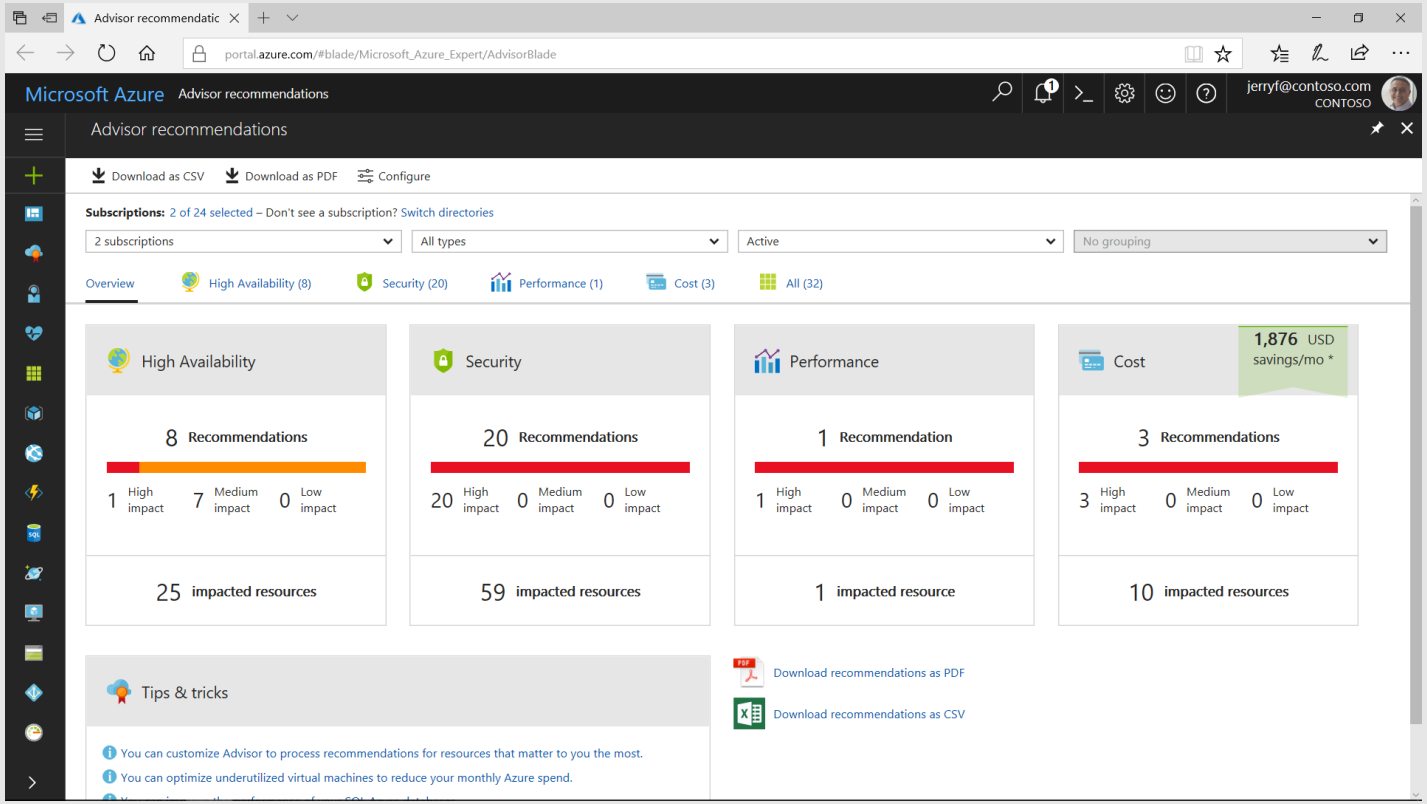
Your free, personalized recommendation guide to Azure proven practices

- Optimize your resources for high availability, security, performance, and cost
- Implement recommendations with ease
- Access best practice optimizations at no additional cost

In Q3 2019, Advisor will enable recommendation alerts.

Explore Azure Advisor:
https://aka.ms/AzureAdvisor

Learn more:
https://aka.ms/AzureAdvisor/Overview



Azure Service Health

GA Update
New Feature
Q3 2019

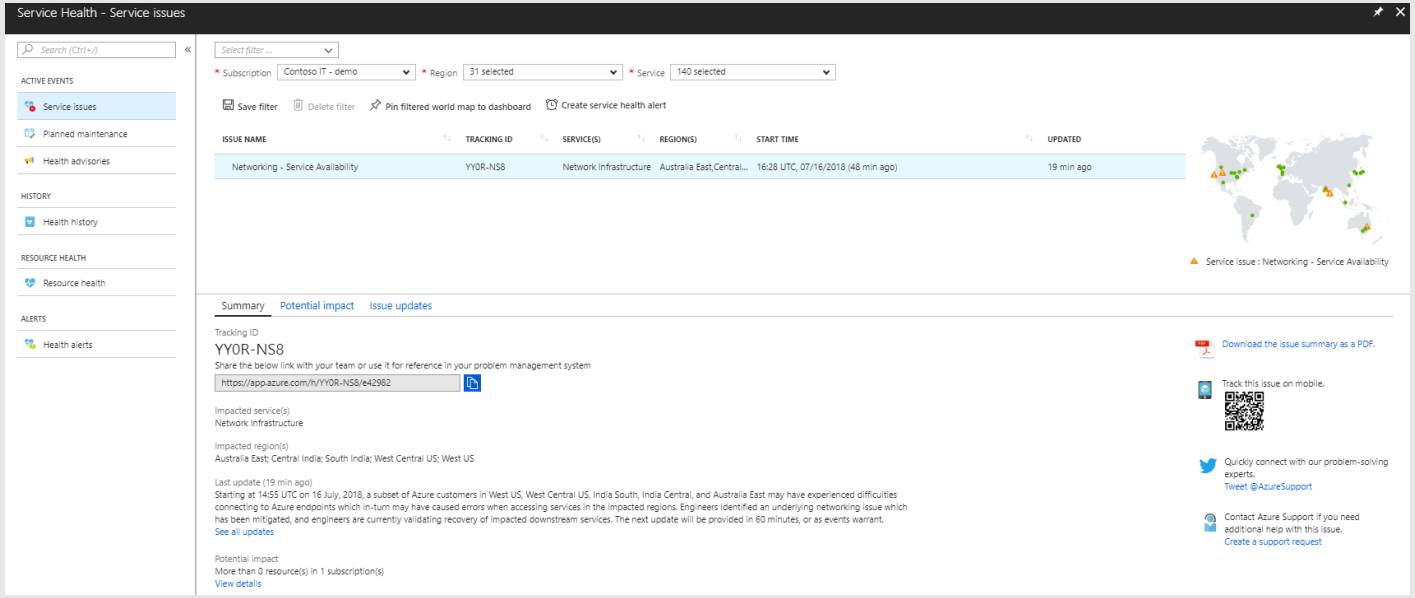
Personalized alerts and guidance when Azure service issues affect you

- Access a personalized dashboard—see service issues, planned maintenance, and health advisories for your resources
- Set up targeted notifications
- Receive guidance and support
- Share details and updates easily

In Q3 2019, Service Health will release enhancements to Resource Health including support for child resources and more granular uptime data.

Set up your Service Health alerts:
https://aka.ms/AzureServiceHealth

Learn more: https://aka.ms/ash-acom



Azure Cost Management in Azure Portal

Public Preview
Update @ //build
May 2019

Mirror cloud spend

Track resource usage and manage cloud costs across all your clouds with a single view while accessing rich operational and financial insights to make informed decisions.

Drive organizational accountability

Implement governance policies for effective enterprise cloud cost management, and increase accountability with cost allocation and chargebacks

Optimize cloud efficiency

Improve the return on your cloud investment by using continuous cost optimization and industry best practices

Latest news

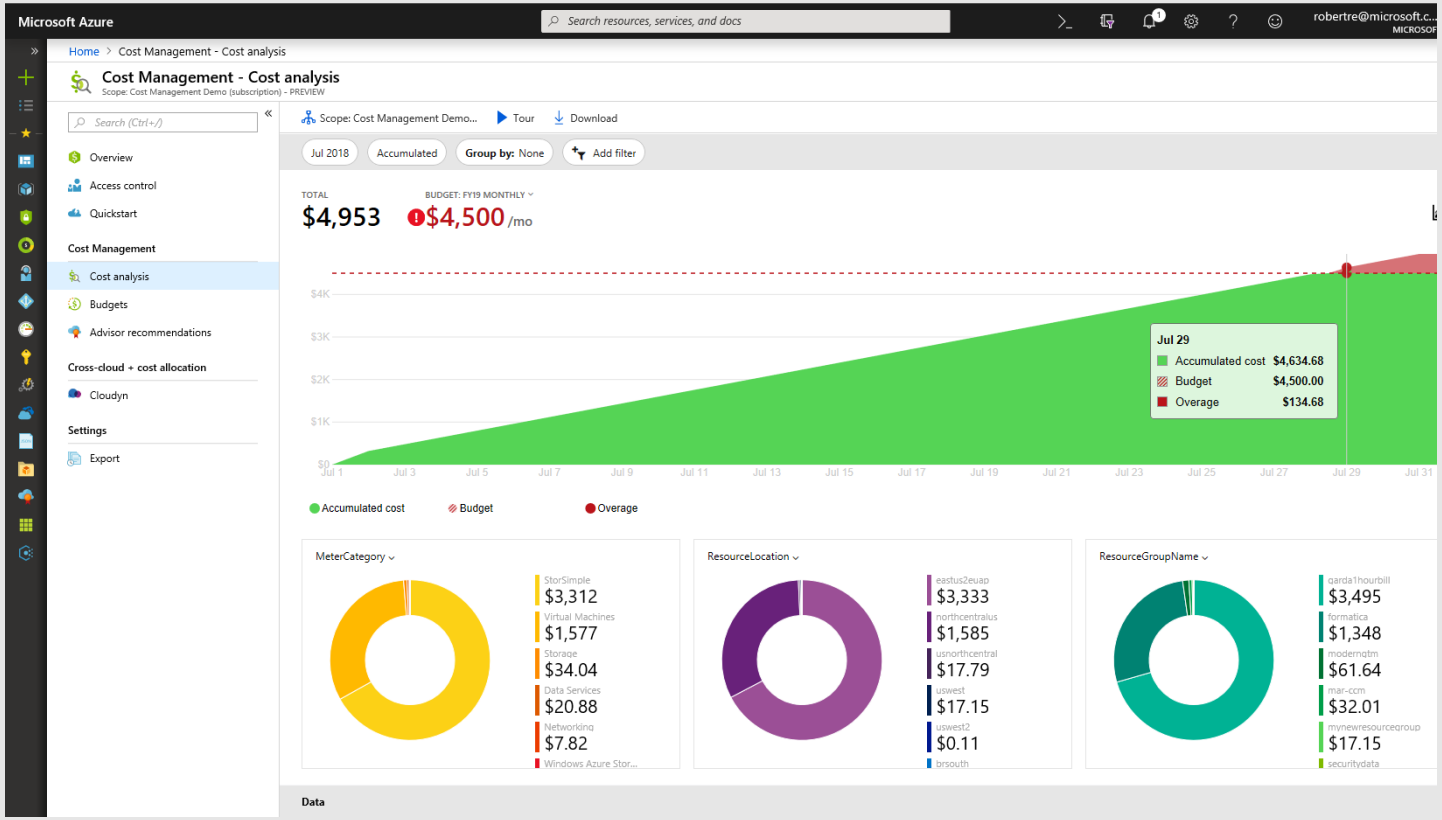
GA for pay-as-you-go and government(March)

Preview of ACM for AWS (5/6)

[Documentation]

[Product Page]

[Blog URL]



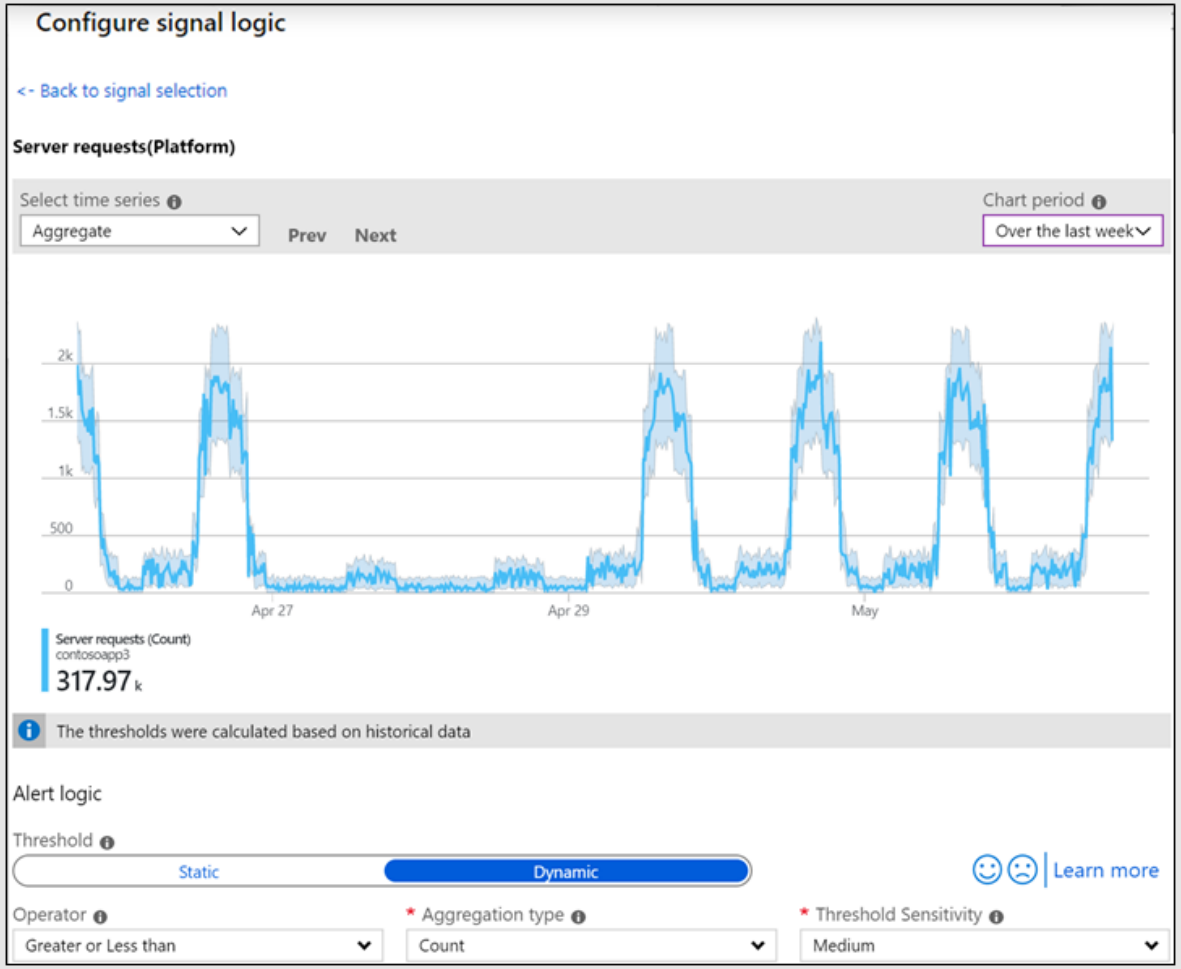
Azure Monitor for containers

GA
Update @ //build
May 2019

We are happy to announce several enhancements for Azure Monitor that furthers our vision to provide a full stack monitoring solution that is integrated, intelligent and scalable.

- End to end monitoring for AKS—We are adding support for live Kubernetes events and also extending Application Insights to provide a new out of the box application monitoring experience for any AKS hosted app.
- Integrated access control for logs—With the new granular role-based access control for logs, you can cascade the permissions you have set at a resource level down to the operational logs and simplify governance and policies.
- Intelligent and scalable alerts—Dynamic Thresholds capability provides a way for you to let Azure Monitor automatically determine the right alert threshold using advanced machine learning algorithms and is now generally available. Also, a new feature called Alert Rules that allows you to create actions at scale is available in public preview.
- Application change analysis—Azure Monitor application change analysis (public preview) is a new feature that answers the question of "What changed with my app" and helps developers and app owners troubleshoot issues faster. Application change analysis will provide you a centralized view along with the analysis of all the recent changes for different components of a web app and its dependencies. The first iteration of this feature is now available in the App Services Diagnose and Solve Problems experience.

Read the announcements blog post for the full list of all capabilities that we are announcing for Azure Monitor at Microsoft BUILD 2019.



Windows Virtual Desktop

Public Preview
Released
March 2019

Windows Virtual Desktop with Microsoft 365 enables customers to deliver the best virtual desktop with the richest Windows 10 and Office 365 experience. Stream the full desktop or specific apps to any device. Benefits include:

- Windows desktops and apps hosted in Azure to allow you to instantly scale with Azure compute and storage
- Virtualization management plane hosted in Azure, including diagnostics, networking, connection broker, and gateway
- A new multi-session edition of Windows 10, Windows 10 Enterprise for Virtual Desktops, available only on Azure
- Windows 10, Windows 7, and Windows Server 2012 R2+ desktops as well as remote access to Win32 applications hosted in Azure
- The richest Office 365 experience in virtual desktop environments when running Office 365 ProPlus with your Microsoft 365 subscription

[Learn more.]

Azure governance

Services are in public preview or GA currently

Azure provides a set of built-in tools that helps our customers implement governance at scale and improves developers' experience.

- The cloud allows to move fast but keeping control in environments becomes challenging. Customers have to choose in between speed and control and Azure provides both.

- Azure cloud excellence team, developers, partners.

Azure governance vs AWS:

- Proactive scenario through Azure Policy
- Fully embedded in the platform and available on all ARM exposed services
- Policy-as-code capabilities in the CI/CD pipeline.
- Full set of cost management capabilities.

Latest News:

- # of tags increased to 50 per resource
- Azure Resource Graph GA

Documentation

Azure.com/governance

Azure Policy

Public Preview
Update @ //build
May 2019

Proactively enforce policies on your resources

Apply “deny” policies, which let you set guardrails in your cloud environments so the are fully complaint

Apply policies in the CI/CD pipeline

Take advantage of the native integration with Azure DevOps to surface policy violations pre-deployment and policy compliance assessments in the cloud post-deployment

Automate remediation

Ensure that best practices are followed and maintain peace of mind by using the auto remediation capabilities embedded in the platform

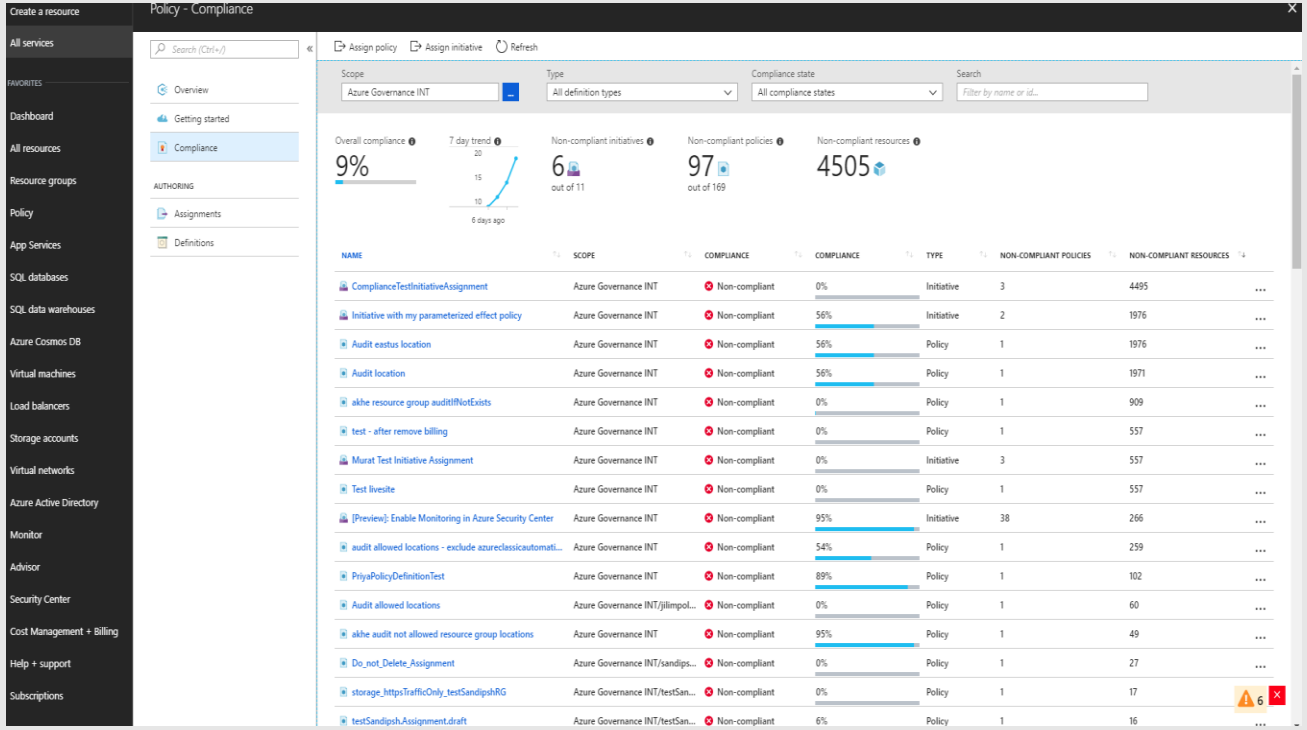
Latest news

Public preview of Azure Policy for AKS (5/6)

[Documentation]

[Product Page]

[Blog URL]



Azure Blueprints

GA
ETA
Q2–Q3 2019

Streamline environment creation

Easily deploy your resource templates, policies, and access control so environments are ready to start using right away.

Enable compliant development

Speed deployment of compliant applications to production through a self-service model

Lock foundational resources

Limit access to key infrastructure that's shared across subscriptions to prevent unwanted changes

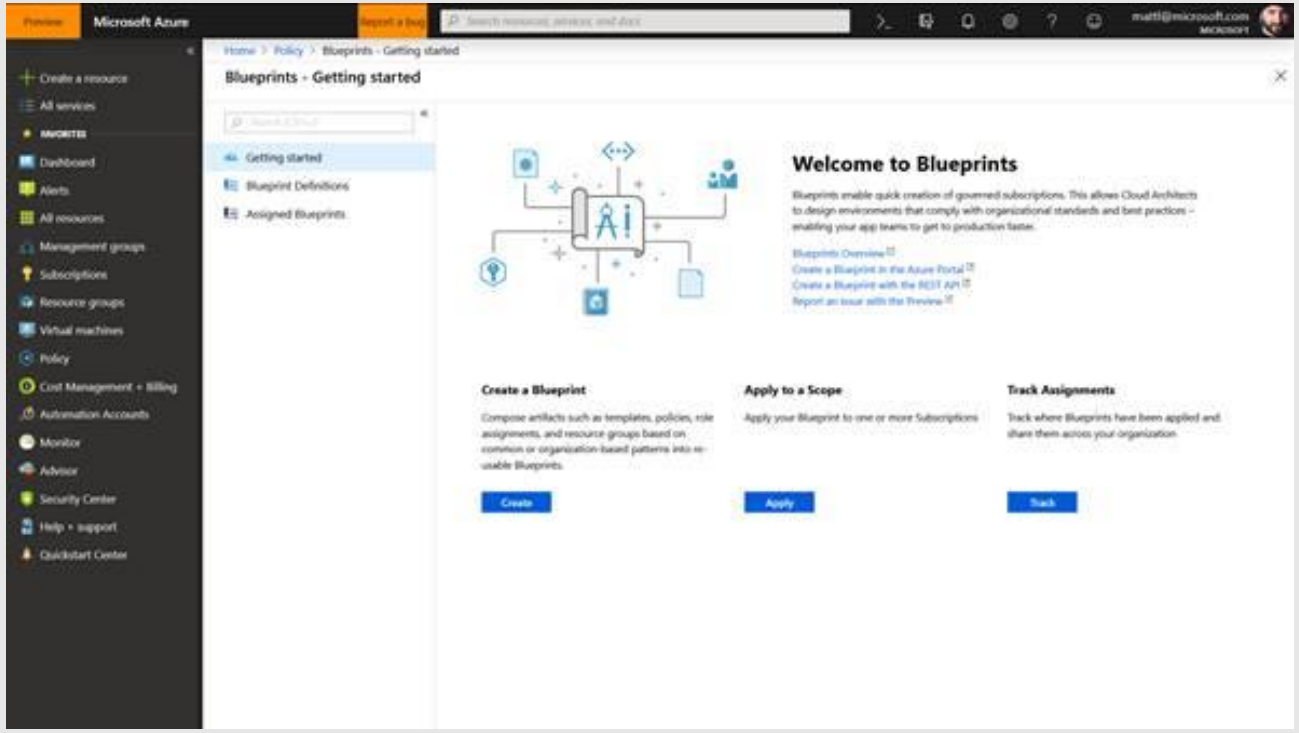
Latest news

Built-in blueprints (2/25)

[Documentation]

[Product Page]

[Blog URL]



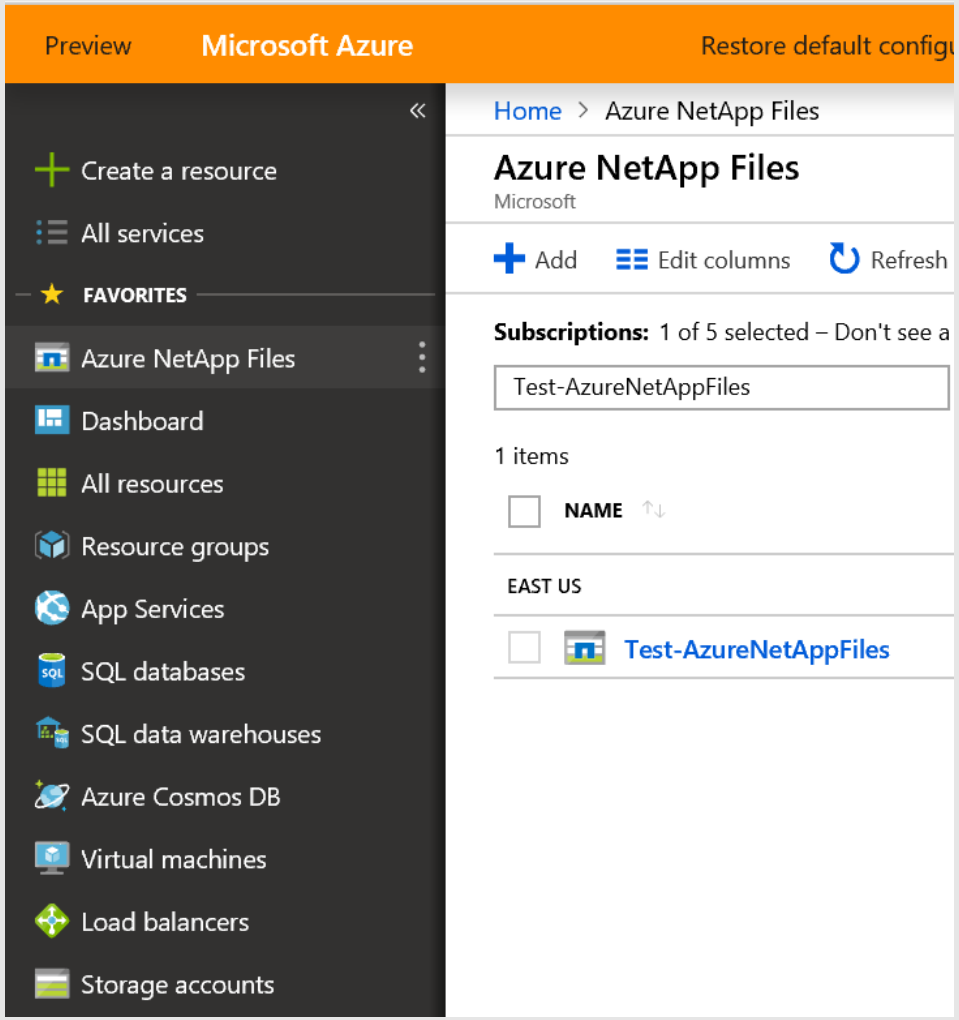
Azure NetApp Files (ANF)

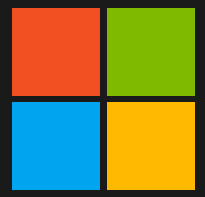
GA
Released
May 2019

Azure Storage has been rapidly adding capabilities to address the increasing foot-print & needs of enterprise applications. The most important service coming on-line in the near term is the addition to Azure's file storage capabilities : Azure NetApp Files, a result of a strategic partnership announced with NetApp in September 2017.

- **ANF—a bare-metal (tycoon) service** powered by No 1 Storage OS powering file-based systems : NetApp ONTAP. NetApp is the dominant player enterprise Linux/NFS apps
- **Game-changer** for migrating, managing, and running Linux & Windows based enterprise file workloads in Azure: general business, mission-critical apps, Databases and more. Azure priority alignment at GA: Migration, SAP on Azure, and HPC
- **Benefits:** Low latency, Rich data management, Minutes to set-up, MS + NetApp supported, No App modification | Consume against EA
- **Service Status:** GA active in 7 regions: US East (Virginia), US West 2 (Washington), US South Central (Texas), US East 2 (Virginia), and Europe West (Amsterdam), Europe North (Dublin), and Australia East (Sydney). At GA, the service is available via a whitelisting onboarding process. Customers can submit on-boarding request via Contact-Sales on the ACOM webpage for ANF

Learn More.





The Azure Stack

Azure hybrid platform: introducing Azure Stack HCI

GA

Released

March 2019

Azure meets your workloads where they are

I want to:

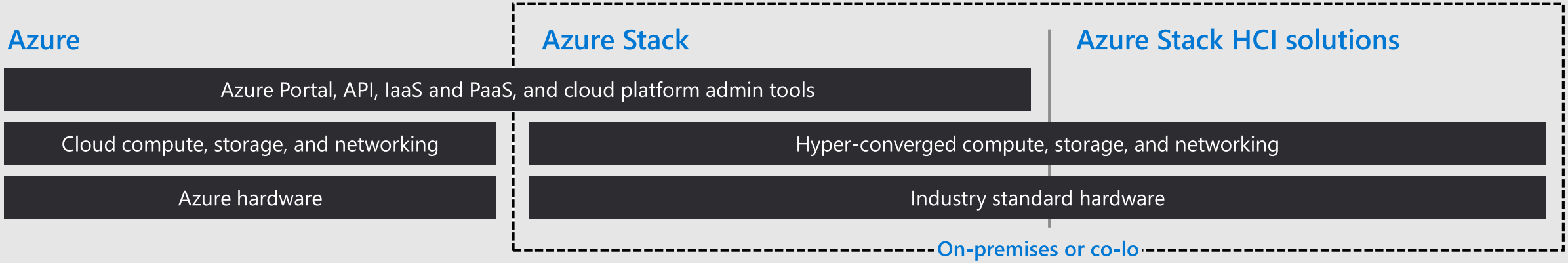
Use the public cloud for on-demand, self-service computing resources to migrate and moderne existing apps and build new cloud-native apps.

I also want to:

Build and run cloud applications at the edge, when disconnected, or to meet regulatory requirements using consistent Azure services on-premises.

I also need to:

Continue to run virtualized applications on-premises, replace and consolidate aging server infrastructure, and connect to Azure for cloud management services.



What I use:

All services available globally

Read the announcement blog

Learn more

What I use:

Azure VMs for Windows and Linux
Azure Web Apps and Functions
Azure Key Vault
Azure Resource Manager
Azure Marketplace
IOT Hub/Event Hub
Admin tools (Plans, offers, RBAC, etc.)

What I use:

Validated HCI solutions
Integrated access to Azure services:

- Azure Backup
- Azure Site Recovery
- Azure File Sync
- Azure Monitor
- Azure Update Management

Current Azure capabilities on Azure Stack

Virtual machines (VM), VM scale sets

Rapid deployment with scaling on demand

Containers

Linux and Windows Server containers

Networking

Virtual network, load balancer, VPN gateway

Storage

Blobs, tables, queues

Key Vault

Securely protect application keys and secrets

Azure App Service

Web and API apps

Azure Functions

Serverless Computing

Azure Marketplace

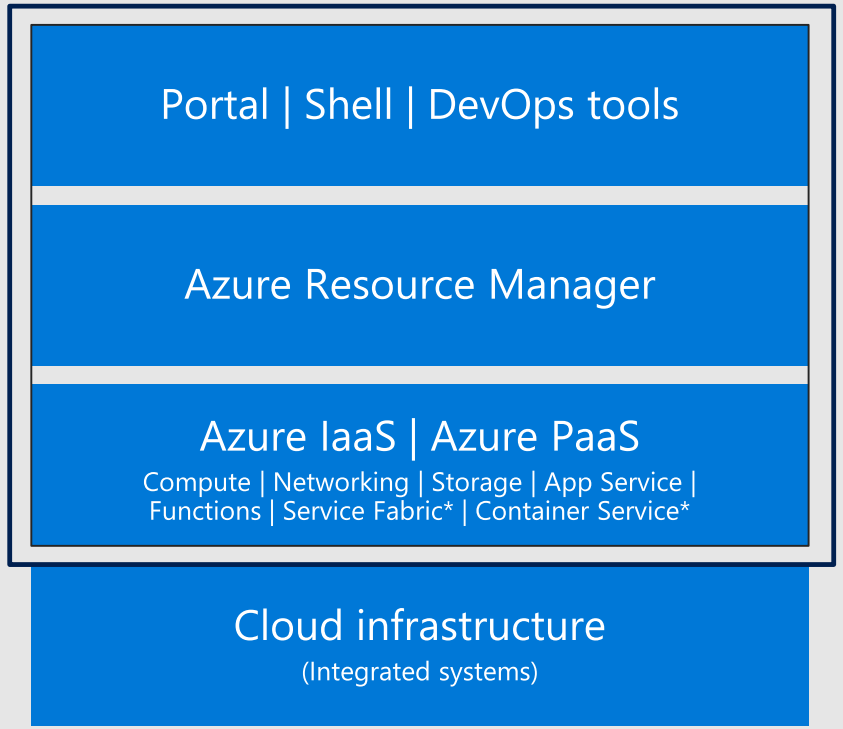
Ready to go Apps from the Azure Marketplace

Azure capabilities on Azure Stack

Azure capabilities on Azure Stack are the investments that help you **build great applications** for the Hybrid Cloud.

Azure Stack infrastructure capabilities

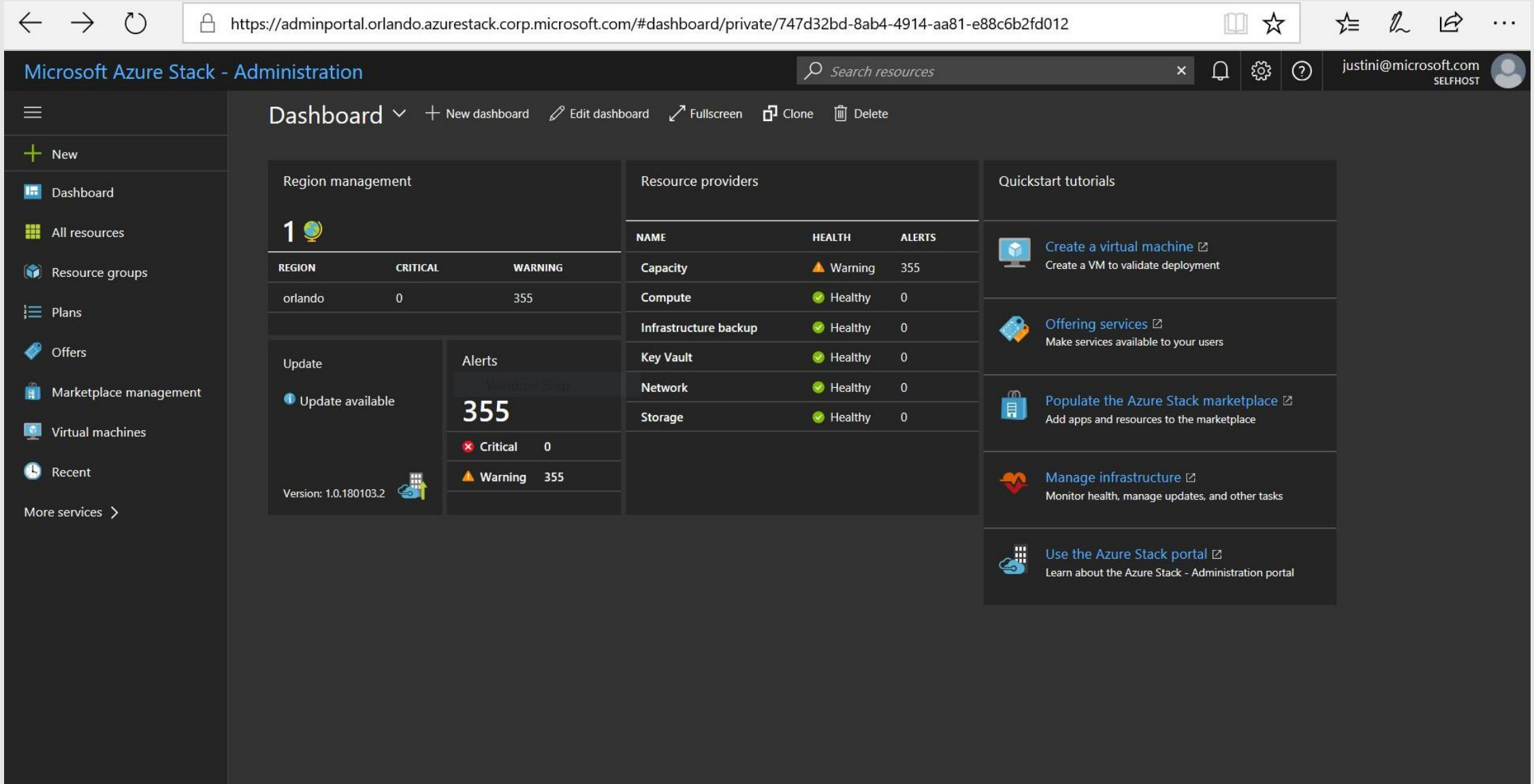
Azure Stack infrastructure capabilities are the features and functionality that help you **operate Azure Stack**.



These updates do not have a regular scheduled release pattern and can come anytime they are ready.

They can include new Marketplace content, DevOps tooling, updates to existing Azure services as well as new Azure Services that can be deployed to Azure Stack.

Servicing


https://adminportal.orlando.azurestack.corp.microsoft.com/#dashboard/private/747d32bd-8ab4-4914-aa81-e88c6b2fd012
Microsoft Azure Stack - Administration
Search resources
justini@microsoft.com
SELFHOST
Dashboard
New dashboard
Edit dashboard
Fullscreen
Clone
Delete
New
Dashboard
All resources
Resource groups
Plans
Offers
Marketplace management
Virtual machines
Recent
More services
Region management
1
REGION
CRITICAL
WARNING
orlando
0
355
Update
Update available
Version: 1.0.180103.2
Alerts
355
Critical 0
Warning 355
Resource providers
NAME
HEALTH
ALERTS
Capacity
Warning
355
Compute
Healthy
0
Infrastructure backup
Healthy
0
Key Vault
Healthy
0
Network
Healthy
0
Storage
Healthy
0
Quickstart tutorials
Create a virtual machine
Create a VM to validate deployment
Offering services
Make services available to your users
Populate the Azure Stack marketplace
Add apps and resources to the marketplace
Manage infrastructure
Monitor health, manage updates, and other tasks
Use the Azure Stack portal
Learn about the Azure Stack - Administration portal

Azure products

- AI + Machine Learning
- Analytics
- Blockchain
- Compute
- Containers
- Databases
- Developer Tools
- DevOps
- Identity
- Integration
- Internet of Things
- Management
- Media
- Microsoft Azure Stack
- Migration
- Mixed Reality
- Mobile
- Networking
- Security
- Storage
- Web
- Microsoft Game Development

Migration

Simplify and accelerate your migration to the cloud

Azure Migrate
Easily discover, assess, right-size, and migrate your on-premises VMs to Azure

Azure Database Migration Service
Simplify on-premises database migration to the cloud

Azure Cost Management
Optimize what you spend on the cloud, while maximizing cloud potential

Site Recovery
Orchestrate protection and recovery of private clouds

Data Box
Secure, ruggedized appliance for Azure data transfer

Data Migration Assistant (DMA) new supported scenarios

GA
Released
May 2019

- **Azure SQL Database SKU Recommendation functionality for SQL DB MI – General Availability**
- **Support for Cassandra to Azure Cosmos DB assessment – Private Preview**

- **Azure SQL Database Managed Instance SKU Recommendation for DMA available now**

  Expand the scope of environment assessments to migrate legacy SQL Server instances to an Azure SQL Database managed instance with the new Azure SQL Database SKU Recommendation functionality. This feature, used in conjunction with DMA, recommends the best cloud database service tier and sizing configuration based on an existing on-premises workload. DMA detects compatibility and feature parity issues that can impact database functionality in target databases. The functionality is provided free of charge. More details here.

- **Support for Cassandra to Azure Cosmos DB assessment – Private Preview**

  Now in private preview, the Data Migration Assistant (DMA) provides support to help customers with migrating data from Cassandra to Azure Cosmos DB. Running DMA on Cassandra data detects potential compatibility and feature parity issues that can impact functionality in target Azure Cosmos DB datasets.

Azure Migrate for all your migration needs

GA
Released @ Inspire
July 2019

Agentless migration

VMware, Hyper-V, Physical server migration

SQL and non-SQL data migration

Web app migration

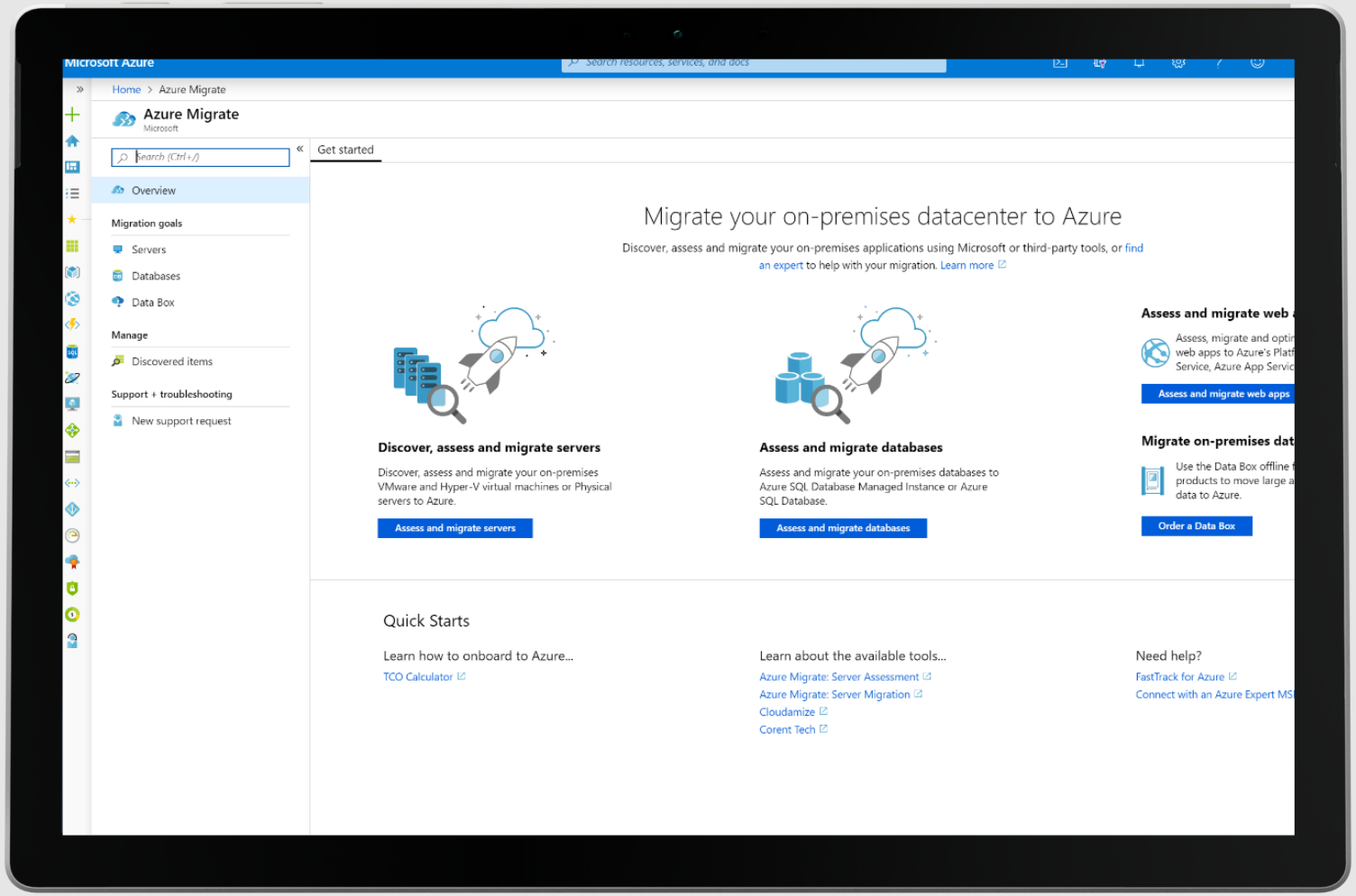
Migration from on-premises, AWS, and GCP

Integrated with Carbonite, Cloudamize, Corent Tech, Device42, Turbonomic, and UnifyCloud

[Learn more]

[Blog]

[Azure Migrate video]



Azure Migration Program

GA
Released @ Inspire
July 2019

Accelerate your journey to the cloud

The Azure Migration Program offers prescriptive, step by step guidance from Microsoft experts and specialized migration partners giving you the resources you need for a path to the cloud from start to finish. Using proven Microsoft cloud adoption methodologies, tools, resources, and best practices, you'll simplify and accelerate your Azure cloud migration with an approach that's tailored to your organization's unique needs.

Why make the move to Azure?

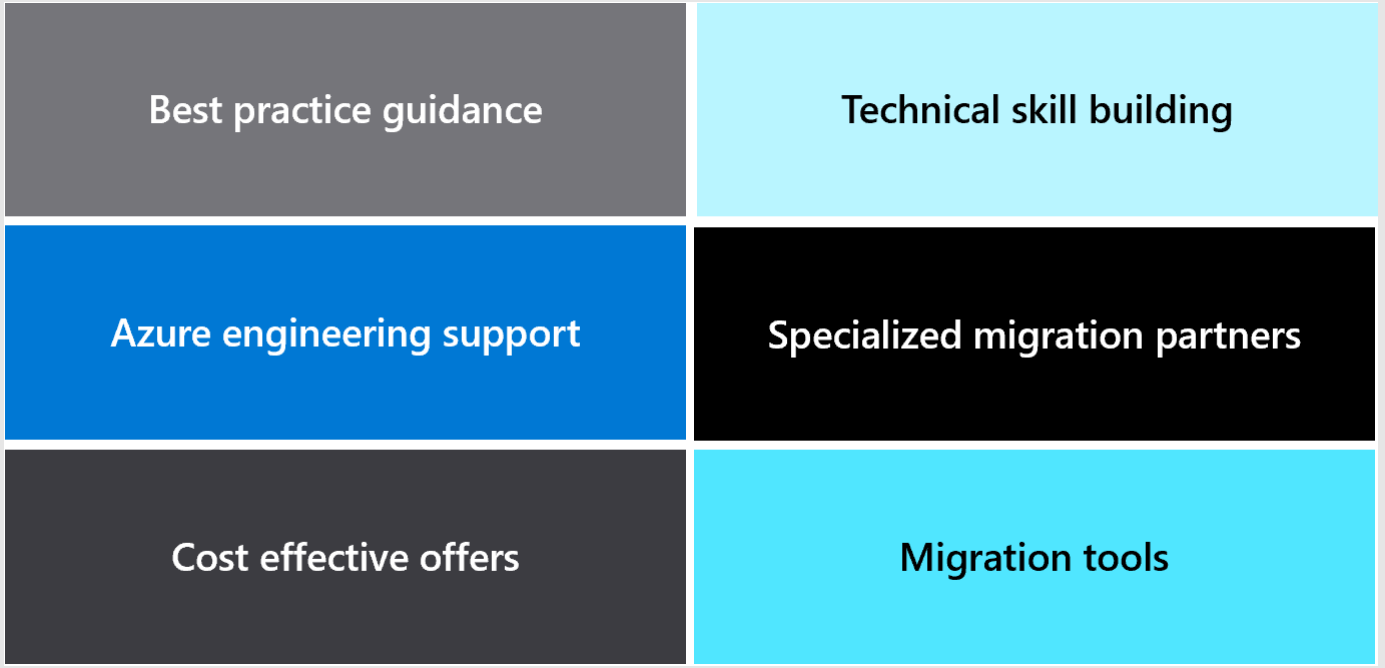
We're now seeing a confluence of **multiple triggers** – including End of Support (EOS) cycles for Windows Server and SQL Server 2008 and 2008 R2. Windows Server and SQL Server run best on Azure.

Upcoming milestones

Beginning July 15: Windows/ SQL scenarios only

End of 2019: Linux/OSS-DB scenarios

What can you expect from Azure Migration Program?



Learn more:
Azure.com/AMP
Blog: Announcing Azure Migration Program

Microsoft

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