



This handout is for the AZ-900 Azure Fundamentals Certification Course by John Savill hosted at <https://onboardtoazure.com> on the playlist https://www.youtube.com/playlist?list=PLIVtbbG169nED0_vMEniWBQjSoxTsBYS3.

The most current version of this document lives at <https://github.com/johnthebrit/AZ900CertCourse>, the repository for this course.

Copyright 2022, John Savill



Video Table of Contents

These are all in the main playlist.

Introduction

- Introduction - <https://youtu.be/pY0LnKiDwRA> [00:07:52]

Describe Cloud Concepts

- Identify the Benefits of Cloud Computing - <https://youtu.be/VaMdHKJQ15c> [00:16:16]
- CapEx, OpEx and Consumption-based - <https://youtu.be/WiwV9wb0GMO> [00:07:13]
- Differences Between Cloud Service Categories - <https://youtu.be/lqQC1EOQgeU> [00:15:16]
- Identify the Right Service Type - <https://youtu.be/KH8NH76h2vc> [00:04:01]
- Differences Between Types of Cloud Computing - <https://youtu.be/7dlCrF2wmXU> [00:12:41]

Describe Core Azure Services

- Benefits and Usage of Regions and Region Pairs - <https://youtu.be/4RjPOAN54AE> [00:13:08]
- Benefits and Usage of Availability Zones - <https://youtu.be/h0enGb17lnw> [00:08:41]
- Benefits and Usage of Resource Groups - <https://youtu.be/g6thrYZhPZY> [00:09:38]
- Benefits and Usage of Subscriptions - https://youtu.be/9vKAYW_WkLo [00:08:19]
- Benefits and Usage of Management Groups - <https://youtu.be/bPdDiEtCVhM> [00:06:30]
- Benefits and Usage of Azure Resource Manager - <https://youtu.be/g4u0NL2-3XM> [00:09:57]
- Benefits and Usage of Core Compute Resources - <https://youtu.be/yKDSAYDLGrI> [00:34:32]
- Benefits and Usage of Core Network Resources - <https://youtu.be/aNKOC9Oj2sg> [00:22:04]
- Benefits and Usage of Storage Account Resources - <https://youtu.be/b8BrfsxLSx8> [00:18:04]
- Benefits and Usage of Database Resources - <https://youtu.be/4sQOF9fSOAU> [00:13:29]
- Benefits and Usage of Azure Marketplace - <https://youtu.be/b7RuB4Bymgc> [00:03:12]

Describe Core Solutions and Management Tools on Azure

- Benefits and Usage of Azure IoT Services - <https://youtu.be/22z9ARaKlbU> [00:21:08]
- Benefits and Usage of Big Data and Analytics Services - <https://youtu.be/LSVewE4mKfE> [00:13:26]
- Benefits and Usage of AI Services - <https://youtu.be/lgcRpV3HPc> [00:09:21]
- Benefits and Usage of Serverless Technologies - <https://youtu.be/-xeJGiMw5OE> [00:06:54]
- Benefits and Usage of DevOps Technologies - <https://youtu.be/-acpNiCa0qY> [00:10:21]
- Functionality of Azure Management Solutions - <https://youtu.be/6xp-K60ChAk> [00:09:23]
- Functionality and Usage of Azure Advisor - <https://youtu.be/nqH4NboyEI0> [00:03:22]
- Functionality and Usage of ARM Templates - <https://youtu.be/loxcA5MUf-I> [00:06:41]
- Functionality and Usage of Azure Monitor - <https://youtu.be/v68jL-l9Fww> [00:10:20]
- Functionality and Usage of Azure Service Health - <https://youtu.be/M1xPK4T4VIs> [00:02:58]

Describe General Security and Network Security Features

- Functionality of Microsoft Defender for Cloud - https://youtu.be/eWcoMi_nQt4 [00:09:47]
- Functionality and Usage of Key Vault - <https://youtu.be/ZBXVAD4S0Tc> [00:07:37]
- Functionality and Usage of Microsoft Sentinel - <https://youtu.be/xaqiPXL6tz0> [00:09:36]
- Functionality and Usage of Azure Dedicated Hosts - <https://youtu.be/RnNqmTH9xok> [00:06:49]
- Concept of Defense in Depth - <https://youtu.be/CHKS2FcEMek> [00:07:17]
- Functionality and Usage of NSGs - <https://youtu.be/flCoRc1uv9o> [00:08:32]

- Functionality and Usage of Azure Firewall - <https://youtu.be/1-cqpUISg4> [00:05:02]
- Functionality and Usage of Azure DDoS Protection - <https://youtu.be/6cv-wdo9TJw> [00:06:30]

Describe Identity, Governance, Privacy, and Compliance Features

- Explain Authentication and Authorization - <https://youtu.be/GA-yNu6aFMk> [00:03:52]
- Functionality and Usage of Azure AD - https://youtu.be/3JCxrM_Y4Go [00:08:36]
- Functionality of Conditional Access, MFA and SSO - <https://youtu.be/DFwERh9Xxk0> [00:12:29]
- Functionality and Usage of RBAC - <https://youtu.be/0iVyJBG06fM> [00:09:19]
- Functionality and Usage of Resource Locks - https://youtu.be/eF_KilJRxbE [00:06:16]
- Functionality and Usage of Tags - https://youtu.be/eaf63hE_6SQ [00:05:06]
- Functionality and Usage of Azure Policy - <https://youtu.be/z7WMqHE3R8g> [00:10:50]
- Functionality and Usage of Azure Blueprints - <https://youtu.be/SJbDcvkySCY> [00:05:22]
- Describe Cloud Adoption Framework - <https://youtu.be/VHQxblynIN4> [00:02:03]
- Describe Microsoft Privacy Statement, OST and DPA - <https://youtu.be/5mqroH3E3gw> [00:03:28]
- Purpose of Trust Center and Azure Compliance Documentation - <https://youtu.be/QkVloguIVX4> [00:05:42]
- Purpose of Azure Sovereign Regions - <https://youtu.be/PdAEPAnT2ul> [00:05:15]

Describe Azure Cost Management and Service Level Agreements

- Factors That Affect Costs - https://youtu.be/fMShW_RGcxY [00:06:32]
- Factors to Reduce Cost - <https://youtu.be/B5yiKE2DLH8> [00:15:29]
- Functionality and Usage of Pricing and TCO Calculators - <https://youtu.be/pE-bf8i5blU> [00:07:26]
- Functionality and Usage of Azure Cost Management - <https://youtu.be/FoBjC9CAF08> [00:05:48]
- Purpose of Service Level Agreements - <https://youtu.be/3QIVbgnNrR0> [00:13:42]
- Describe Service Lifecycle in Azure - <https://youtu.be/NJ9-S7C0pY4> [00:07:00]

Closing Thoughts

- Closing Thoughts - <https://youtu.be/EVRJK1gctJI> [00:02:42]

Introduction

Links

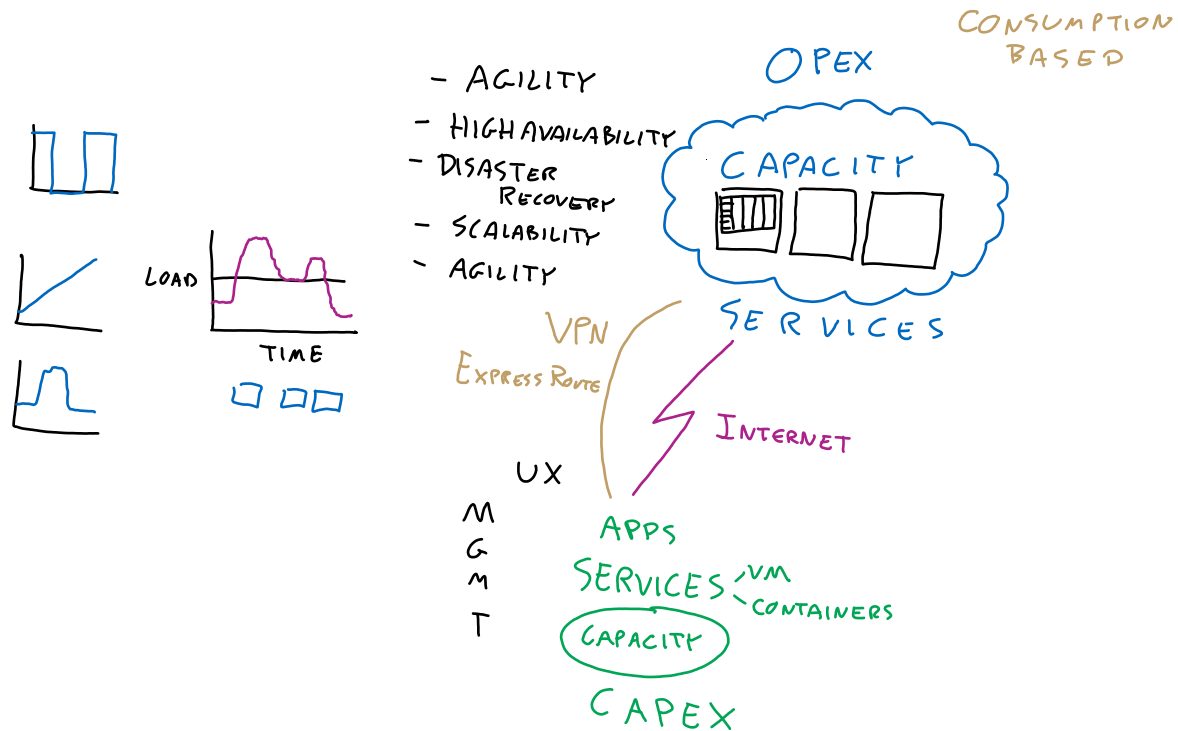
- John's YouTube Channel - <https://onboardtoazure.com>
- Microsoft AZ-900 Certification Page - <https://docs.microsoft.com/en-us/learn/certifications/exams/az-900>
- Microsoft Certification Poster - <http://aka.ms/traincertposter>
- Free Azure Subscription - <https://azure.microsoft.com/en-us/free/>
- Curated Azure Learning Path - <https://learn.onboardtoazure.com>

Describe Cloud Concepts

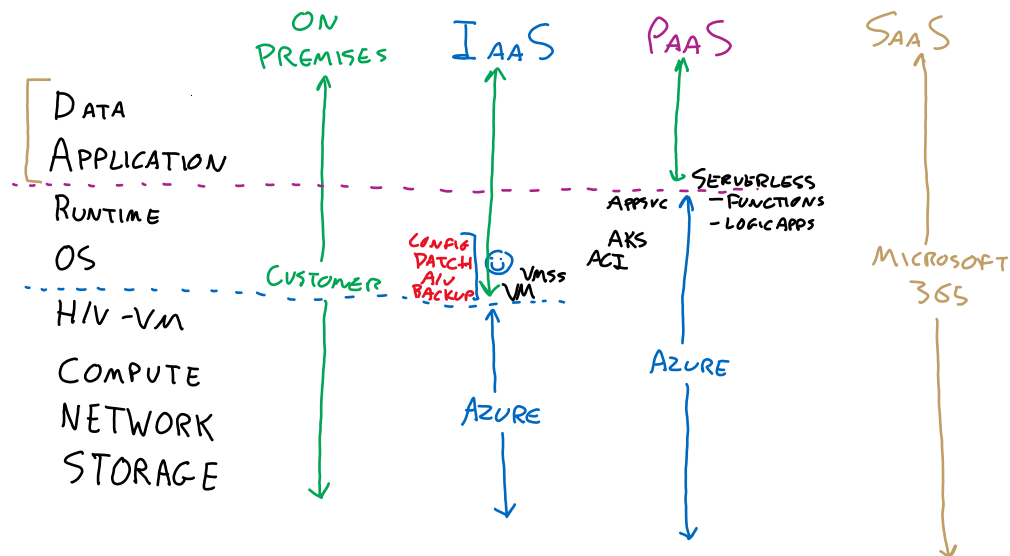
Identify the Benefits of Cloud Computing

Links

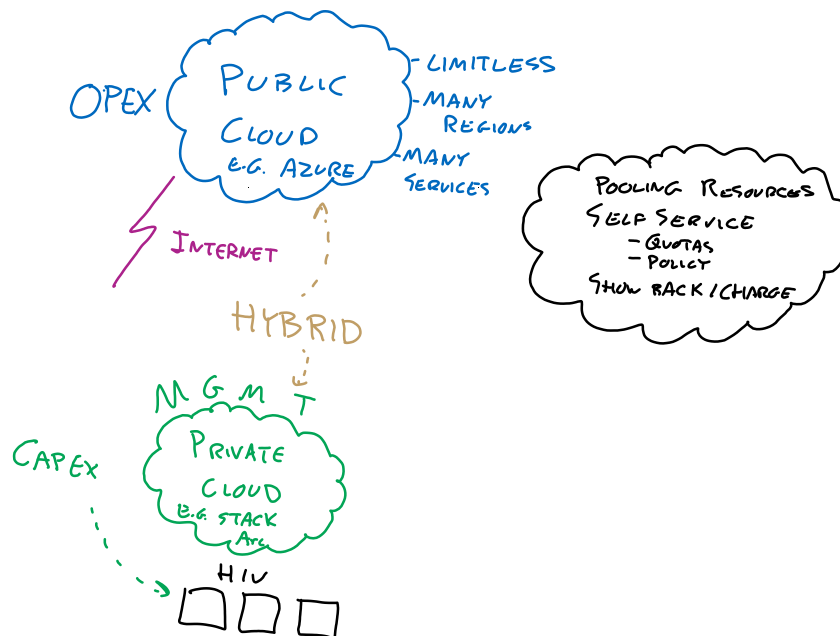
- Azure Regions - <https://infrastructuremap.microsoft.com/>



Differences Between Cloud Service Categories



Differences Between Types of Cloud Computing

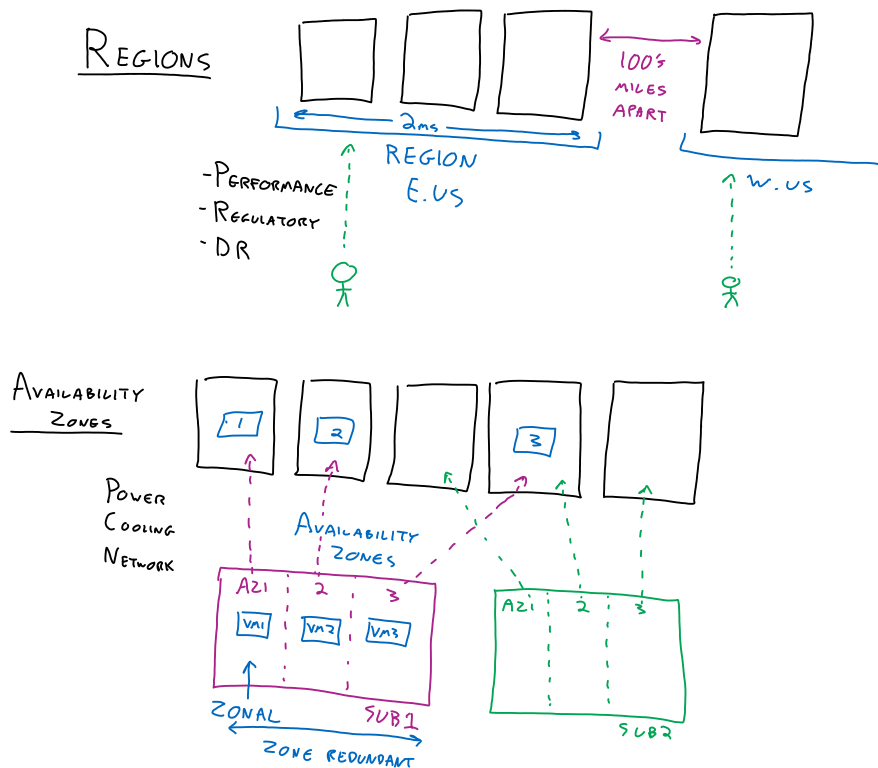


Describe Core Azure Services

Benefits and Usage of Regions and Region Pairs

Links

- Regional pairings - <https://docs.microsoft.com/en-us/azure/availability-zones/cross-region-replication-azure#azure-cross-region-replication-pairings-for-all-geographies>



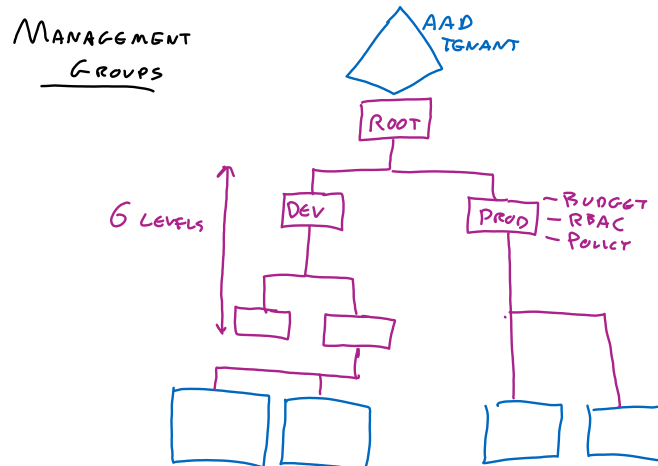
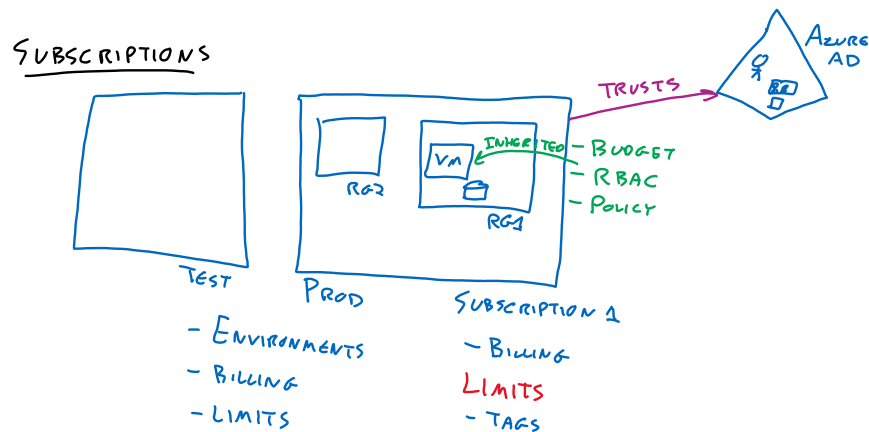
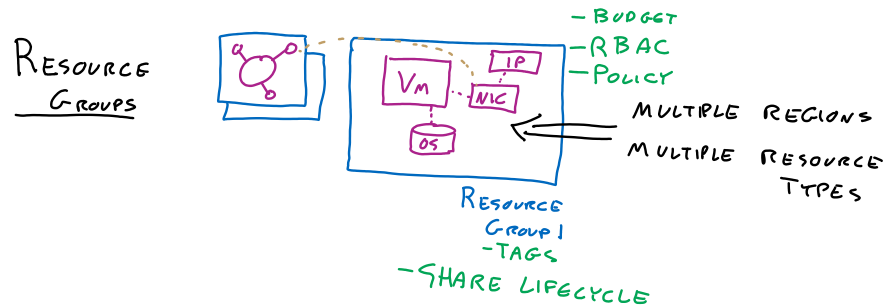
Code

```
Get-AzEnvironment #List environments
Get-AzLocation | ft #get regions in current environment
```

Benefits and Usage of Resource Groups

Links

- Azure Subscription Limits - <https://docs.microsoft.com/azure/azure-resource-manager/management/azure-subscription-service-limits>

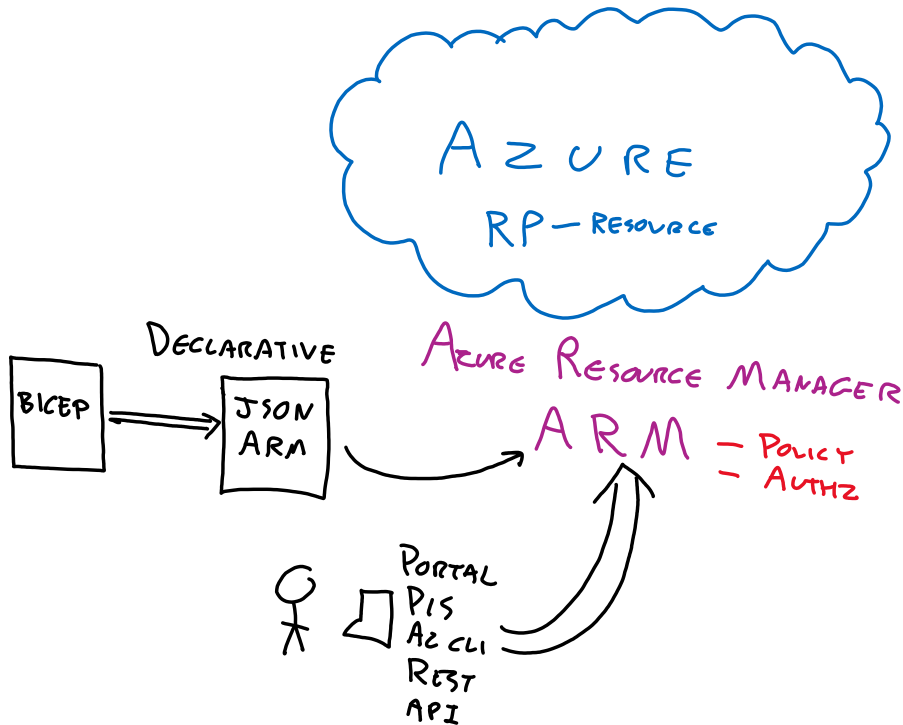


Benefits and Usage of Azure Resource Manager

Code

Get-AzResourceProvider

```
Get-AzResourceProvider -ProviderNamespace microsoft.compute | ft
ResourceTypes
```



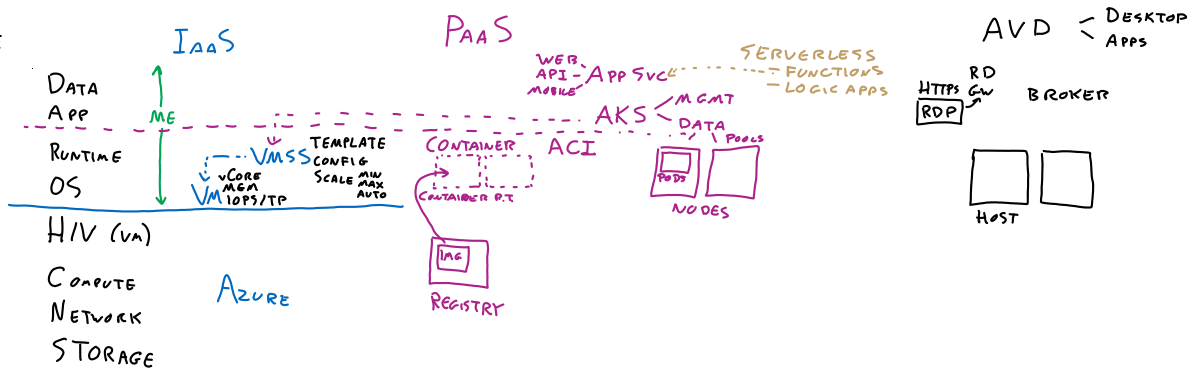
Benefits and Usage of Core Compute Resources

Links

- VM SKUs - <https://docs.microsoft.com/azure/virtual-machines/sizes>

CORE

COMPUTE

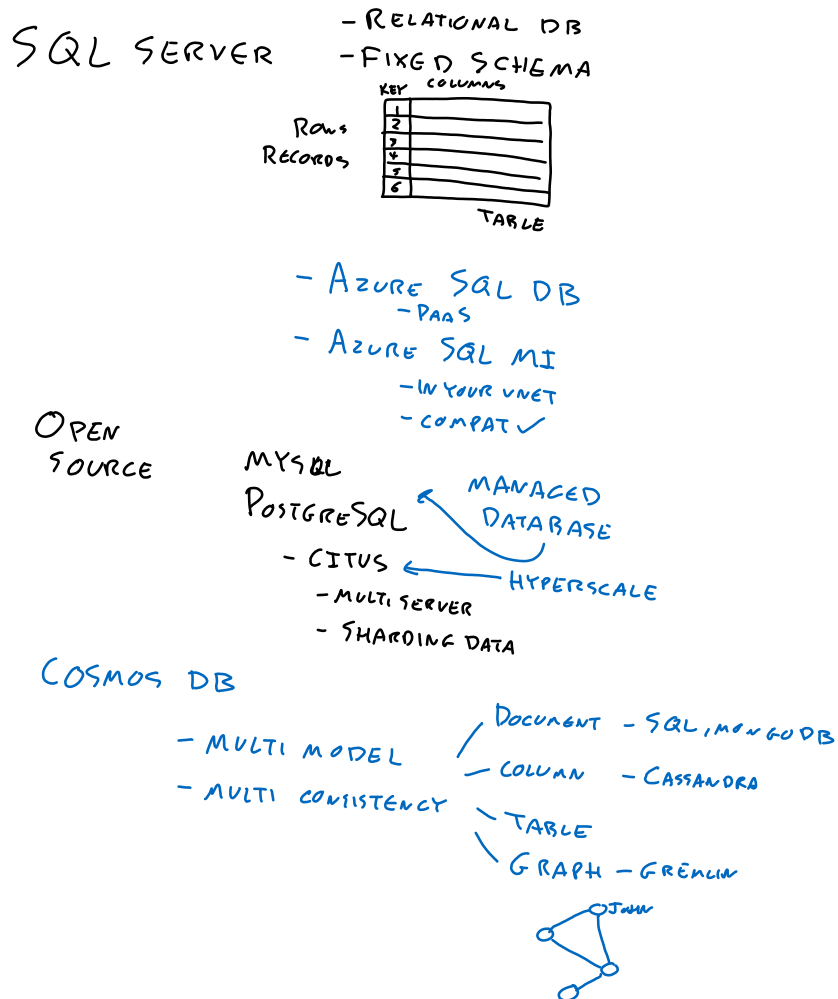


Benefits and Usage of Database Resources

Links

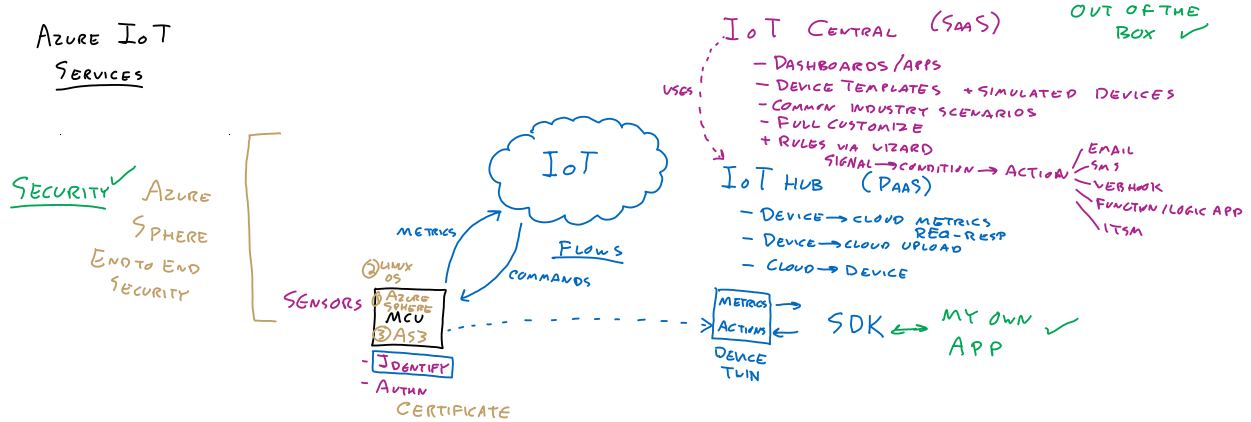
- SQL Feature Comparison - <https://docs.microsoft.com/azure/azure-sql/database/features-comparison>

DATABASE RESOURCES



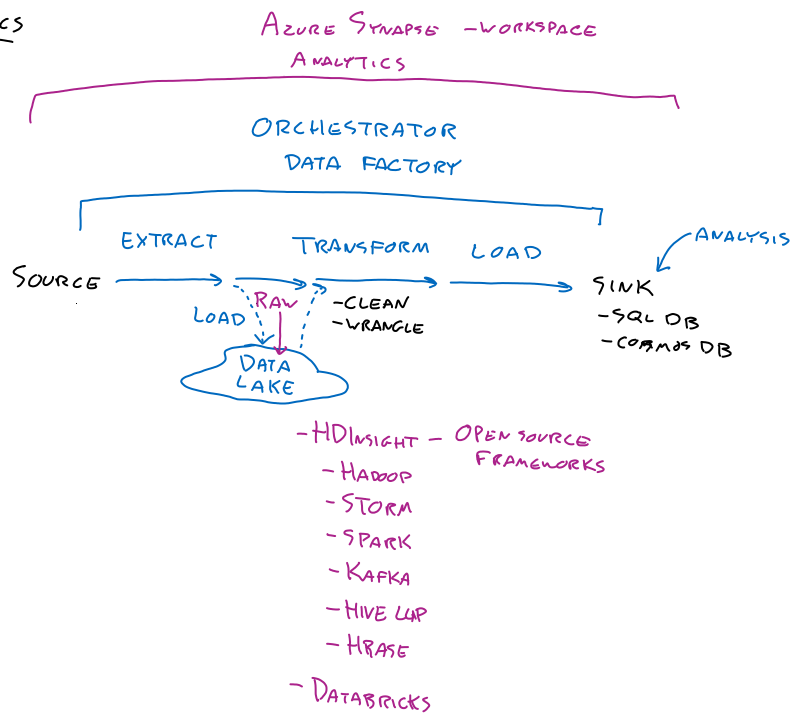
Describe Core Solutions and Management Tools on Azure

Benefits and Usage of Azure IoT Services



Benefits and Usage of Big Data and Analytics Services

BIG DATA
+ ANALYTICS



Benefits and Usage of AI Services

AI SERVICESAzure
MACHINE
LEARNING

PLATFORM FOR PREDICTIONS

DATA SCIENTISTS

- TOTAL CONTROL

- HOW TO GET DATA

- TRAIN + EVALUATE MODELS

- PIPELINE EXPERIMENTS

- DEPLOY ALGORITHM → API → ENDPOINT ← APP

Azure
COGNITIVE
SERVICES

- PREBUILT MODELS

- LANGUAGE

- SPEECH

- VISION

- DECISION

Azure
BOT
SERVICE- CHAT / TEXT
- SPEECH
- VIRTUAL AGENTS

⚙️ → UNDERSTAND

- KNOWLEDGE BASE

Benefits and Usage of Serverless Technologies

SERVERLESSCONSUMPTION
BASEDEVENT
DRIVEN- Azure
FUNCTIONS

- CODE

- STATELESS

[DURABLE]

- Azure
LOGIC APPS

- NO/LOW CODE

- AUTHORIZING



Benefits and Usage of DevOps Technologies

DevOps

Azure
DevOps

- REPOS
 - VERSION CONTROL
 - GIT
 - [TFVC]
- BOARDS
- PIPELINES
CI/CD
- ARTIFACT

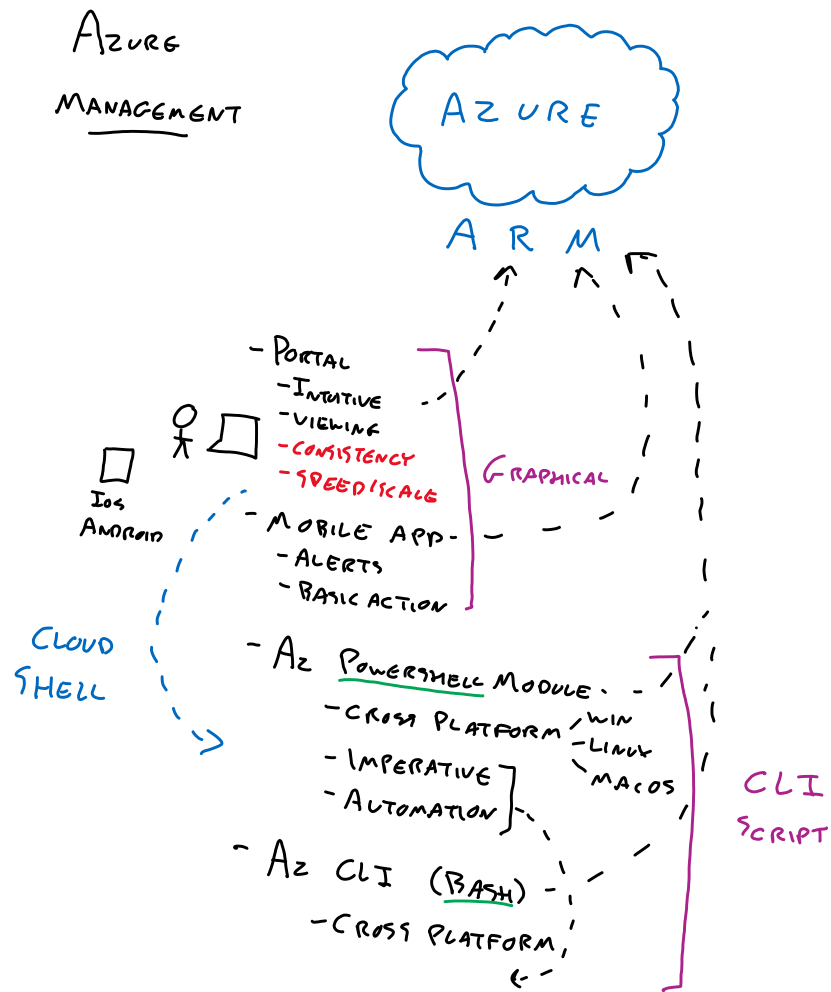
GITHUB

- REPOS
 - GIT
- ACTIONS
 - CI/CD + MUCH MORE
- ENVIRONMENTS
- PROTECTS

Azure
DevTest
LABS

CREATE
→ ARM
TEMPLATE
TEST
- DELETE

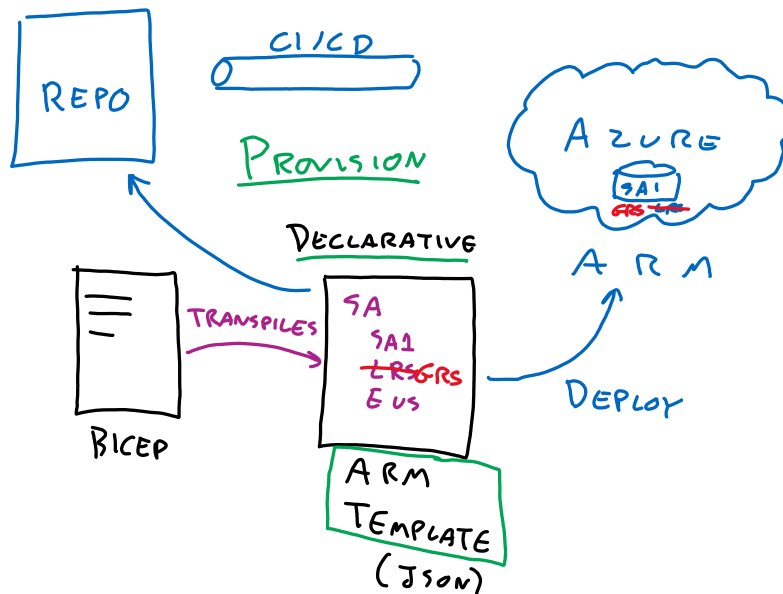
Functionality of Azure Management Solutions



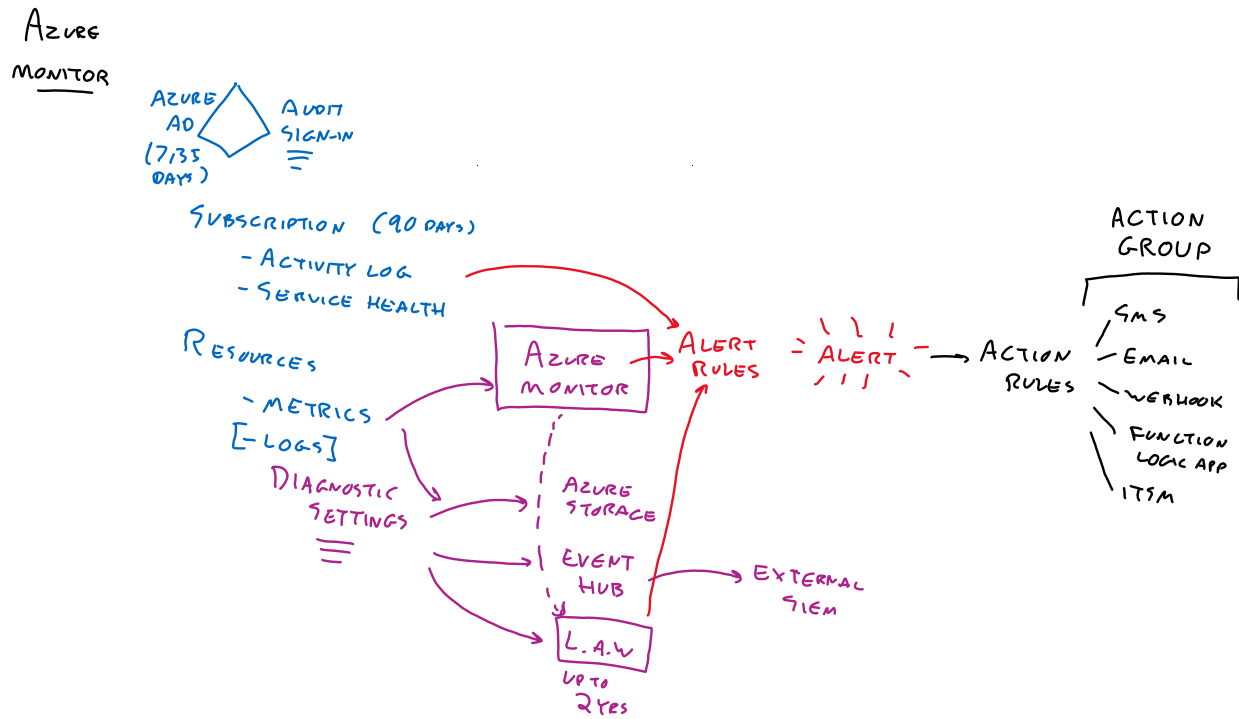
Functionality and Usage of ARM Templates

Links

- Sample ARM template - <https://github.com/johnthebrit/AzureMasterClass/blob/master/Part11IaCandDevOps/StorageRepo/ARMTemplates/StorageAccount.json>

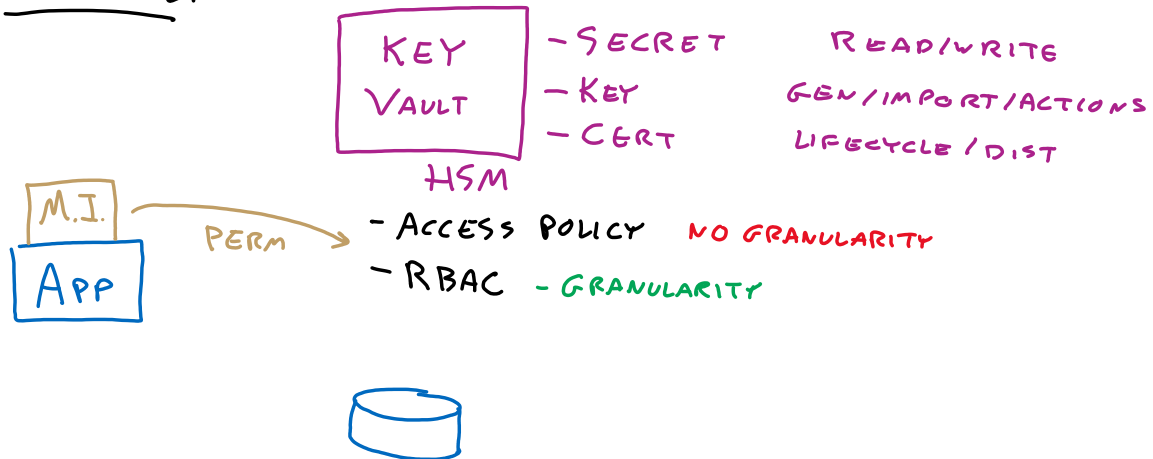
ARM
TEMPLATES

Functionality and Usage of Azure Monitor

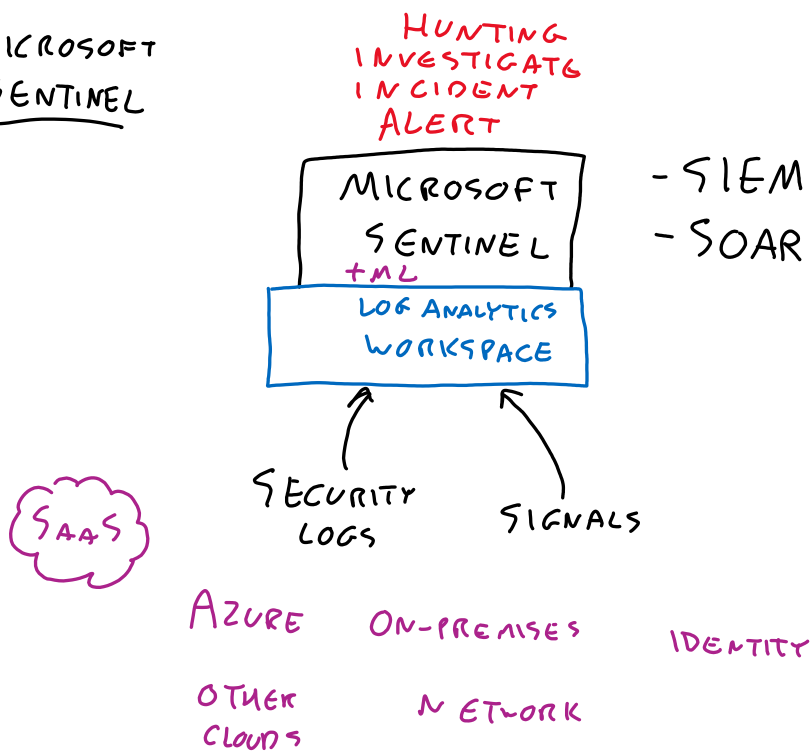


Describe General Security and Network Security Features

Functionality and Usage of Key Vault

Azure
KEY VAULT

Functionality and Usage of Microsoft Sentinel

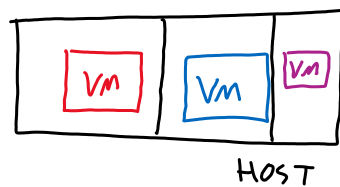
MICROSOFT
SENTINEL

Functionality and Usage of Azure Dedicated Hosts

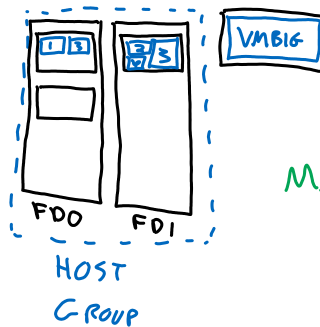
Links

- Azure Dedicated Host - <https://azure.microsoft.com/pricing/details/virtual-machines/dedicated-host/>
- Azure Isolated VMs - <https://docs.microsoft.com/azure/virtual-machines/isolation>

AZURE DEDICATED
HOST



REGION E.US
[A21 A22 A23]

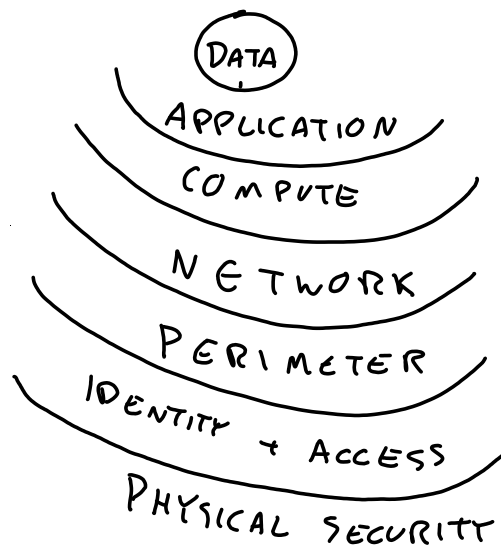


MAINTENANCE ✓
WINDOW
35 DAY

Concept of Defense in Depth

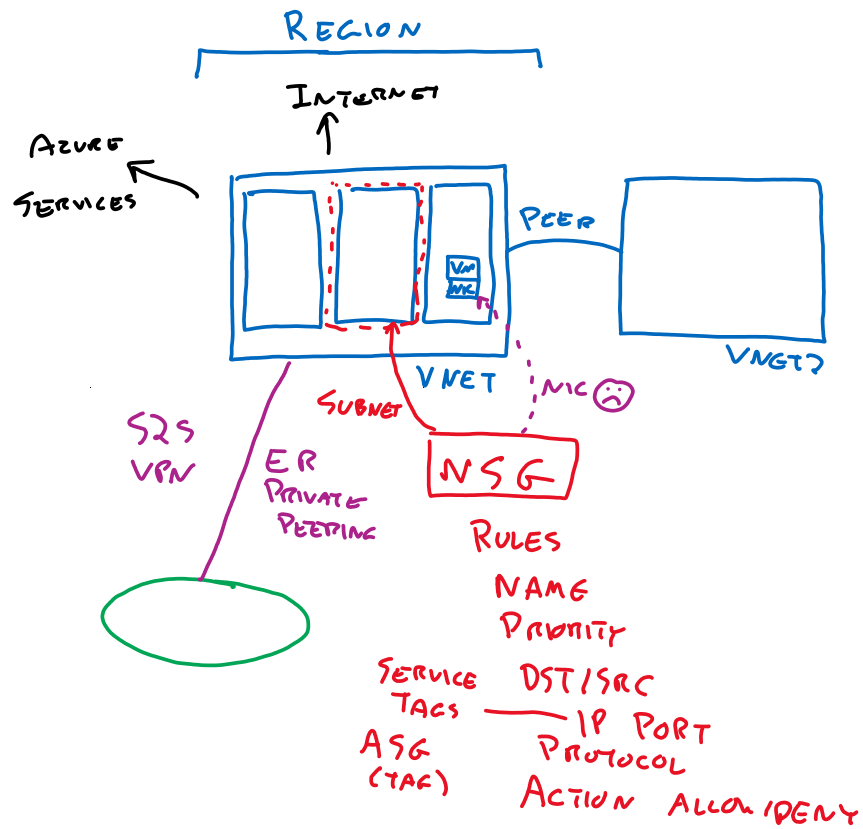
DEFENSE
IN DEPTH

CONFIDENTIALITY
INTEGRITY
AVAILABILITY



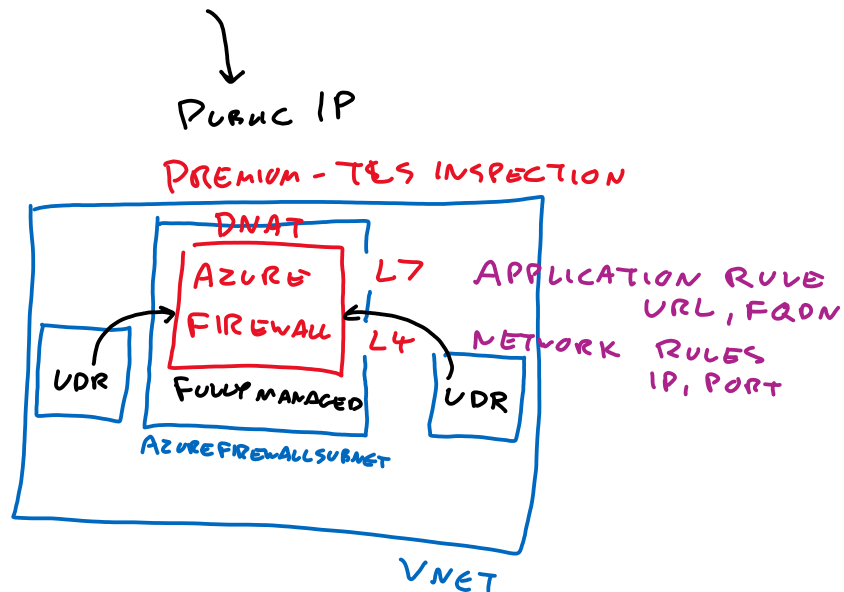
Functionality and Usage of NSGs

NETWORK SECURITY GROUPS



Functionality and Usage of Azure Firewall

Azure
Firewall



Functionality and Usage of Azure DDoS Protection

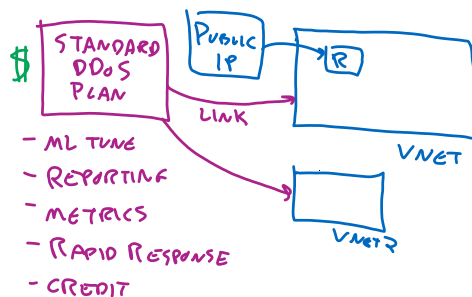
Links

- DDoS Overview - <https://docs.microsoft.com/azure/ddos-protection/ddos-protection-overview>

Azure
DDoS
Protection

DDoS

- VOLUMETRIC
- PROTOCOL
- APPLICATION



Describe Identity, Governance, Privacy, and Compliance Features

Explain Authentication and Authorization

Authentication (AuthN)

Validating Identity

WE KNOW (PASSWORD)

WE ARE (BIOMETRIC)

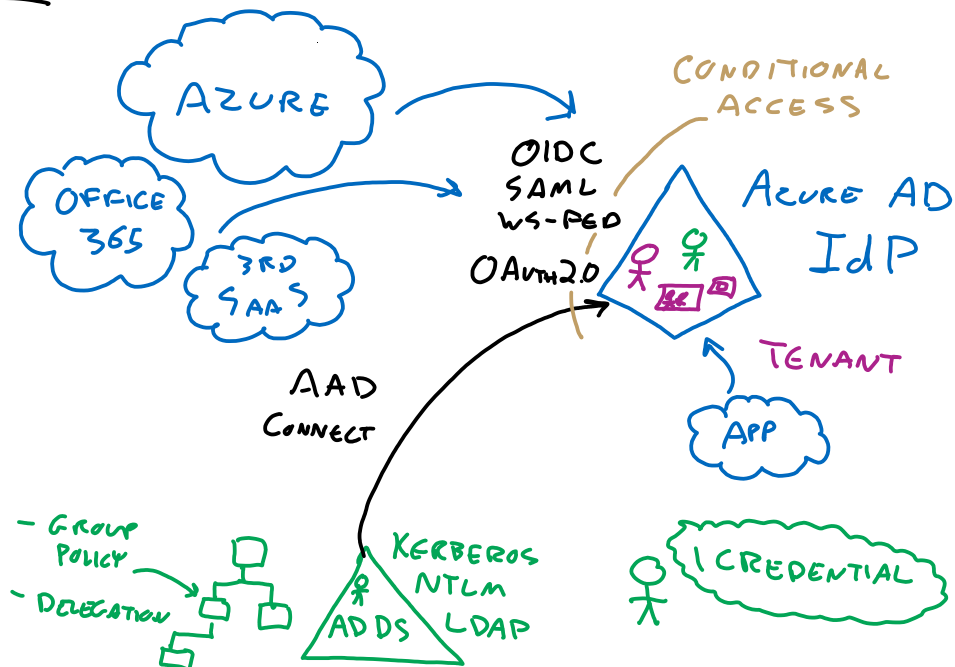
WE HAVE (TOKEN, PC)

Authorization (AuthZ)

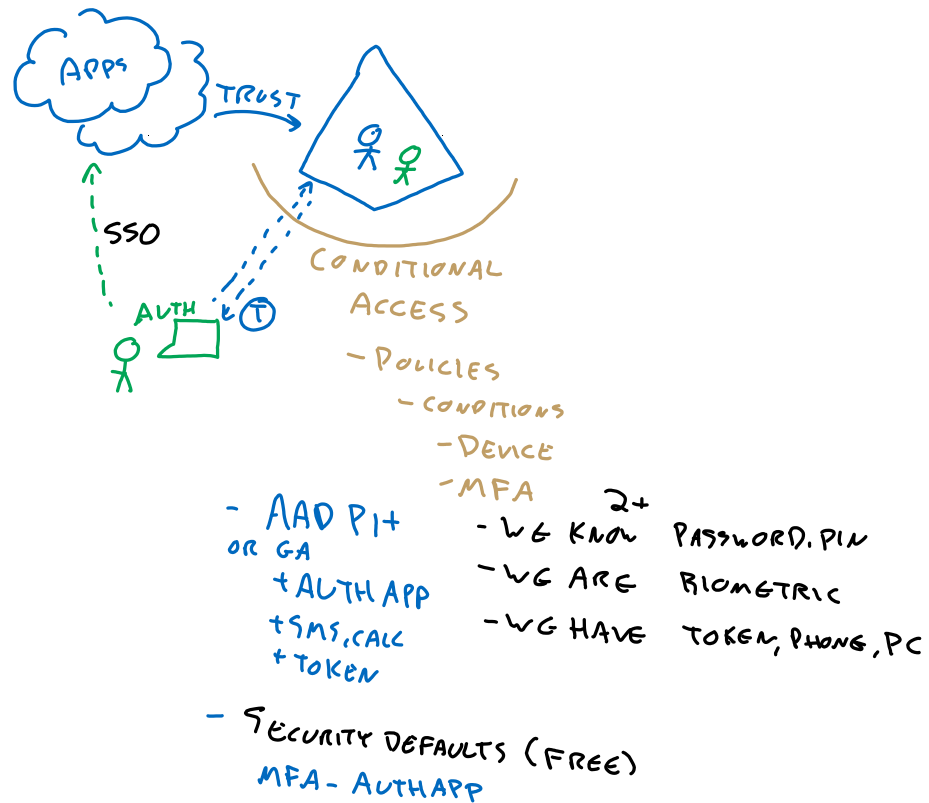
WHAT WE CAN DO

RBAC

Functionality and Usage of Azure AD

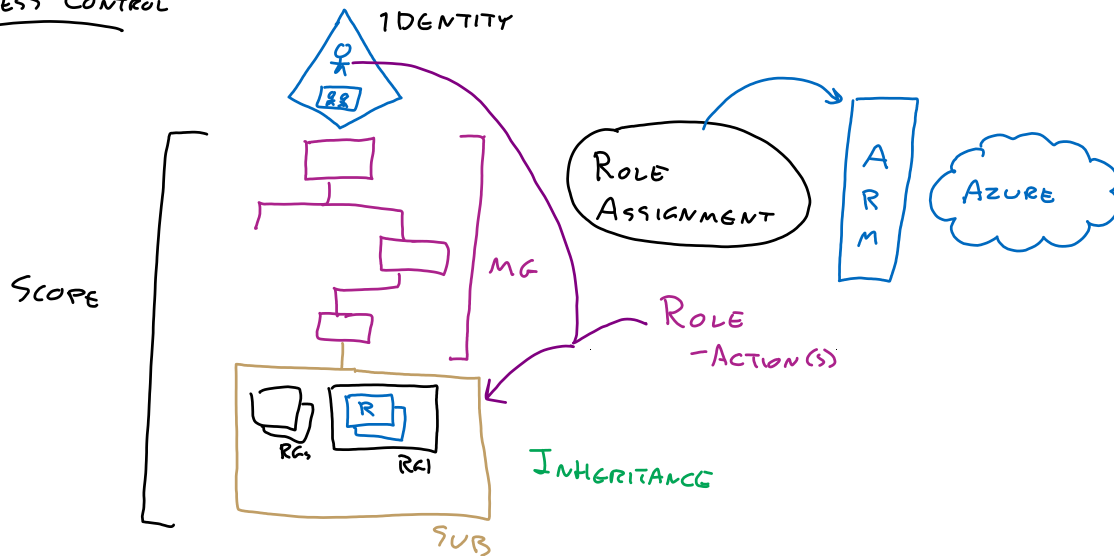
Azure AD

Functionality of Conditional Access, MFA and SSO

CONDITIONAL ACCESS,
MFA + SSO

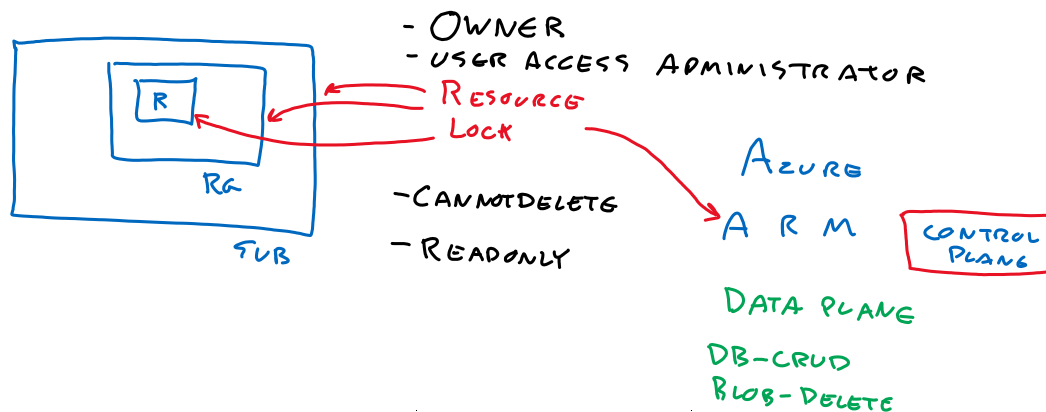
Functionality and Usage of RBAC

Role Based
Access Control

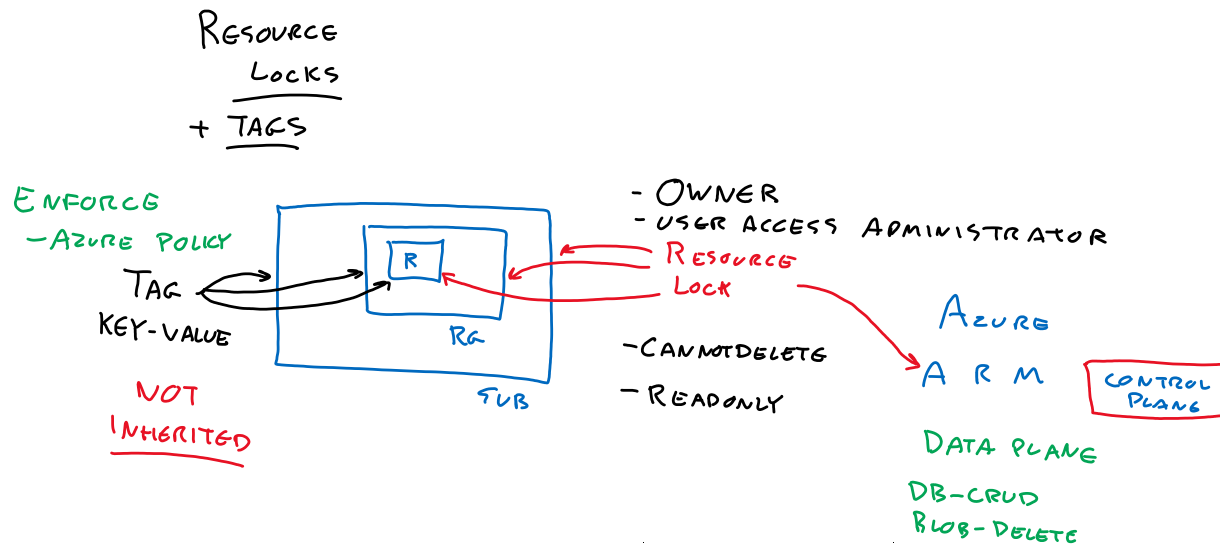


Functionality and Usage of Resource Locks

Resource
Locks

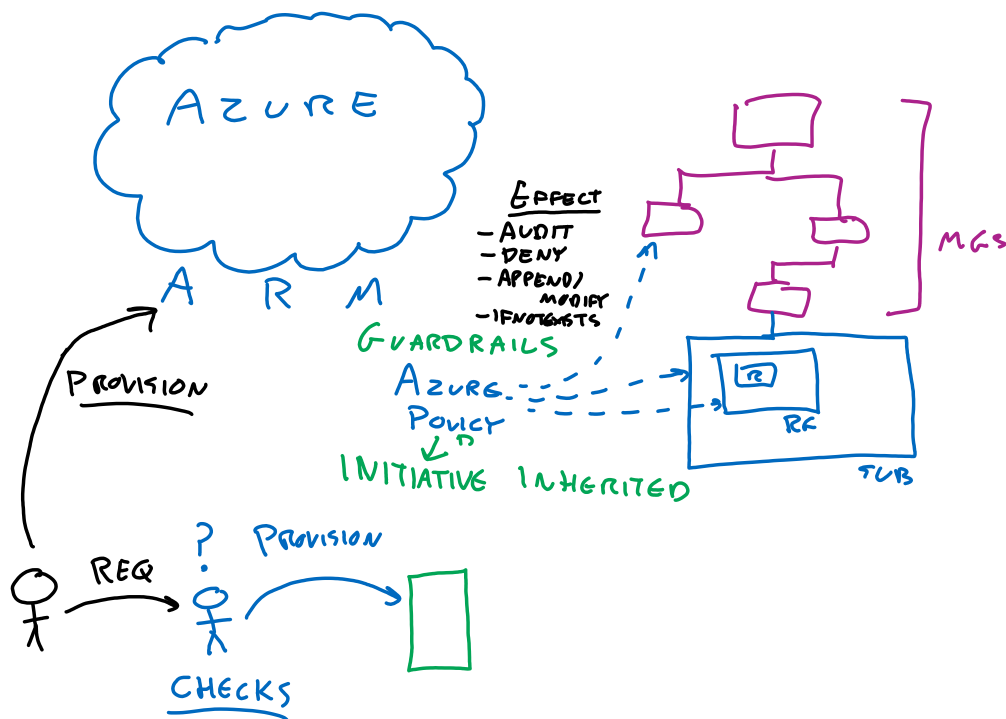


Functionality and Usage of Tags

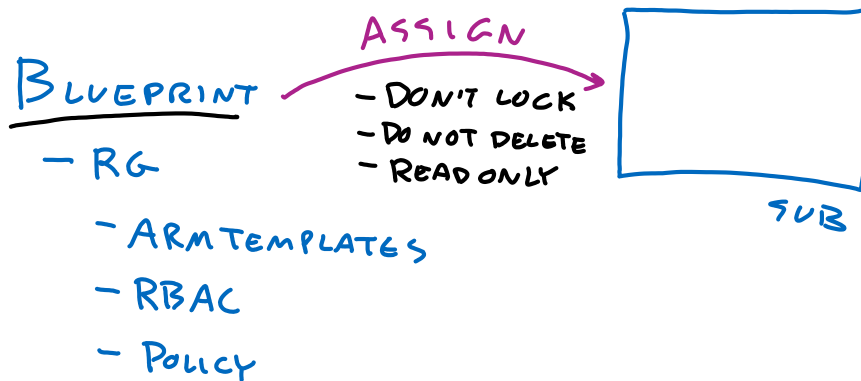


Functionality and Usage of Azure Policy

Azure Policy



Functionality and Usage of Azure Blueprints



Describe Cloud Adoption Framework

Links

- CAF Overview - <https://docs.microsoft.com/azure/cloud-adoption-framework/overview>

Describe Microsoft Privacy Statement, Online Services Terms (OST) and Data Protection Amendment (DPA)

Links

- Microsoft Privacy Statement - <https://privacy.microsoft.com/privacystatement>
- OST - <https://www.microsoft.com/licensing/terms/product/ForAllOnlineServices?azure-portal=true>
- DPA - <https://www.microsoft.com/licensing/docs/view/Microsoft-Products-and-Services-Data-Protection-Addendum-DPA>

Purpose of Trust Center and Azure Compliance Documentation

Links

- Trust Center - <https://www.microsoft.com/trust-center>

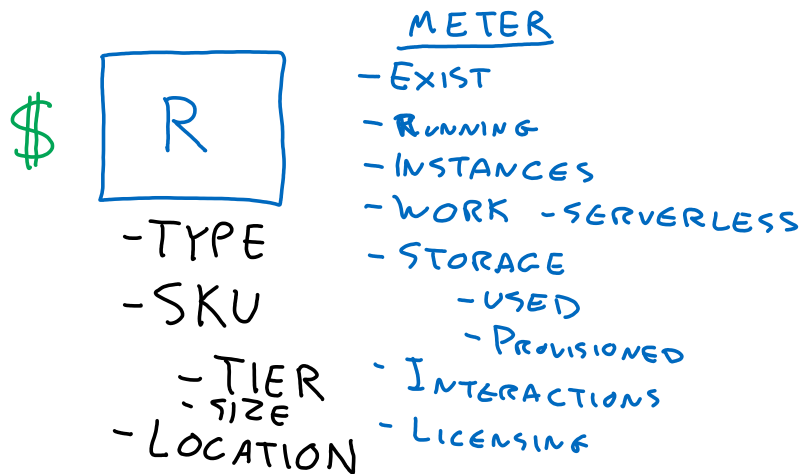
Purpose of Azure Sovereign Regions

Links

- Gov CIJS - <https://docs.microsoft.com/compliance/regulatory/offering-cjis>

Describe Azure Cost Management and Service Level Agreements

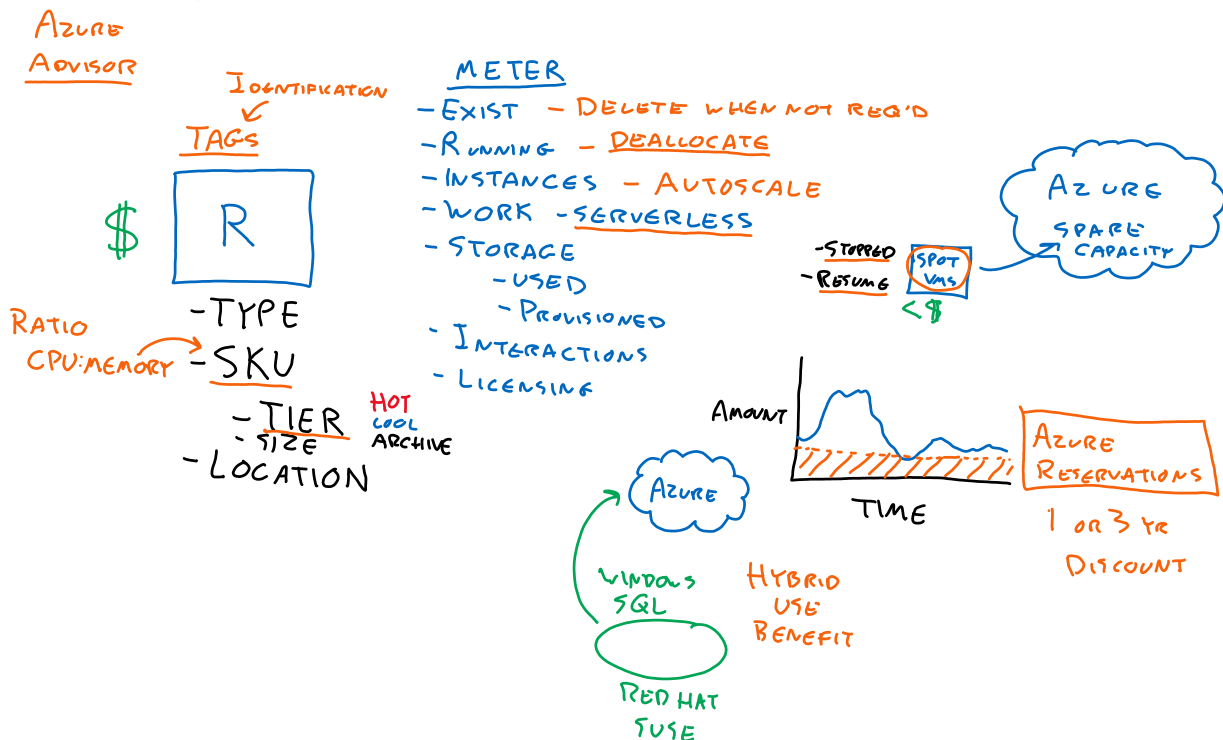
Factors That Affect Costs



Factors to Reduce Cost

Links

- <https://azure.microsoft.com/pricing/calculator/>
- Pricing Calculator Deep Dive - <https://youtu.be/rMKmbZ1SYQg>
- Azure Reservations Deep Dive - <https://youtu.be/vpTDXenagcM>

COSTS

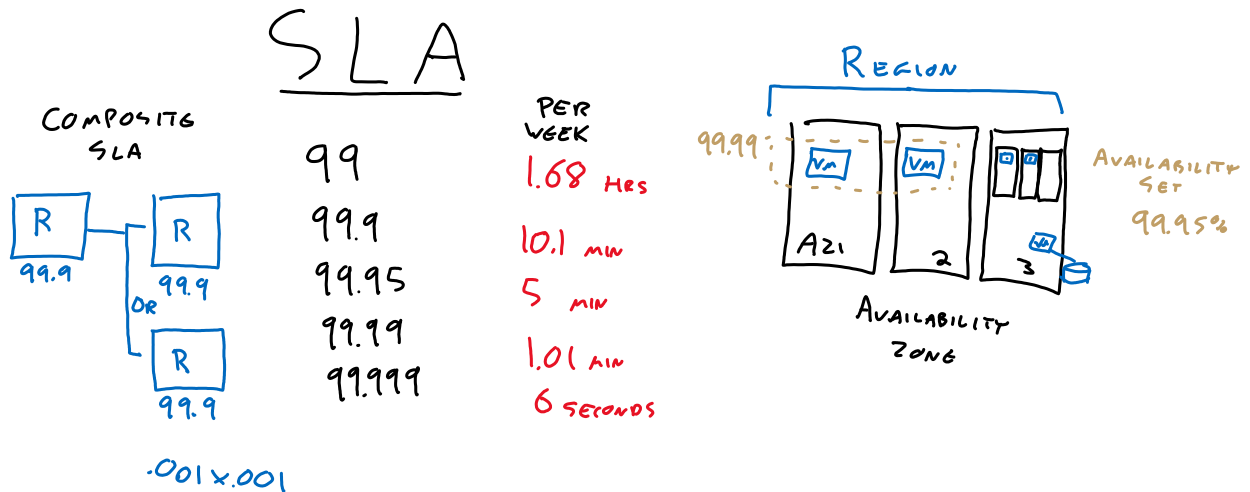
Functionality and Usage of Pricing and TCO Calculators

Links

- Azure Pricing Calculator - <https://azure.microsoft.com/pricing/calculator/>
- Azure TCO Calculator - <https://azure.microsoft.com/pricing/tco/calculator/>

Purpose of Service Level Agreements

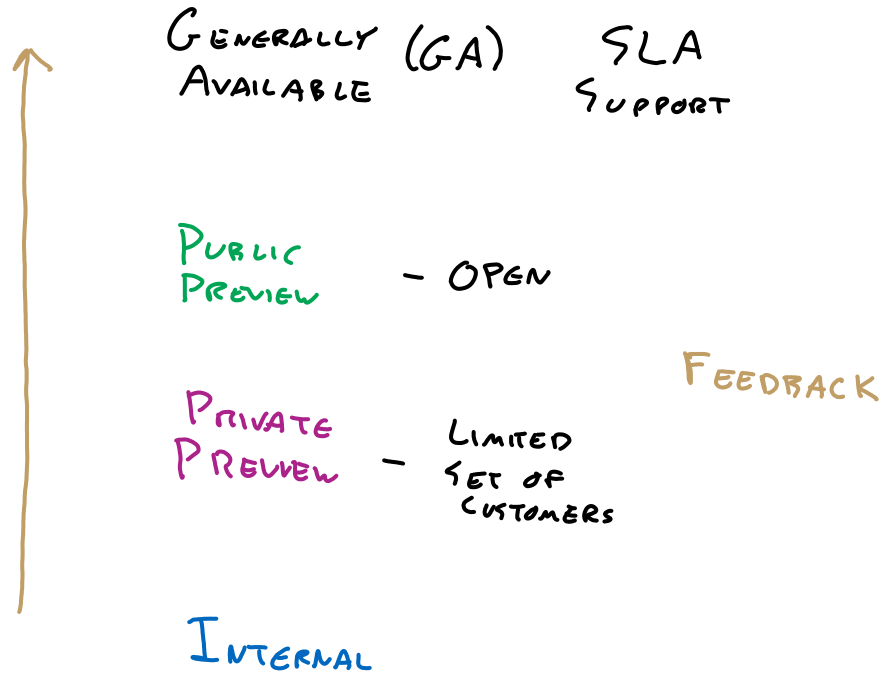
- Azure SLAs - <https://azure.microsoft.com/support/legal/sla/>
- Azure Status - <https://status.azure.com/status>
- Composite SLA documentation - <https://docs.microsoft.com/azure/architecture/framework/resiliency/business-metrics#understand-service-level-agreements>
- Composite SLA Deep Dive - https://youtu.be/_a3LPSZmkqY



Describe Service Lifecycle in Azure

Links

- Azure preview portal - <https://preview.portal.azure.com>
- Azure updates - <https://azure.microsoft.com/updates/>
- Azure weekly update playlist channel - <https://onboardtoazure.com>

SERVICE
LIFECYCLE

Closing Thoughts

THANK YOU

Appreciate you watching this course.

Please subscribe and help support the channel.

Please watch the various videos and crams I have over at my channel and see you on another course soon!

<https://onboardtoazure.com>

<https://learn.onboardtoazure.com>

