



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\\_vMEniWBQjS0xTsBYS3](https://www.youtube.com/playlist?list=PLIVtbbG169nED0_vMEniWBQjS0xTsBYS3).

**Updated – January 2024 for latest changes to AZ-900**

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

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- CapEx, OpEx and Consumption-based - <https://youtu.be/WiwV9wb0GMo> [00:07:13]
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- Describe the Resources Required for Virtual Machines - <https://youtu.be/PP5BWZ0cAJo> [00:06:17]
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### 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]
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- Functionality and Usage of Azure Dedicated Hosts - <https://youtu.be/RnNqmTH9xok> [00:06:49]
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### Describe Identity, Governance, Privacy, and Compliance Features

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- Describe Azure Directory Services - [https://youtu.be/E4\\_JBVE25I](https://youtu.be/E4_JBVE25I) [00:14:06]
- Describe Azure External Identities - [https://youtu.be/G5\\_z4PFgn2o](https://youtu.be/G5_z4PFgn2o) [00:11:14]
- Functionality of Conditional Access, MFA and SSO - <https://youtu.be/DFwERh9Xxk0> [00:12:29]
- Overview of Microsoft Entra - [https://youtu.be/bSIF\\_GjaCmo](https://youtu.be/bSIF_GjaCmo) [00:11:34]
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- Functionality and Usage of Resource Locks - [https://youtu.be/eF\\_KiJRxbe](https://youtu.be/eF_KiJRxbe) [00:06:16]
- Functionality and Usage of Tags - [https://youtu.be/eaf63hE\\_6SQ](https://youtu.be/eaf63hE_6SQ) [00:05:06]
- Functionality and Usage of Azure Policy - <https://youtu.be/z7WMqHE3R8g> [00:10:50]
- Purpose of Microsoft Purview - <https://youtu.be/mXjXcBr1ajY> [00:10:47]
- Governance Hierarchy Constructs - [https://youtu.be/ge8r\\_Z0LKxm](https://youtu.be/ge8r_Z0LKxm) [00:06:13]
- Functionality and Usage of Azure Blueprints - <https://youtu.be/SjbDcvkySCY> [00:05:22]
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### Describe Azure Cost Management and Service Level Agreements

- Factors That Affect Costs - [https://youtu.be/fMSHW\\_RGcxY](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]
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## Introduction

### Links

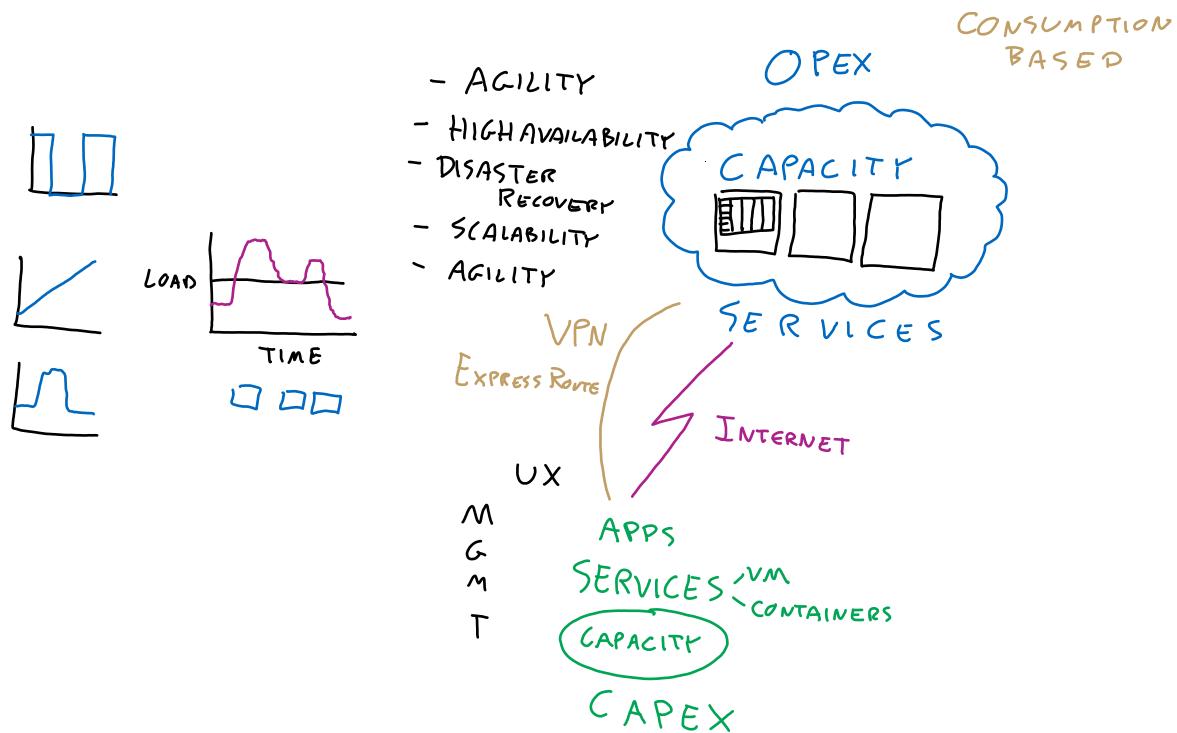
- John's YouTube Channel - <https://onboardtoazure.com>
- Microsoft AZ-900 Certification Page - <https://docs.microsoft.com/en-us/learn/certifications/exams/az-900>
- Microsoft Certification Poster - <http://aka.ms/traincertposter>
- Free Azure Subscription - <https://azure.microsoft.com/en-us/free/>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

## Describe Cloud Concepts

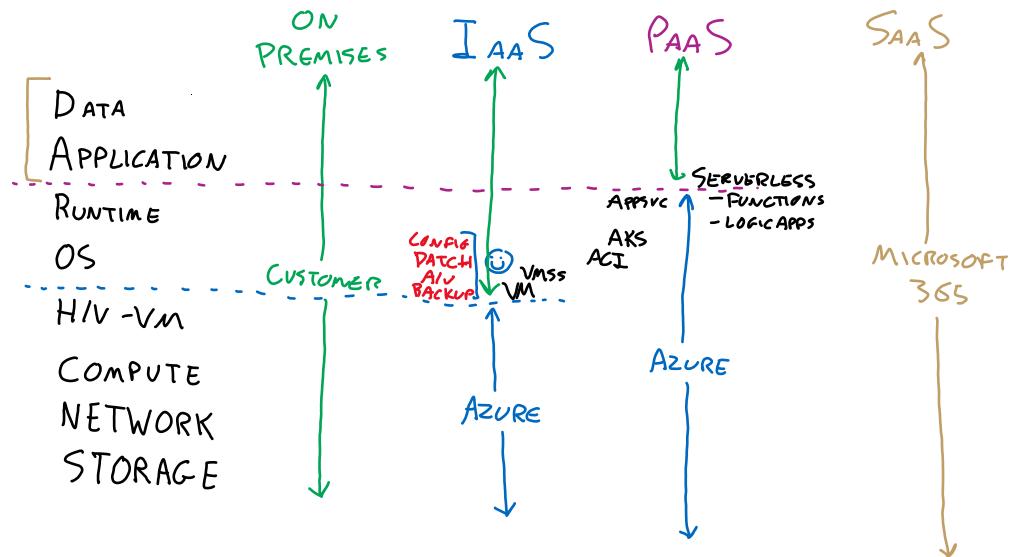
Identify the Benefits of Cloud Computing

Links

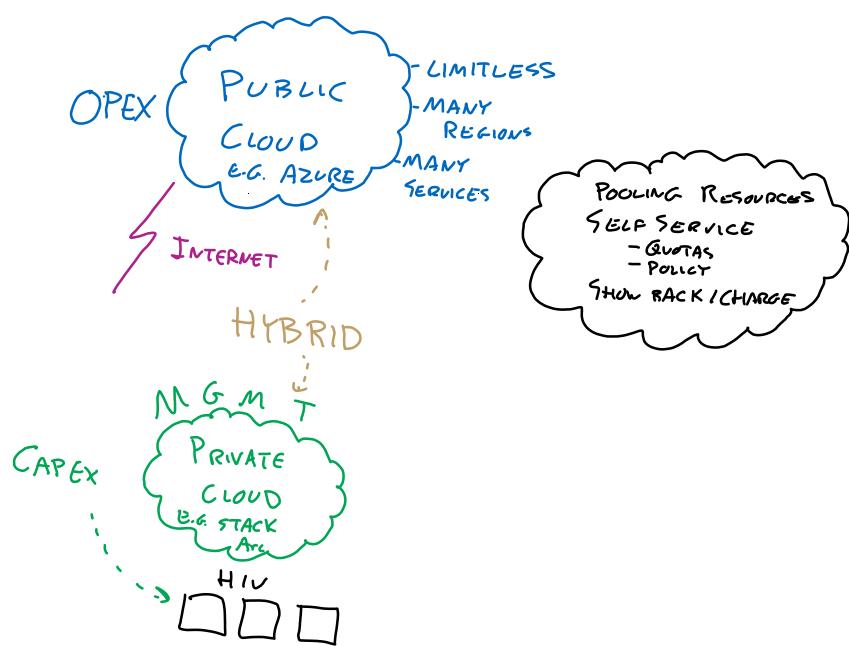
- Azure Regions - <https://infrastructuremap.microsoft.com/>



## Differences Between Cloud Service Categories



## Differences Between Types of Cloud Computing



## Reliability and Predictability

### RELIABILITY

- AUTO HEALING
- STORAGE  
x3
- AUTO SCALE
- SLA
- DESIGN FOR FAILURE
- MONITOR

### PREDICTABILITY

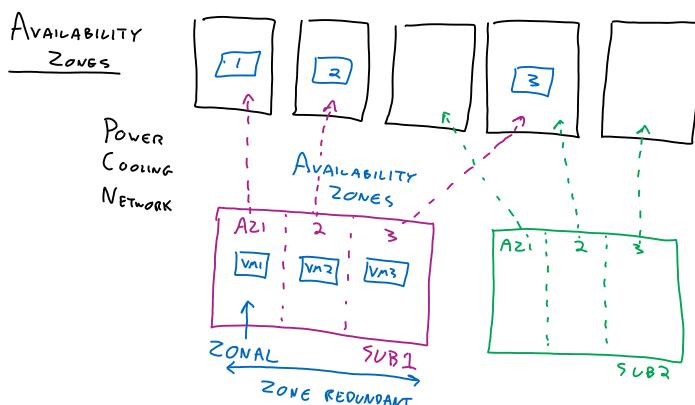
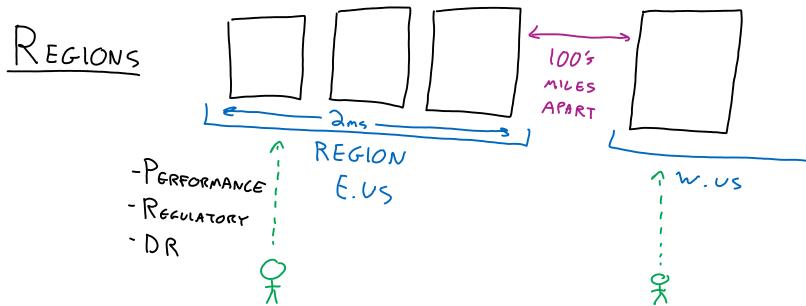
- SKU
- ACU
- BEHAVIOR
- USE TEMPLATES
- AUTOMATION  
DevOps

## 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>



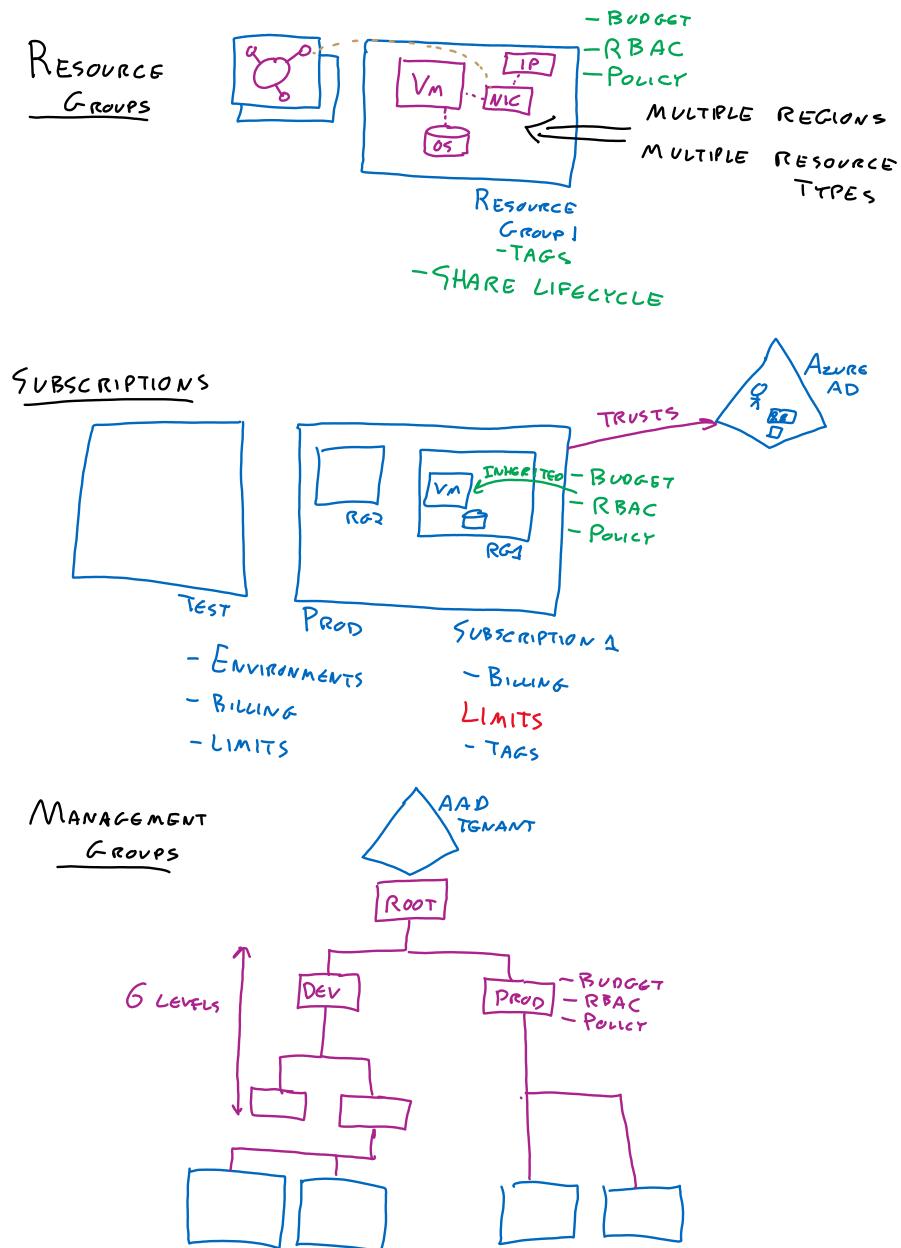
Code

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

## Benefits and Usage of Resource Groups

### Links

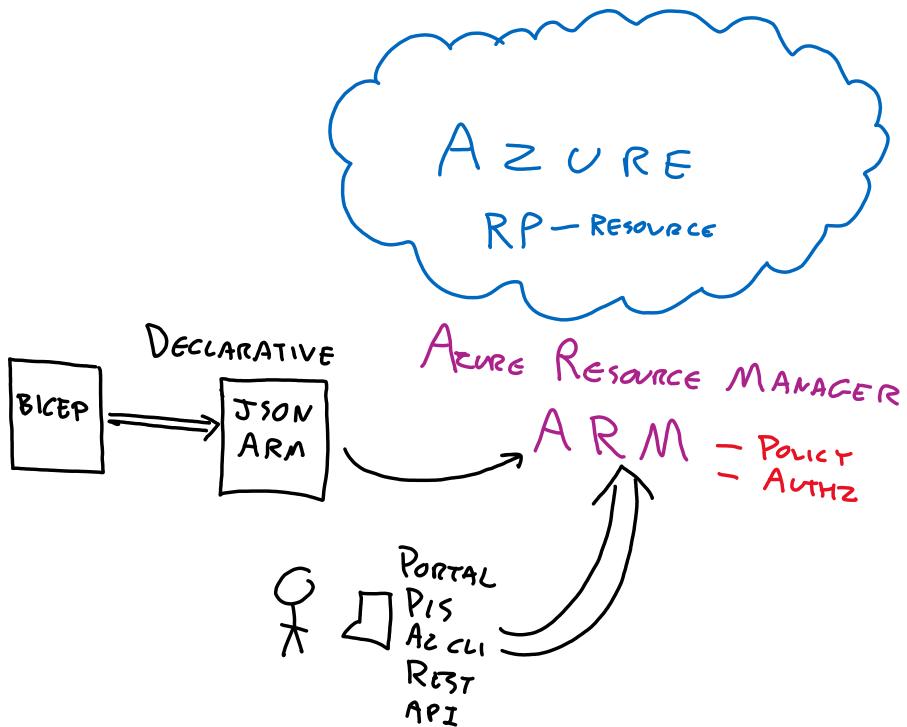
- Azure Subscription Limits - <https://docs.microsoft.com/azure/azure-resource-manager/management/azure-subscription-service-limits>



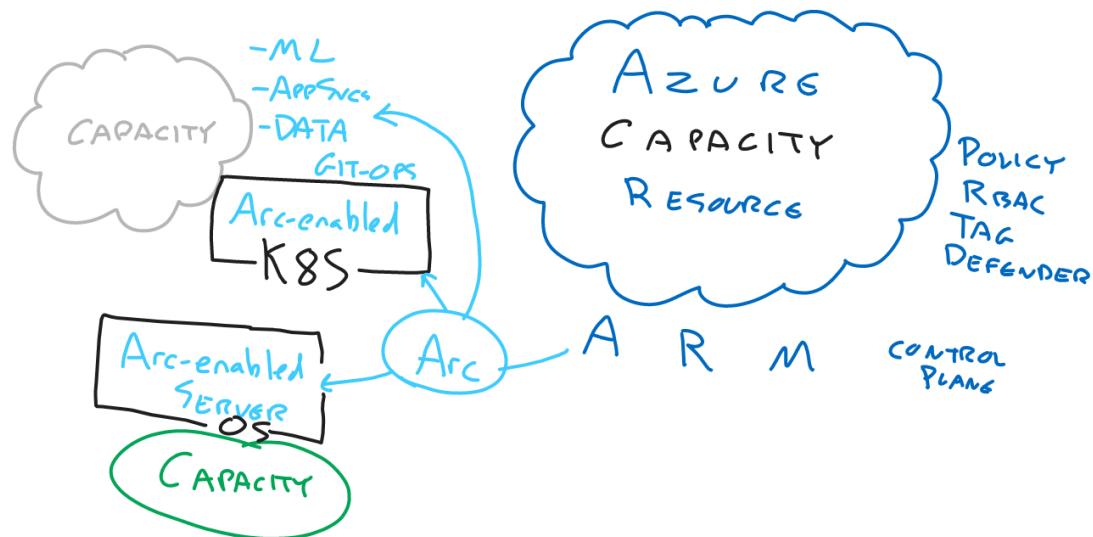
## Benefits and Usage of Azure Resource Manager

### Code

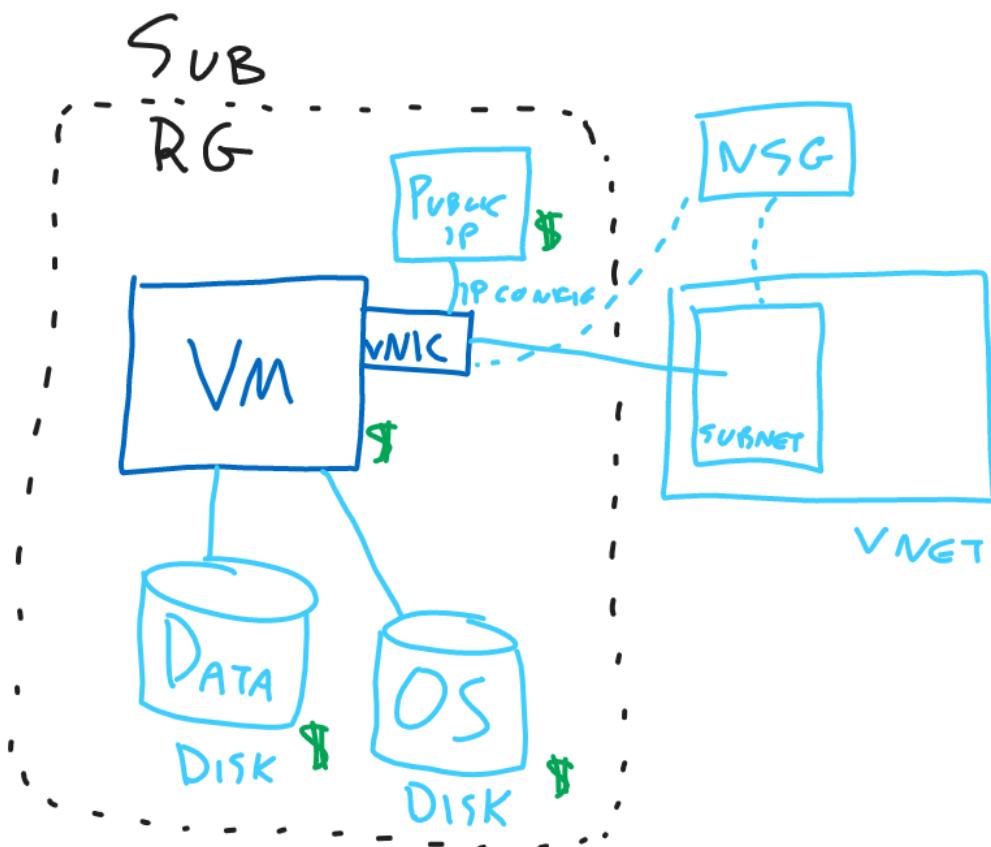
```
Get-AzResourceProvider  
Get-AzResourceProvider -ProviderNamespace microsoft.compute | ft  
ResourceTypes
```



Describe the Purpose of Azure Arc



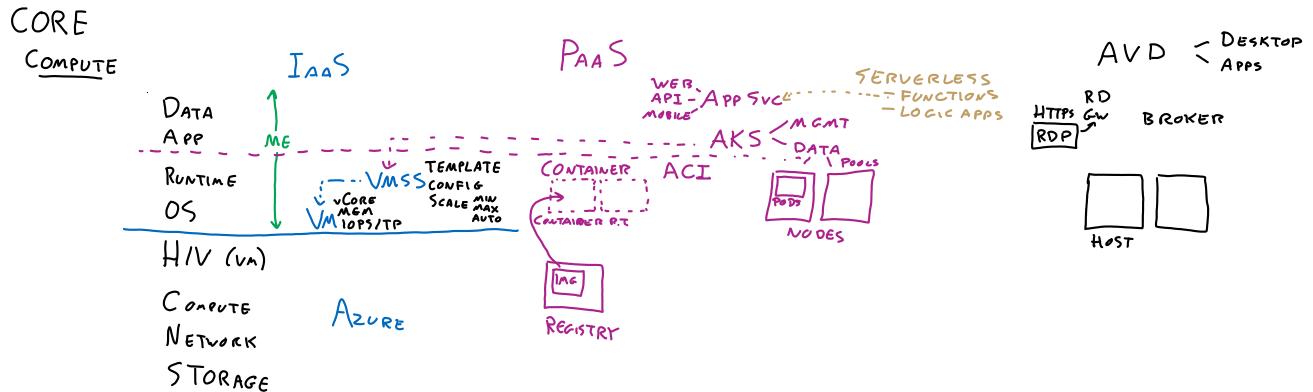
Describe the Resources Required for Virtual Machines



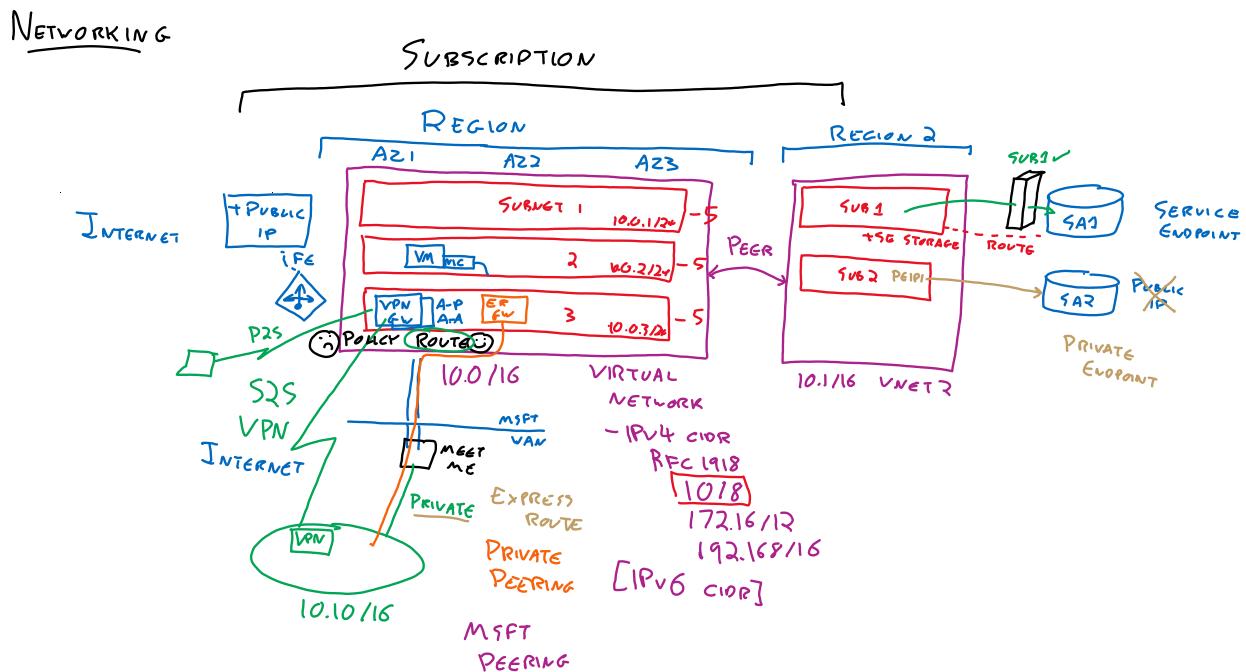
## Benefits and Usage of Core Compute Resources

### Links

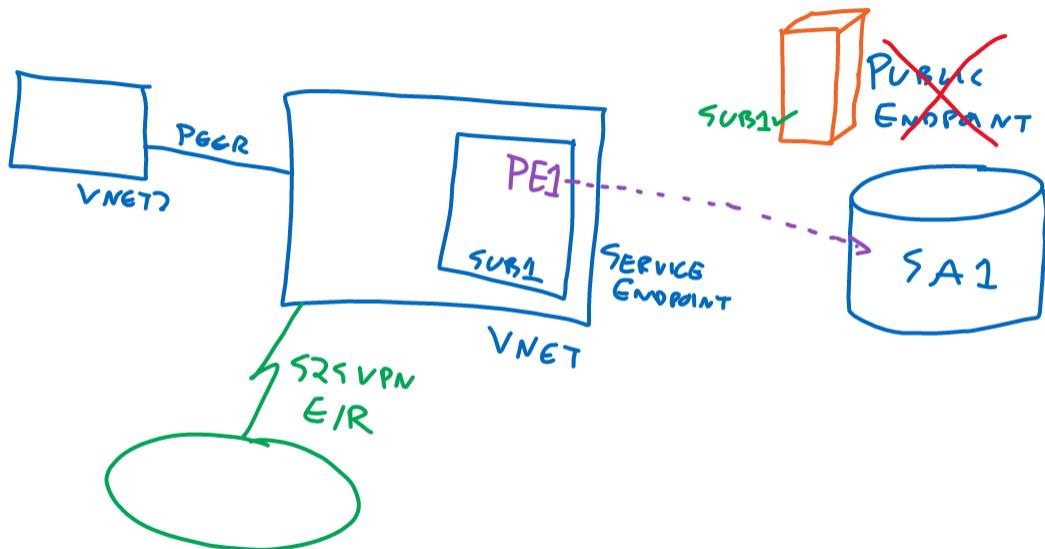
- VM SKUs - <https://docs.microsoft.com/azure/virtual-machines/sizes>



## Benefits and Usage of Core Network Resources



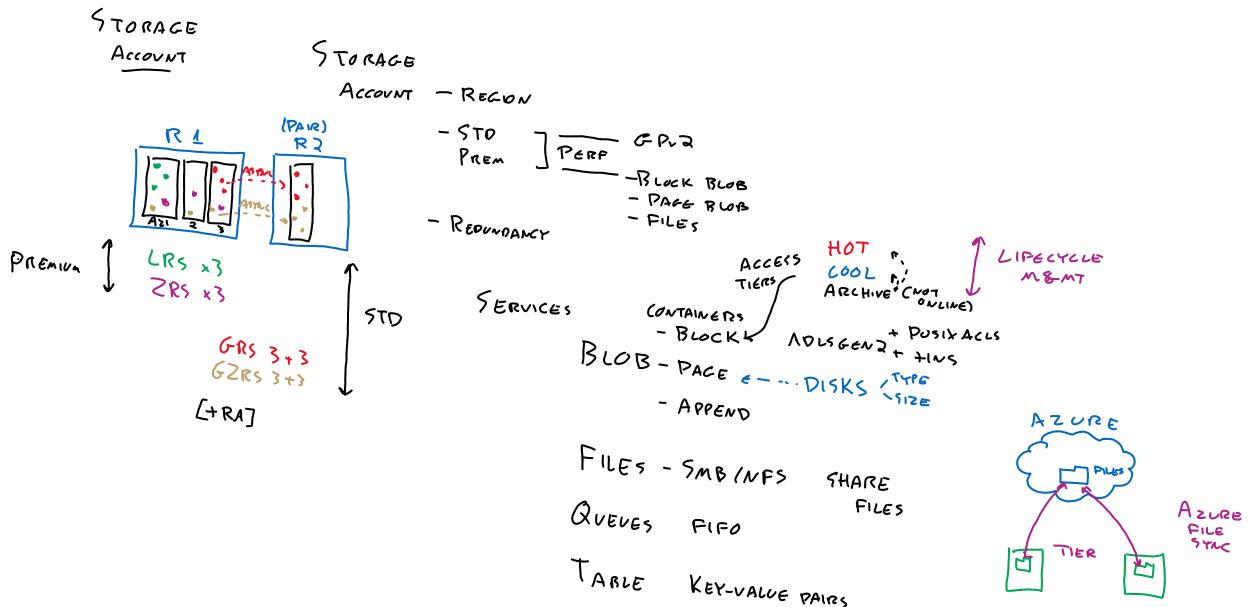
## Describe Public and Private Endpoints



## Benefits and Usage of Storage Account Resources

### Links

- Managed Disks - <https://azure.microsoft.com/pricing/details/managed-disks/>

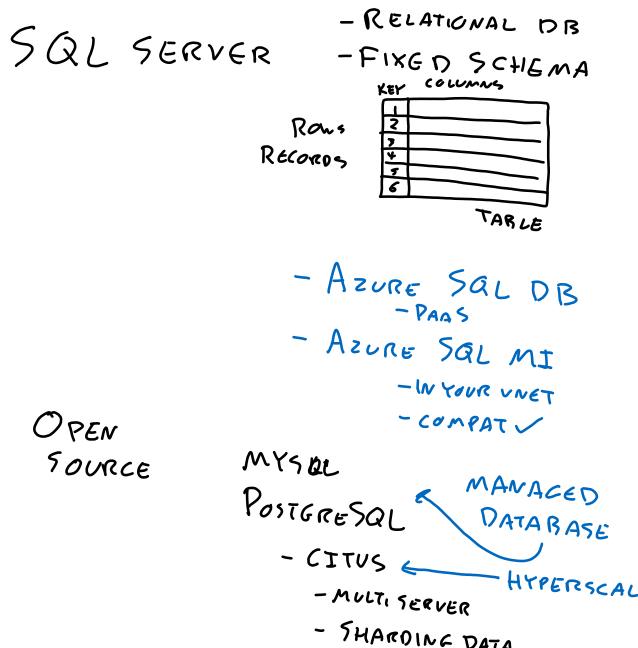


## Benefits and Usage of Database Resources

## Links

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

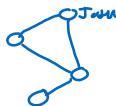
DATA  
R  
BASE  
RESOURCES



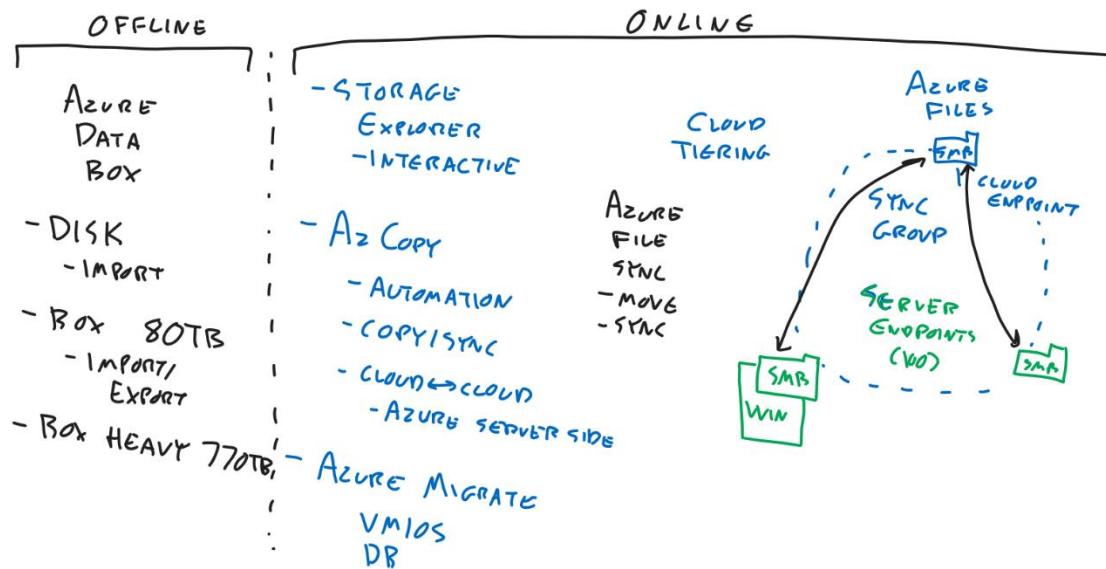
COSMOS DB

- MULTI MODEL
- MULTI CONSISTENCY

DOCUMENT - SQL, MONGODB  
COLUMN - CASSANDRA  
TABLE  
GRAPH - GREMLIN

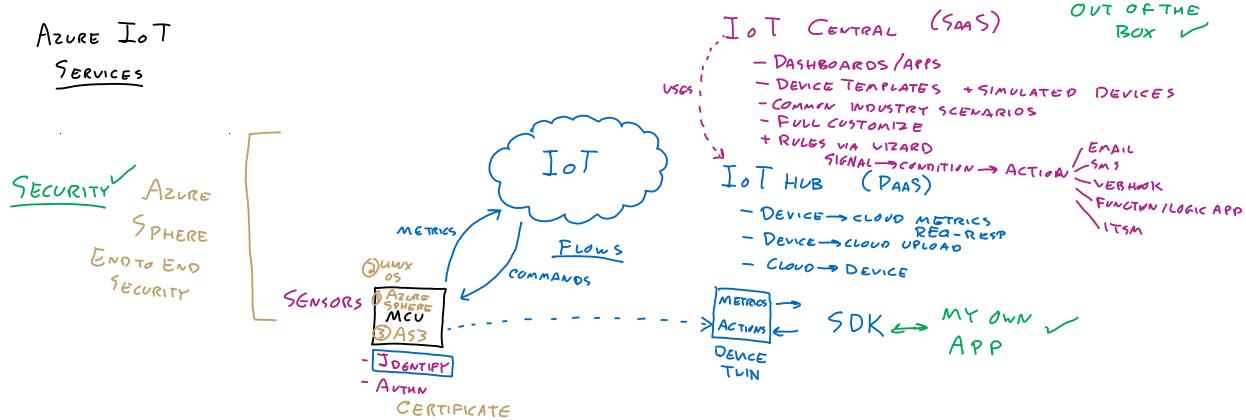


## Data Movement and Migration Options



## Describe Core Solutions and Management Tools on Azure

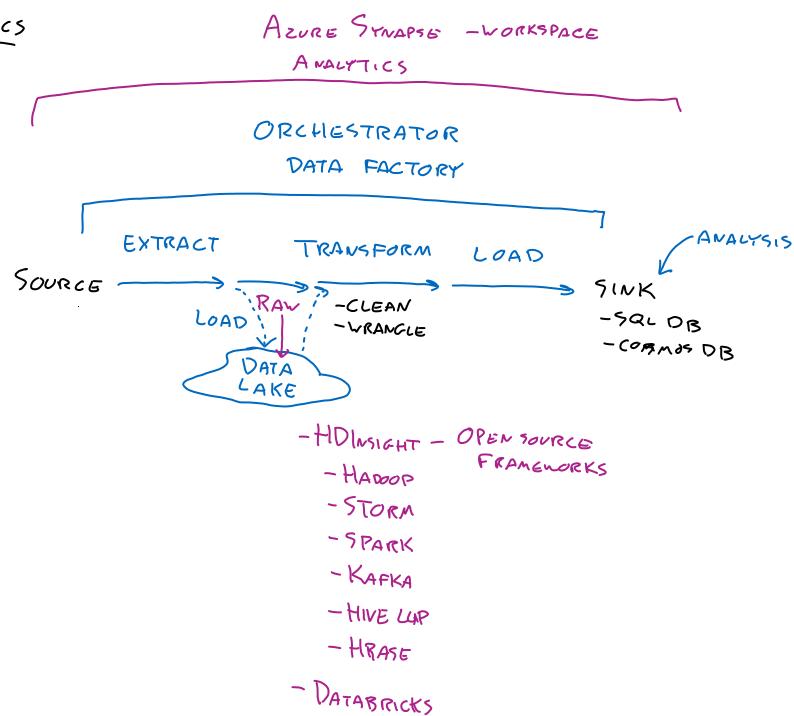
### Benefits and Usage of Azure IoT Services



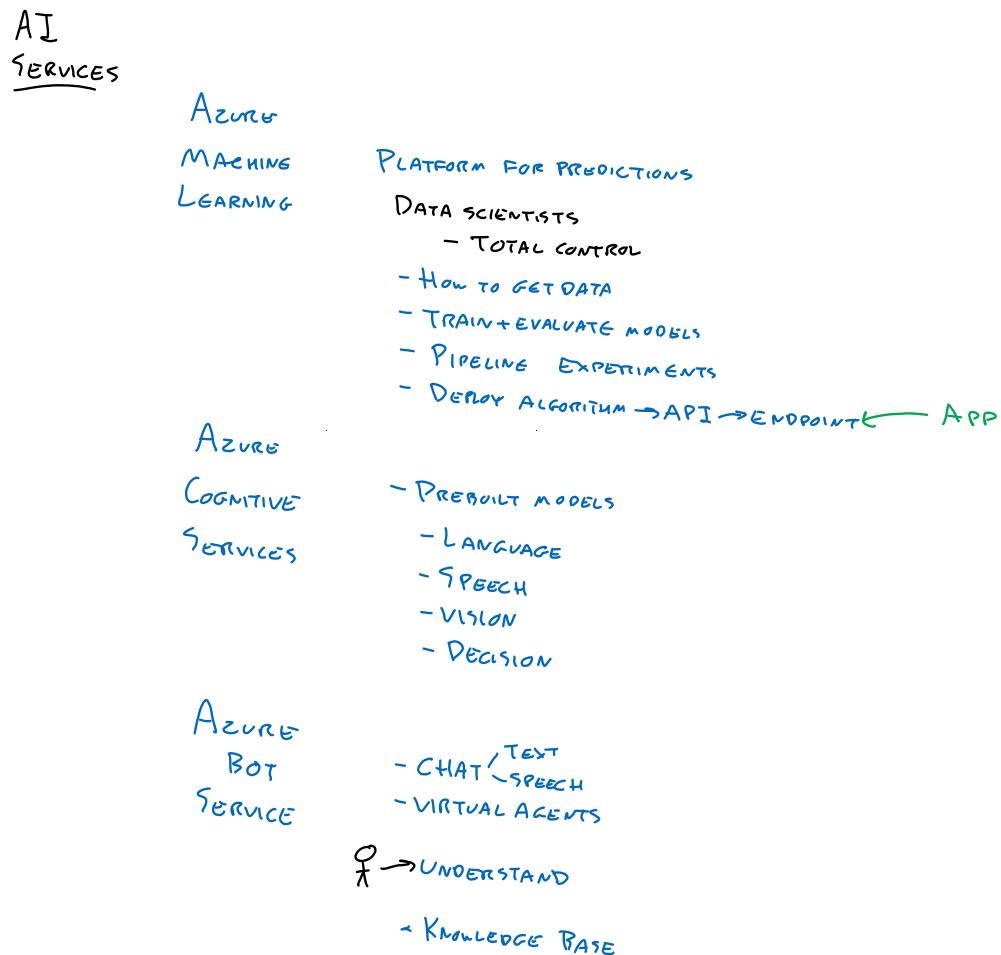
### Benefits and Usage of Big Data and Analytics Services

#### BIG DATA

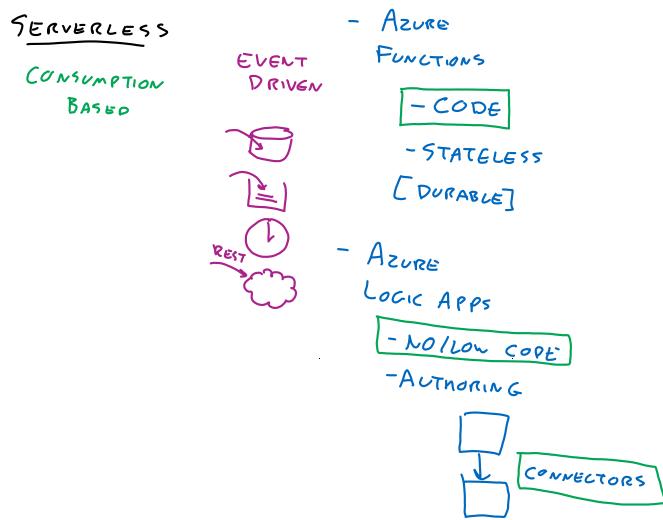
#### + ANALYTICS



## Benefits and Usage of AI Services

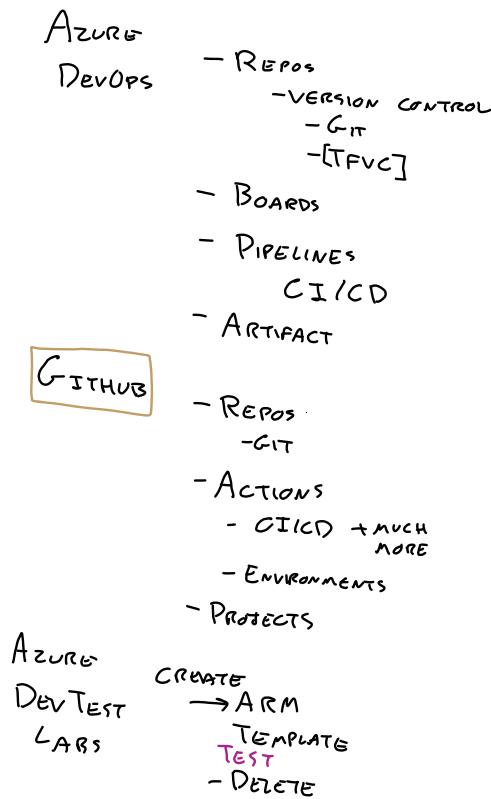


## Benefits and Usage of Serverless Technologies

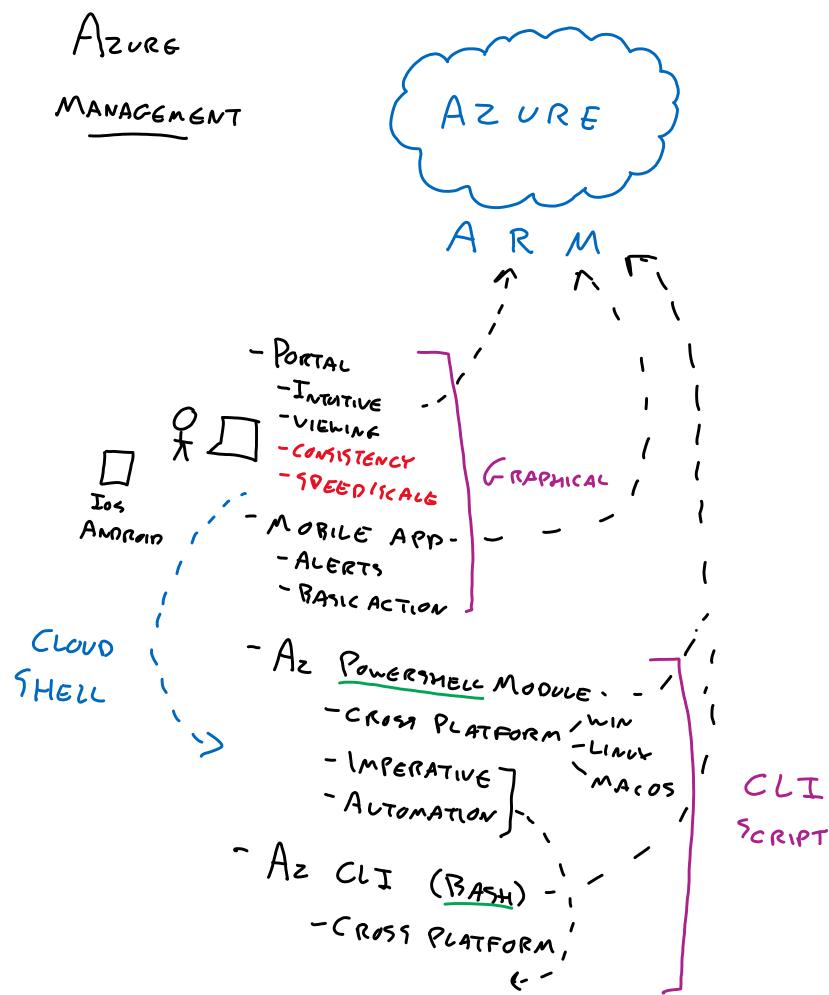


## Benefits and Usage of DevOps Technologies

### DevOps



## Functionality of Azure Management Solutions

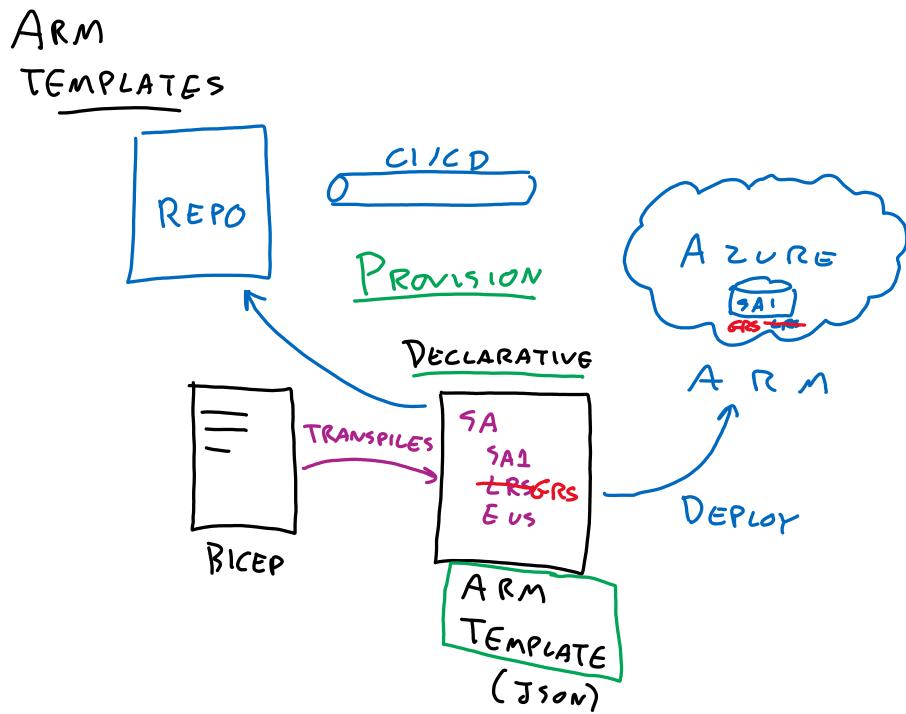


## Functionality and Usage of ARM Templates

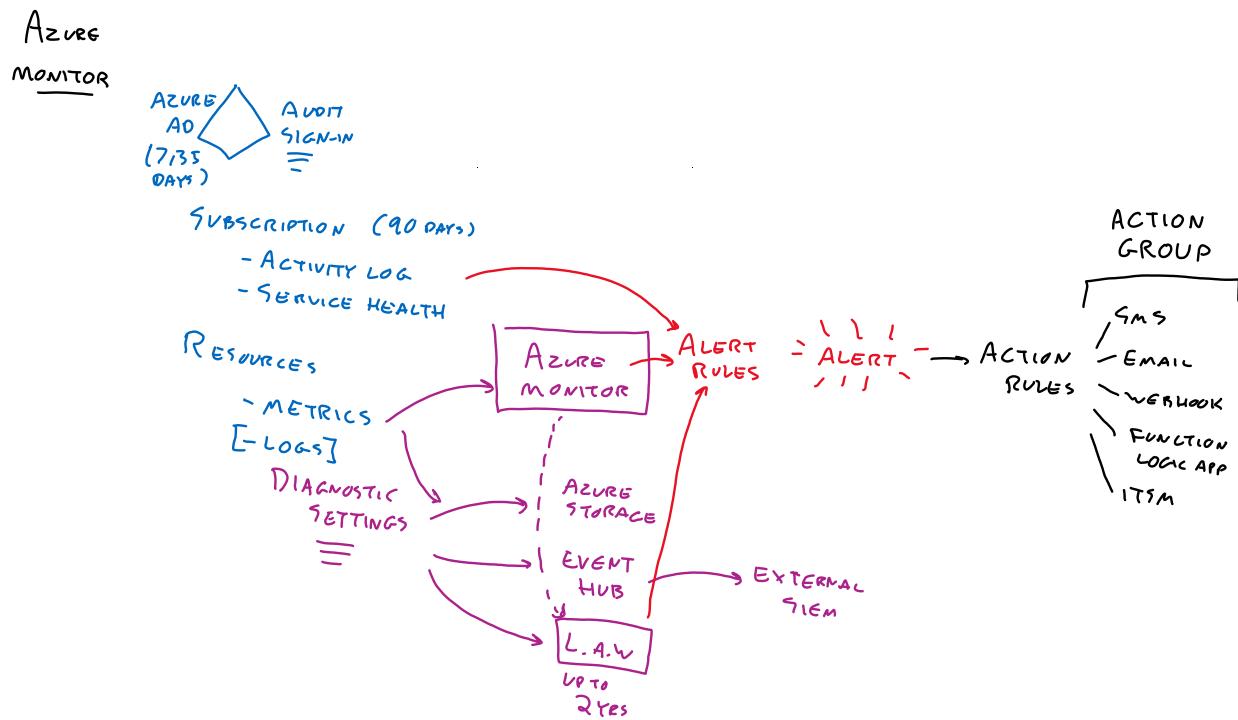
## Links

- Sample ARM template -

<https://github.com/johnthebrit/AzureMasterClass/blob/master/Part11aCandDevOps/StorageRepo/ARMTemplates/StorageAccount.json>

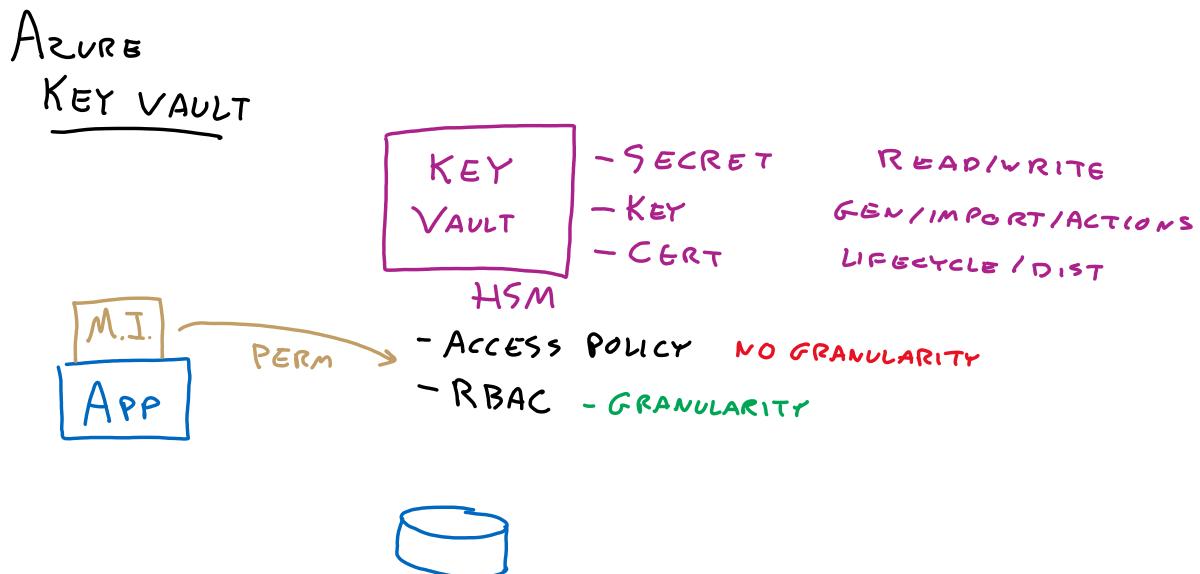


## Functionality and Usage of Azure Monitor

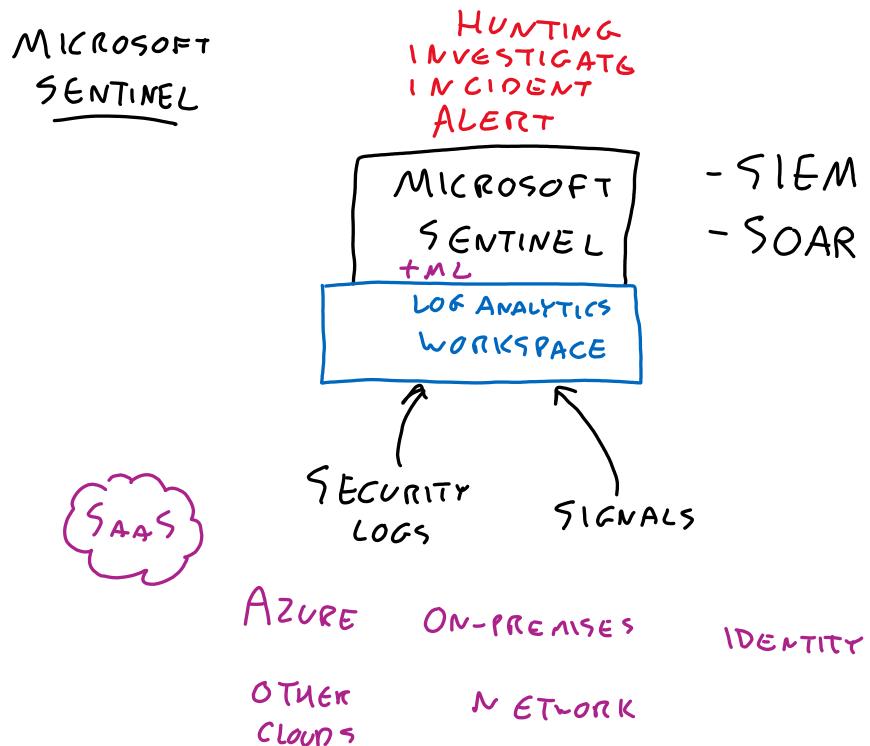


## Describe General Security and Network Security Features

### Functionality and Usage of Key Vault



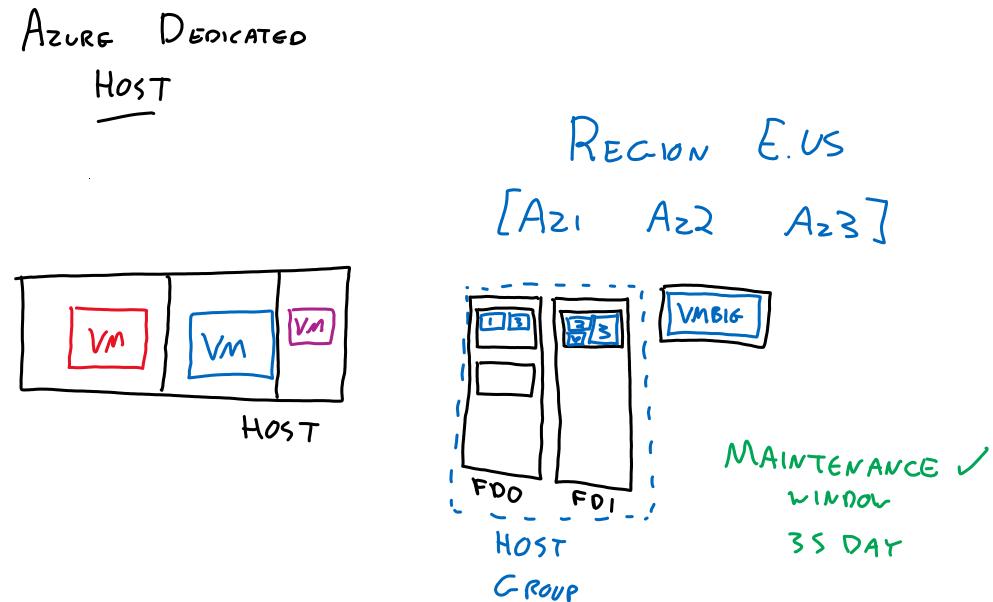
### Functionality and Usage of Microsoft Sentinel



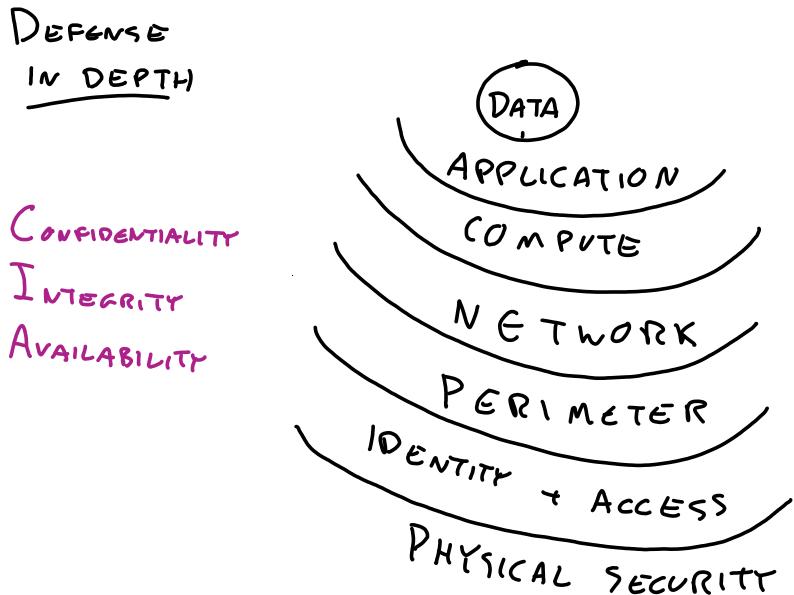
## Functionality and Usage of Azure Dedicated Hosts

### Links

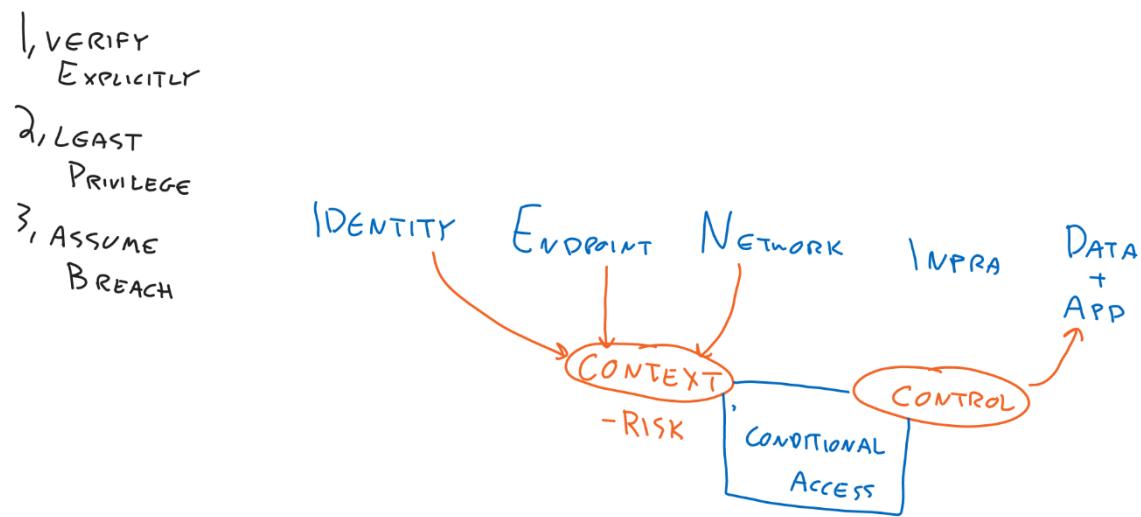
- Azure Dedicated Host - <https://azure.microsoft.com/pricing/details/virtual-machines/dedicated-host/>
- Azure Isolated VMs - <https://docs.microsoft.com/azure/virtual-machines/isolation>



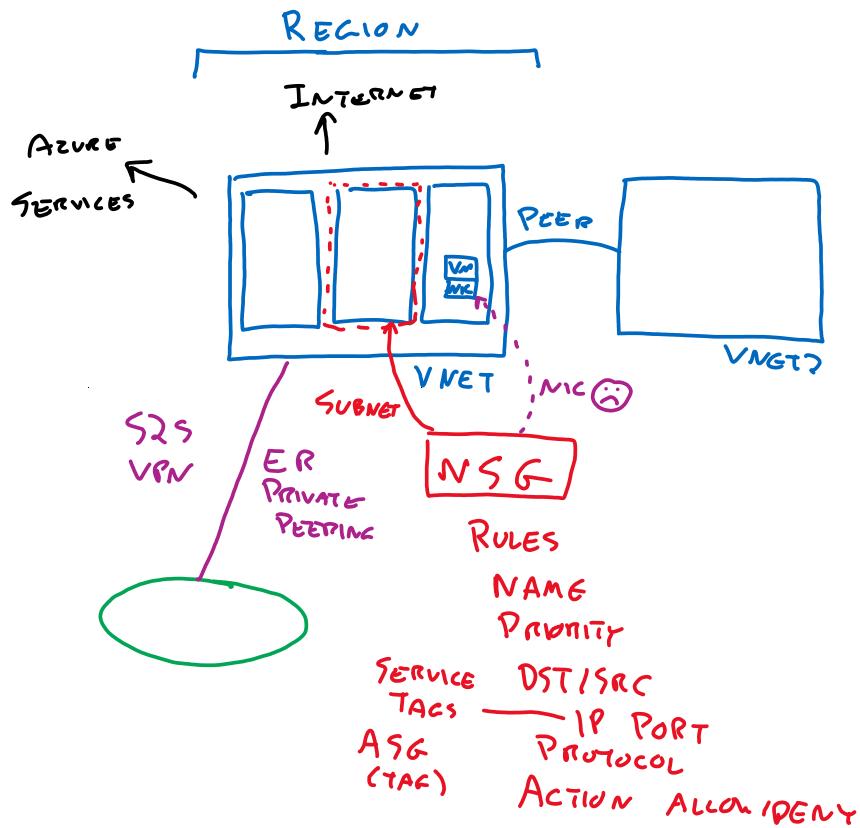
## Concept of Defense in Depth



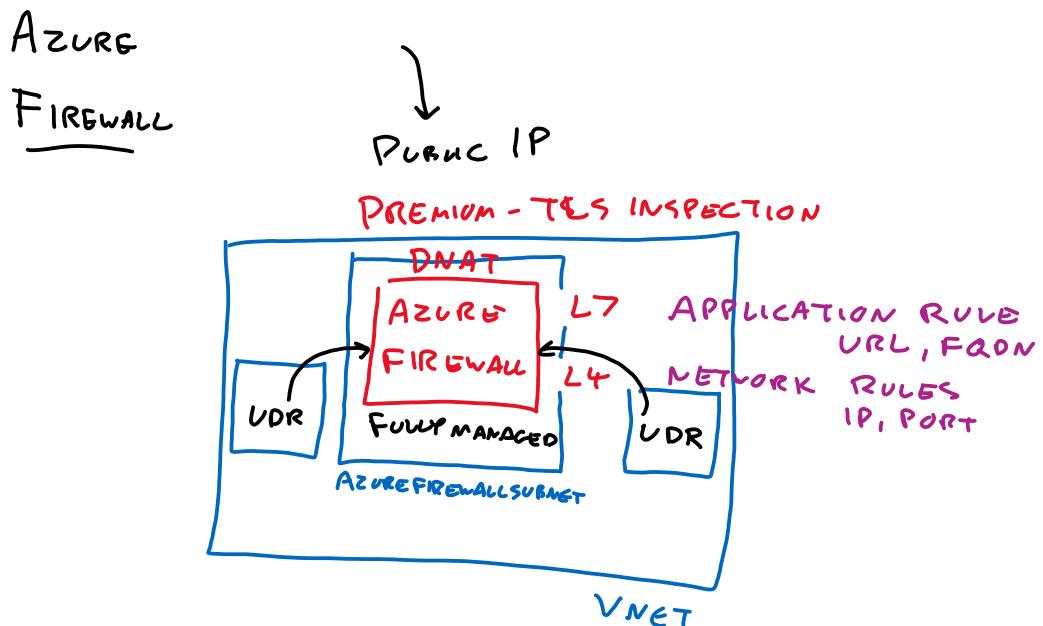
Describe the Concept of Zero Trust



## Functionality and Usage of NSGs

NETWORKSECURITYGROUPLS

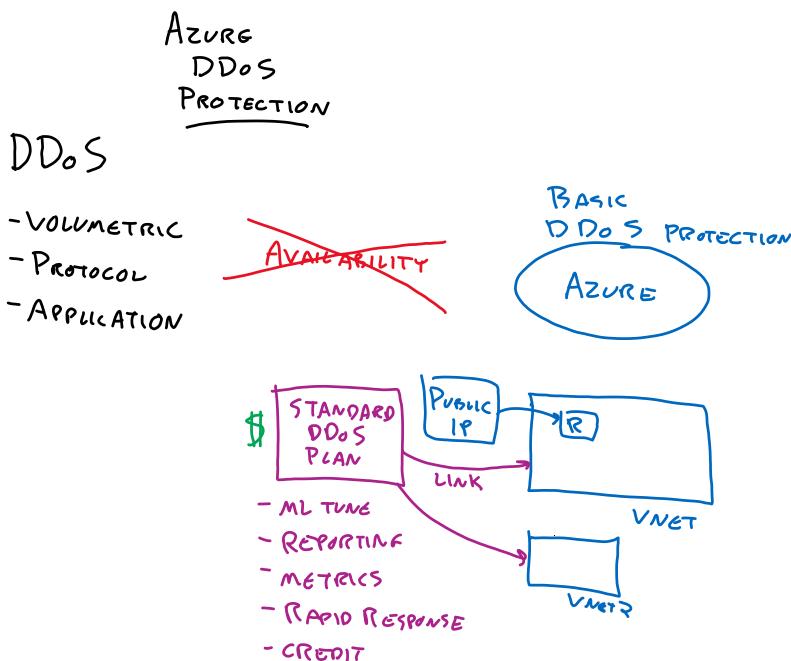
## Functionality and Usage of Azure Firewall



## Functionality and Usage of Azure DDoS Protection

### Links

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



Describe Identity, Governance, Privacy, and Compliance Features

Explain Authentication and Authorization

AUTHENTICATION (AUTHN)

VALIDATING IDENTITY

WE KNOW (PASSWORD)

WE ARE (BIOMETRIC)

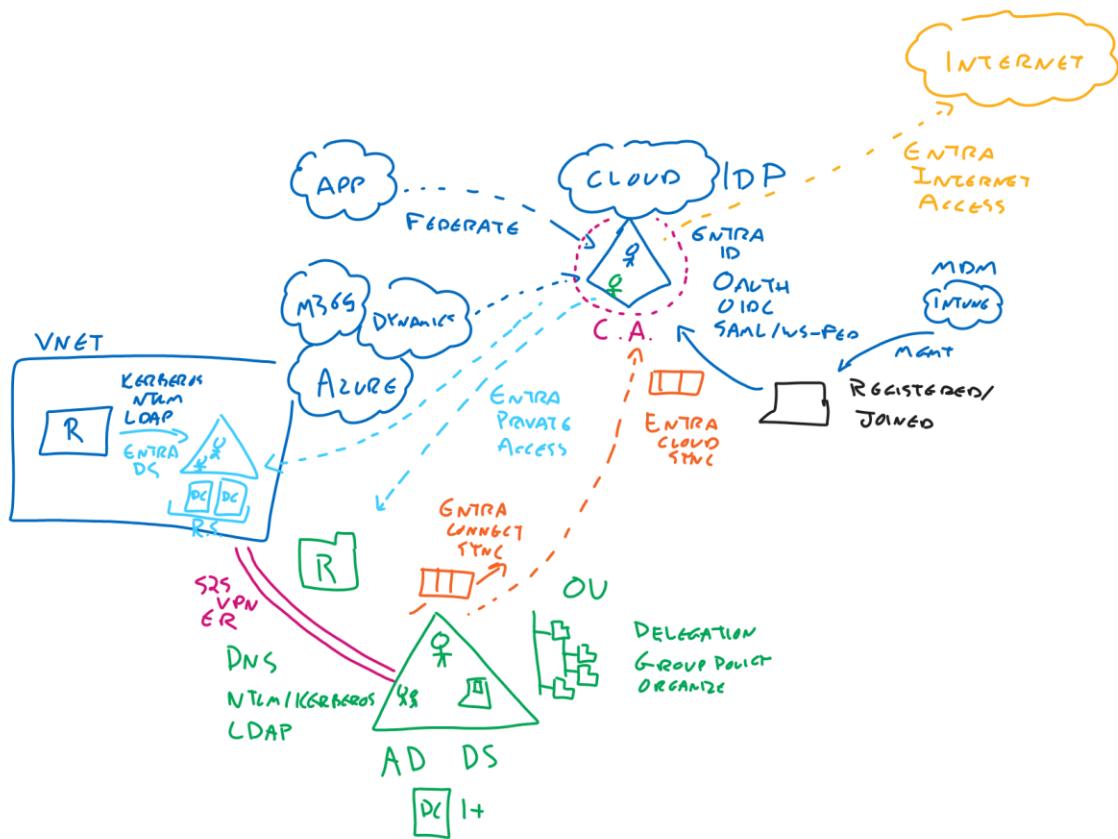
WE HAVE (TOKEN, PC)

AUTHORIZATION (AUTHZ)

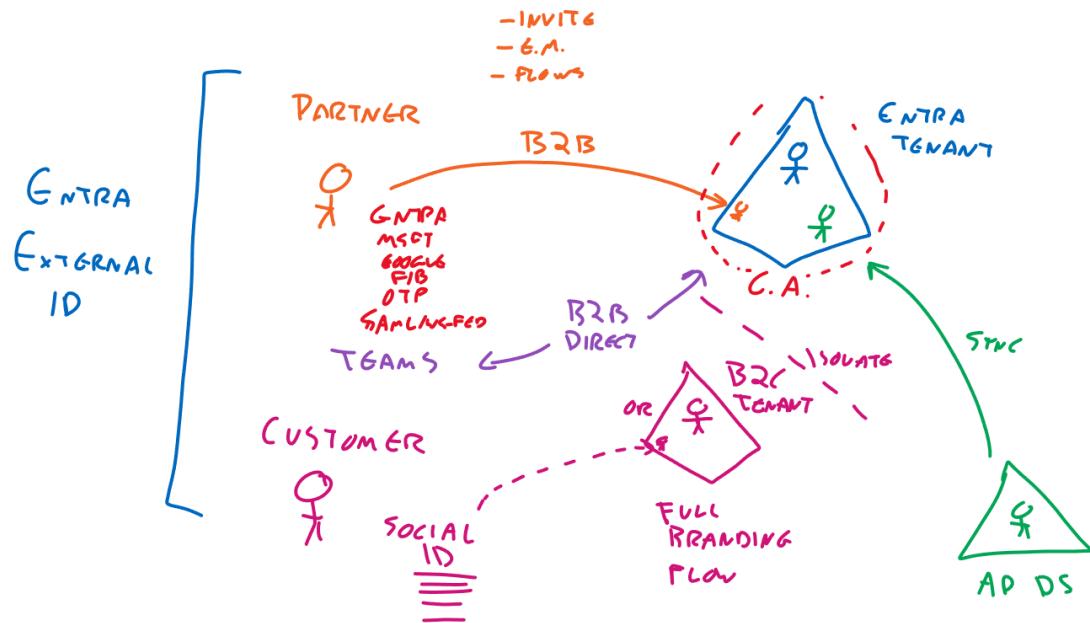
WHAT WE CAN DO

RBAC

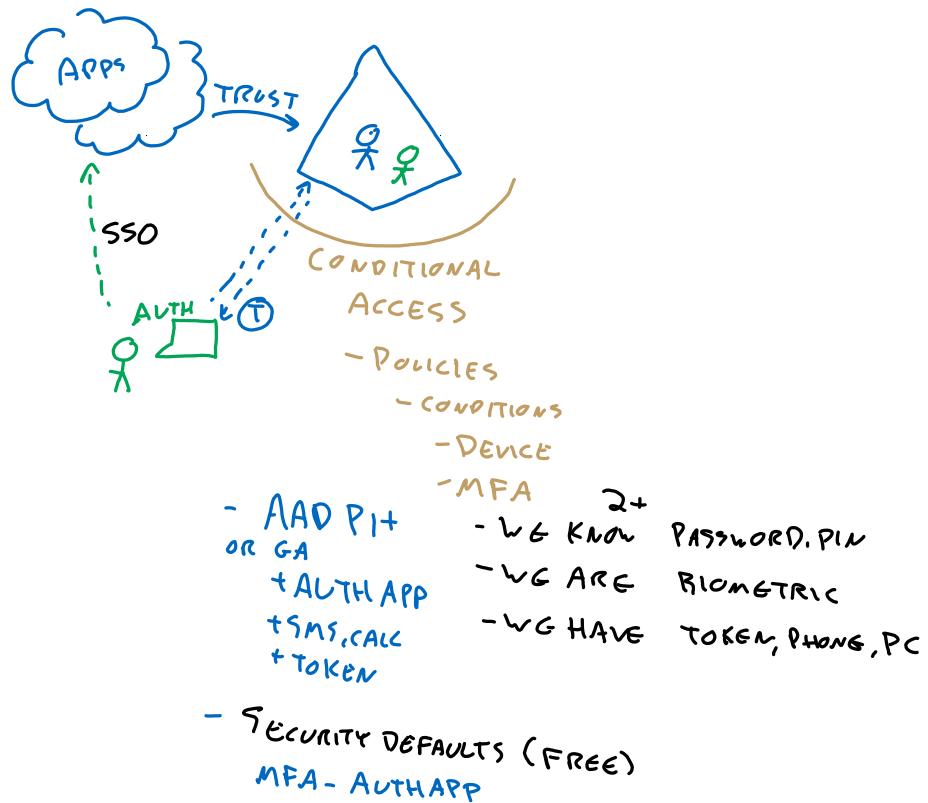
## Describe Azure Directory Services



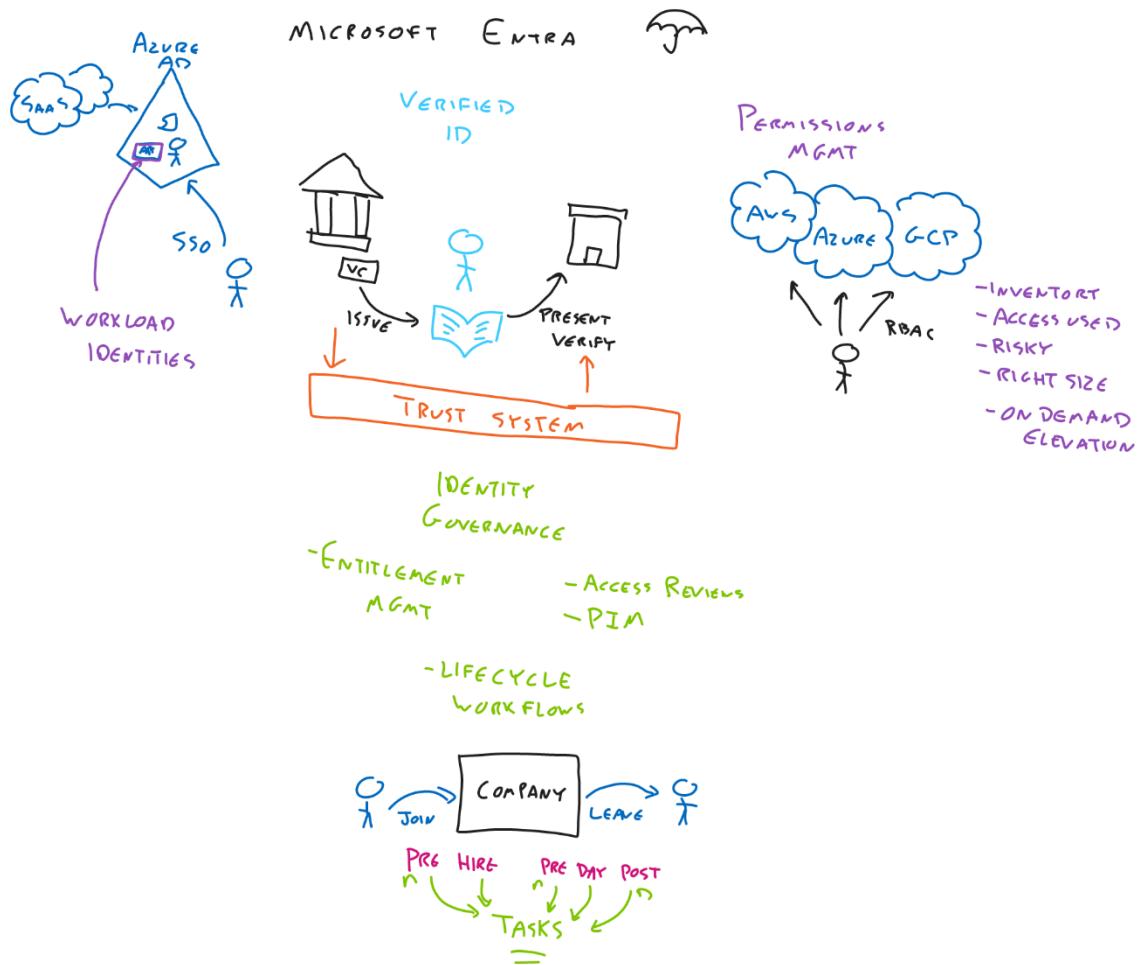
## Describe Azure External Identities



## Functionality of Conditional Access, MFA and SSO

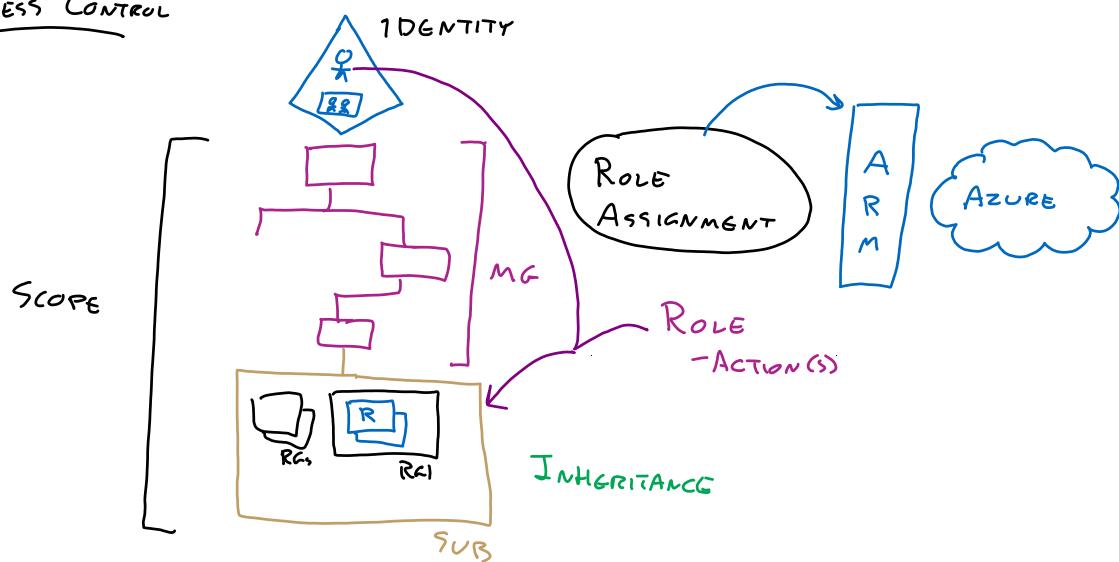
CONDITIONAL ACCESS,MFA + SSO

## Overview of Microsoft Entra



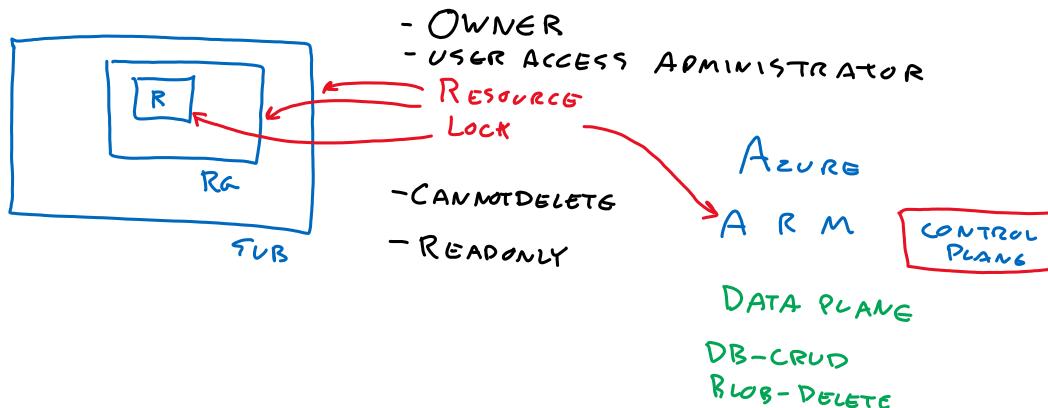
## Functionality and Usage of RBAC

Role Based Access Control

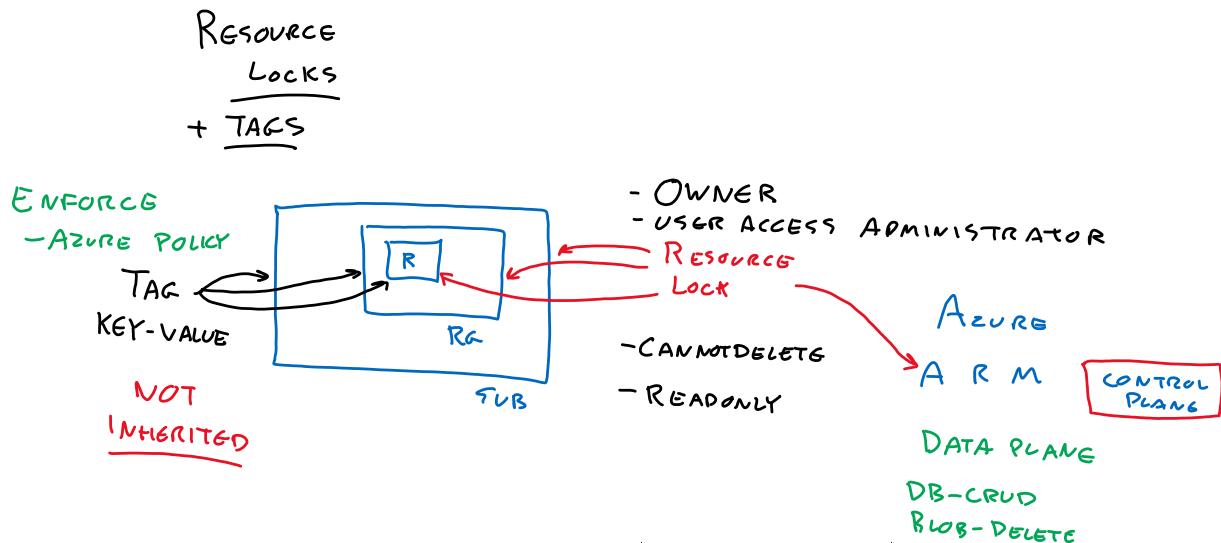


## Functionality and Usage of Resource Locks

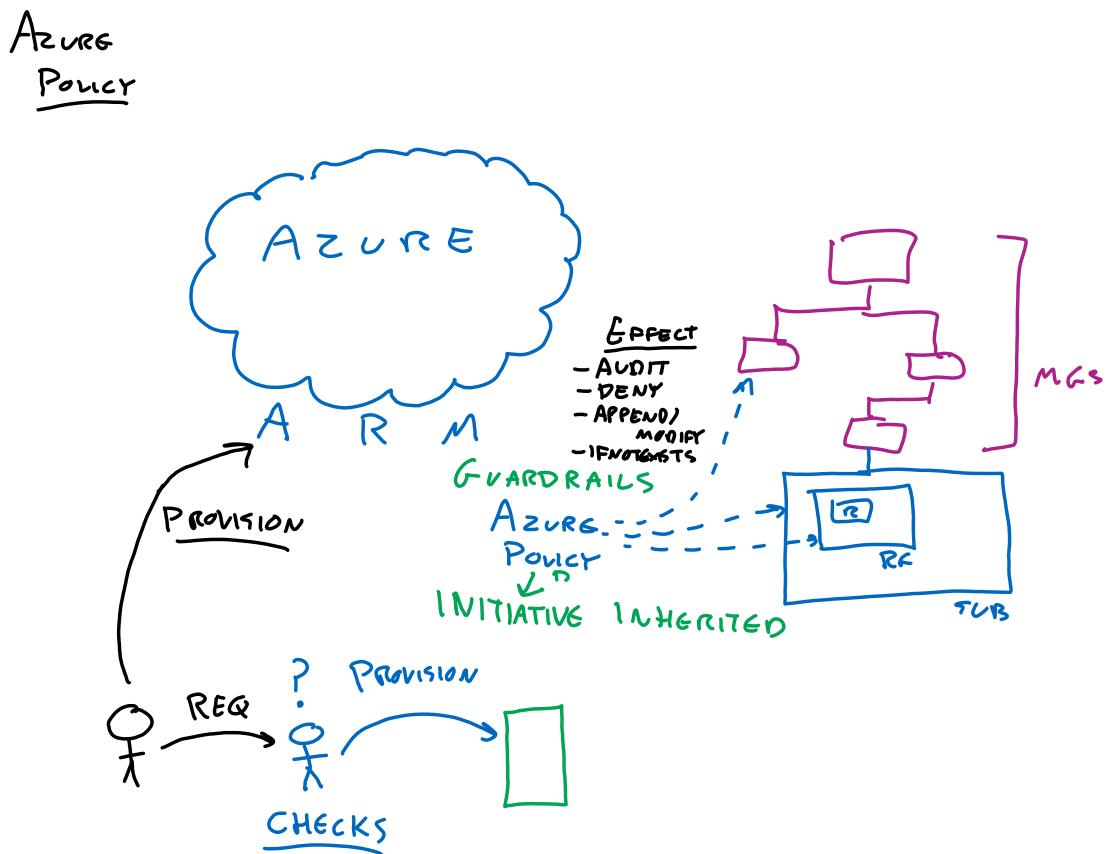
Resource Locks



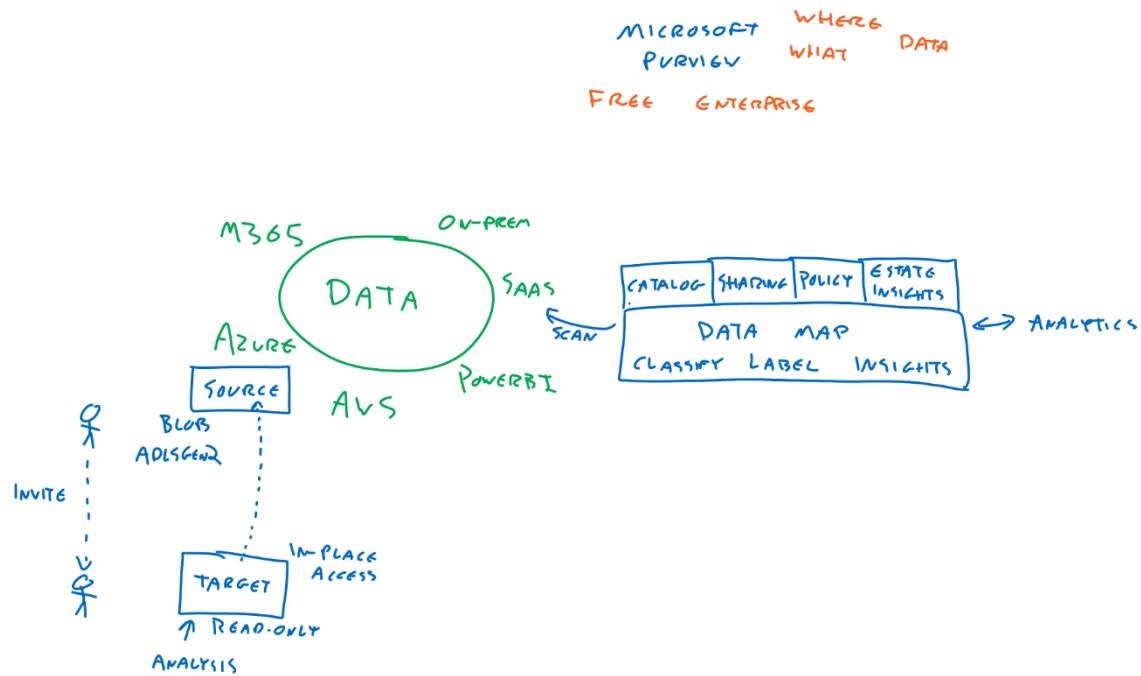
## Functionality and Usage of Tags



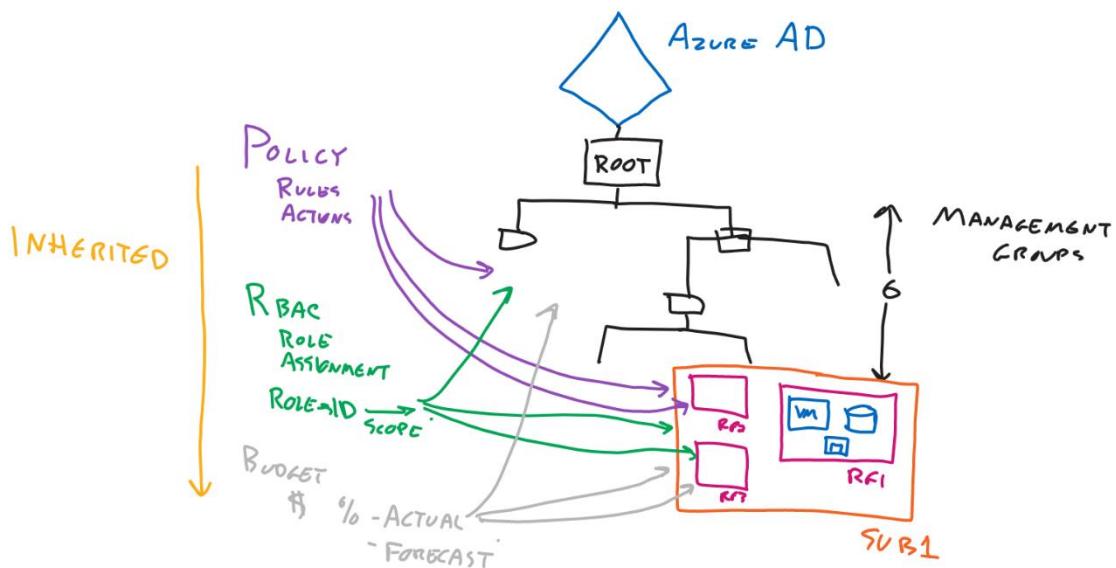
## Functionality and Usage of Azure Policy



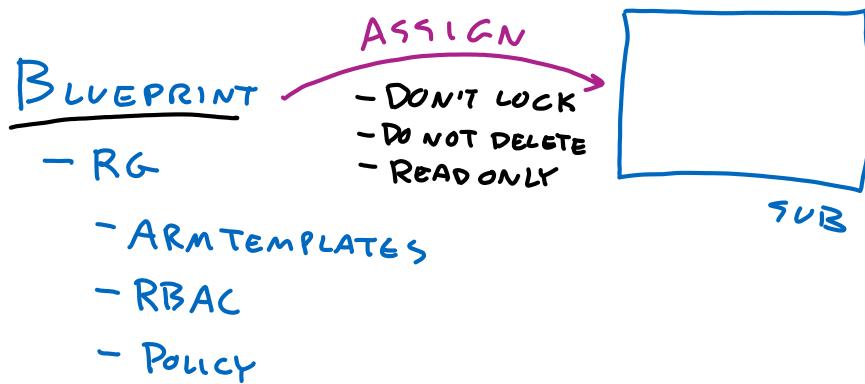
## Purpose of Microsoft Purview



## Governance Hierarchy Constructs



## 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>

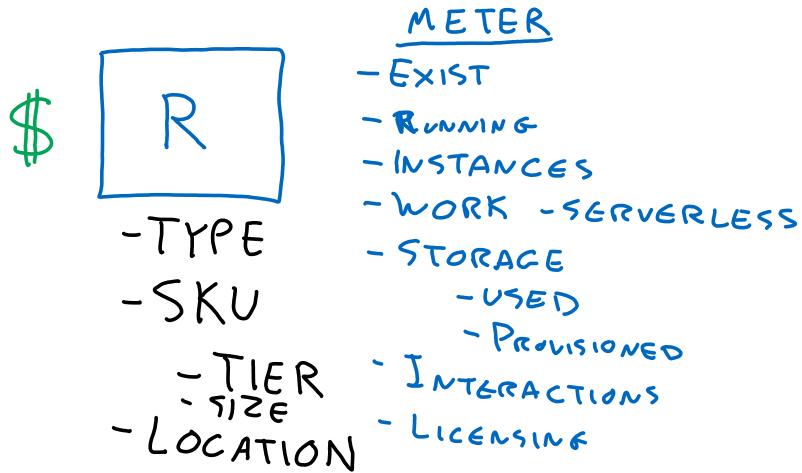
## Purpose of Azure Sovereign Regions

### Links

- Gov CIIS - <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>



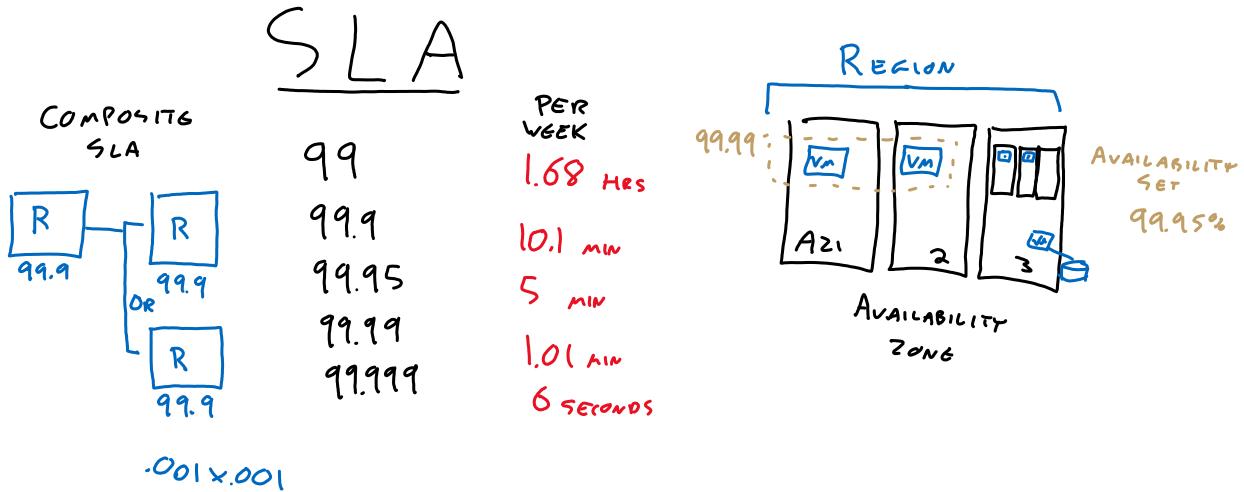
## Functionality and Usage of Pricing and TCO Calculators

### 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

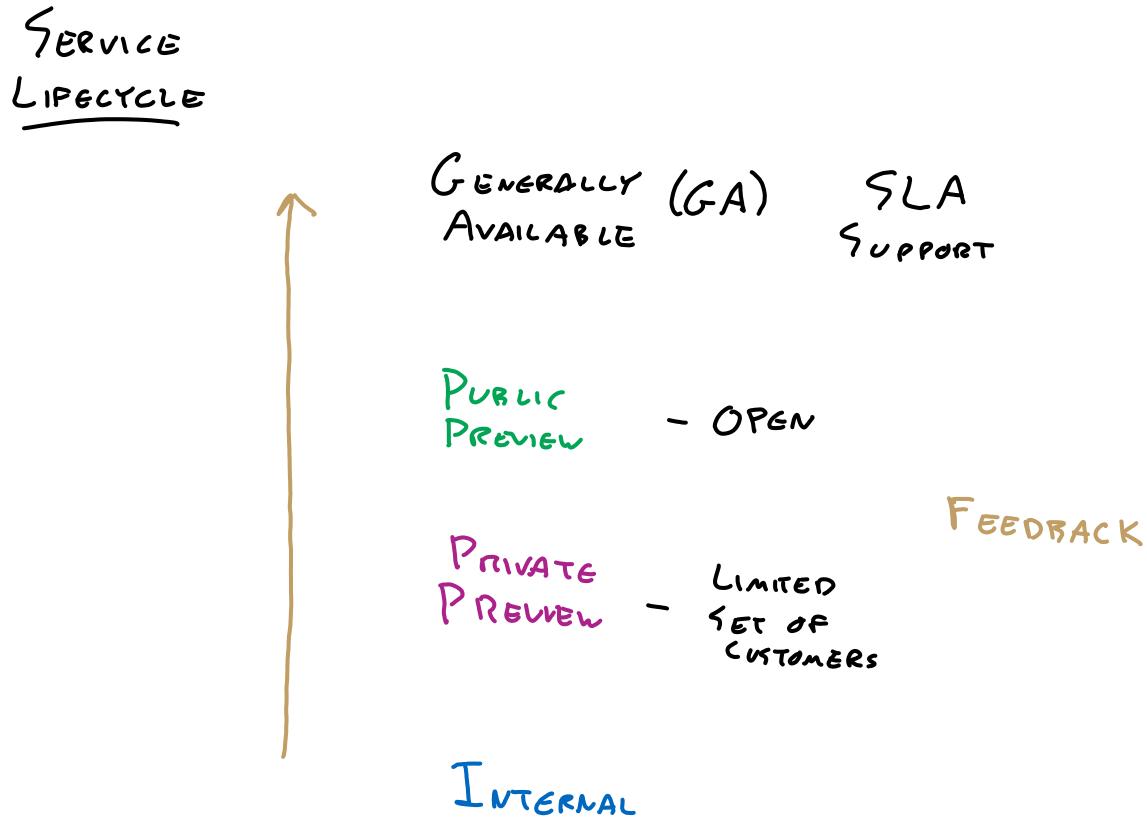
- Azure SLAs - <https://azure.microsoft.com/support/legal/sla/>
- Azure Status - <https://status.azure.com/status>
- Composite SLA documentation - <https://docs.microsoft.com/azure/architecture/framework/resiliency/business-metrics#understand-service-level-agreements>
- Composite SLA Deep Dive - [https://youtu.be/\\_a3LPSZmkqY](https://youtu.be/_a3LPSZmkqY)



## 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>



## 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>

