



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.

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]
- Differences Between Cloud Service Categories - <https://youtu.be/IqQC1EOQqeU> [00:15:16]
- Identify the Right Service Type - <https://youtu.be/KH8NH76h2vc> [00:04:01]
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Describe Core Solutions and Management Tools on Azure

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- Benefits and Usage of Big Data and Analytics Services - <https://youtu.be/LSVewE4mKfE> [00:13:26]
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- Functionality of Microsoft Defender for Cloud - https://youtu.be/eWcoMi_nQt4 [00:09:47]

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- Concept of Defense in Depth - <https://youtu.be/CHKS2FcEMek> [00:07:17]
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- 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]
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- Describe Azure External Identities - 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 [00:11:34]
- Functionality and Usage of RBAC - <https://youtu.be/0iVyJBG06fM> [00:09:19]
- Functionality and Usage of Resource Locks - https://youtu.be/eF_KiJRxbe [00:06:16]
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- Purpose of Microsoft Purview - <https://youtu.be/mXjXcBr1ajY> [00:10:47]
- Governance Hierarchy Constructs - https://youtu.be/ge8r_Z0LKxm [00:06:13]
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- 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

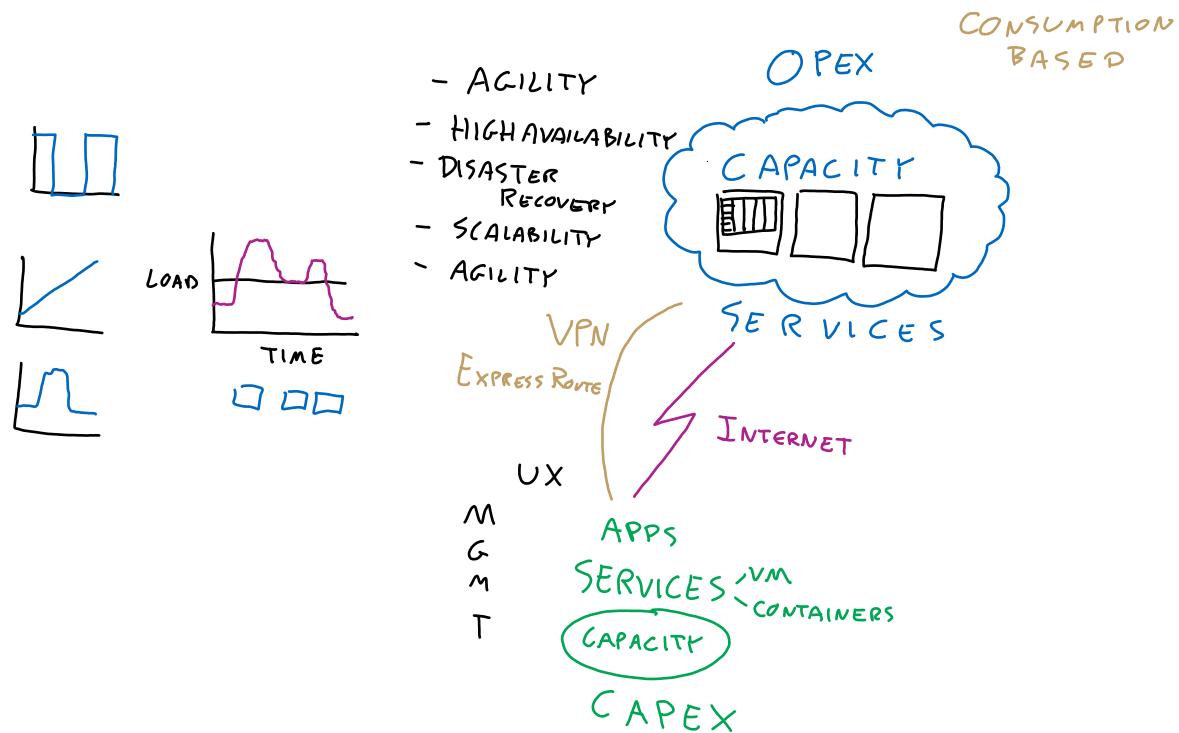
- John's YouTube Channel - <https://onboardtoazure.com>
- Microsoft AZ-900 Certification Page - <https://docs.microsoft.com/en-us/learn/certifications/exams/az-900>
- Microsoft Certification Poster - <http://aka.ms/traincertposter>
- Free Azure Subscription - <https://azure.microsoft.com/en-us/free/>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

Describe Cloud Concepts

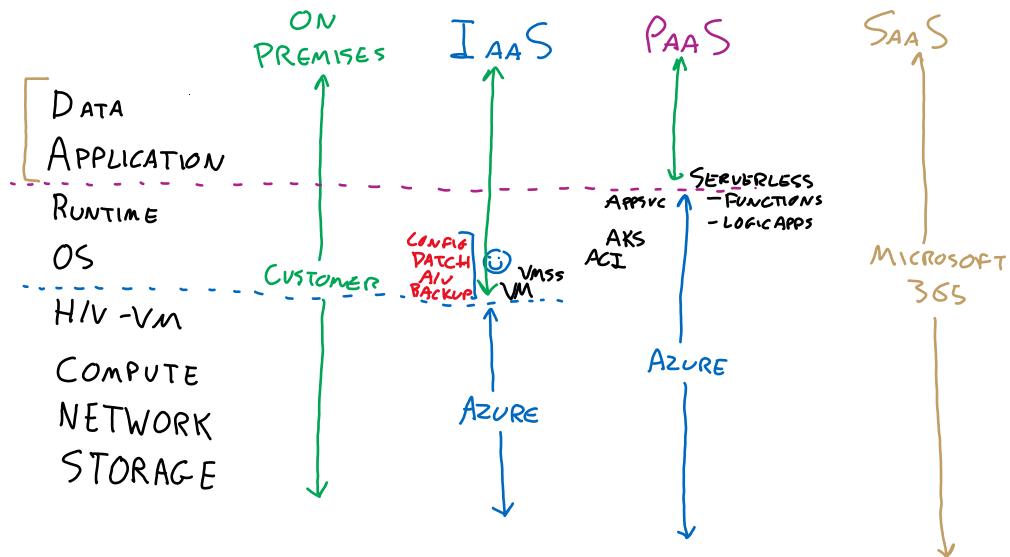
Identify the Benefits of Cloud Computing

Links

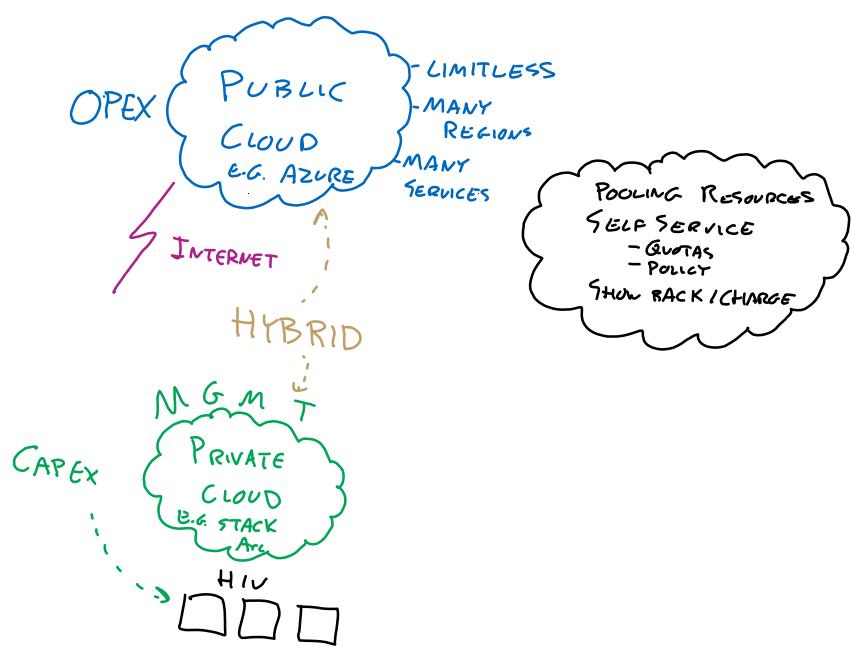
- Azure Regions - <https://infrastructuremap.microsoft.com/>



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

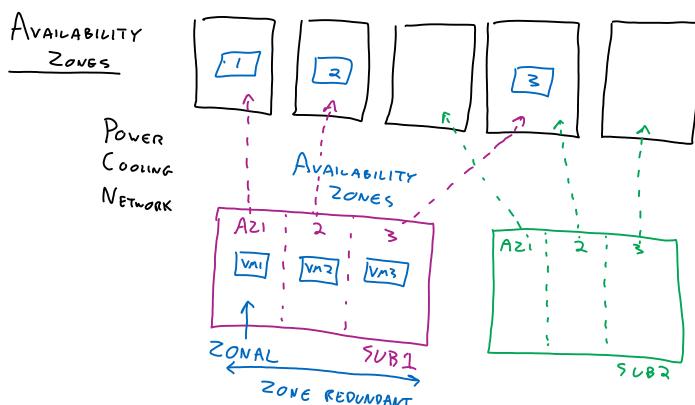
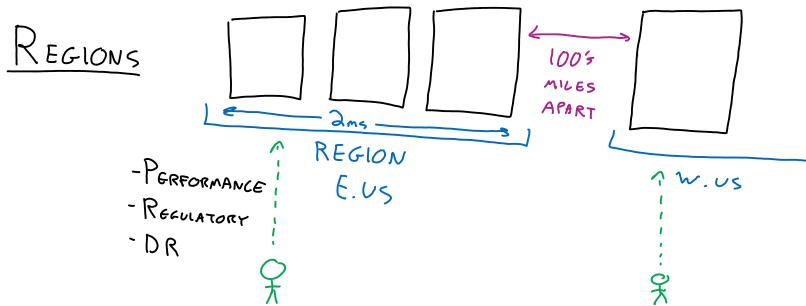
- SKU
- ACU
- BEHAVIOR
- USE TEMPLATES
- AUTOMATION
DevOps

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>



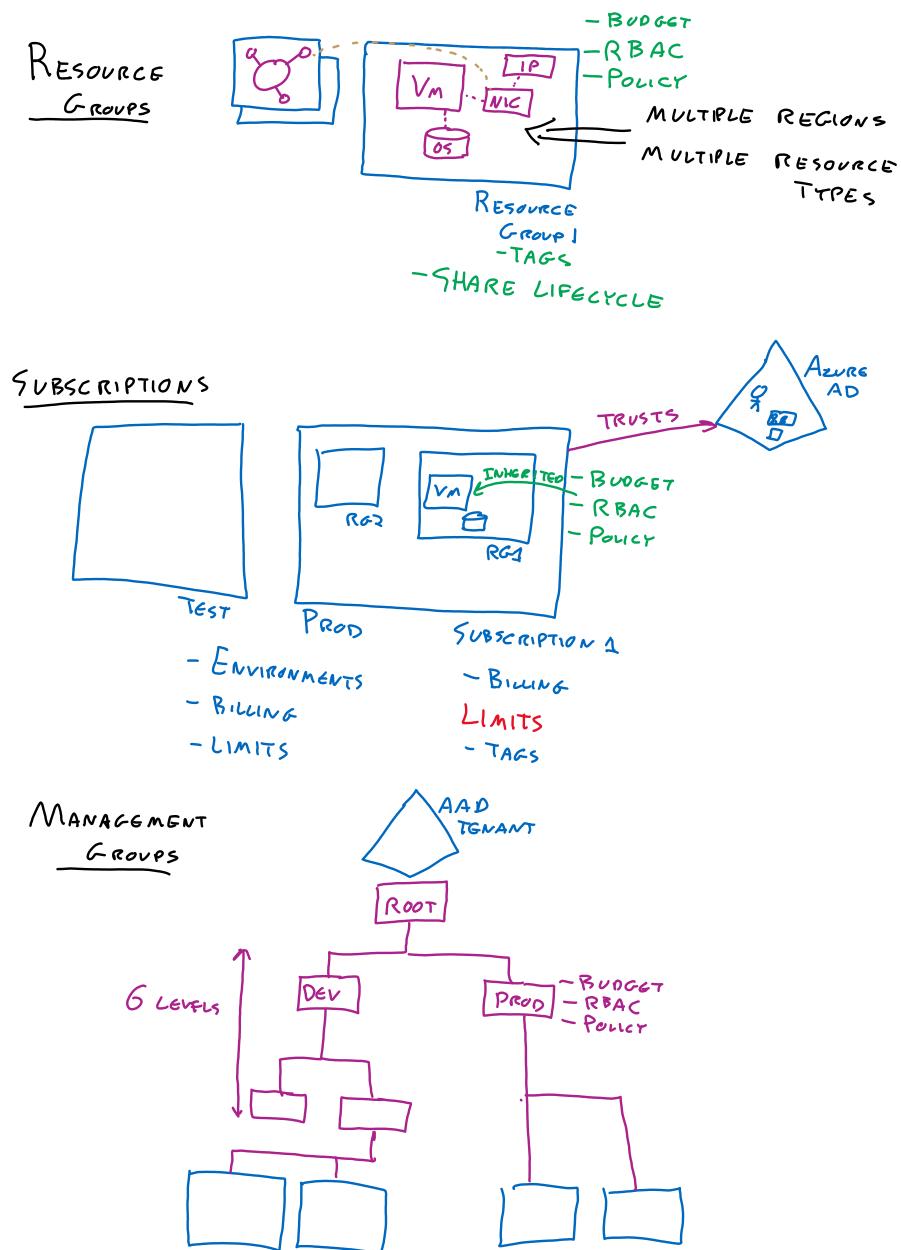
Code

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

Benefits and Usage of Resource Groups

Links

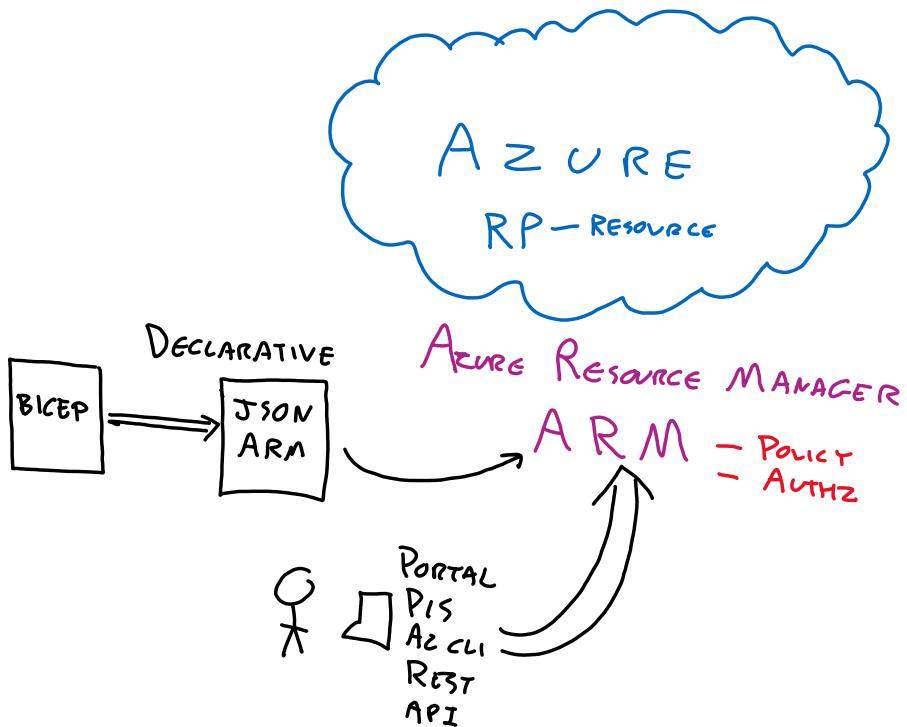
- Azure Subscription Limits - <https://docs.microsoft.com/azure/azure-resource-manager/management/azure-subscription-service-limits>



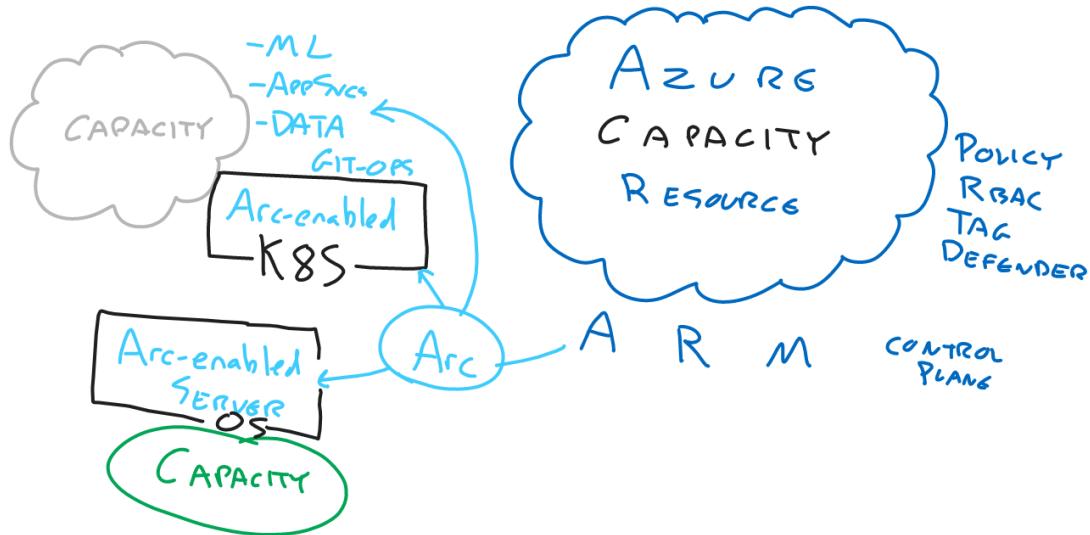
Benefits and Usage of Azure Resource Manager

Code

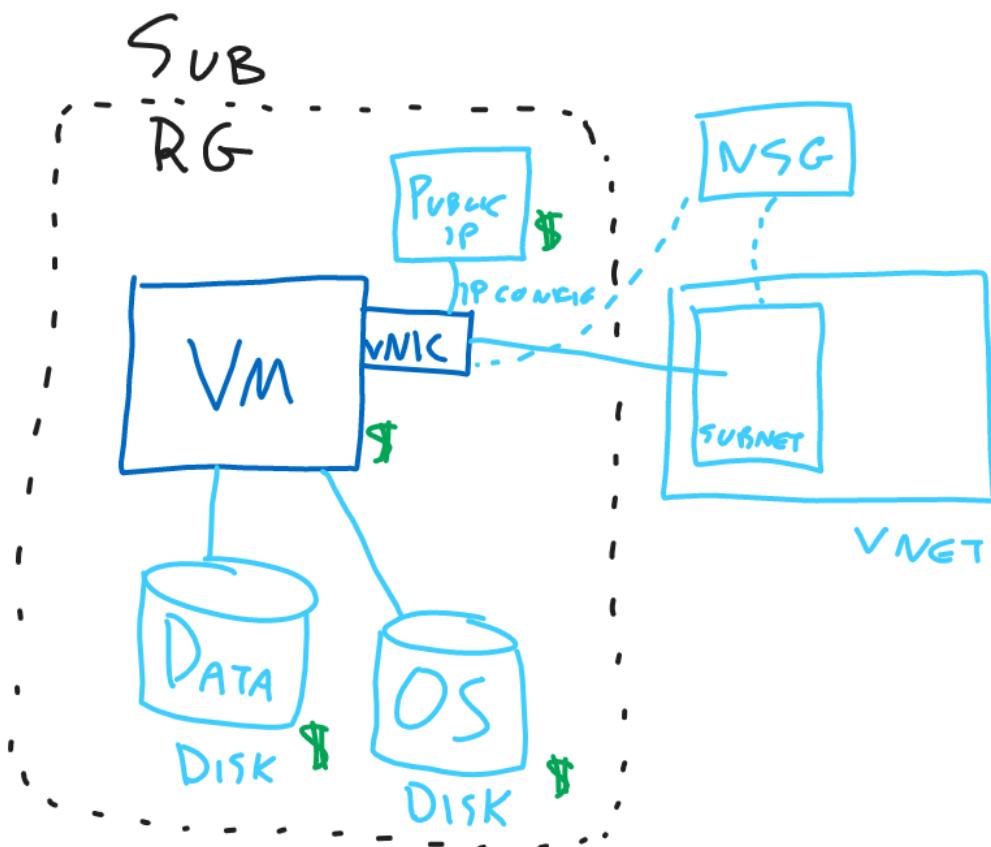
```
Get-AzResourceProvider  
Get-AzResourceProvider -ProviderNamespace microsoft.compute | ft  
ResourceTypes
```



Describe the Purpose of Azure Arc



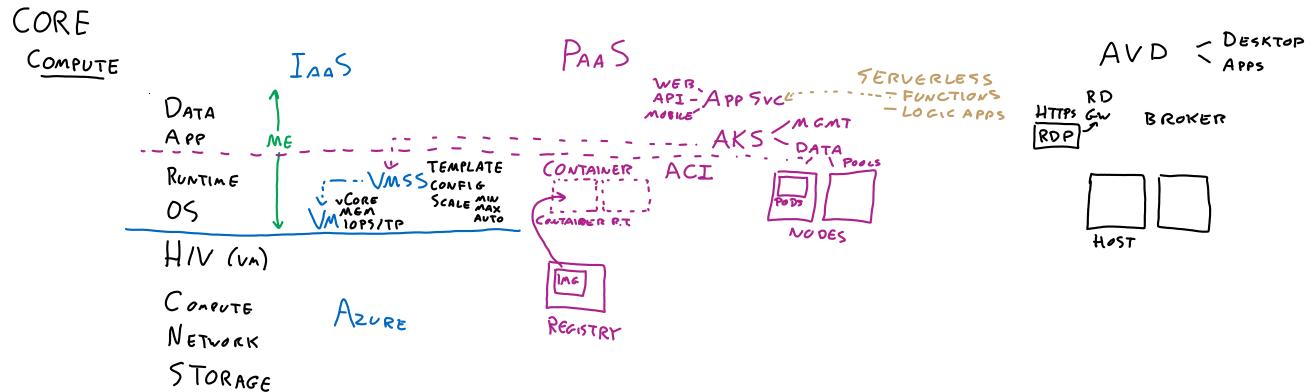
Describe the Resources Required for Virtual Machines



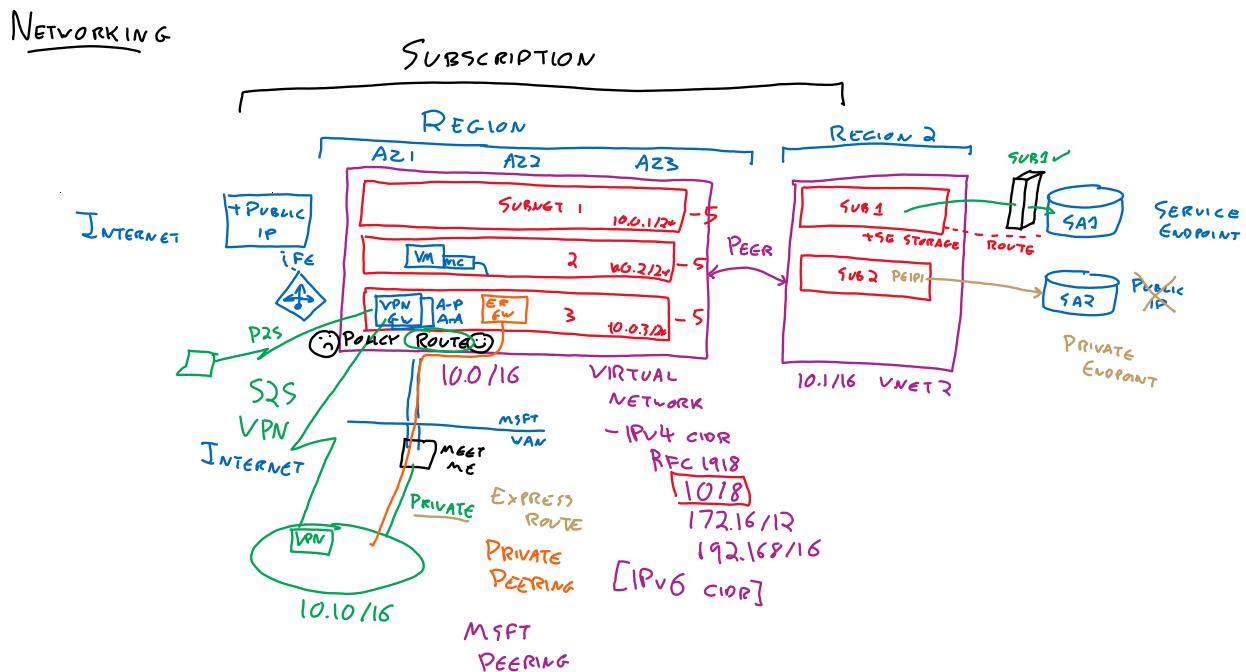
Benefits and Usage of Core Compute Resources

Links

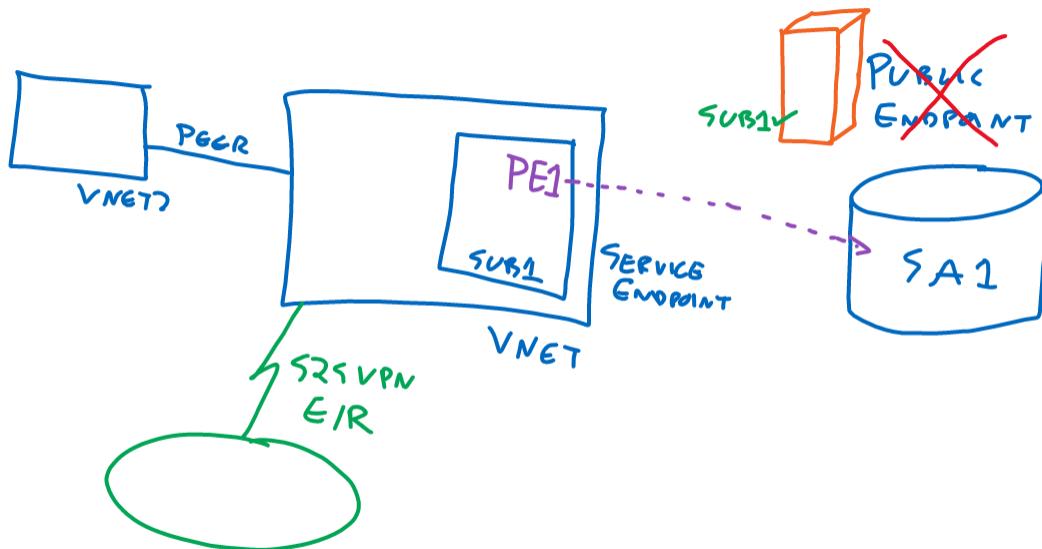
- VM SKUs - <https://docs.microsoft.com/azure/virtual-machines/sizes>



Benefits and Usage of Core Network Resources



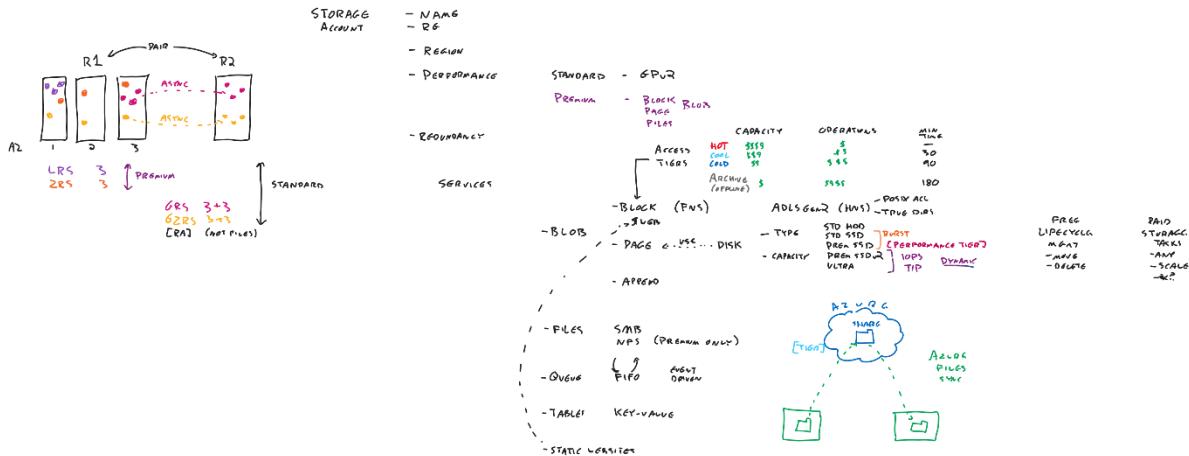
Describe Public and Private Endpoints



Benefits and Usage of Storage Account Resources

Links

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

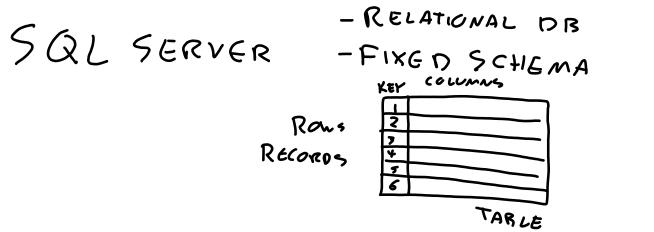


Benefits and Usage of Database Resources

Links

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

DATA
R
BASE
RESOURCES



OPEN
SOURCE

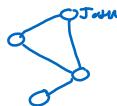
MySQL
PostgreSQL

- CITUS
- MANAGED DATABASE
- HYPERSCALE
- MULTI SERVER
- SHARDING DATA

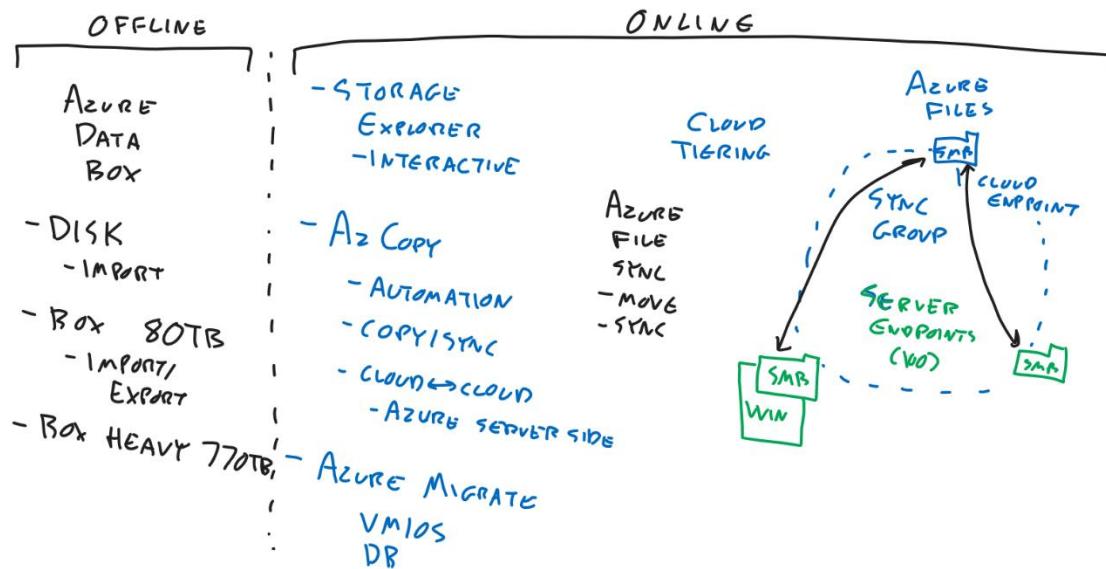
COSMOS DB

- MULTI MODEL
- MULTI CONSISTENCY

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

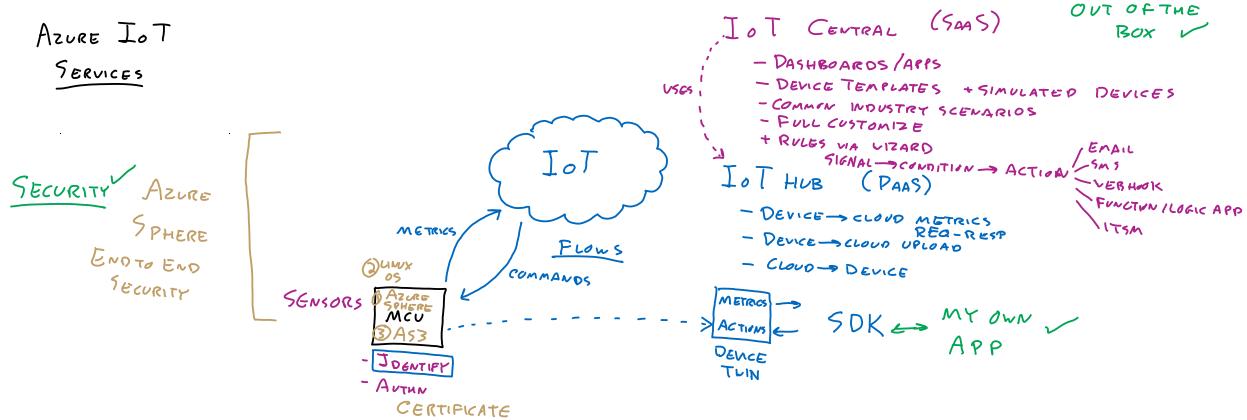


Data Movement and Migration Options

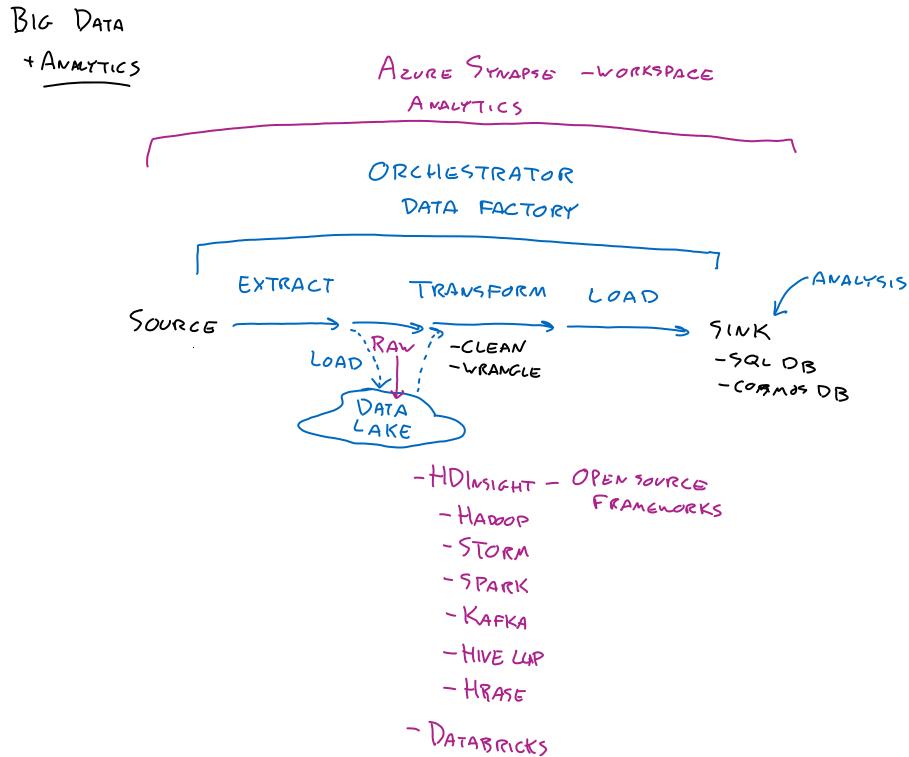


Describe Core Solutions and Management Tools on Azure

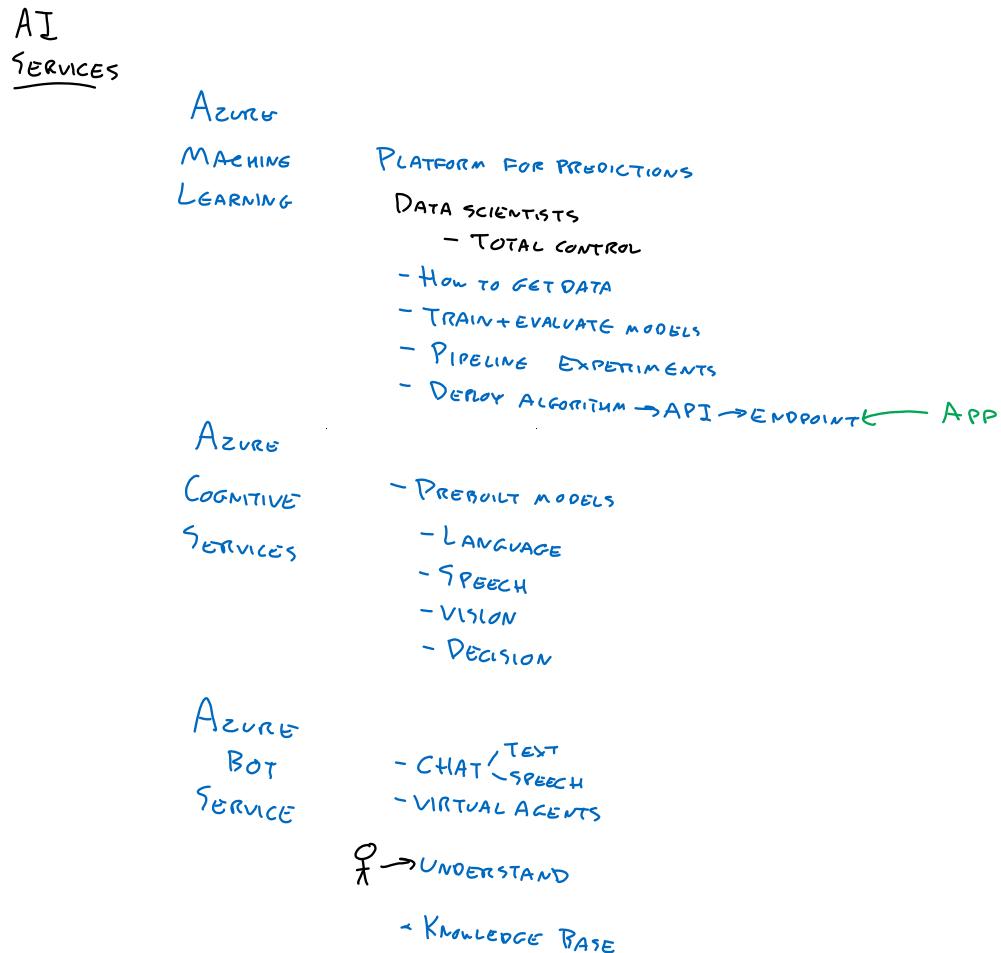
Benefits and Usage of Azure IoT Services



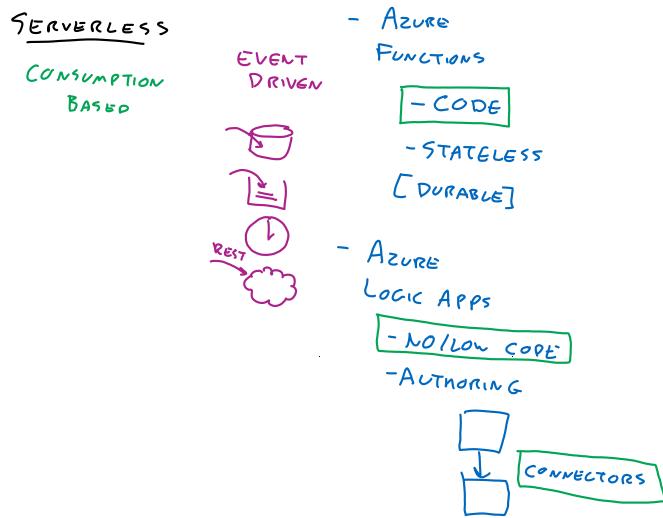
Benefits and Usage of Big Data and Analytics Services



Benefits and Usage of AI Services

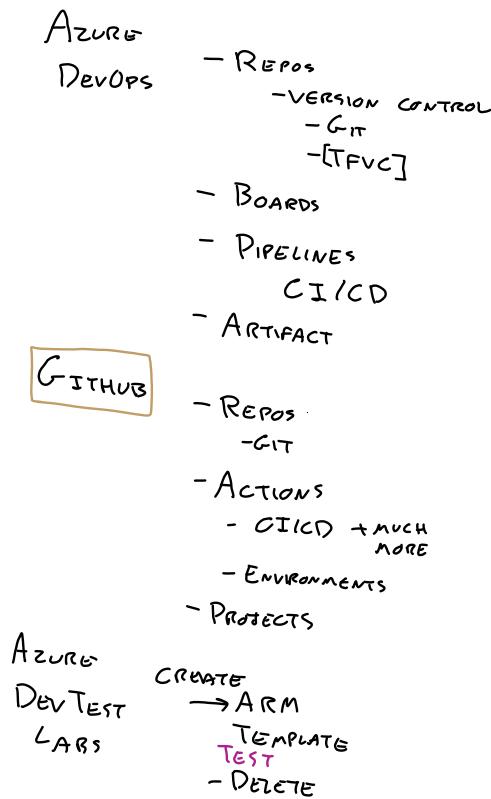


Benefits and Usage of Serverless Technologies

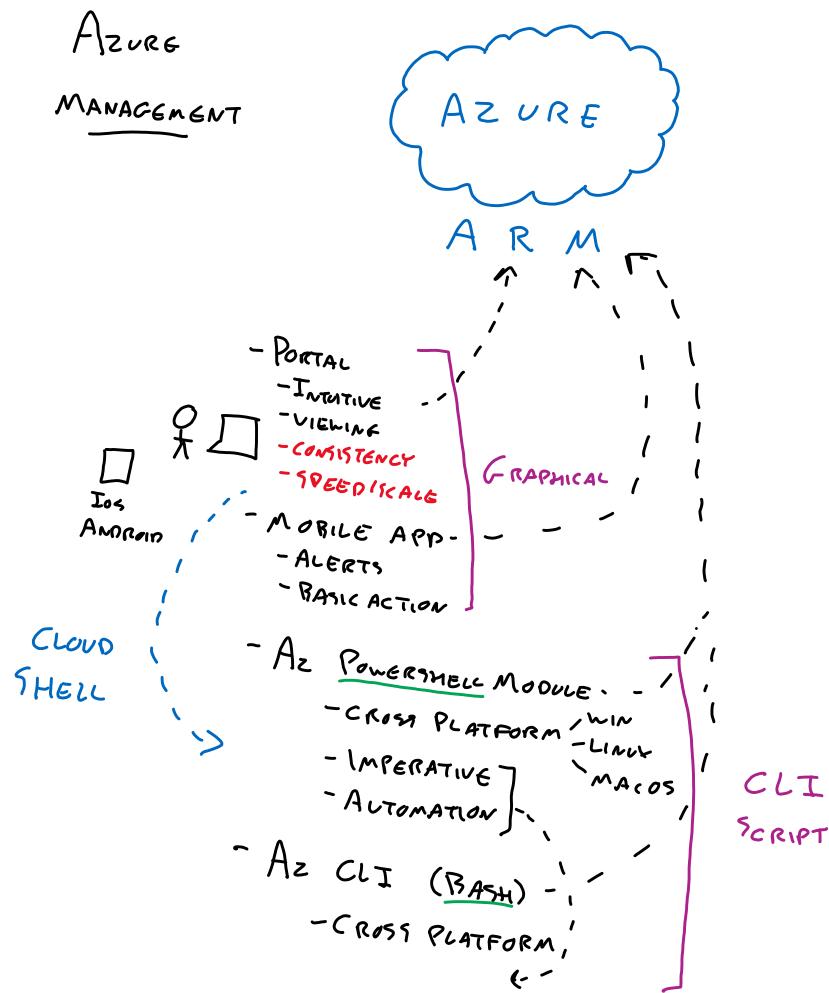


Benefits and Usage of DevOps Technologies

DevOps



Functionality of Azure Management Solutions

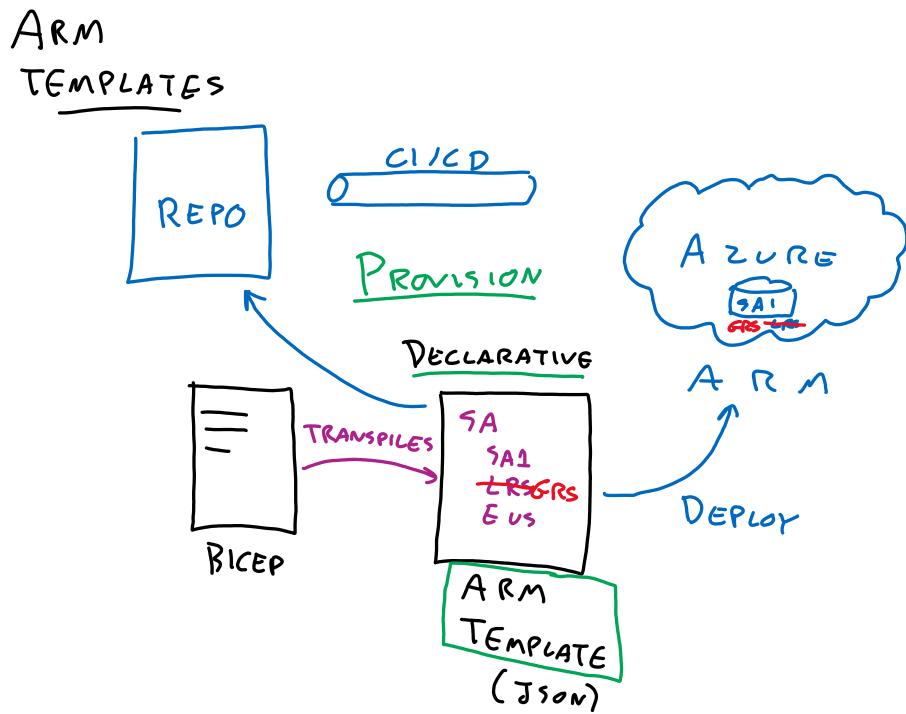


Functionality and Usage of ARM Templates

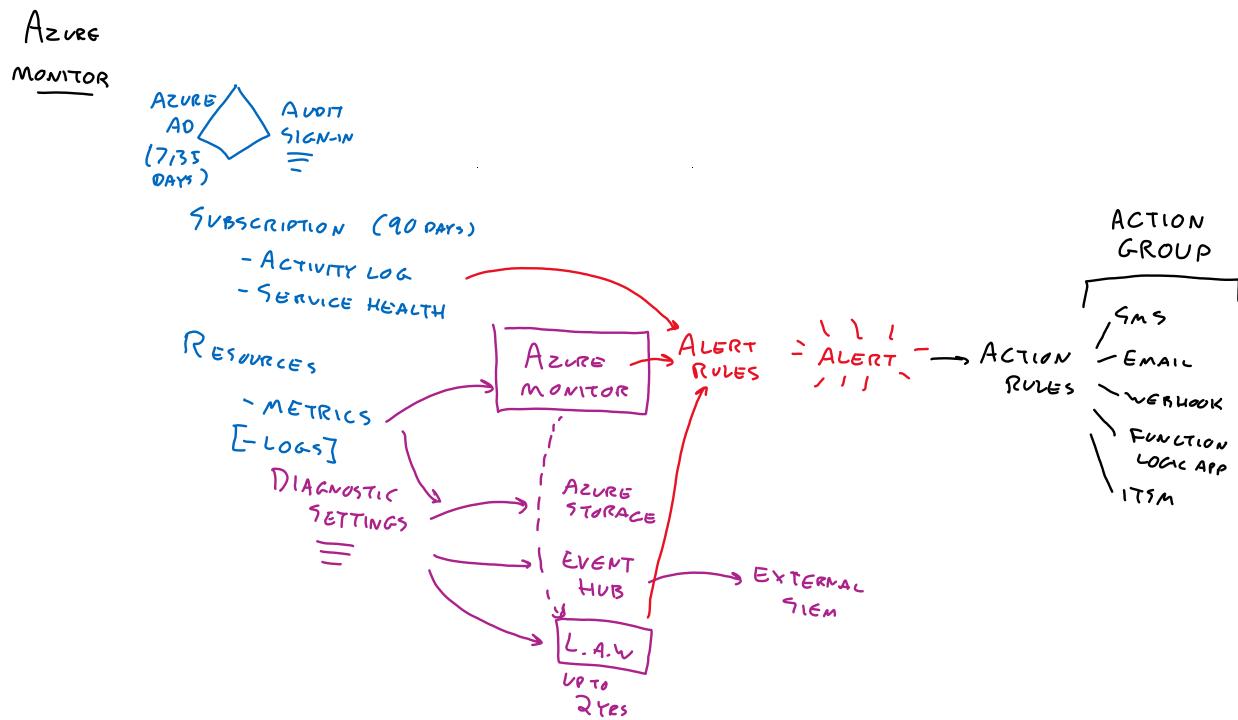
Links

- Sample ARM template -

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

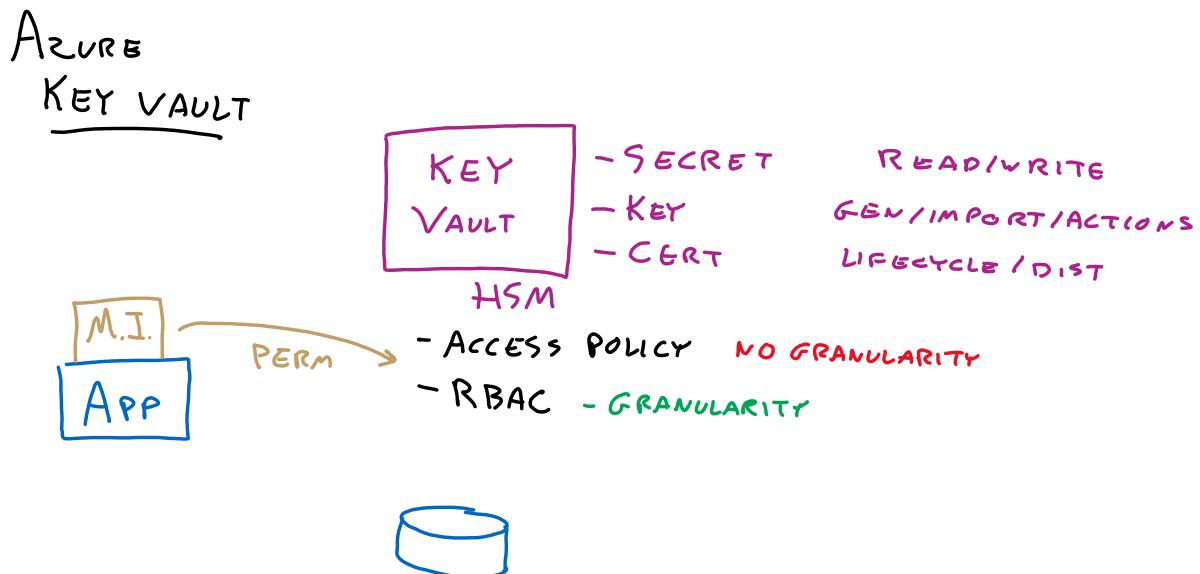


Functionality and Usage of Azure Monitor

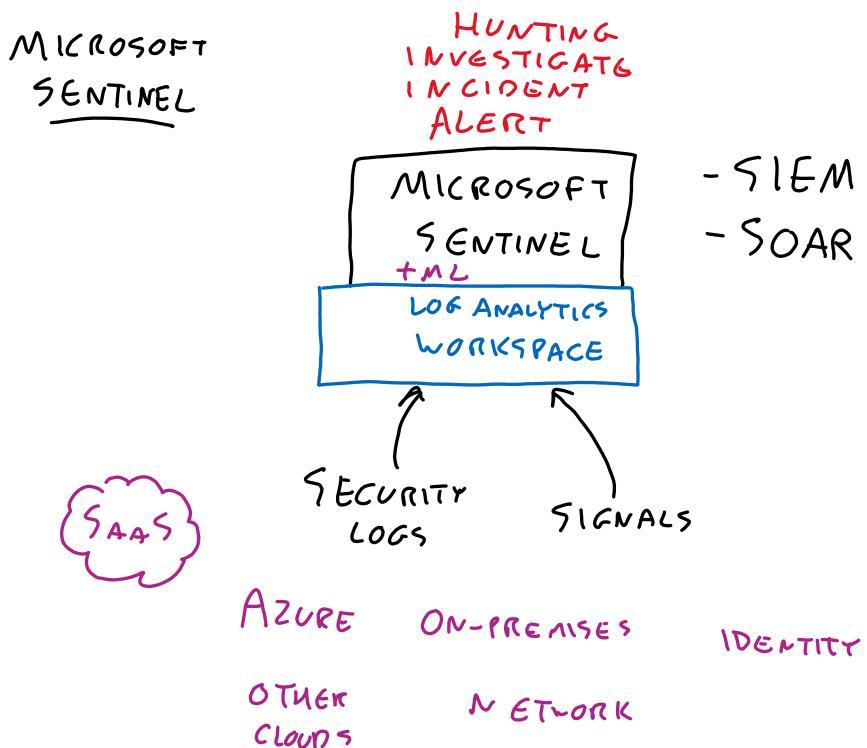


Describe General Security and Network Security Features

Functionality and Usage of Key Vault



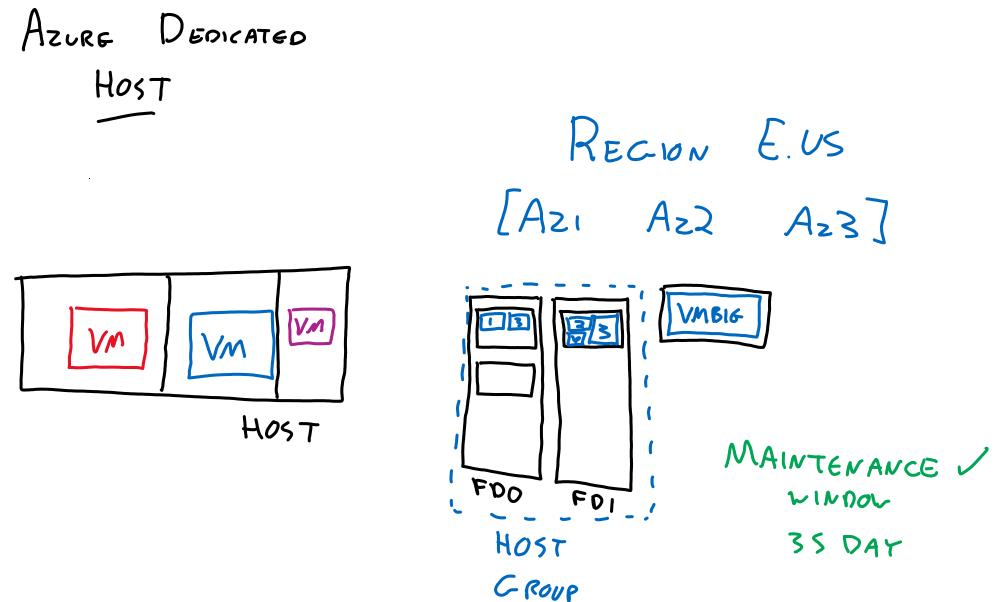
Functionality and Usage of Microsoft Sentinel



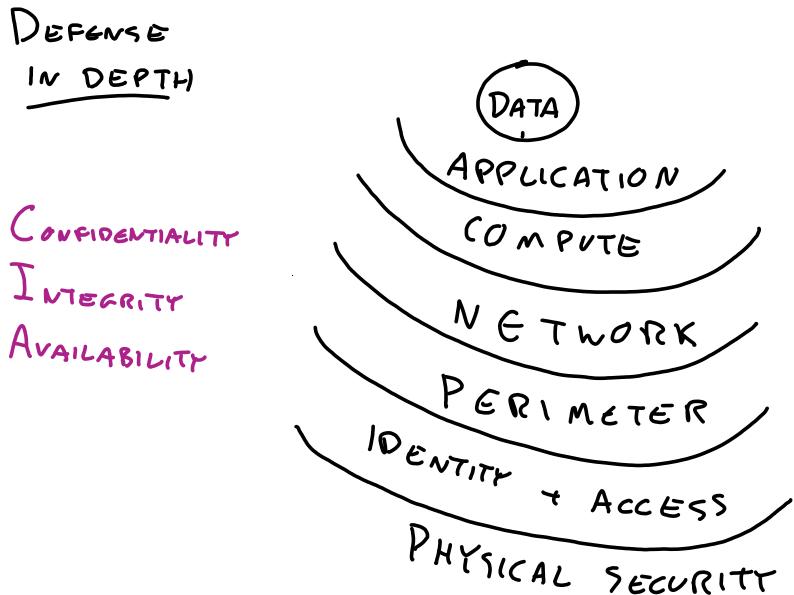
Functionality and Usage of Azure Dedicated Hosts

Links

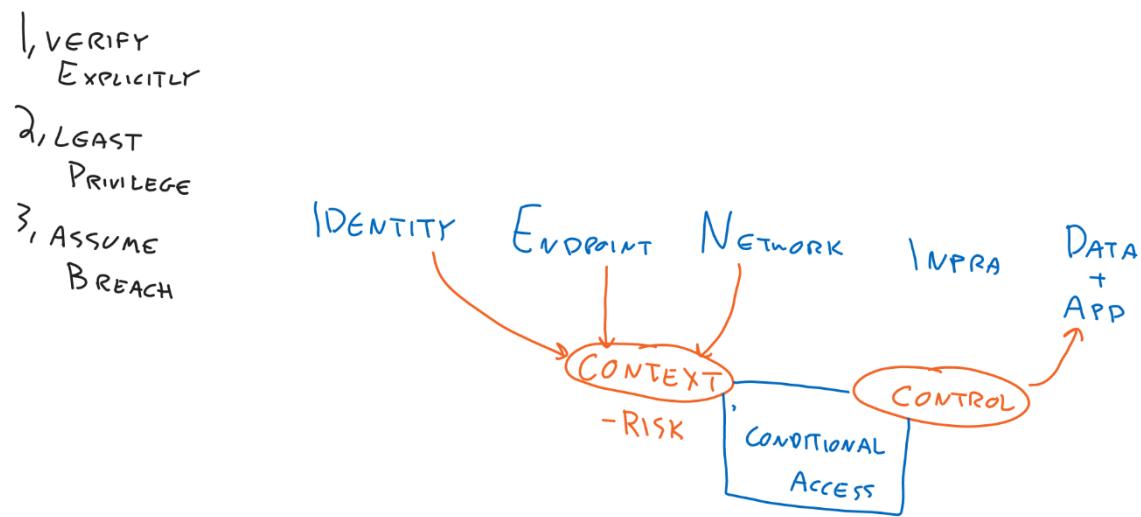
- Azure Dedicated Host - <https://azure.microsoft.com/pricing/details/virtual-machines/dedicated-host/>
- Azure Isolated VMs - <https://docs.microsoft.com/azure/virtual-machines/isolation>



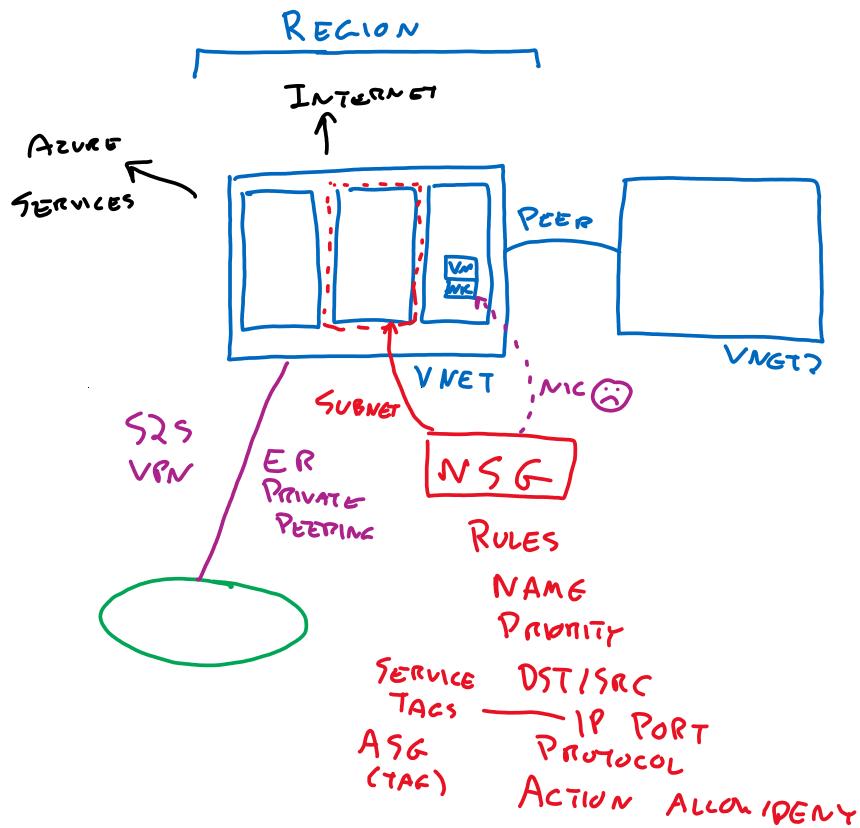
Concept of Defense in Depth



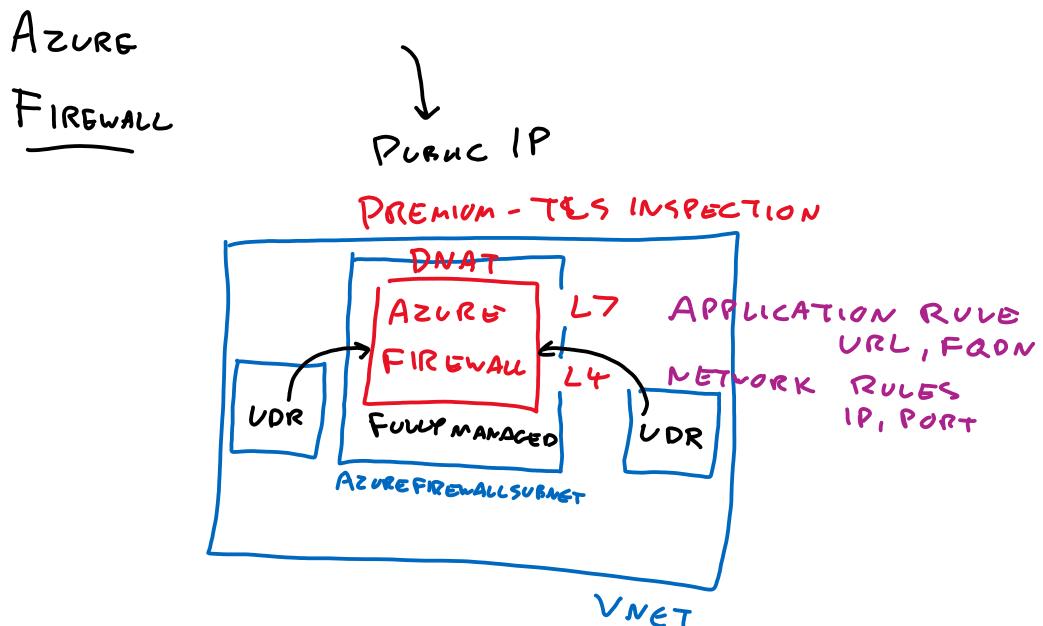
Describe the Concept of Zero Trust



Functionality and Usage of NSGs

NETWORKSECURITYGROUPLS

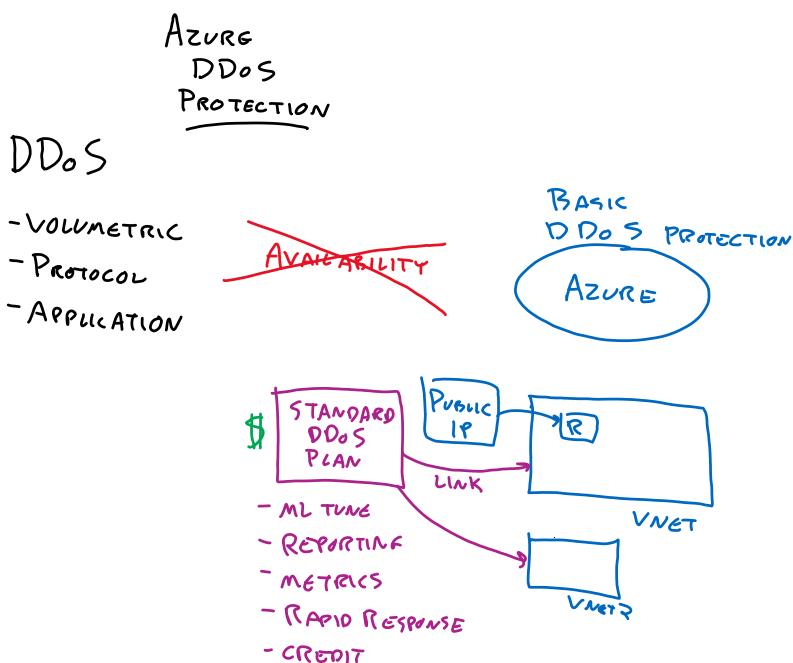
Functionality and Usage of Azure Firewall



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)

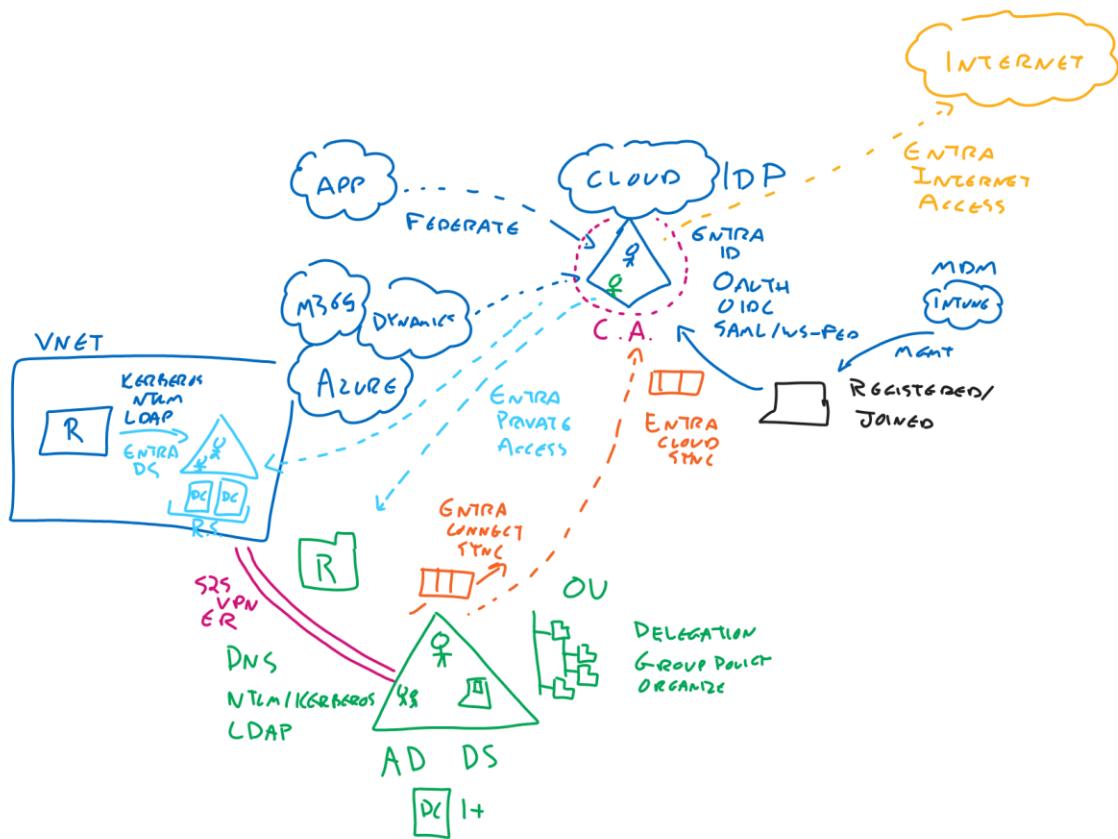
WE HAVE (TOKEN, PC)

AUTHORIZATION (AUTHZ)

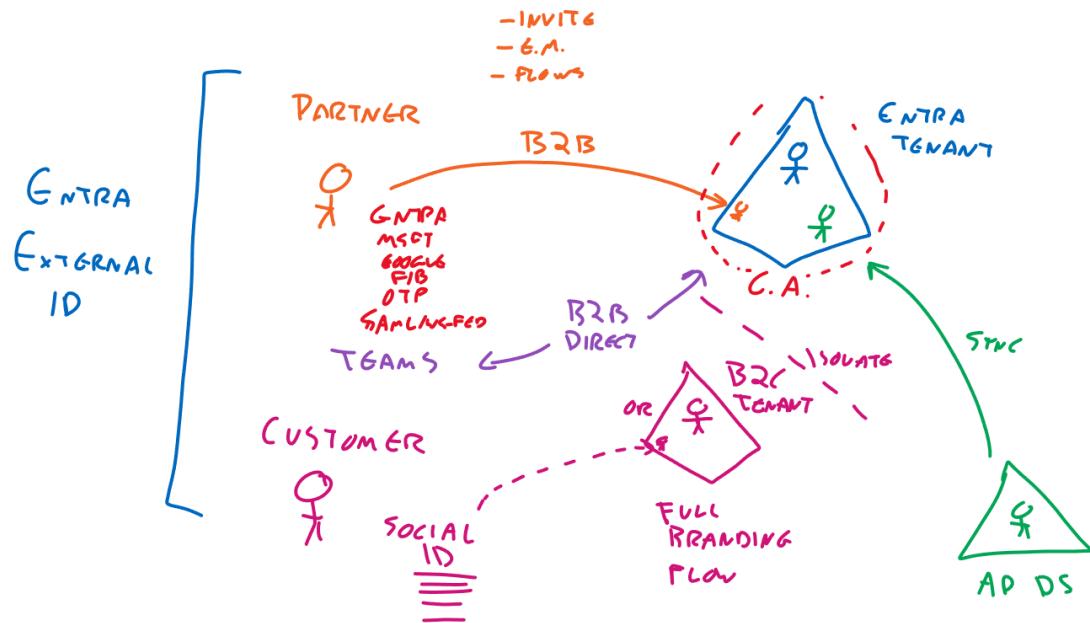
WHAT WE CAN DO

RBAC

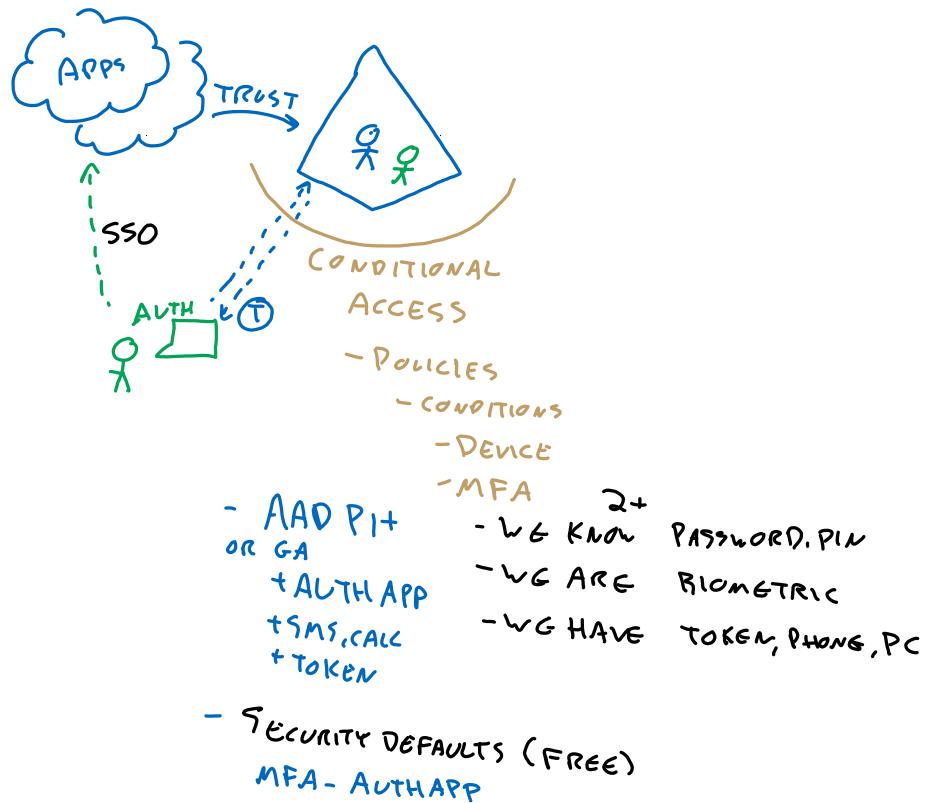
Describe Azure Directory Services



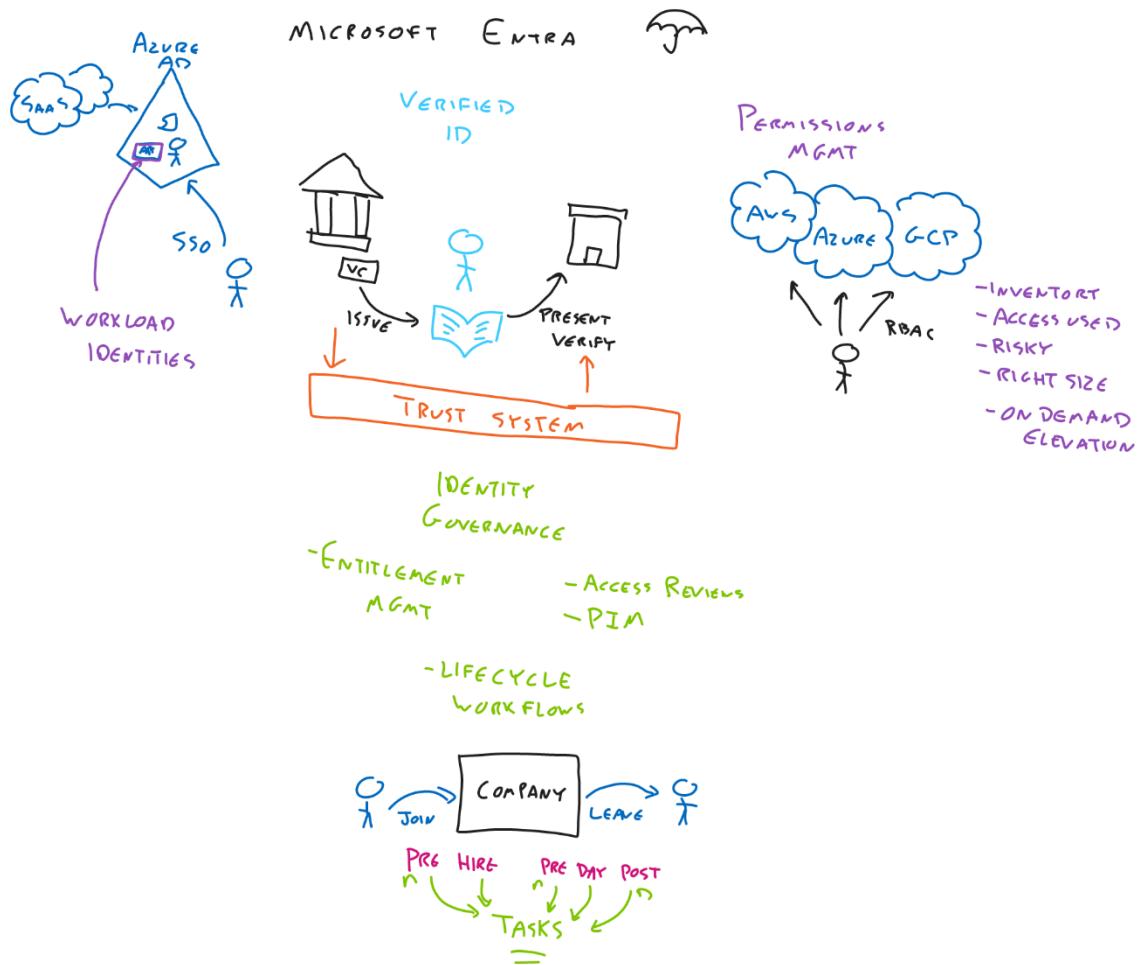
Describe Azure External Identities



Functionality of Conditional Access, MFA and SSO

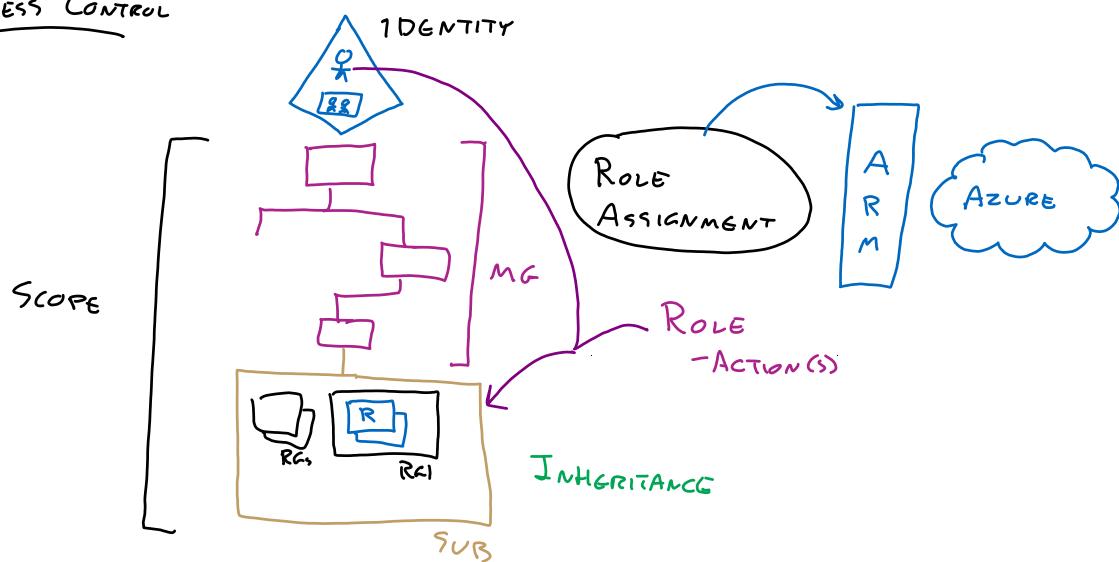
CONDITIONAL ACCESS,MFA + SSO

Overview of Microsoft Entra



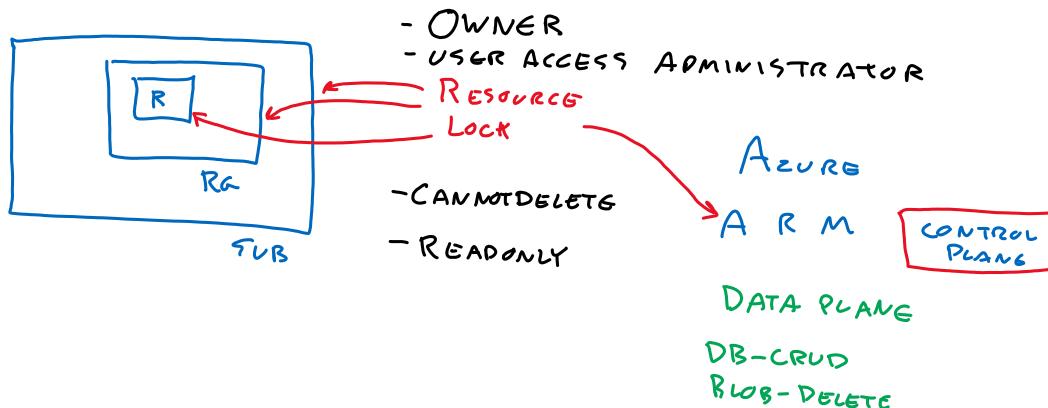
Functionality and Usage of RBAC

Role Based Access Control

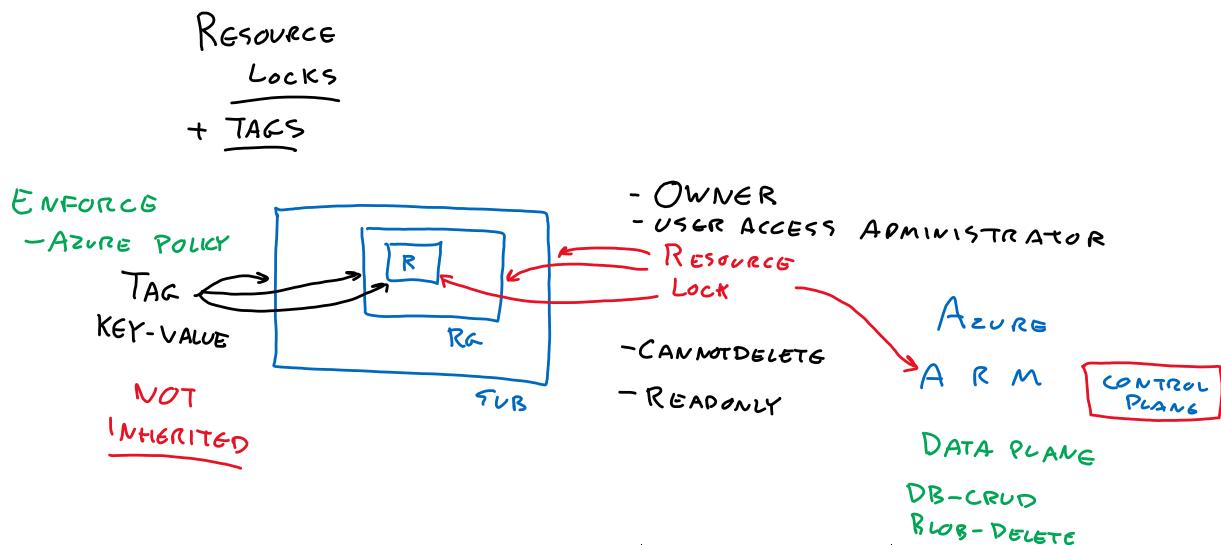


Functionality and Usage of Resource Locks

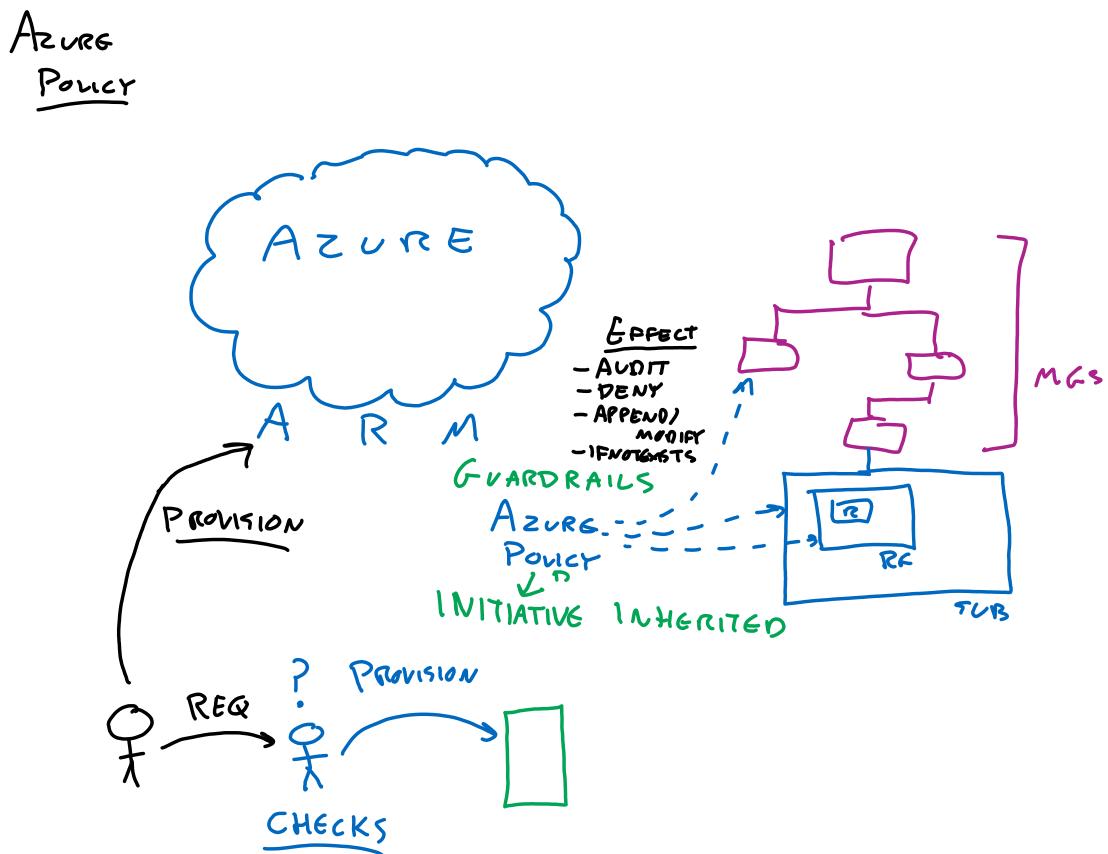
Resource Locks



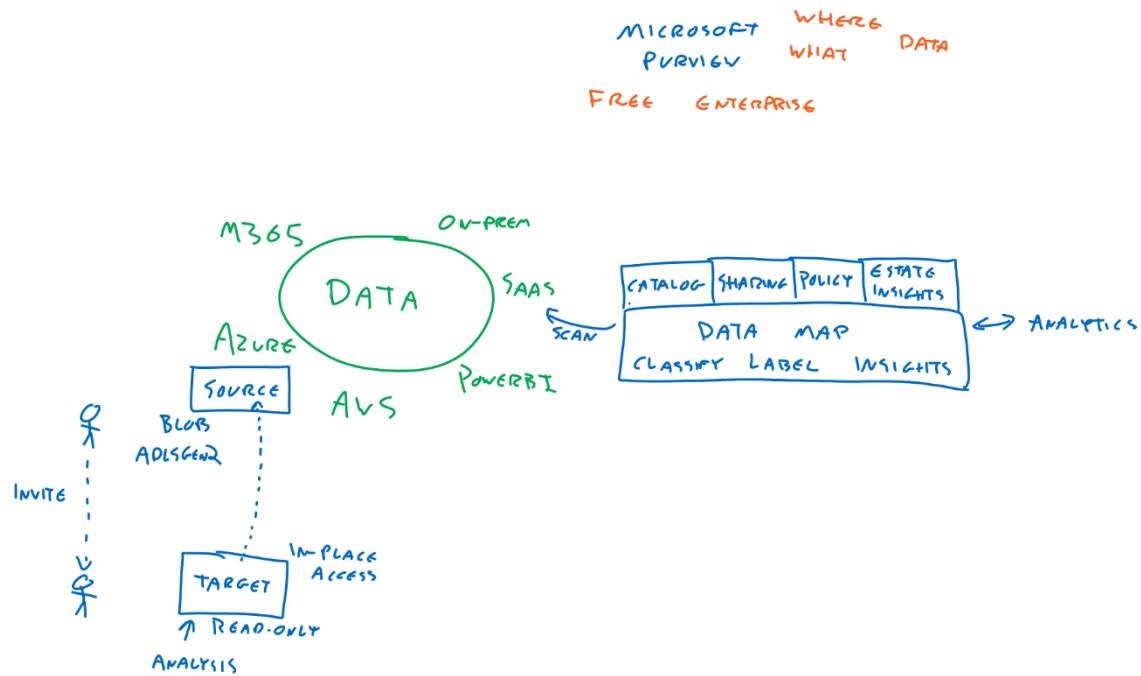
Functionality and Usage of Tags



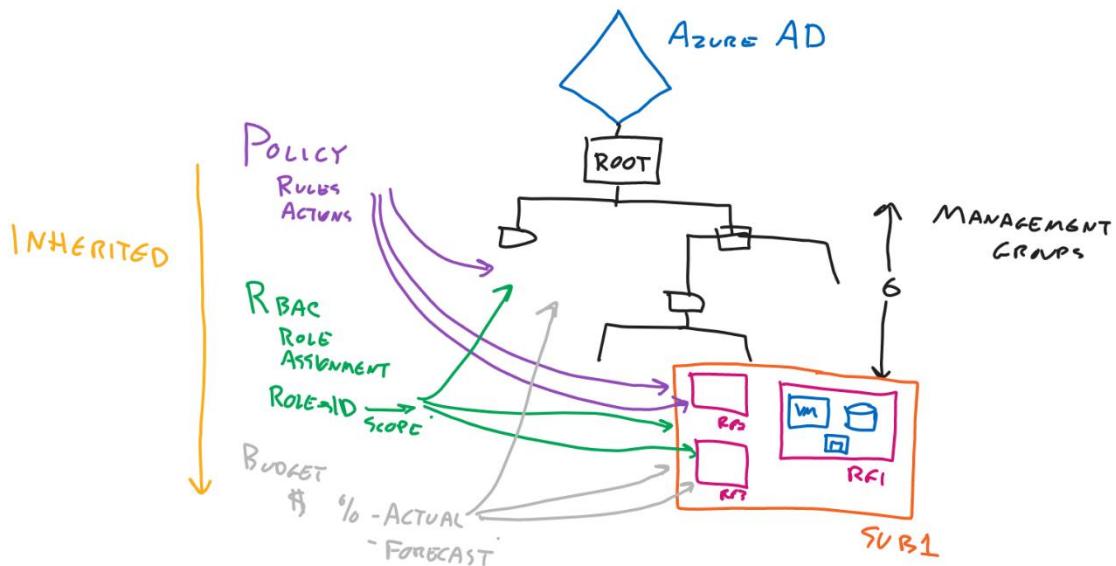
Functionality and Usage of Azure Policy



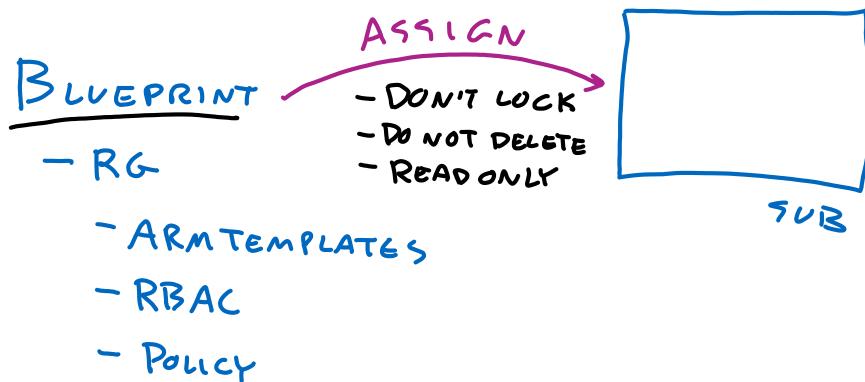
Purpose of Microsoft Purview



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>

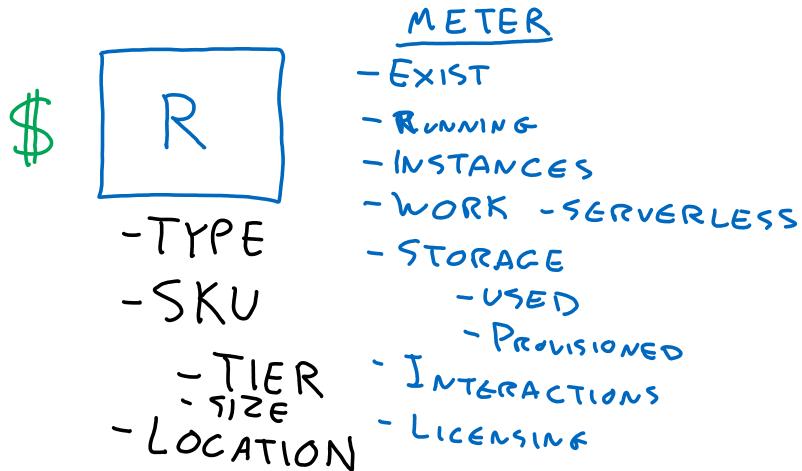
Purpose of Azure Sovereign Regions

Links

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

Describe Azure Cost Management and Service Level Agreements

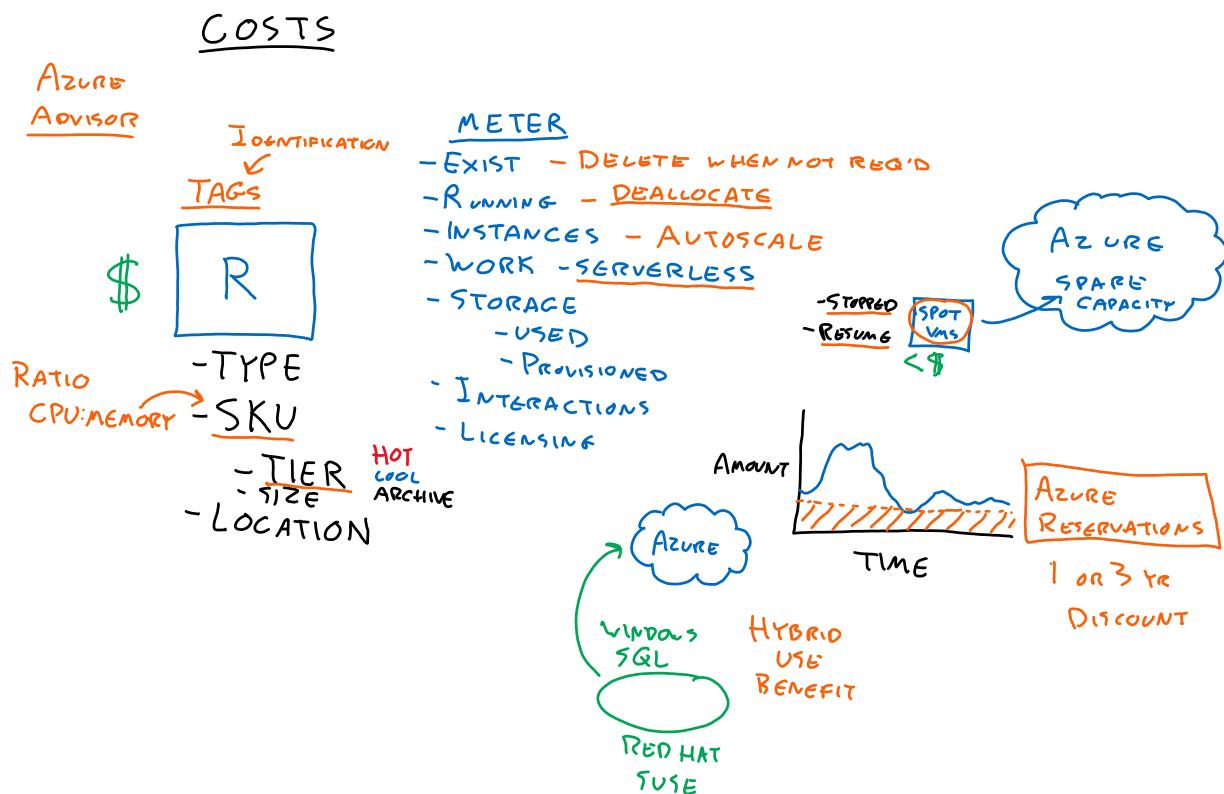
Factors That Affect Costs



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>



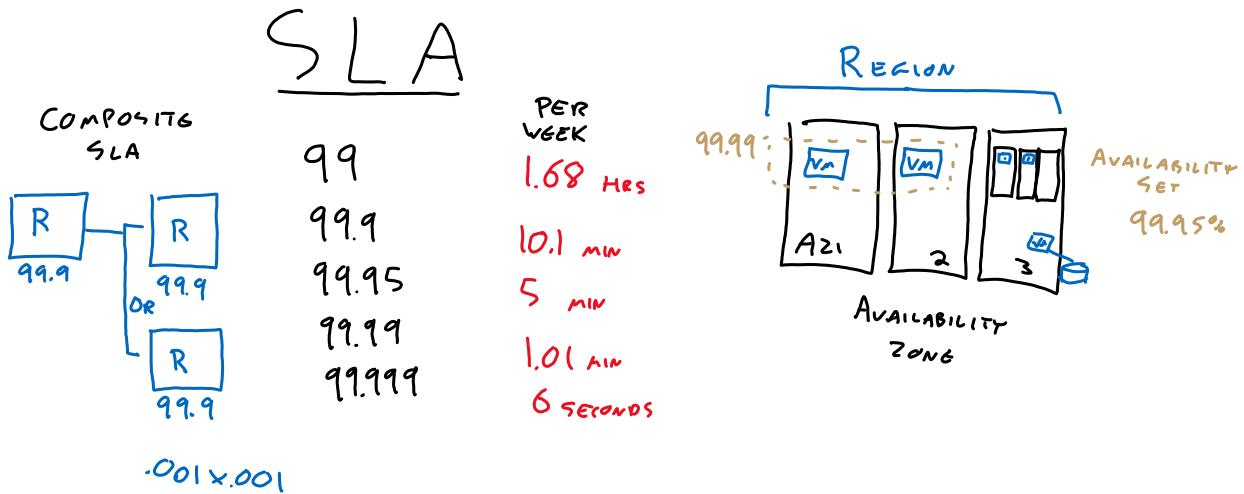
Functionality and Usage of Pricing and TCO Calculators

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

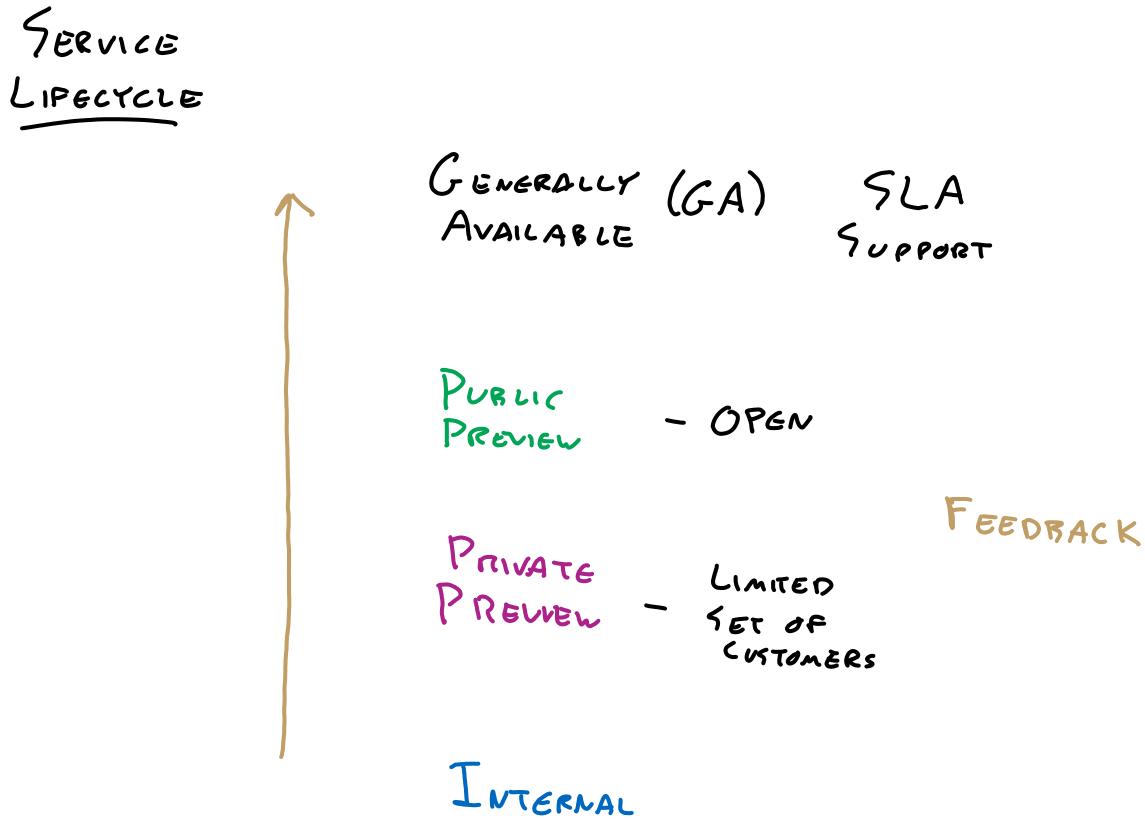
- Azure SLAs - <https://azure.microsoft.com/support/legal/sla/>
- Azure Status - <https://status.azure.com/status>
- Composite SLA documentation - <https://docs.microsoft.com/azure/architecture/framework/resiliency/business-metrics#understand-service-level-agreements>
- Composite SLA Deep Dive - https://youtu.be/_a3LPSZmkqY



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>

