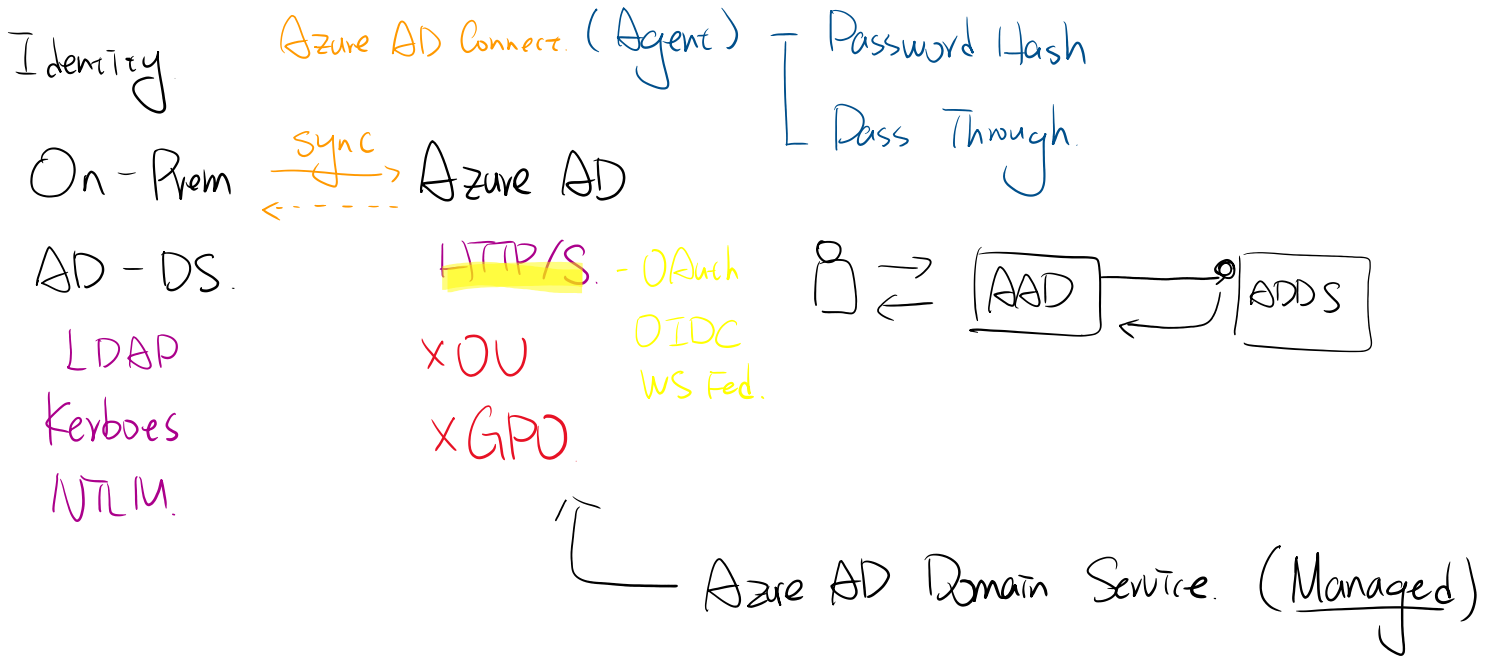
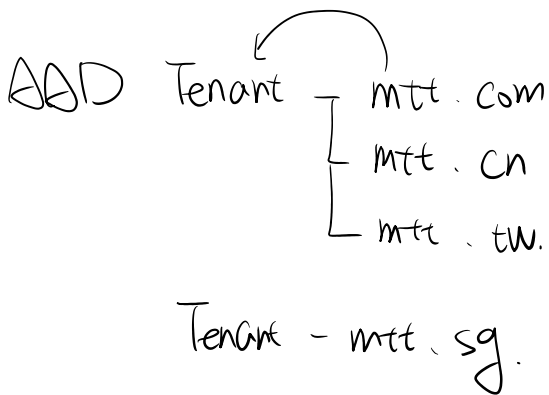
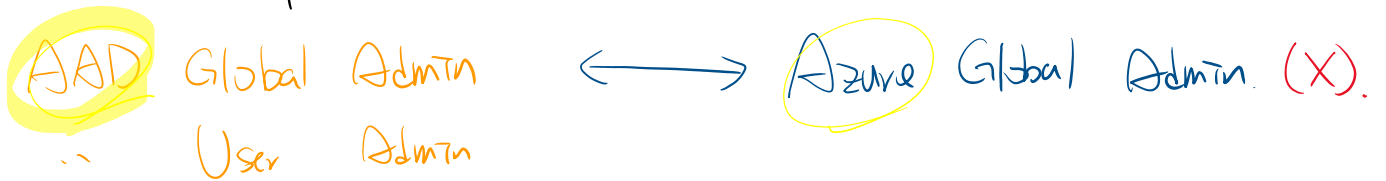


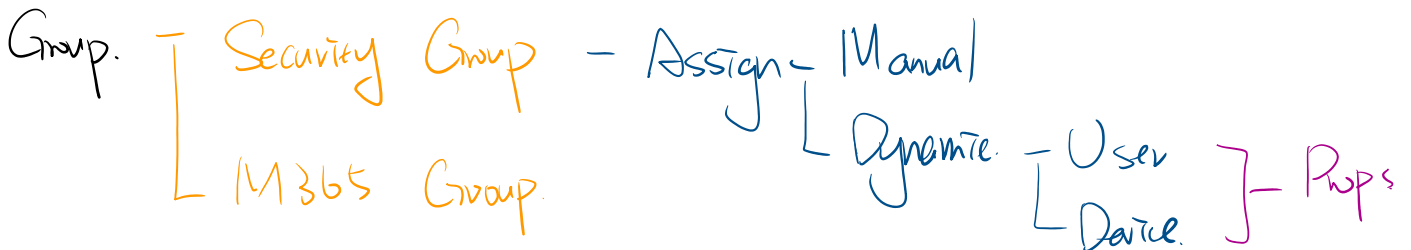


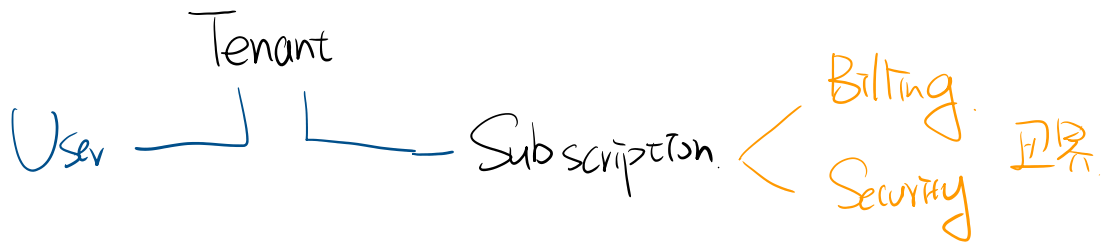
User & Groups.



Member / Guest.

a @ mtt.com
b @ mtt.cn] - Maker
c @ mtt.sg] - guest.
d @ hotmail.com





Sub A 7 owner

Sub B 7 vendor

Region Availability Zone Data Center



Region. - Region Pair.

Off_{ev} - EA

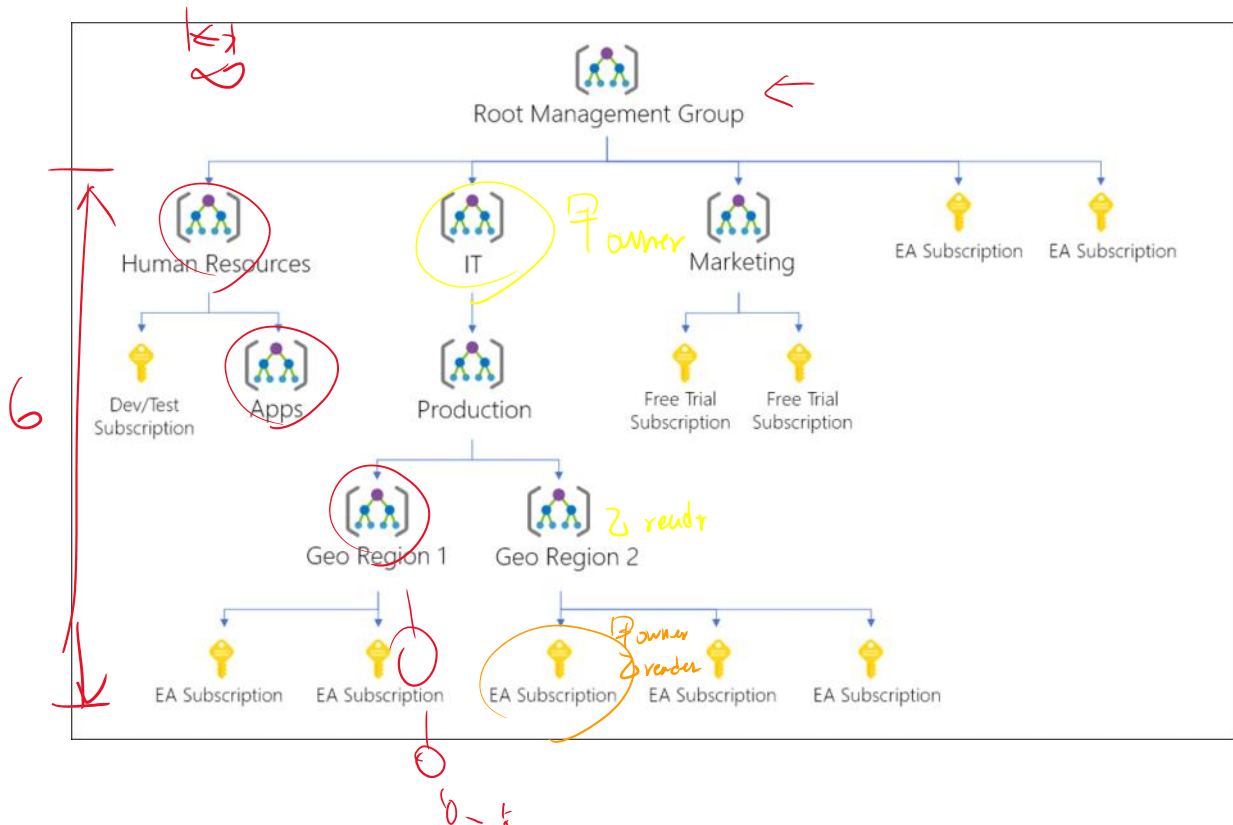
Hybrid Benefit. (BTOL)

28 折

Reserved Instance

72% off

Management Group. Tree Inheritance.



Cost Management — Budget
L. Cost

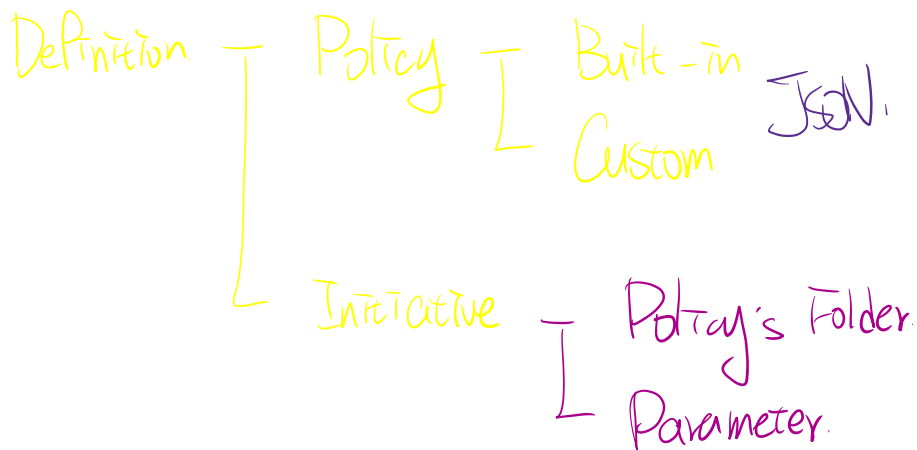
L. Cost

Tag - Metadata - Key - value.

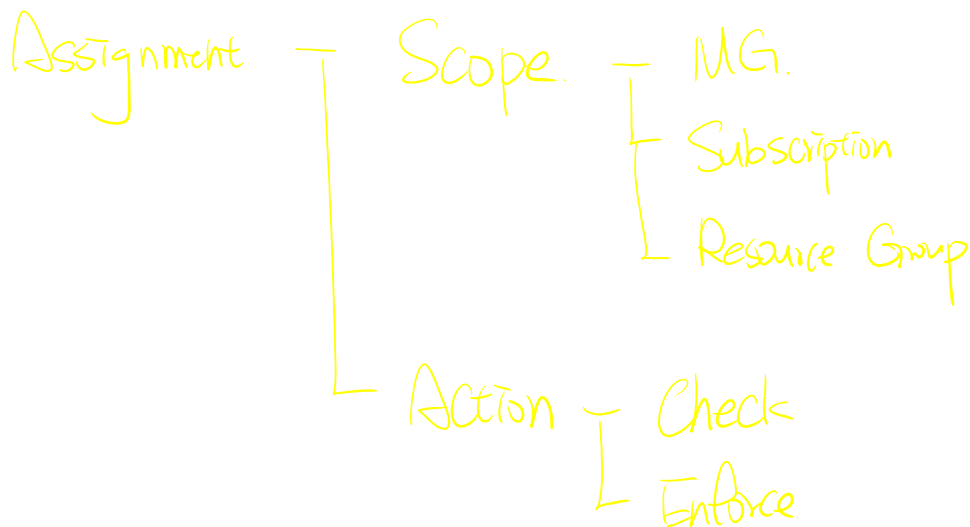
Tag - Metadata - Key - value.

Azure Policy - Compliance

└ 規則
└ 檢查
└ .. 強制



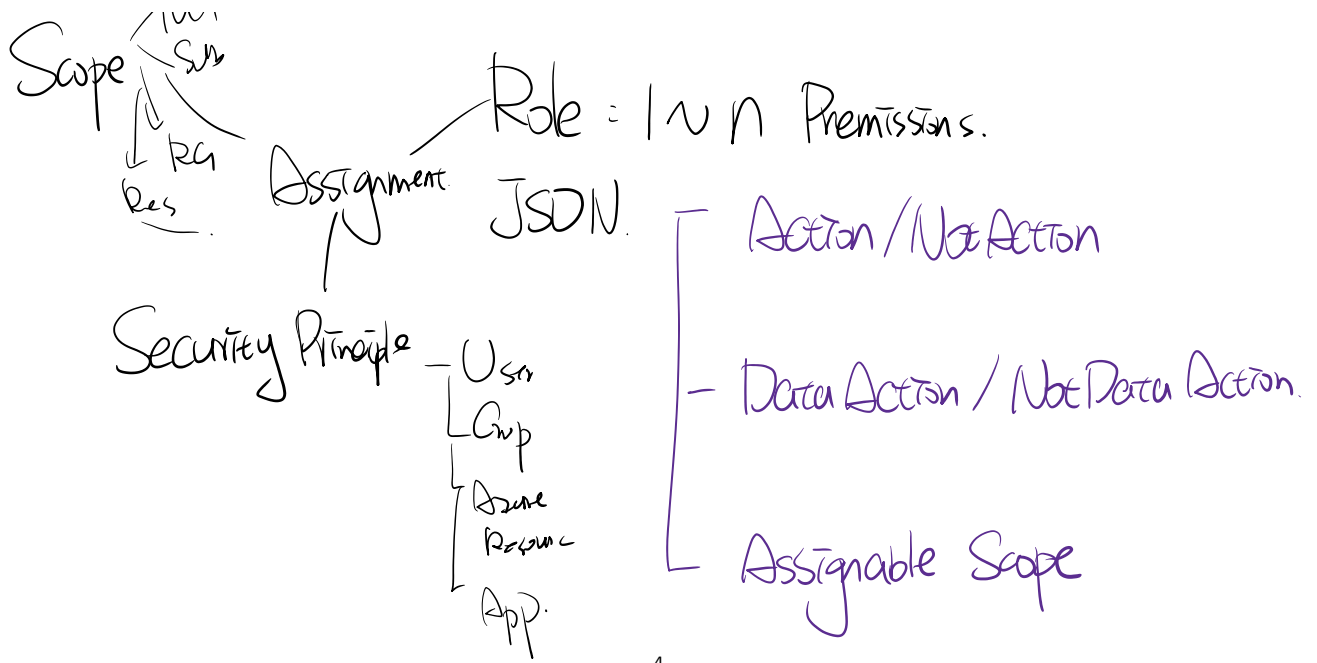
1 init = 2 policy.
5 Subscription
Assign x5



Role-based Access Control.

Scope - MG
Subscription

Definition



4

Administration

Azure Portal - Cloud Shell

Azure PowerShell → Powershell's Module
Cross Platform (PowerShell Core)

Azure CLI

Cmdlet V. - n.

New - AzVM.

Find - Cmd - Names XAzx.

Shell Script.

Installer

az group (sub group) action

Az vm create. - - - -

IaC 冚等性.

ARM Template - JSON.

↳ Azure Resource Manager. - Management Layer.

Parameter → 部署时印.

Variable

Resources

Function

Output.

Networking

(SDN)

Virtual Network (VNET) - Addr Space - CIDR

Independent

Subnet $\times n$

10.10.0.0/16

10.20.3.0/24

Sub1 = 10.10.1.0/24

256 - 5 $\Rightarrow$ 251

Reserved IP

.0, .1, .2, .3, .255

DNS

broadcast

Sub2 = 10.10.2.0/28

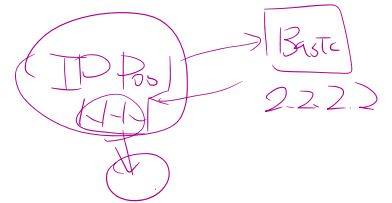
.0 - .15 (16)

16 - 5 $\Rightarrow$ 11

IP: Private IP - Dynamic / Static

.4

Azure



Public IP - Azure Resource

IPv4, IPv6

Basic Dynamic Static

Standard (AZ)

Network Security Group (NSG)

rule backups

InBand

- Rule $\times n$

OutBand

Stateless

Layer 4 FW (TCP/IP) (Free)

Associate

Appliance (VM)

Subnet

→ 越小越优先

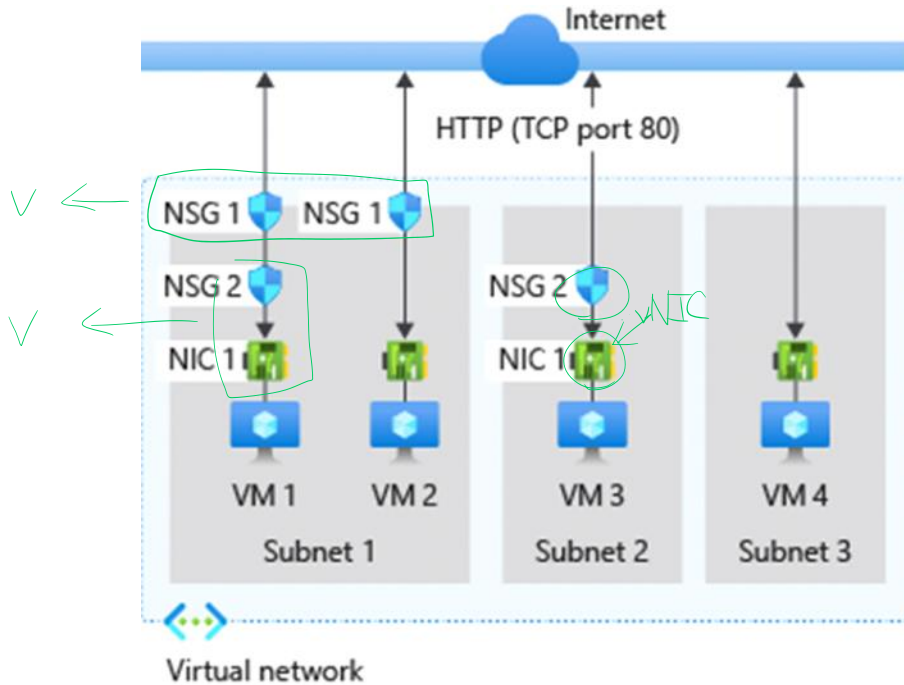
Priority (int) (Sort)

RI: TCP *, *, 3389, U, 300

R2 = TCP *, *, 3389, X, 200

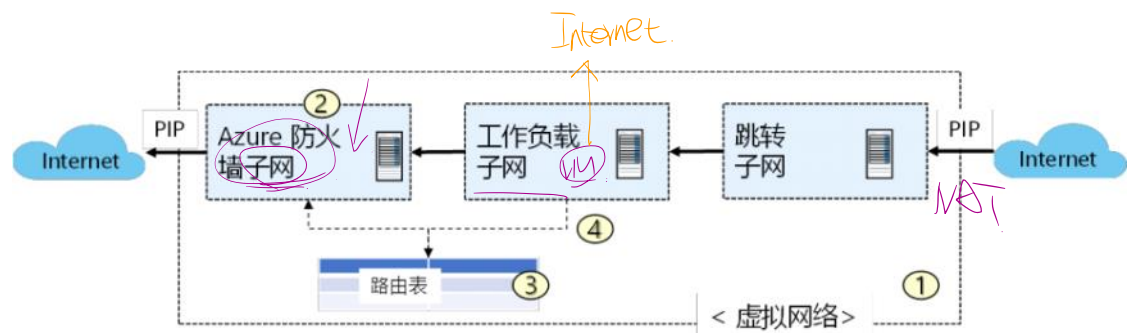
User Define, Re Define x3.

100 ~ 4096.

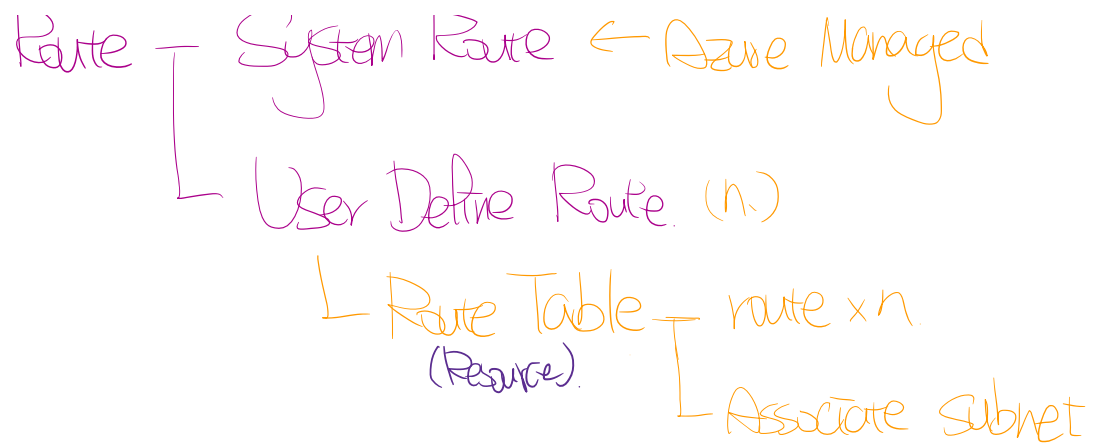


Azure Firewall (Stateful) (Paas)
(Layer 7) L4/L7
Dedicate Subnet Scale

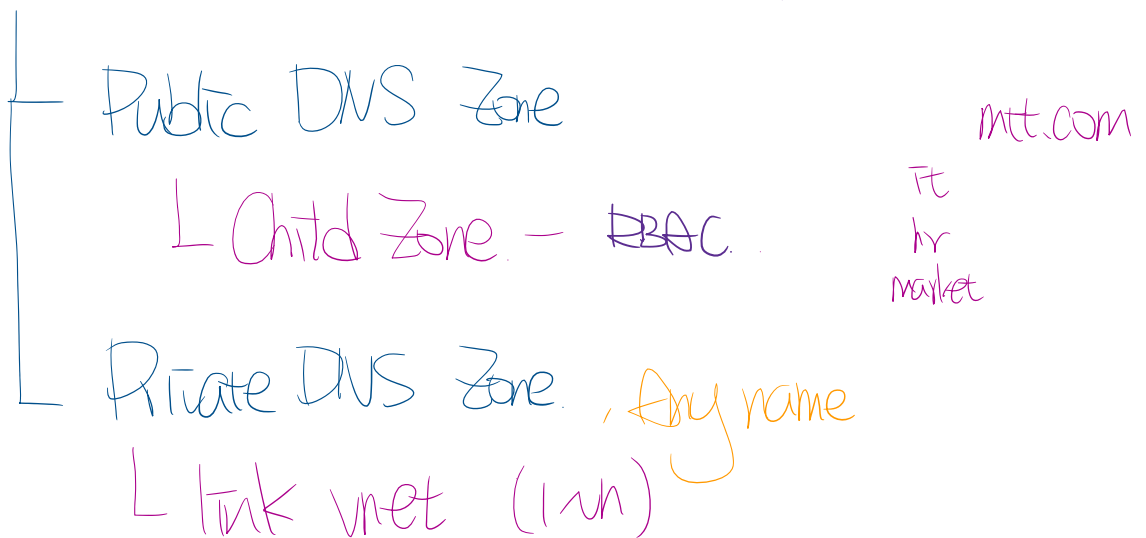
NAT
Network
Application



Route - System Route ← Azure Managed



Azure DNS Zone (PaaS) (DNS Server)



InterSite Connectivity

VNET ↔ VNET

VNET ↔ Other (On-Prem)
(Other Cloud)
(Azure)

(VPN)

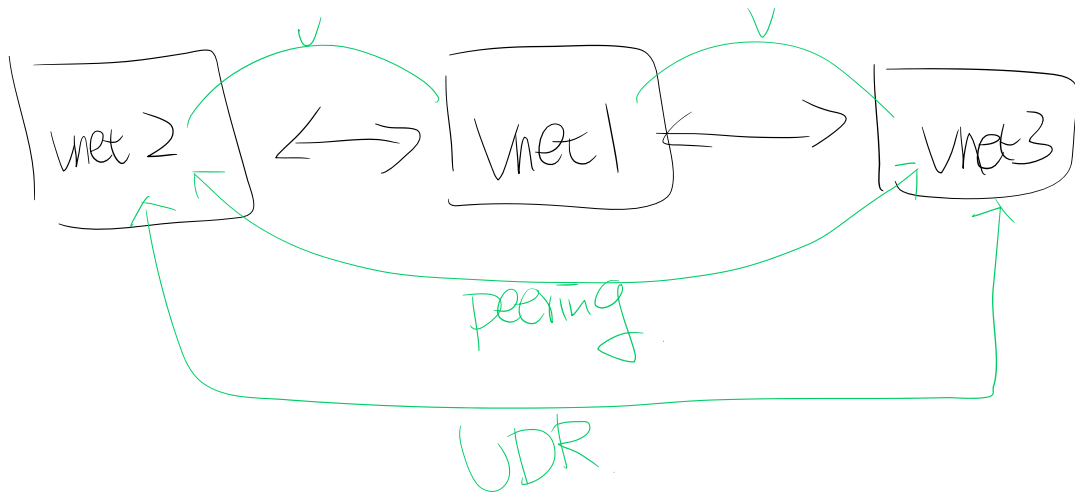
Peering
(对等)

— 同 Region

跨 Region (Bandwidth)

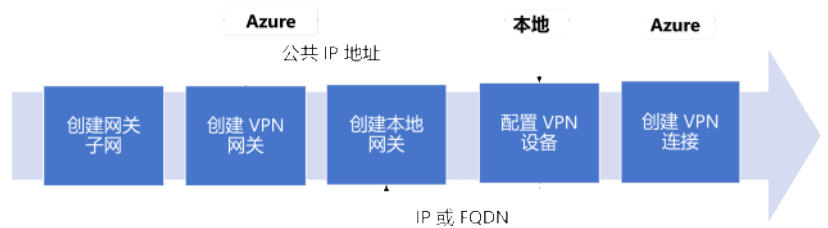
跨 Subscription





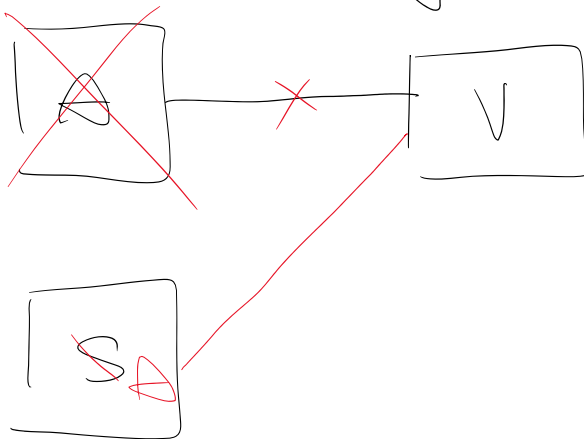
Virtual Network Gateway (VPN Gateway) (PaaS)

VPN Port 2 Site
Site 2 Site
Express Route

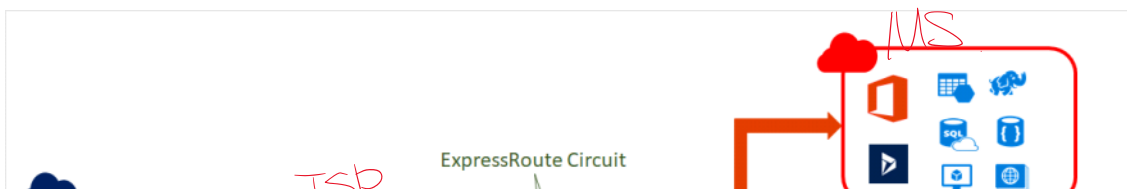
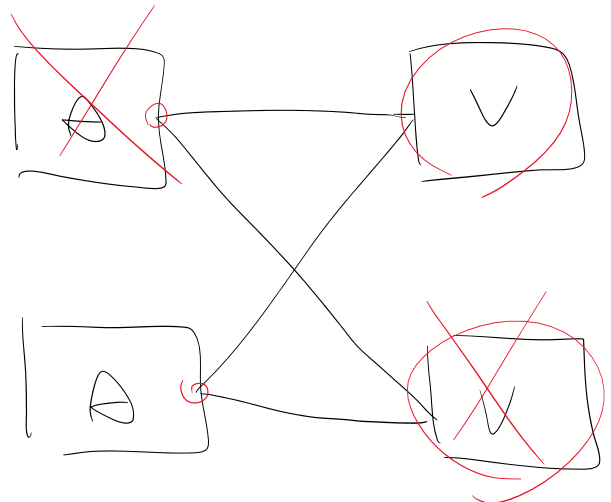


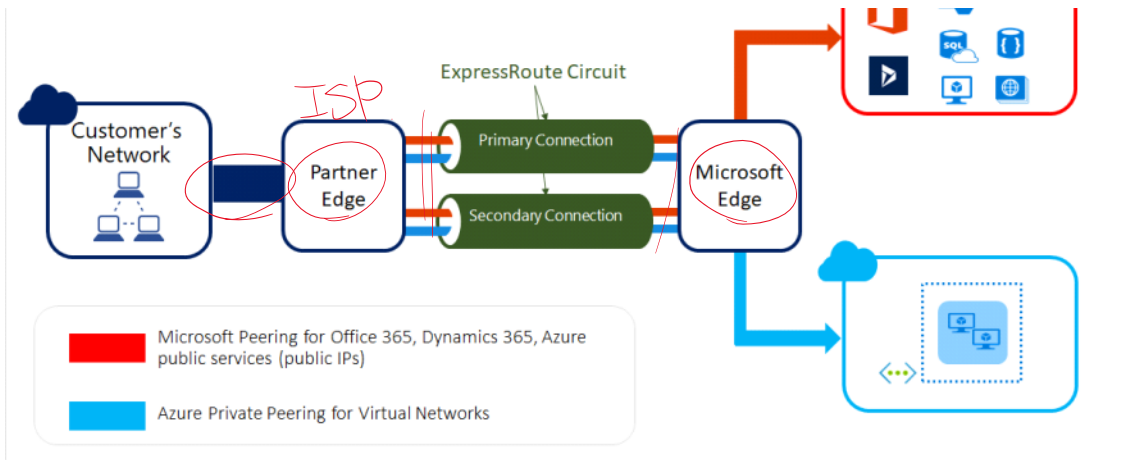
VPN HA

Active - Standby

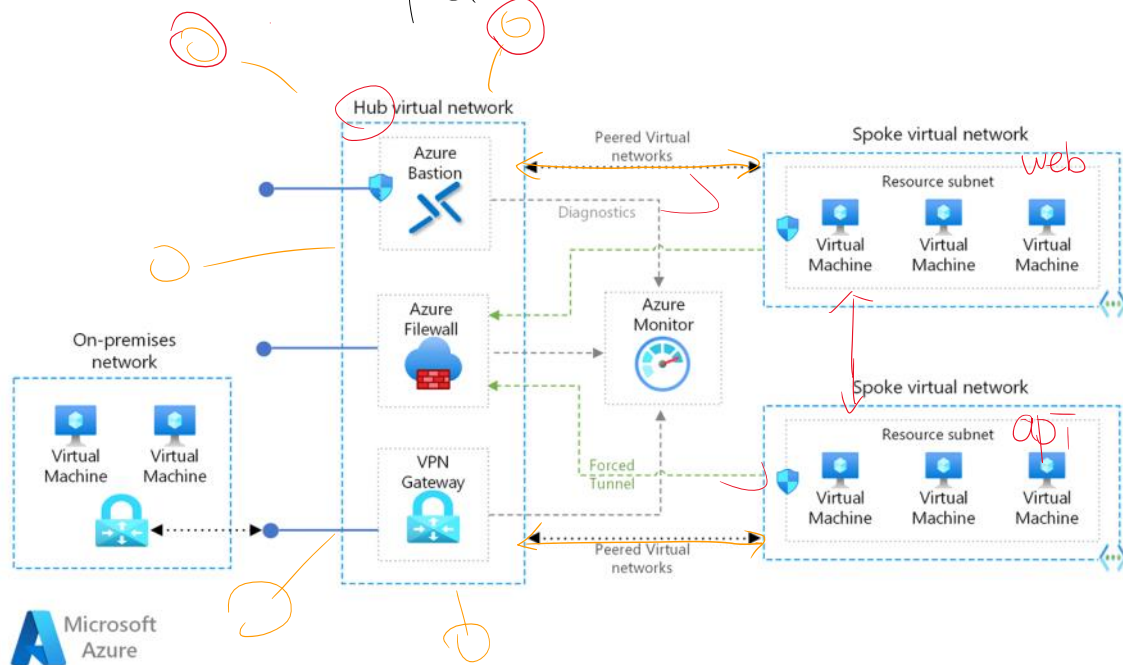


Active - Active

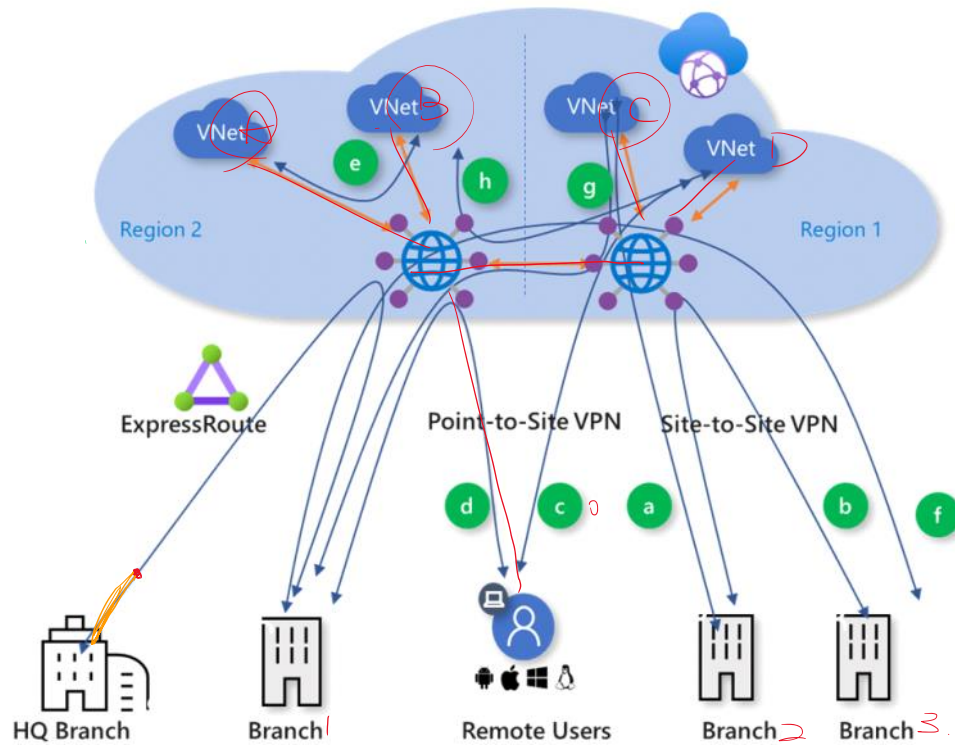




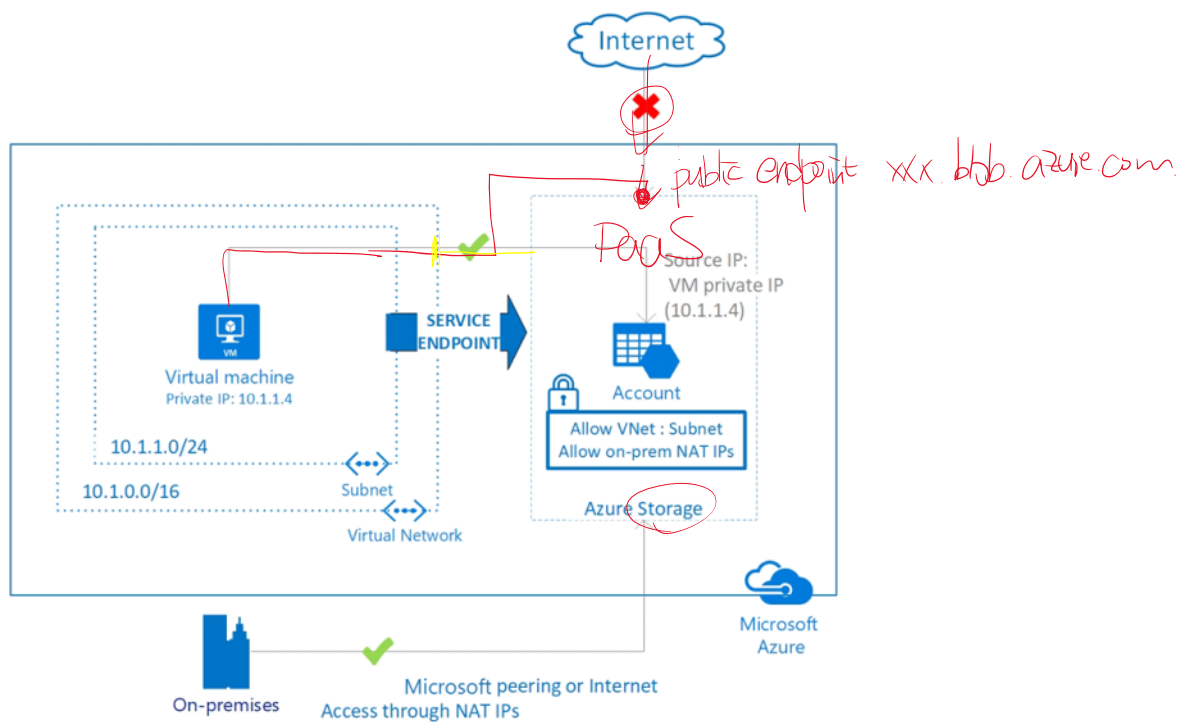
Hub - Spoke Model

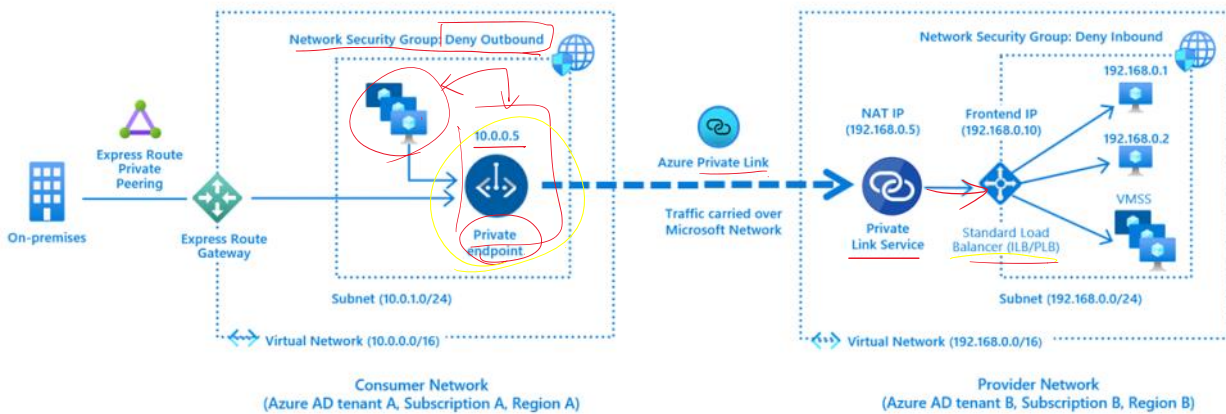


Virtual WAN



Service Endpoint vs Private Endpoint (Link)





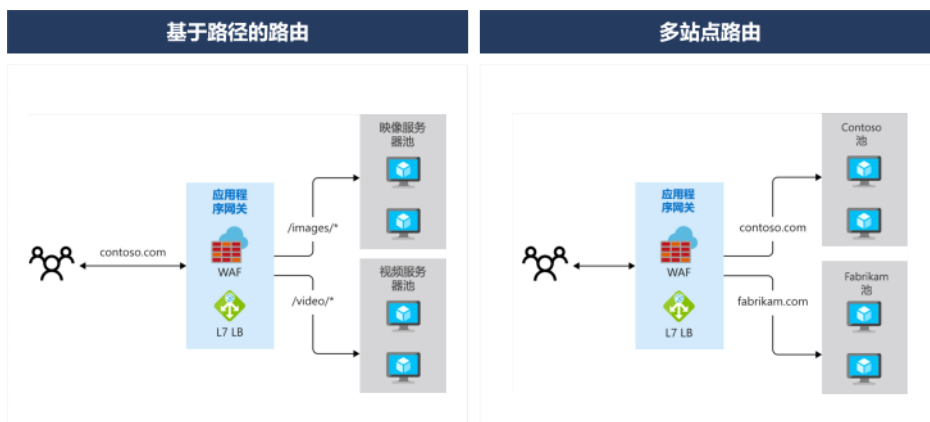
Azure LB

Public LB — Public IP
Internal LB — Private IP

Frontend IP $\times n$

Backend Pool — VM (Azure)
Container

Rule — Probe



功能	应用程序网关	Front Door	负载均衡器	流量管理器
使用	使用 Web 应用程序防火墙增强应用程序	可缩放的安全增强型交付点，	均衡入站和出站连接以及对	在全球 Azure 区域内以最佳方式向

情况	序安全性时，优化来自应用程序服务器场的交付。	适用于基于微服务的全局 Web 应用程序。	应用程序或服务器终结点的请求。	服务分发流量，同时提供高可用性和响应性。
协议	HTTP、HTTPS、HTTP2	HTTP、HTTPS、HTTP2	TCP、UDP	Any
专用	是		是	
全球		是	是	是
Env	Azure、非 Azure 云、本地	Azure、非 Azure 云、本地	Azure	Azure、非 Azure 云、本地
安全性	WAF	WAF、NSG	NSG	

Storage

{ Bbb - HTTP
Files - SMB, NFS
Queue
Table

Data Structure

分布式
Storage

2021 Millions of websites offline after fire at French cloud services firm

By Mathieu Rosemain, Raphael Satter

3 MIN READ



©Microsoft Corporation

Recur

⚠️ Datacenter Cooling Event - Southeast Asia

Impact Statement: Starting around 20:19 UTC on 7 February 2023, a utility power surge in the Southeast Asia region tripped a subset of the cooling units offline in one of the Availability zones. While working to restore the cooling units, temperatures in the datacenter increased so we have proactively powered down a small subset of selected compute and storage scale units, to avoid damage to hardware and reduce cooling system load. All impacted storage and compute scale units are in the same datacenter, within one of the region's three Availability Zones (AZs). Multiple downstream services have been identified as impacted.

Current Status: We do not have an exact ETA at this time, we currently expect an extended period of time to fully restore all cooling capacity. The Azure service recovery process will commence at this time and is expected to progressively return over a number of hours. Due to the nature of this issue our storage scale units are expected to require significant recovery efforts to ensure all resources return in a consistent state. Note that any new allocations for resources will automatically avoid the impacted scale units. If your workloads are protected by Azure Site Recovery or Azure Backup, we recommend to either initiate a failover to the recovery region or recover using Cross Region Restore.

Customers using services that are zonally-aware may consider failing out of the impacted zone, physical zone AZ-03. Note that physical zones are mapped to logical zones in your Azure subscription, Refer to:

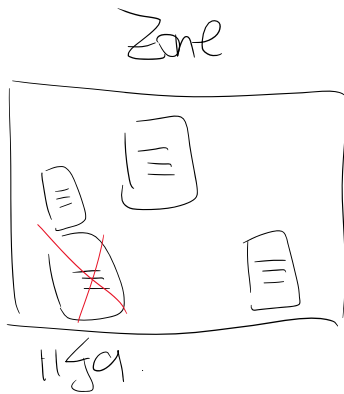
<https://learn.microsoft.com/rest/api/resources/subscriptions/check-zone-peers>.

This message was last updated at 08:44 UTC on 08 February 2023

Redundancy 4+2, 3-6 copys

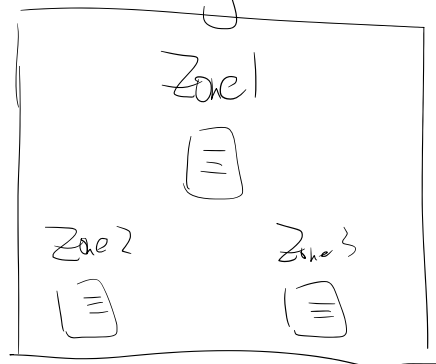
LRS (Local)

1 Region, 1 AZ 3 copys



ZRS (Zone) 3 copys

1 Region, 3 AZ



GRS (Geo) 6 copys

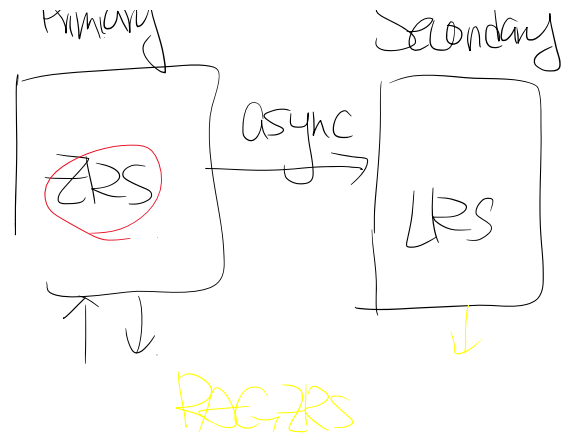
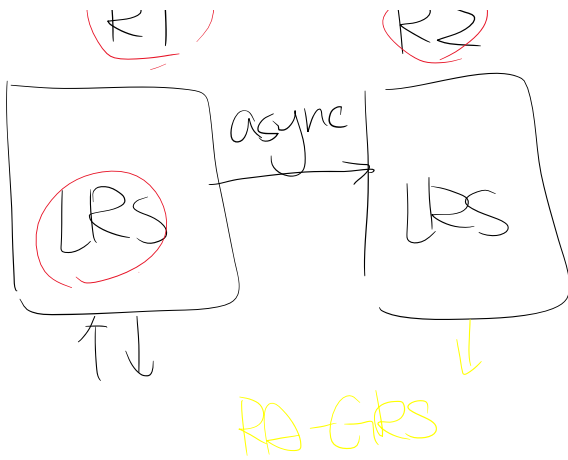
2 Region, 2 AZ



GZRS 6 copys

2 Region, 3+1 AZ





Pricing = Space
Operation

Access Tier
(By Blob)

- Hot
- Cool
- Cold
- Archive

Lifecycle Management
Rule ↓

Storage Account - Container (Folder) - Blob
Single-layer

Images - 2023/08/img1.jpg

<https://demo0809stor.blob.core.windows.net/?sv=2022-11-02&ss=b&srt=sco&sp=wdlactfx&se=2023-08-09T10:55:06Z&st=2023-08-09T02:55:06Z&spr=https&sig=g%2Bt5%2Fpsq5rN%2Fv5YmqiOFXiM6CETclceQUF8EQc0a9tg%3D>

+key

<https://demo0809stor.blob.core.windows.net/images/IKEA.jpg?sp=r&st=2023-08-09T02:58:10Z&se=2023-08-09T10:58:10Z&spr=https&sv=2022-11-02&sr=b&sig=dKiEWaC9Z4e6EubqE3OF1wrvkx9wd5bpeSn8xcdoXM%3D>

+key

key=0&sig=URLVwC9Z4E0LubqL50T1W1VKYX9Wu3Dpe310ACU0X1V1703D

+key

<https://demo0809stor.blob.core.windows.net/images?si=demo0809-policy&spr=https&sv=2022-11-02&sr=c&sig=Rfp06k%2B2gb5575MX5%2FyO1%2FlrBGQI4LASAfNx4sWrxyI%3D>

+key

标识文件同步组件

存储同步服务属于顶层资源

已注册服务器对象表示服务器（或群集）与存储同步服务之间的信任关系

Azure **文件同步代理**是一个可下载的包，可使 Windows Server 与 Azure 文件共享同步

服务器终结点表示已注册服务器（如文件夹）上的特定位置

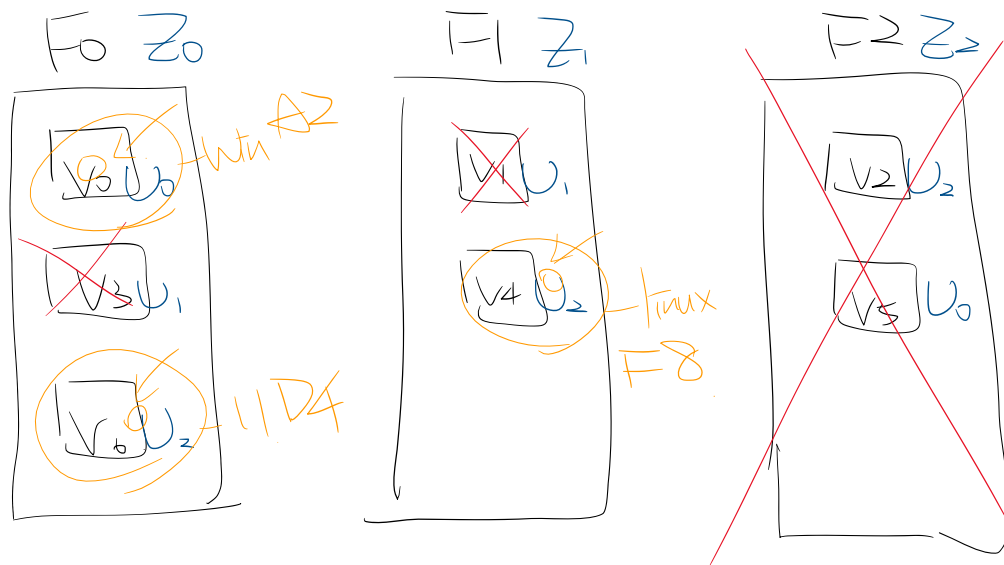
云终结点是指 Azure 文件共享

同步组将定义哪些文件需保持同步



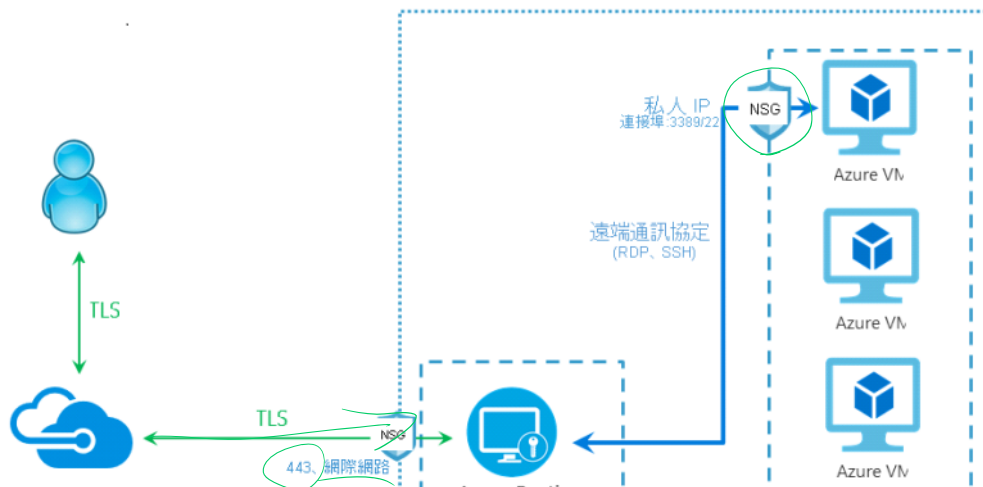
Availability Zone

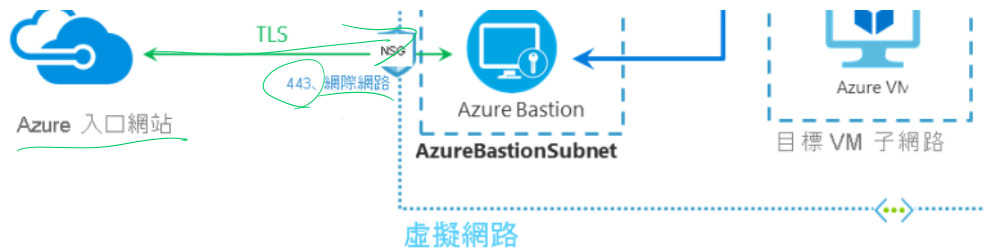
Update Domain - Update
更新域



Virtual Machine Scale Set

- AV Set / Zone
- Management
- Scale
 - Manual
 - Auto





Azure App Service (PaaS)

└ App Service Plan (VMS) — Pricing / Performance Feature

└ Web App x n (Sandbox)

Container

- VM
- Web App for Container
- Azure Container Instance (Simplest)
- Azure K8S Service (PaaS)
- Azure Container App (KaaS)

Image - Docker Registry 2.0

- Azure Container Registry (PaaS)
 - Public
 - Private

实现 Azure Site Recovery

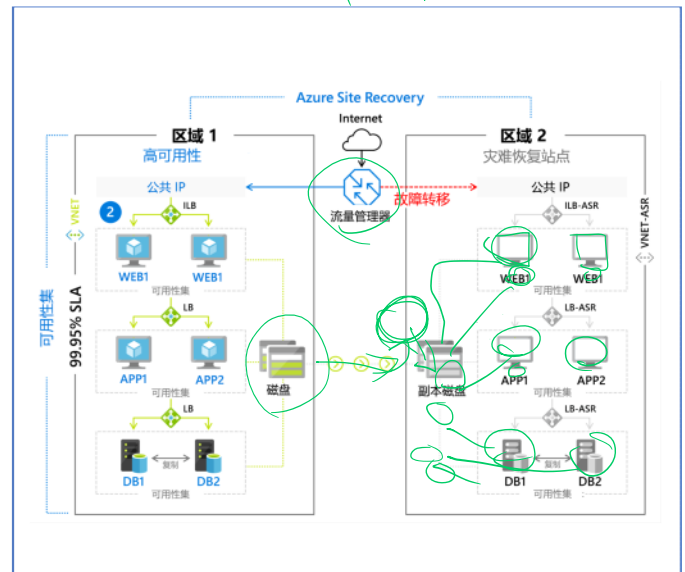
将 Azure VM 从一个 Azure 区域复制到另一个 Azure 区域

将本地 VMware VM、Hyper-V VM、物理服务器 (Windows 和 Linux)、Azure Stack VM 复制到 Azure

将 AWS Windows 实例复制到 Azure

将本地 VMware VM、System Center VMM 管理的 Hyper-V VM 和物理服务器复制到辅助站点

Failover



Azure Monitor (Source)

Azure Log Analytics workspace

- Built-in Storage

- Metric

- Log

- Tables

└ Built-in Storage

└ Log

└ 30 ~ 90 F

└ Retention

└ Activity

└ Archive

Kusto Query Language (KQL)

└ SQL like logic