AWS/Azure cloud solution comparison

1.Account & Organization structure Design

AWS: ( IAM Account roles and permission policy: Service control policy, STS, permission boundary, advanced setting: cross account management, RAM, shared VPC)

AZURE: tenants ‘s RBAC, Azure AD user, groups Account policy permission, conditional access policy, identity privilege management )

2.IAM, Federal SSO

AWS: (SAML2.0, federal sso/Cognito, workspace, hybrid directory service, AD connector, hybrid AD)

AZURE: (SAML2.0, federated sso/, Azure directory service, AD domain service, identity governance, AD security and health check, Azure AD connector, hybrid AD, privilege user identity protection.

Note: Federated SSO solution use MS-AD and AFDS to have two way trust is key solution for multi-cloud strategy as premise AD, AWS cloud, Azure all well connect with AD connect and premise AD and directory service

3.Networking

AWS: (Region/AZs/subnets, public/private VPC, IGW, NATGW, security VPC, management VPC, transit VPC, NACL, SG, BGP, S2S VPN, Directconnect, DXGW, VGW, TGW

pubic/private/tranit VIF, GW & interface end-point, Route53 & Hybrid DNS, AWS private link)

AZURE: (Region/AZs/subnets, public/private VNet, Vnet peering, application gateway, Azure Bastion, DDOS Protection, ASG and NSG. Azure DNS, Frontdoor, Azure private link, CDN, Load balancer, Traffic Manager, virtual Network, Virtual Network, VPN gateway, virtual WAN, interface endpoint, privatelink, interface endpoint networkwatch

Notes: there is no IGW and NATGW in Azure as all vNet are public/private supportable as long as there is virtual route available to internet.

Azure VPN GW=AWS TGW

Azure ASG support micro segmentation

Azure application GW=AWS WAF+ALB

4.Security

AWS: (guardduty, inspector, KMS, cloudHSM, Certificate Manager, Secret Manager, VPC logs & Packet sniffing, FW, WAF, FW

Manager, shield)

INTEGRATION (IAM, FSSO,cloudwatch+lambda+SNS, cloudtrail)

AZURE: (Application Gateway, Azure AD, Azure AD domain service, Azure DDoS Protection, key vault, Azure Dedicated HSM,Azure Frontdoor, Azure Information Protection, Defender, Sentinel(SIEM),FW, WAF, FWManager, VPN Gateway)

5.Storage

AWS: (FSx file storage,EBS block, S3 object, Hybrid storage Gateway)

AZURE: Archive Storage, vFXT for Azure file storage, Azure backup, Azure datalake storage, Azure datashare, Azure files, HPC cache, Netapp Files, netapp cloud manager, Blob storage, StorSimple, vaeem backup & replication, azure backup as service, HPC cache

6.Computing & autoscaling

AWS: (AMI & Bootscrapping, ALB, NLB, CLB, GWLB, workload auto-scaling)

AZURE: (VM OS image, VM storage, VM scalesets, VM disk encryption, key vault, Azure powershell CLI, Resource Manager, )

7.Monitoring&logging

AWS: (cloudwatch, cloudwatch logs, cloudtrail)

AZURE: VM monitor, AD health check, SQL health check, update management, 3 party tools Zabbix and solarwind

8.Database

AWS: (Multi AZ RDS, RDS read-replicas, Elastics Memcached& Redis, Aurora, DynamoDB, Athena

AZURE: (Multi AZ SQL, RDS read-replicas, Azure Redis, CosmosDB, MariaDB,PostSQL, MYSQL, Database migration service )

multi DB-instances consistence & performance optimization

10.Caching

AWS: Cloudfront::S3, SSL certificate, encryption, caching performance optimization)

AZURE: Frontdoor, SSL certificate, encryption, caching performance optimization)

11.Data Analystics

AWS: (Kinesis, Kinesis firehose, EMR , sagemaker)

AZURE: Azure data explorer, powerBI, stream analysis job, azure synapse, databricks

Note: Azure stream analysis job= AWS kensis firehose

12.container,microservice, serverless

AWS: (ECS-docker, EKS-Kupernetes, SNS, SQS, MQ, lambda, API-GW, cloudwatch event integration, serverless application model)

AZURE: (API Apps,cyclecloud HPC, Azure functions, container instances, AKS-Kubernetes, Azure virtual desktop, Batch, service fabric/microservices, VM Scale Sets)

13.Database& server migration

AWS: (server migration service-/VMware/Hyper V/Azure connector, database migration service(DMS)/schema mapping, Hybrid storage migration --storage GW(file GW, Volume GW, Tape GW), snowball, data transfer service- datasync

AZURE: (Azure migration service-/VMware/Hyper V/Azure connector, database migration service(DMS)/schema mapping, Azure site recovery, Data Box

15.IaC deployment

AWS: Cloudformation , resource manager, System Manager, Patch manager (yalm,json, CFN-INIT, cfn-hup, cross-stack, codecommit, codepipeline,codebuilder, codedeploy, Elastic Beanstalk,

AZURE: resource manager, powershell, CLI, json file

Note: IaC solution Terraform VS cloudformation VS ansible VS puppet VS chef

16.DR/BCP (cold, warm, politlight,equal, storage, computing, database, networking)

Azure: azure backup as service, veeam backup & replication