Account Management, Billing & Support Section

AWS Organizations

• Global service

Allows to manage multiple AWS accounts

• The main account is the master account

• Cost Benefits:

• Consolidated Billing across all accounts - single payment method

• Pricing benefits from aggregated usage (volume discount for EC2, S3…)

• Pooling of Reserved EC2 instances for optimal savings

• API is available to automate AWS account creation

• Restrict account privileges using Service Control Policies (SCP)

**Multi Account Strategies**

• Create accounts per department, per cost center, per dev / test / prod, based on regulatory restrictions (using SCP), for better resource isolation (ex: VPC), to have separate per-account service limits, isolated account for logging

• Multi Account vs One Account Multi VPC

• Use tagging standards for billing purposes

• Enable CloudTrail on all accounts, send logs to central S3 account

• Send CloudWatch Logs to central logging account

**AWS Organization**

Master Account

Prod OU

Finance OU

Dev OU

Root OU

HR OU

**Service Control Policies (SCP)**

• Whitelist or blacklist IAM actions

• Applied at the OU or Account level

• Does not apply to the Master Account

• SCP is applied to all the Users and Roles of the Account, including Root user

• The SCP does not affect service-linked roles

• Service-linked roles enable other AWS services to integrate with AWS Organizations and can't be restricted by SCPs.

• SCP must have an explicit Allow (does not allow anything by default)

• Use cases:

• Restrict access to certain services (for example: can’t use EMR)

• Enforce PCI compliance by explicitly disabling services

**Pricing Models in AWS**

• AWS has 4 pricing models:

• Pay as you go: pay for what you use, remain agile, responsive, meet scale demands

• Save when you reserve: minimize risks, predictably manage budgets, comply with long-terms requirements

• Reservations are available for EC2 Reserved Instances, DynamoDB Reserved Capacity, ElastiCache Reserved Nodes, RDS Reserved Instance, Redshift Reserved Nodes

• Pay less by using more: volume-based discounts

• Pay less as AWS grows

**Free services & free tier in AWS:**

• IAM

• VPC

• Consolidated Billing

• Elastic Beanstalk

• CloudFormation

• Auto Scaling Groups

• Free Tier-

• EC2 t2.micro instance for a year

• S3, EBS, ELB, AWS Data transfer

**Compute Pricing – EC2**

• Only charged for what you use

• Number of instances

• Instance configuration:

• Physical capacity

• Region

• OS and software

• Instance type

• Instance size

• ELB running time and amount of data processed

• Detailed monitoring

**Compute Pricing – EC2**

• On-demand instances

• Minimum of 60s

• Pay per second (Linux/Windows) or per hour (other)

• Reserved instances:

• Up to 75% discount compared to On-demand on hourly rate

• 1- or 3-years commitment

• All upfront, partial upfront, no upfront

• Spot instances:

• Up to 90% discount compared to On-demand on hourly rate

• Bid for unused capacity

• Dedicated Host:

• On-demand

• Reservation for 1 year or 3 years commitment

• Savings plans as an alternative to save on sustained usage

**Compute Pricing – Lambda & ECS**

• Lambda:

• Pay per call

• Pay per duration

• ECS:

• EC2 Launch Type Model:

No additional fees, you pay for AWS resources stored and created in your application

• Fargate :

• Fargate Launch Type Model: Pay for vCPU and memory resources allocated to your applications in your containers

**Billing and Costing Tools**

• Estimating costs in the cloud:

• Pricing Calculator

• Tracking costs in the cloud:

• Billing Dashboard

• Cost Allocation Tags

• Cost and Usage Reports

• Cost Explorer

• Monitoring against costs plans:

• Billing Alarms

• Budgets