



KodeKloud

General Billing in AWS



Billing – Agenda for This Section

01



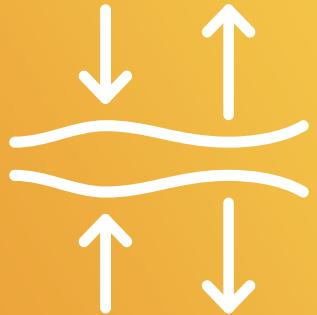
Fundamentals
of Pricing

02



Cost
Optimization

03



Use Elasticity

04



Pricing Models

05



Free Tier

Billing – Like Renting a Car?

How Fast is the Car?



\$0.40

Per day for a fast vehicle

How Big is the Car?



\$0.50

Per day for a large vehicle



How many miles did you
put on it?

4000 km
4 Days

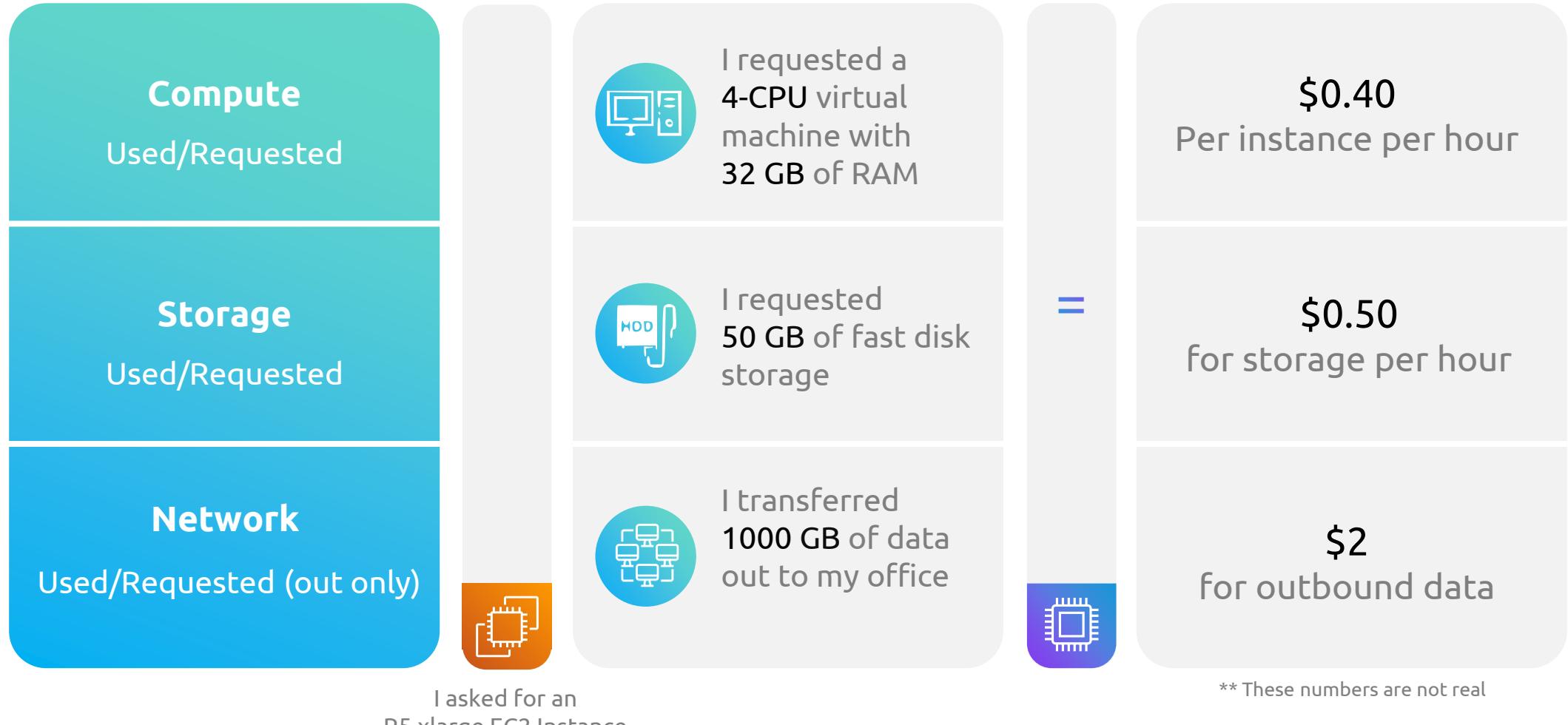
\$2

Per mile



Billing – Fundamentals of Pricing

Three general drivers of billing



Billing – Like Renting a Car?

How Fast is the Car?

How Big is the Car?

How many miles did you put on it?

Duration Pricing



Like a car lease or rental, you pay for as long as you have the car

Request Pricing



Like a rideshare, you pay each time you “ride” in the vehicle.



Billing – Fundamentals of Pricing

Three general drivers of billing

Compute

Used/Requested

Storage

Used/Requested

Network

Used/Requested (out only)



Duration Pricing

- **400,000 GB-seconds per month free, up to 3.2 million seconds of compute time**
- **\$0.00001667** for every GB-second used thereafter

Request Pricing

- **Free Tier:** 1 million requests per month
- **\$0.20 per 1 million** requests thereafter, or **\$0.0000002 per request**



Billing – Start Early With Cost Optimization

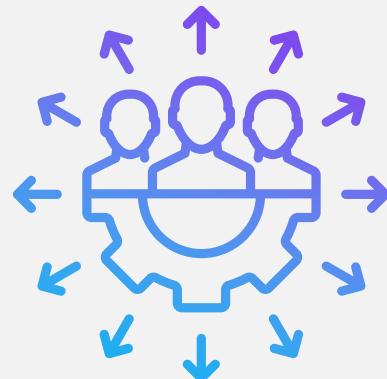
01

Read the dimensions of pricing before you implement



02

Choose managed services over unmanaged when possible



03

Correct expensive sizing



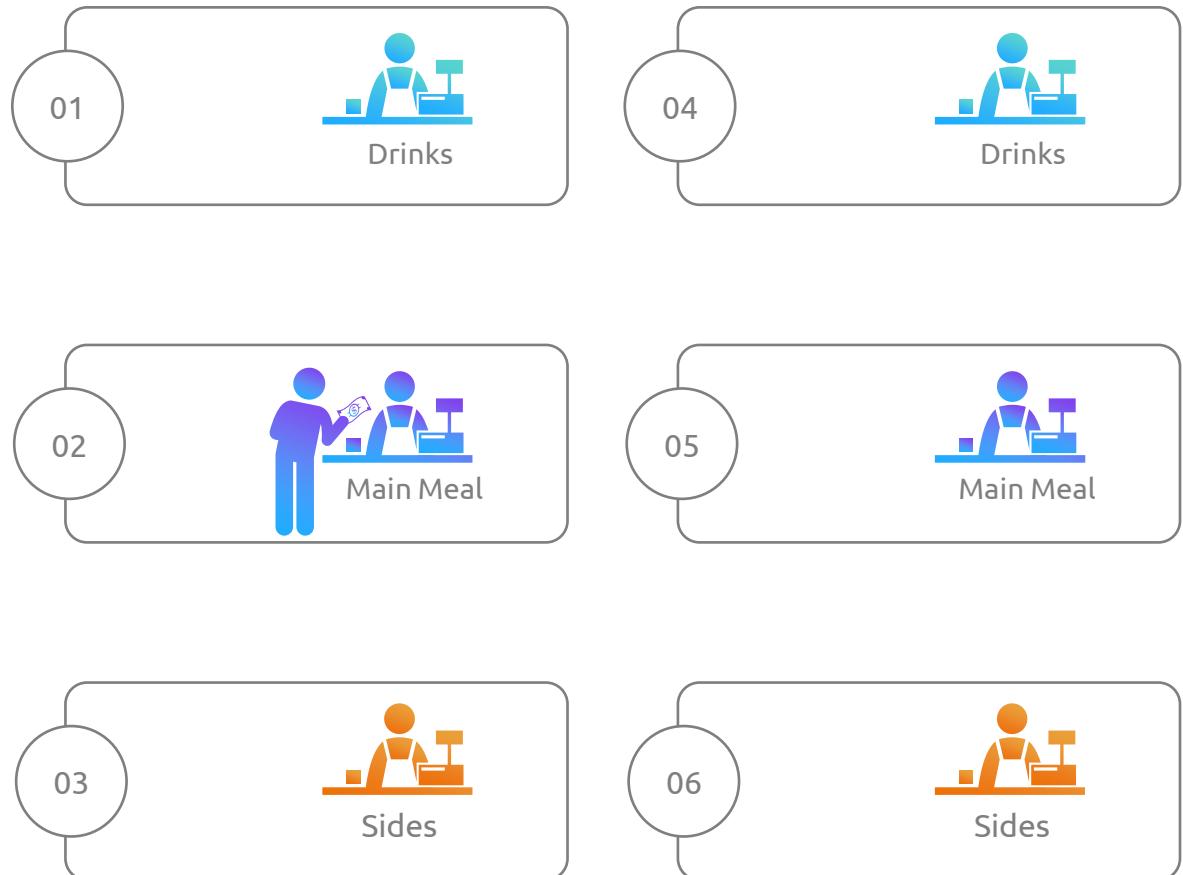
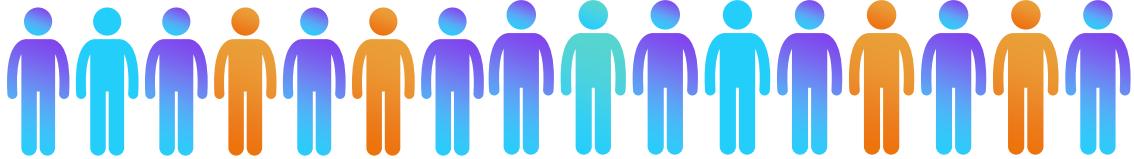
04

Use AWS's Optimize and Save Tools when possible





Billing – Maximize the Power of Elasticity





Billing – Maximize the Power of Elasticity





Billing – Maximize the Power of Elasticity

Remember to scale up only when needed

Don't forget to scale down

Leverage repeatable scripts or programs as much as possible so you can delete services and recreate them

Use Automatic Scaling if available and suitable for your use case





Billing – Think of Pricing Models in Ways of Eating

01 | Buffet



02 | Loyalty Program



03 | About to Expire
or Extra food



04 | Membership



Billing – Use the Appropriate Pricing Model

Cloud Billing Models

On-Demand

Savings Plans

Spot

Reservation

AWS Has Several Pricing Models

Order the unlimited buffet; return access when you are done eating

Pay \$100, and they will give you credit for \$150; you can then buy food with the \$150

Pay for any excess food, but you can only eat it until a paying customer comes along.

Become a loyalty member and pay for food whether you eat it or not (but let's eat it)



Billing – Use the Appropriate Pricing Model

Cloud Billing Models

On-Demand

Savings Plans

Spot

Reservation

AWS Has Several Pricing Models

No contract. Pay for what you use/request. Give back when done

Pay \$100, and they will give you credit for \$150; you can then buy compute with the \$150.

Pay for any excess compute, but you can use it until AWS needs it.

Become a loyalty member and pay for food whether you eat it or not (but let's eat it)



Billing – Don't Forget the “Free” Tier

Mainly for learning and testing

Free Trials

Short-term, starting from activation

Free for 12 Months

For some services, starting from when the account was created

Always Free

A certain level of usage is always free for certain services



General Billing - Summary



Most services charge based on usage and capacity (always over time)



Compute, Storage, and Requests/Network are the common dimensions



Understand billing to optimize you spend



Scale up and down as needed



Use the appropriate billing model for your workload



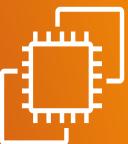
Use the Free tier when you can if learning



Specific Billing for EC2



Billing – Specifics of EC2 - Size



EC2 has several dimensions to pricing

- What is the size of machine you requested? [Nano to micro to 32xlarge](#)
- How is it charged - per second or per hour?
- What is your EC2 Licensing type?
- What features are turned on?
- Is the machine running?
Has it stopped?

| Instance | vCPU | CPU Credits/Hour | Mem (GiB) | Storage | Network Performance (Gbps) |
|-----------|------|------------------|-----------|------------|----------------------------|
| t3.nano | 2 | 6 | 0.5 | EBS - only | Up to 5 |
| t3.micro | 2 | 12 | 1 | EBS - only | Up to 5 |
| t3.small | 2 | 24 | 2 | EBS - only | Up to 5 |
| t3.medium | 2 | 24 | 4 | EBS - only | Up to 5 |
| t3.large | 2 | 36 | 8 | EBS - only | Up to 5 |



Billing – Specifics of EC2 - Size

There are so many Sizes!!!

| Name | API Name | Instance Memory | vCPUs | Instance Storage |
|--------------------------|-------------|-----------------|----------------------------|------------------|
| Filter... | Filter... | Min Mem: 0 | Min vCPUs: 0 | Min Storage: 0 |
| T4G Nano | t4g.nano | 0.5 GiB | 2 vCPUs for a 1h 12m burst | EBS only |
| T3A Nano | t3a.nano | 0.5 GiB | 2 vCPUs for a 1h 12m burst | EBS only |
| T3 Nano | t3.nano | 0.5 GiB | 2 vCPUs for a 1h 12m burst | EBS only |
| T2 Nano | t2.nano | 0.5 GiB | 1 vCPUs for a 1h 12m burst | EBS only |
| T4G Micro | t4g.micro | 1.0 GiB | 2 vCPUs for a 2h 24m burst | EBS only |
| T3A Micro | t3a.micro | 1.0 GiB | 2 vCPUs for a 2h 24m burst | EBS only |
| T3 Micro | t3.micro | 1.0 GiB | 2 vCPUs for a 2h 24m burst | EBS only |
| T2 Micro | t2.micro | 1.0 GiB | 1 vCPUs for a 2h 24m burst | EBS only |
| T4G Small | t4g.small | 2.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| T3A Small | t3a.small | 2.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| T1 Micro | t1.micro | 0.613 GiB | 1 vCPUs | EBS only |
| T3 Small | t3.small | 2.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| T2 Small | t2.small | 2.0 GiB | 1 vCPUs for a 4h 48m burst | EBS only |
| A1 Medium | a1.medium | 2.0 GiB | 1 vCPUs | EBS only |
| T4G Medium | t4g.medium | 4.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| C6G Medium | c6g.medium | 2.0 GiB | 1 vCPUs | EBS only |
| C7G Medium | c7g.medium | 2.0 GiB | 1 vCPUs | EBS only |
| T3A Medium | t3a.medium | 4.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| C6GD Medium | c6gd.medium | 2.0 GiB | 1 vCPUs | 59 GB NVMe SSD |
| M6G Medium | m6g.medium | 4.0 GiB | 1 vCPUs | EBS only |
| M7G Medium | m7g.medium | 4.0 GiB | 1 vCPUs | EBS only |
| T3 Medium | t3.medium | 4.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| C6GN Medium | c6gn.medium | 2.0 GiB | 1 vCPUs | EBS only |
| M1 General Purpose Small | m1.small | 1.7 GiB | 1 vCPUs | 160 GB HDD |
| M6GD Medium | m6gd.medium | 4.0 GiB | 1 vCPUs | 59 GB NVMe SSD |
| T2 Medium | t2.medium | 4.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only |
| R6G Medium | r6g.medium | 8.0 GiB | 1 vCPUs | EBS only |
| A1 Large | a1.large | 4.0 GiB | 2 vCPUs | EBS only |
| R7G Medium | r7g.medium | 8.0 GiB | 1 vCPUs | EBS only |



Billing – Specifics of EC2 - Size

Instances **EC2** **RDS** **ElastiCache** **Redshift** **OpenSearch**

OpenAI and ChatGPT API cost monitoring and forecasting now available →

Region Pricing Unit Cost Reserved
US East (N. Virginia) ▾ Instance ▾ Hourly ▾ 1-year - No Upfront ▾ Columns ▾ Compare Selected Clear Filters

Export Search...

| Name | API Name | Instance Memory | vCPUs | Instance Storage | Network Performance | Linux On Demand cost | Linux Reserved cost | Linux Spot Minimum cost | Windows On Demand cost | Windows Reserved cost |
|------------|------------|-----------------|----------------------------|------------------|---------------------|----------------------|---------------------|-------------------------|------------------------|-----------------------|
| T4G Nano | t4g.nano | 0.5 GiB | 2 vCPUs for a 1h 12m burst | EBS only | Up to 5 Gigabit | \$0.0042 hourly | \$0.0026 hourly | \$0.0038 hourly | unavailable | unavailable |
| T3A Nano | t3a.nano | 0.5 GiB | 2 vCPUs for a 1h 12m burst | EBS only | Up to 5 Gigabit | \$0.0047 hourly | \$0.0029 hourly | \$0.0041 hourly | \$0.0093 hourly | \$0.0075 hourly |
| T3 Nano | t3.nano | 0.5 GiB | 2 vCPUs for a 1h 12m burst | EBS only | Up to 5 Gigabit | \$0.0052 hourly | \$0.0033 hourly | \$0.0035 hourly | \$0.0098 hourly | \$0.0079 hourly |
| T2 Nano | t2.nano | 0.5 GiB | 1 vCPUs for a 1h 12m burst | EBS only | Low to Moderate | \$0.0058 hourly | \$0.0036 hourly | unavailable | \$0.0081 hourly | \$0.0059 hourly |
| T4G Micro | t4g.micro | 1.0 GiB | 2 vCPUs for a 2h 24m burst | EBS only | Up to 5 Gigabit | \$0.0084 hourly | \$0.0053 hourly | \$0.0062 hourly | unavailable | unavailable |
| T3A Micro | t3a.micro | 1.0 GiB | 2 vCPUs for a 2h 24m burst | EBS only | Up to 5 Gigabit | \$0.0094 hourly | \$0.0059 hourly | \$0.0088 hourly | \$0.0186 hourly | \$0.0151 hourly |
| T3 Micro | t3.micro | 1.0 GiB | 2 vCPUs for a 2h 24m burst | EBS only | Up to 5 Gigabit | \$0.0104 hourly | \$0.0065 hourly | \$0.0066 hourly | \$0.0196 hourly | \$0.0157 hourly |
| T2 Micro | t2.micro | 1.0 GiB | 1 vCPUs for a 2h 24m burst | EBS only | Low to Moderate | \$0.0116 hourly | \$0.0072 hourly | \$0.0035 hourly | \$0.0162 hourly | \$0.0118 hourly |
| T4G Small | t4g.small | 2.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only | Up to 5 Gigabit | \$0.0168 hourly | \$0.0105 hourly | \$0.0129 hourly | unavailable | unavailable |
| T3A Small | t3a.small | 2.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only | Up to 5 Gigabit | \$0.0188 hourly | \$0.0118 hourly | \$0.0179 hourly | \$0.0372 hourly | \$0.0302 hourly |
| T1 Micro | t1.micro | 0.613 GiB | 1 vCPUs | EBS only | Very Low | \$0.0200 hourly | \$0.0140 hourly | \$0.0031 hourly | \$0.0200 hourly | \$0.0150 hourly |
| T3 Small | t3.small | 2.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only | Up to 5 Gigabit | \$0.0208 hourly | \$0.0130 hourly | \$0.0169 hourly | \$0.0392 hourly | \$0.0314 hourly |
| T2 Small | t2.small | 2.0 GiB | 1 vCPUs for a 4h 48m burst | EBS only | Low to Moderate | \$0.0230 hourly | \$0.0144 hourly | \$0.0173 hourly | \$0.0320 hourly | \$0.0236 hourly |
| A1 Medium | a1.medium | 2.0 GiB | 1 vCPUs | EBS only | Up to 10 Gigabit | \$0.0255 hourly | \$0.0161 hourly | \$0.0250 hourly | unavailable | unavailable |
| T4G Medium | t4g.medium | 4.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only | Up to 5 Gigabit | \$0.0336 hourly | \$0.0211 hourly | \$0.0289 hourly | unavailable | unavailable |
| C6G Medium | c6g.medium | 2.0 GiB | 1 vCPUs | EBS only | Up to 10 Gigabit | \$0.0340 hourly | \$0.0214 hourly | \$0.0338 hourly | unavailable | unavailable |
| C7G Medium | c7g.medium | 2.0 GiB | 1 vCPUs | EBS only | Up to 12.5 Gigabit | \$0.0363 hourly | \$0.0239 hourly | \$0.0334 hourly | unavailable | unavailable |
| T3A Medium | t3a.medium | 4.0 GiB | 2 vCPUs for a 4h 48m burst | EBS only | Up to 5 Gigabit | \$0.0376 hourly | \$0.0236 hourly | \$0.0362 hourly | \$0.0560 hourly | \$0.0420 hourly |



Billing – Specifics of EC2

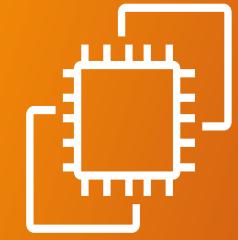
Pricing Model 1

EC2 Billing Models

On-Demand

Choose Your EC2 Pricing Model

Order a machine; use it for seconds/minutes;
then terminate it when you are done



Billing – Specifics of EC2

Pricing Model 2

EC2 Billing Models

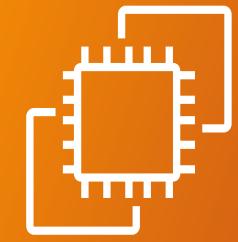
On-Demand

Savings Plans

Choose Your EC2 Pricing Model

Order a machine; use it for seconds/minutes; then terminate it when you are done

Pay \$10,000 into a savings plan for EC2, and AWS will give you \$12,000. Then you can pay from the \$12,000 for 1-3 years



Billing – Specifics of EC2

Pricing Model 3

EC2 Billing Models

On-Demand

Savings Plans

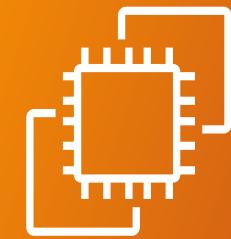
Spot

Choose Your EC2 Pricing Model

Order a machine; use it for seconds/minutes; then terminate it when you are done

Pay \$10,000 into a savings plan for EC2, and AWS will give you \$12,000. Then you can pay from the \$12,000 for 1-3 years

Place a bid on a Spot machine; win the bid; get the machine for minutes to days; get up to 90% discount



Billing – Specifics of EC2

Pricing Model 4

EC2 Billing Models

On-Demand

Savings Plans

Spot

Reservations

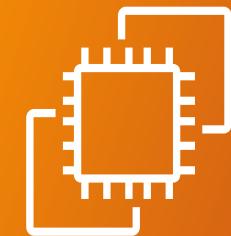
Choose Your EC2 Pricing Model

Order a machine; use it for seconds/minutes; then terminate it when you are done

Pay \$10,000 into a savings plan for EC2, and AWS will give you \$12,000. Then you can pay from the \$12,000 for 1-3 years

Place a bid on a Spot machine; win the bid; get the machine for minutes to days; get up to 90% discount

Commit to 1-3 years and get up to 72% off on demand cost with Reserved Instances



Billing – Specifics of EC2

Pricing Model 5

EC2 Billing Models

On-Demand

Savings Plans

Spot

Reservations

Dedicated

Choose Your EC2 Pricing Model

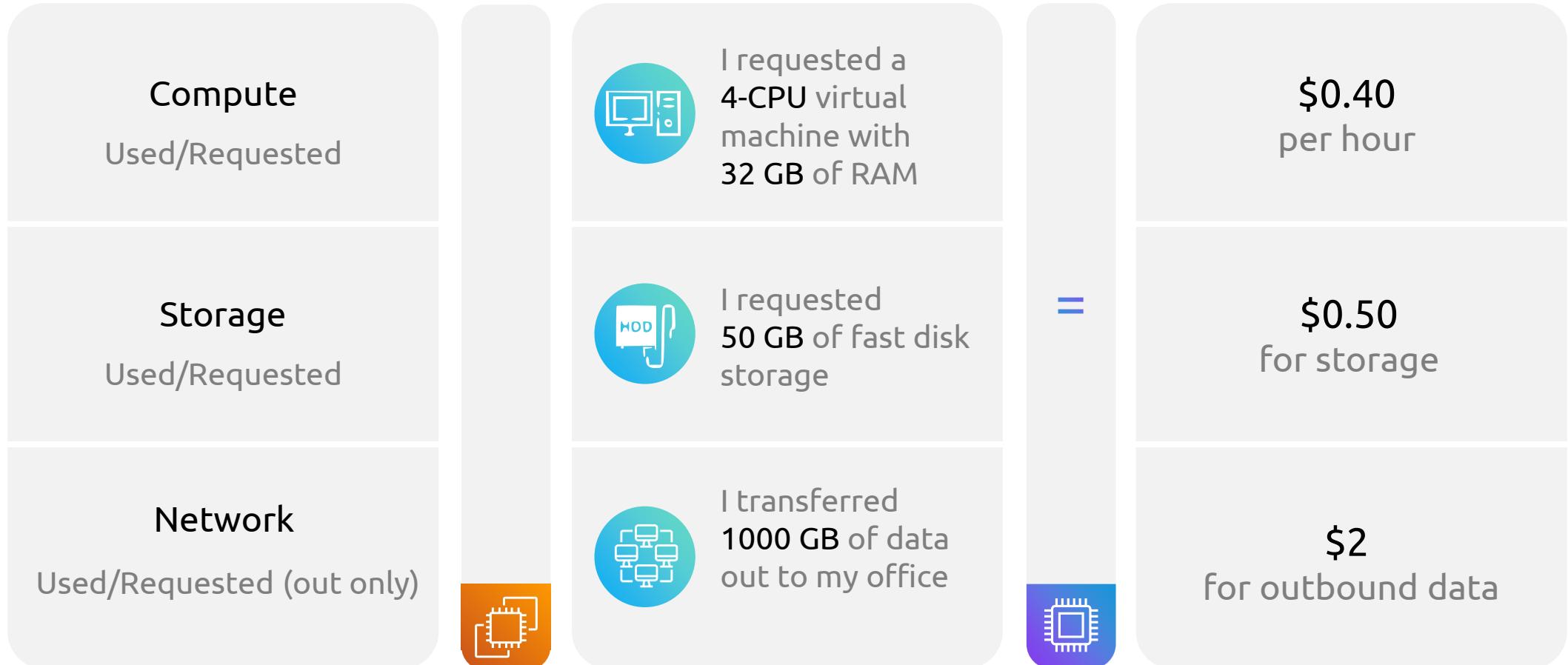


Your private dedicated EC2 HOST



Billing – Fundamentals of Pricing - Remix

Three general drivers of billing

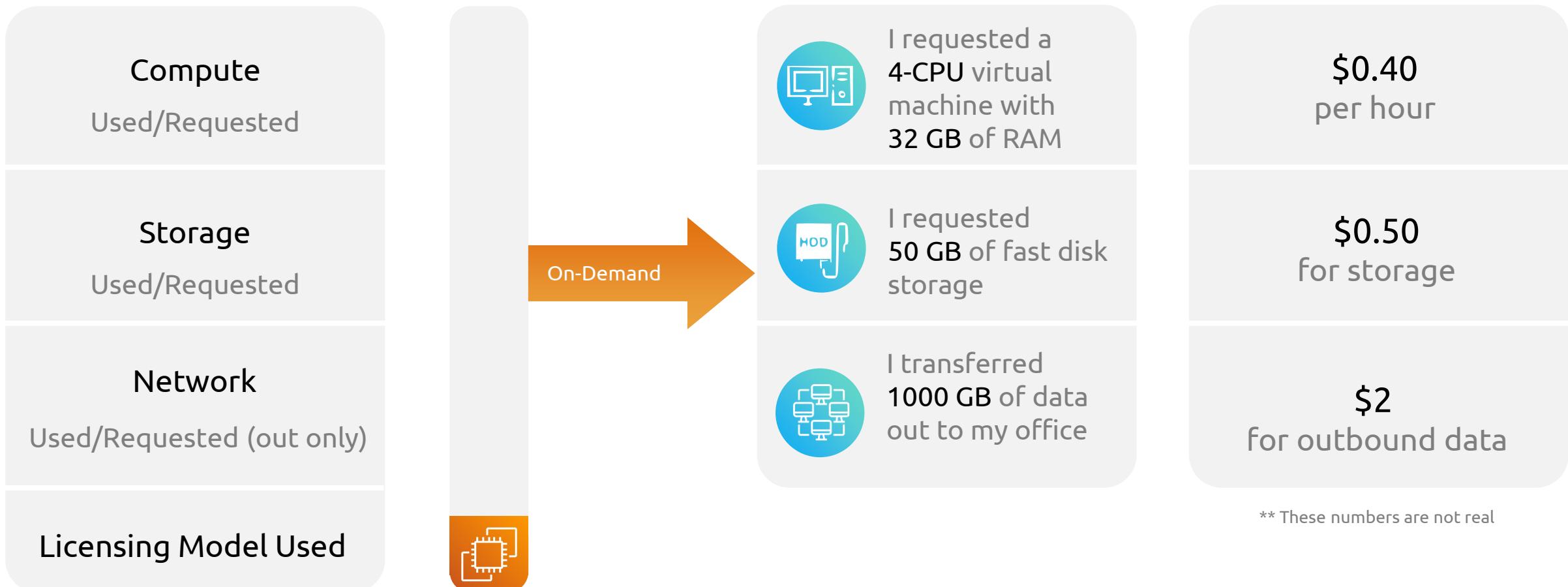


** These numbers are not real



Billing – R5.xlarge Pricing

Three general drivers of billing

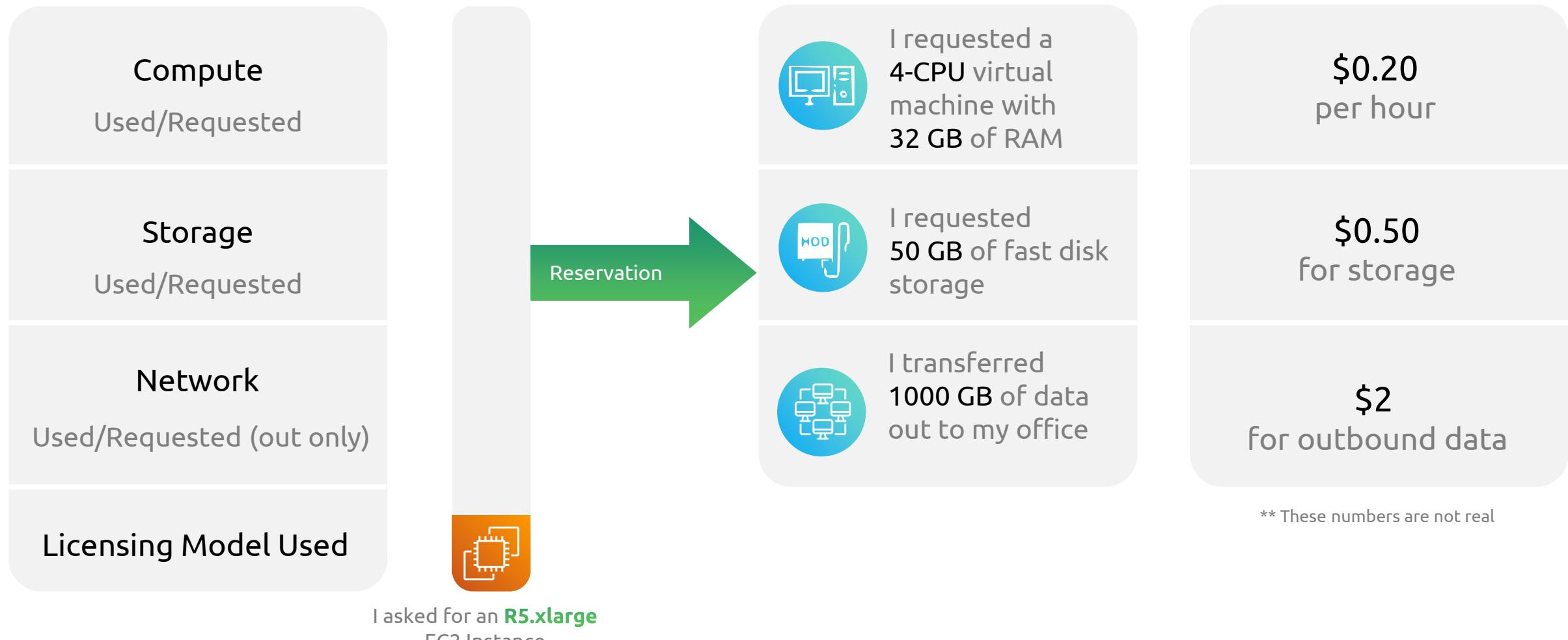


** These numbers are not real



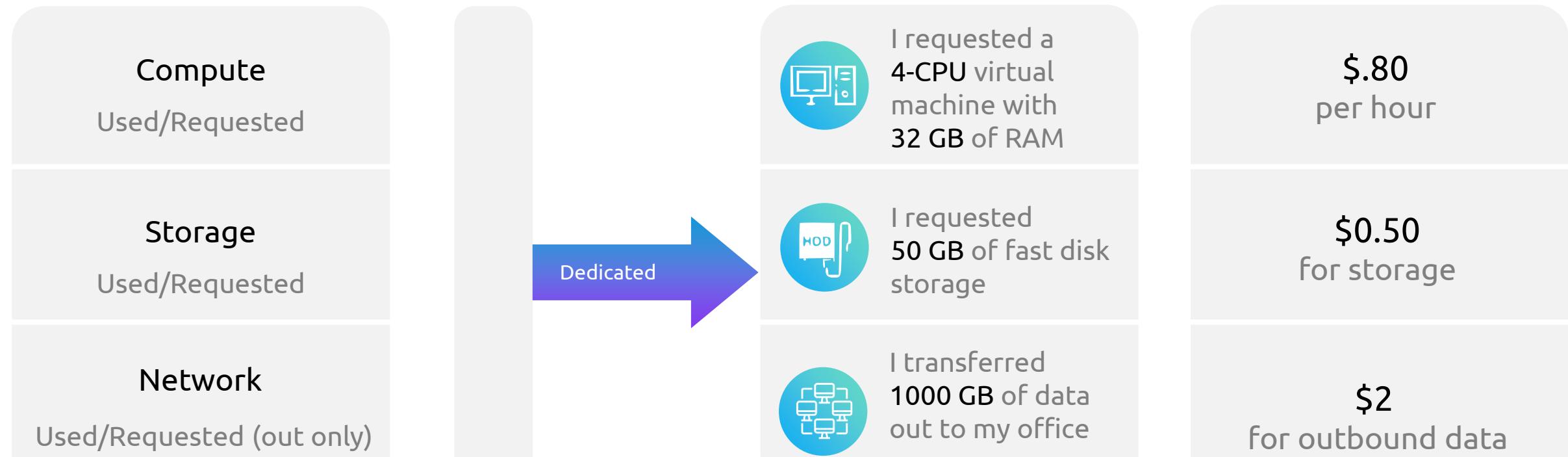
Billing – R5.2xlarge Pricing

Three general drivers of billing



Billing – R5.4xlarge Pricing

Three general drivers of billing

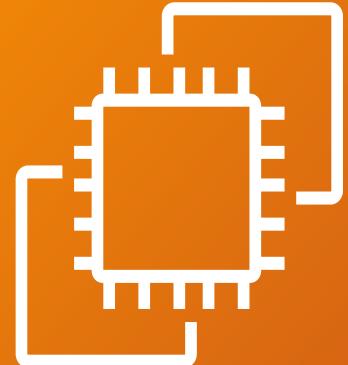


** These numbers are not real



Billing – What features did you turn on for EC2?

- Storage? >>> another service
- Elastic IP addresses? >>> cost only if unused
- Load balancers? >>> another service
- Hibernation? >>> slight cost
- Transferring data out to your office? >>> VPC outbound data charges
- Other features? >>> varies





EC2 Billing - Summary



With EC2, you only pay when the machine is running



Compute, Storage, Requests/Network are the common dimensions even with EC2



Five models - On-demand, Reserved, Spot, Dedicated, and Savings Plans



The Fifth Model - Dedicated to both instance and host



Sizing is the biggest dimension



Enabling Features or Service Integrations can increase costs

Specific Billing for RDS



Billing – Specifics of RDS - Overview

RDS has several dimensions to pricing

- Which service(s) are we talking about?
- What type of SQL engine is used?
- What is the Memory Size of the Database?
- What storage disk and type are used?
- What additional features like Multi-AZ or Backup Retention have you added?

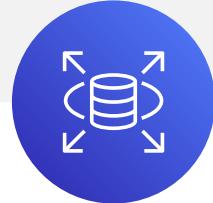


Billing – RDS – What **Service** are we talking about?

RDS has three “sub” services

RDS “Main”

Includes the standard database engines (Oracle, Microsoft, MySQL, Maria, and PostgreSQL)



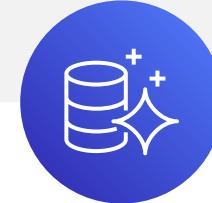
Aurora

Is a scalable clone of MySQL and PostgreSQL



Aurora Serverless

Has two versions, v1, and v2, both of which allow you to use Aurora but with no servers to manage



** Pricing is different for each of these!



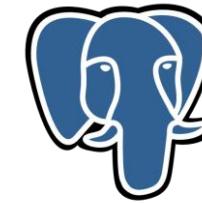
Billing – RDS – What Type of SQL engine?

From an RDS perspective, AWS only supports the following:

- Which one of these are you using?
- These are more expensive due to licensing.
- You can bring your own license (BYOL) in many cases.
- Don't forget there are different versions of Oracle and MSSQL also.

ORACLE

Microsoft®
SQL Server®



PostgreSQL



MariaDB



MySQL™



Billing – RDS – What is the **Database instance size?**

- RDS uses DB instances and will charge you based on the DB size and number of DB instances.
- These “instances” are just like EC2, but made for Databases, and you can’t log in to them normally.***
- DB are of different sizes like db.t3.small, db.t3.medium, db.t3.large, etc.
- Your CPU, memory, and network bandwidth will increase as you increase sizes, but so will your cost.
- Cost is per hour (shown next)



Billing – RDS – What is the Database instance size?

Instances EC2 RDS ElastiCache Redshift OpenSearch

OpenAI and ChatGPT API cost monitoring and forecasting now available →

| Region | Pricing Unit | Cost | Reserved | Instance | Hourly | 1 yr - No Upfront | Columns | Compare Selected | Clear Filters |
|---------------------------|---------------|-----------|------------------|----------|-----------------|-------------------|-----------------|------------------|-----------------|
| US East (N. Virginia) | | | | | | | | | |
| T4G Micro | db.t4g.micro | 1 GiB | 0 GiB (EBS only) | 2 vCPUs | Up to 5 Gigabit | \$0.0160 hourly | \$0.0116 hourly | \$0.0160 hourly | \$0.0116 hourly |
| T3 Micro | db.t3.micro | 1 GiB | 0 GiB (EBS only) | 2 vCPUs | Low to Moderate | \$0.0180 hourly | \$0.0129 hourly | \$0.0170 hourly | \$0.0120 hourly |
| T2 General Purpose Micro | db.t2.micro | 1 GiB | 0 GiB (EBS only) | 1 vCPUs | Low to Moderate | \$0.0180 hourly | \$0.0144 hourly | \$0.0170 hourly | \$0.0136 hourly |
| T1 Micro | db.t1.micro | 0.613 GiB | 0 GiB (EBS only) | 1 vCPUs | Very Low | \$0.0260 hourly | unavailable | \$0.0250 hourly | unavailable |
| T4G Small | db.t4g.small | 2 GiB | 0 GiB (EBS only) | 2 vCPUs | Up to 5 Gigabit | \$0.0320 hourly | \$0.0233 hourly | \$0.0320 hourly | \$0.0233 hourly |
| T3 Small | db.t3.small | 2 GiB | 0 GiB (EBS only) | 2 vCPUs | Low to Moderate | \$0.0360 hourly | \$0.0258 hourly | \$0.0340 hourly | \$0.0239 hourly |
| T2 General Purpose Small | db.t2.small | 2 GiB | 0 GiB (EBS only) | 1 vCPUs | Low to Moderate | \$0.0360 hourly | \$0.0288 hourly | \$0.0340 hourly | \$0.0270 hourly |
| M1 General Purpose Small | db.m1.small | 1.7 GiB | 1 × 160 | 1 vCPUs | Low | \$0.0600 hourly | unavailable | \$0.0550 hourly | unavailable |
| T4G Medium | db.t4g.medium | 4 GiB | 0 GiB (EBS only) | 2 vCPUs | Up to 5 Gigabit | \$0.0650 hourly | \$0.0465 hourly | \$0.0650 hourly | \$0.0465 hourly |
| T3 Medium | db.t3.medium | 4 GiB | 0 GiB (EBS only) | 2 vCPUs | Low to Moderate | \$0.0720 hourly | \$0.0517 hourly | \$0.0680 hourly | \$0.0478 hourly |
| T2 General Purpose Medium | db.t2.medium | 4 GiB | 0 GiB (EBS only) | 2 vCPUs | Low to Moderate | \$0.0730 hourly | \$0.0580 hourly | \$0.0680 hourly | \$0.0544 hourly |
| M3 General Purpose Medium | db.m3.medium | 3.75 GiB | 1 × 4 SSD | 1 vCPUs | Moderate | \$0.0950 hourly | unavailable | \$0.0900 hourly | unavailable |
| M1 General Purpose Medium | db.m1.medium | 3.75 GiB | 1 × 410 | 1 vCPUs | Moderate | \$0.1200 hourly | unavailable | \$0.1150 hourly | unavailable |
| T4G Large | db.t4g.large | 8 GiB | 0 GiB (EBS only) | 2 vCPUs | Up to 5 Gigabit | \$0.1290 hourly | \$0.0930 hourly | \$0.1290 hourly | \$0.0930 hourly |
| T3 Large | db.t3.large | 8 GiB | 0 GiB (EBS only) | 2 vCPUs | Low to Moderate | \$0.1450 hourly | \$0.1034 hourly | \$0.1360 hourly | \$0.0957 hourly |
| T2 General Purpose Large | db.t2.large | 8 GiB | 0 GiB (EBS only) | 2 vCPUs | Low to Moderate | \$0.1450 hourly | \$0.1160 hourly | \$0.1360 hourly | \$0.1080 hourly |



Billing – RDS – Storage Disk and Storage Type?

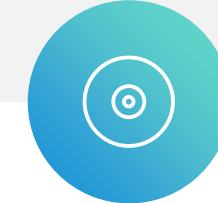
General Purpose

Cheapest and used for many workloads, except for the most demanding databases



PIOPS

Most expensive and you can control how many I/O per second it can support up to 256K IOPS



Billing – RDS – **Features** that impact costs

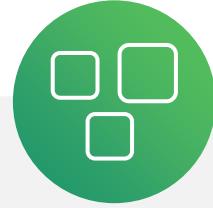


Backup
Retention



Deployment
Models

(Instance deployment
versus cluster deployment)



Blue-Green

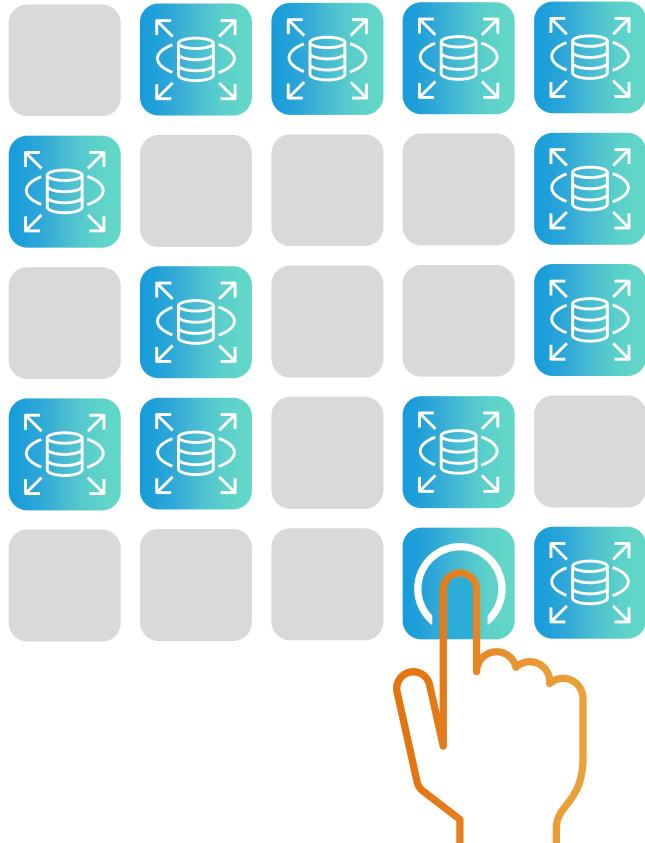


Caching Models



All are beyond the scope of Cloud Practitioner, but they add costs.

Billing – RDS – Side Note about Reservations



- Similar to EC2, RDS also has **Reservations** or **Reserved Instances**
- It does not have **Spot**, **Dedicated**, or a **Savings Plan**
- **On-demand** is common, but **Reserved** is recommended because of the discount
- Play with this in the **RDS calculator exercise**

RDS Billing - Summary



Which RDS service are you running - Aurora, “main” RDS, or Aurora Serverless?



What Database engine are you using?



What Size of DB engine are you using - DB.t3.large, DB.t3.xlarge, or others?



How big and how fast are the disks?



Are you using On-demand RDS/ you get Reservations for your RDS instances?



Did you enable other features like Multi-AZ (failover) or long back-up retention?



Specific Billing for VPC



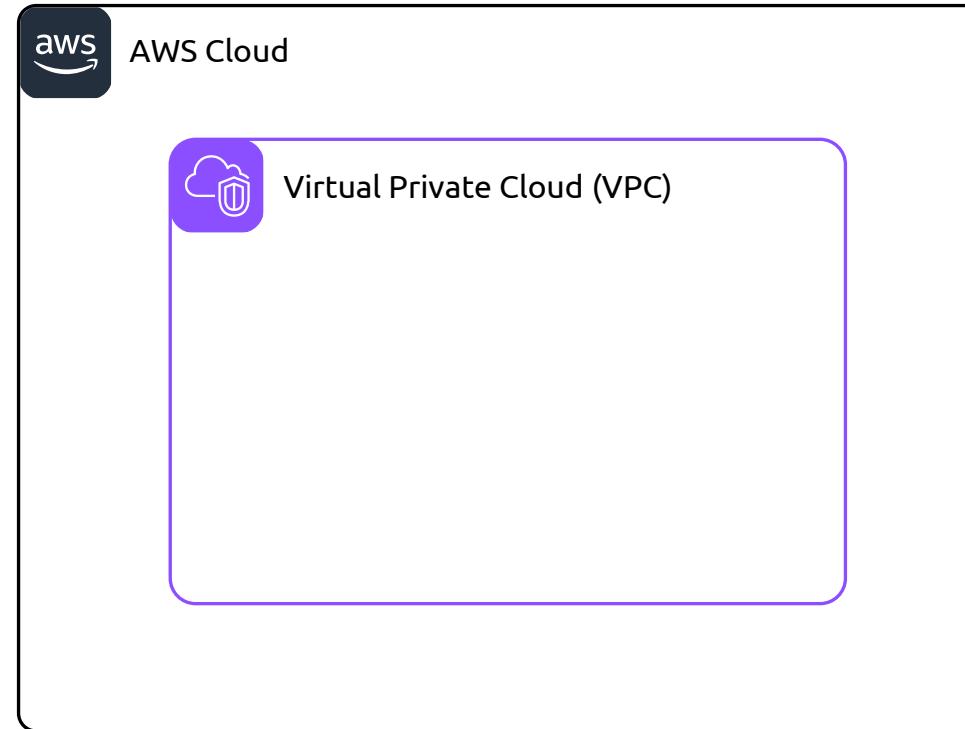


VPC Pricing





VPC Pricing

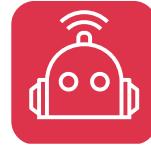




VPC Pricing

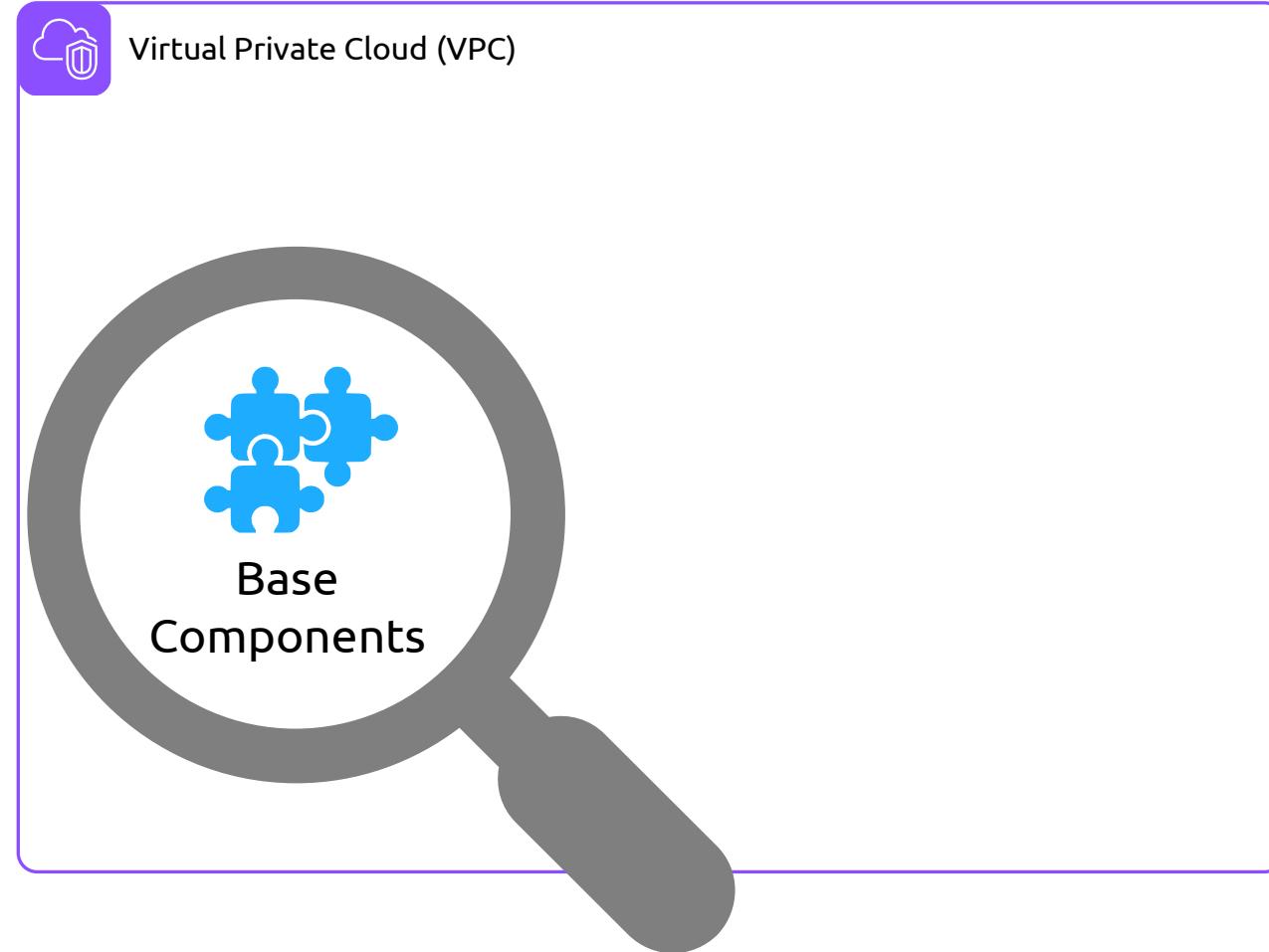


Virtual Private Cloud (VPC)



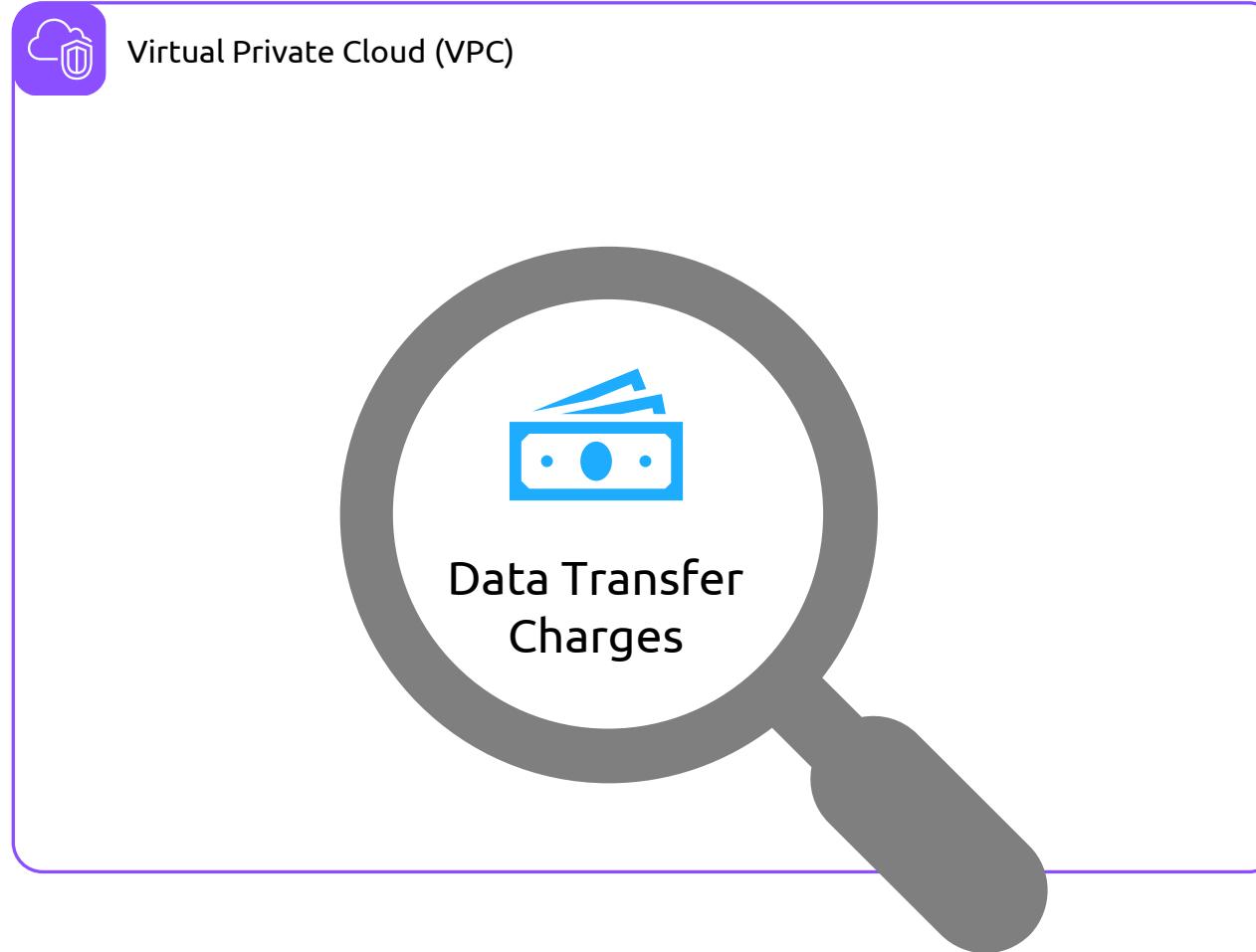


VPC Pricing





VPC Pricing





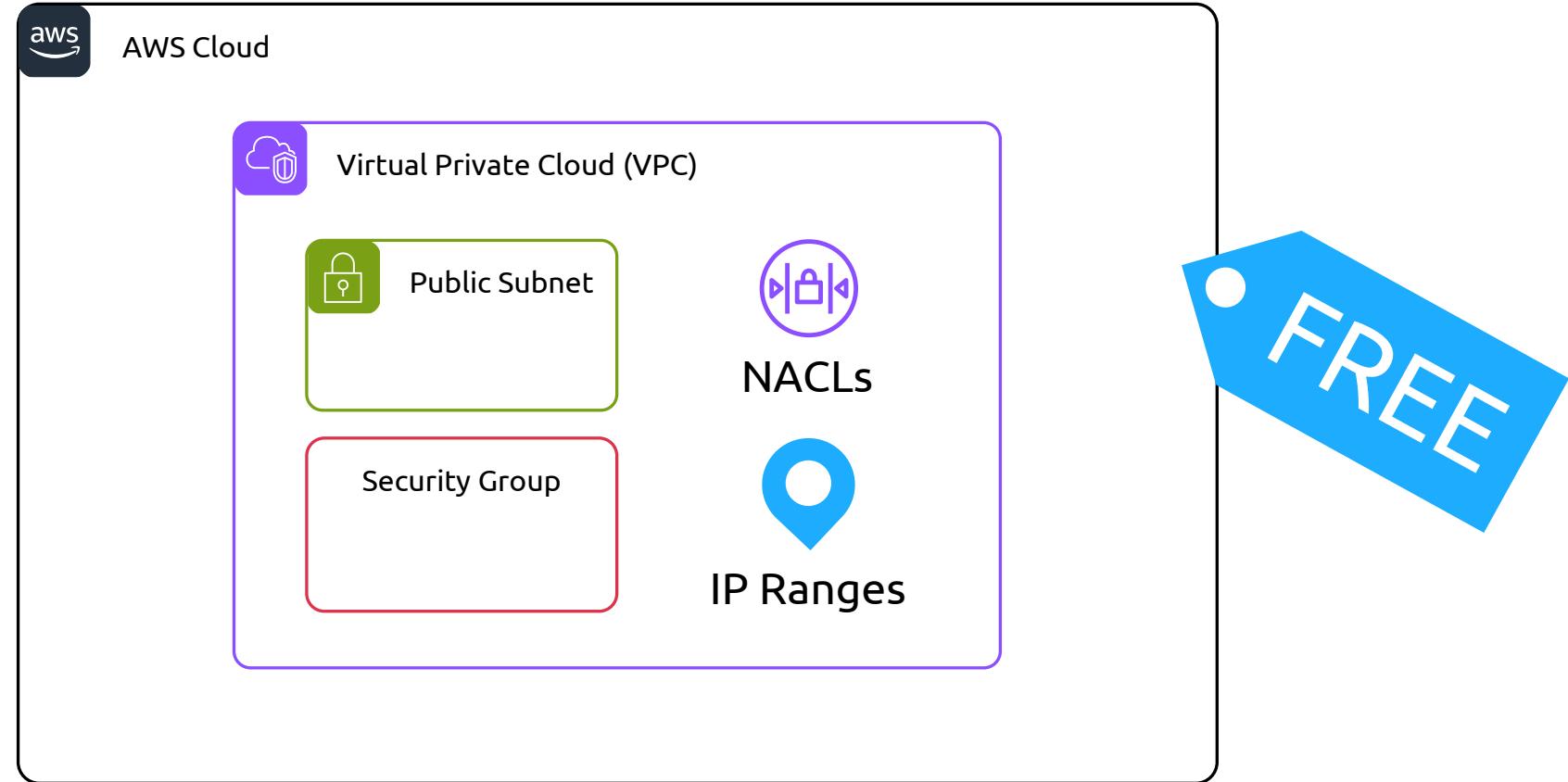
VPC Pricing



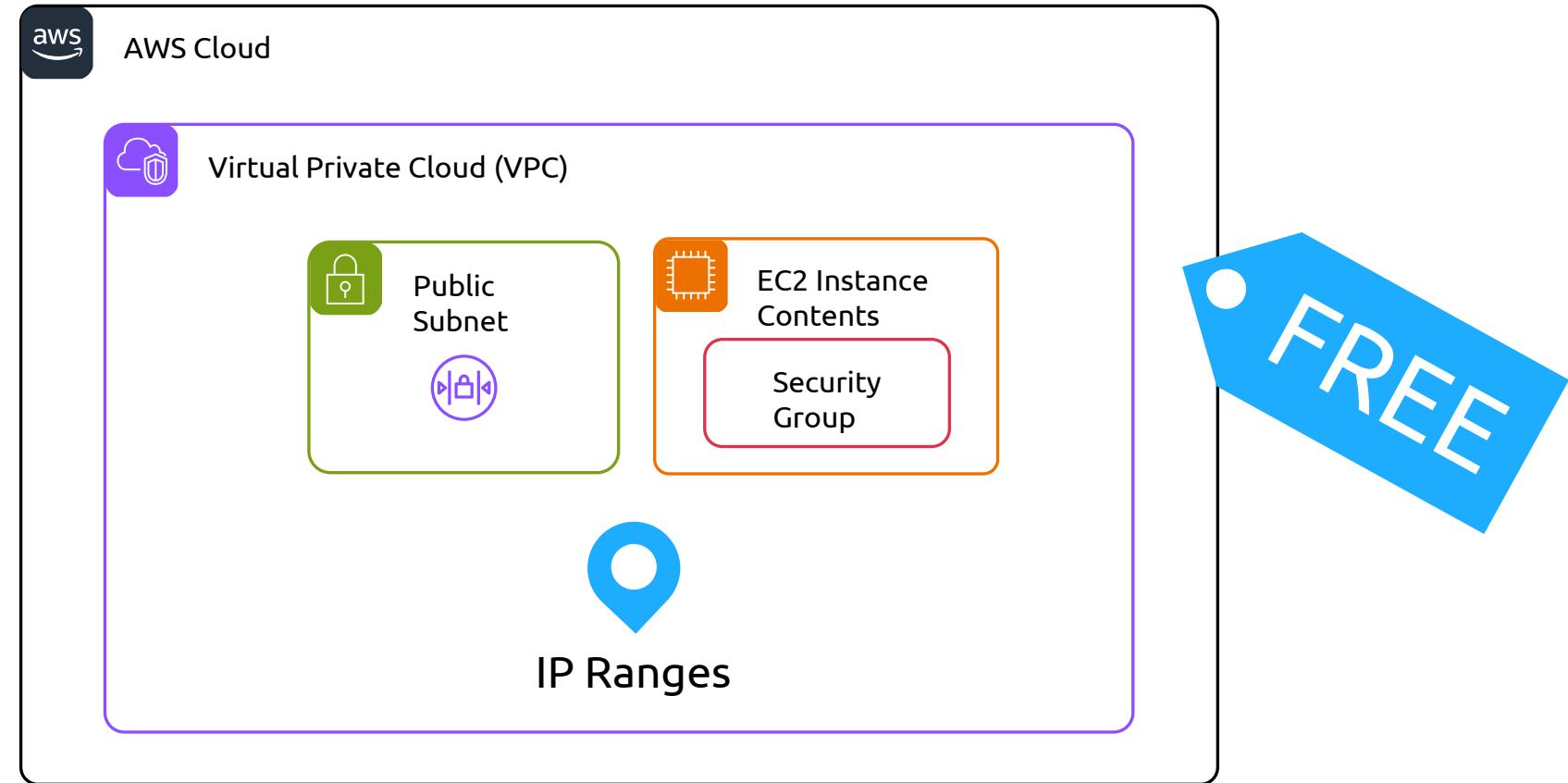
Virtual Private Cloud (VPC)



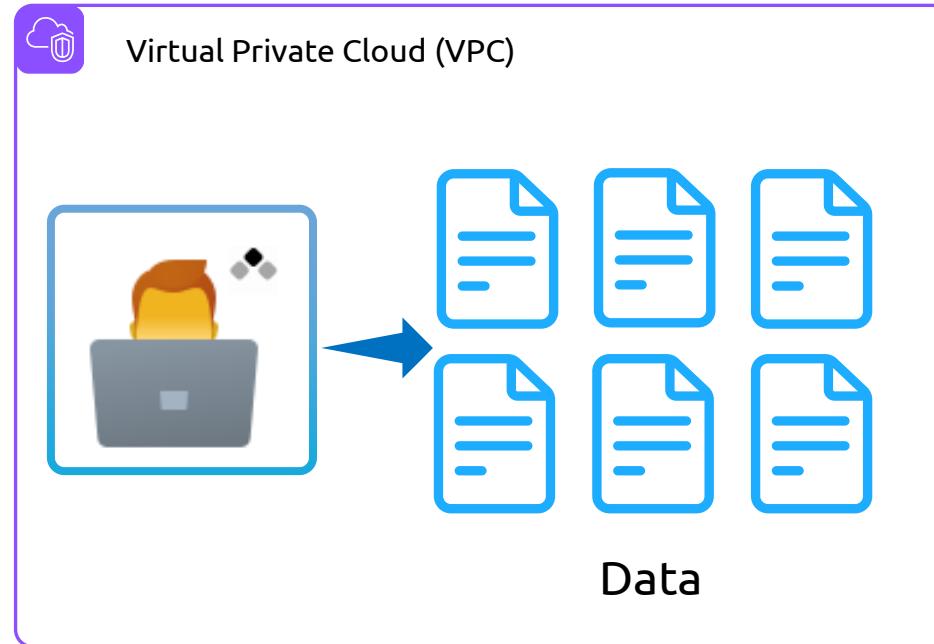
Billing for VPCs – Base Billing Charges



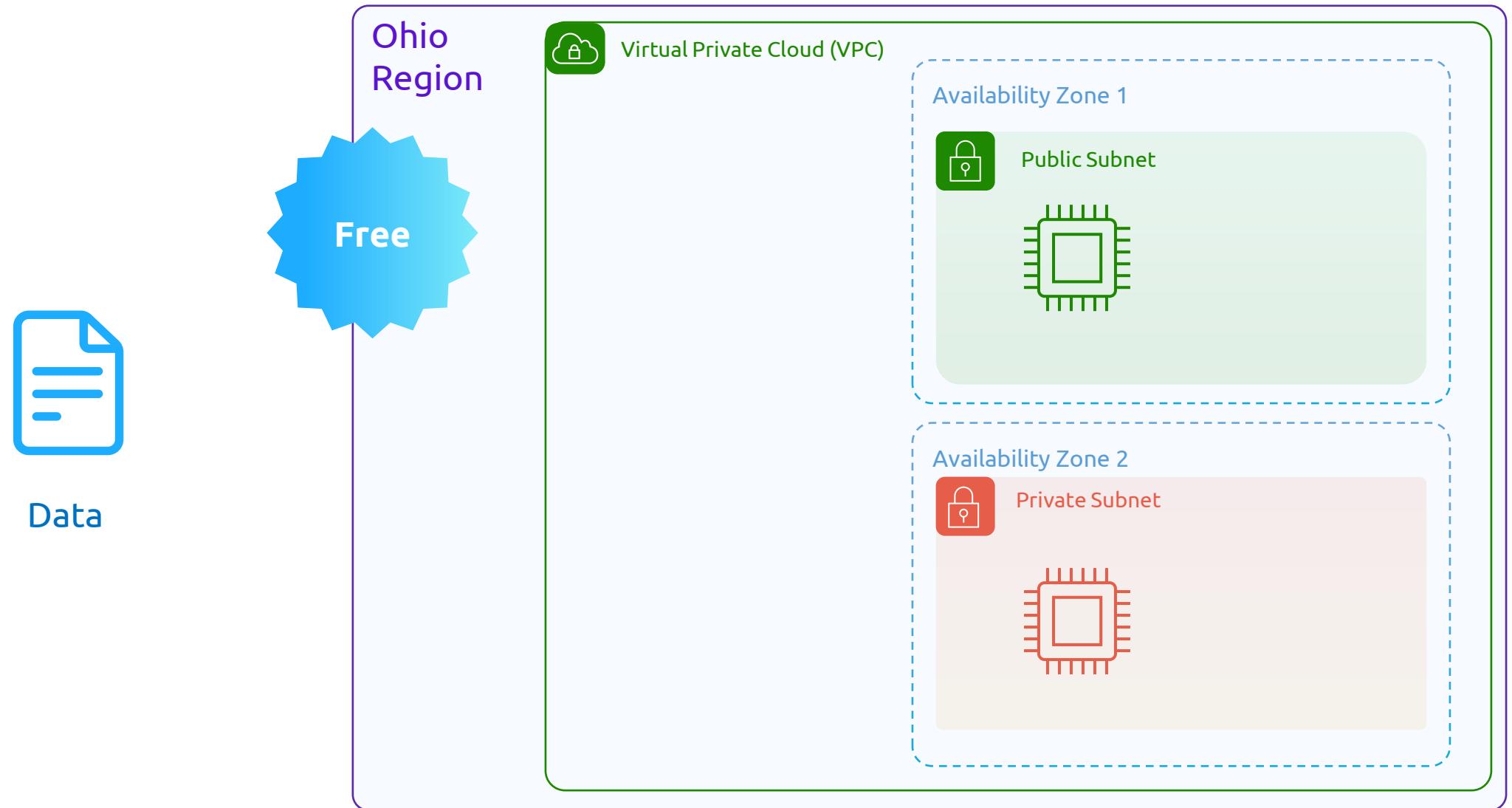
Billing for VPCs – Base Billing Charges



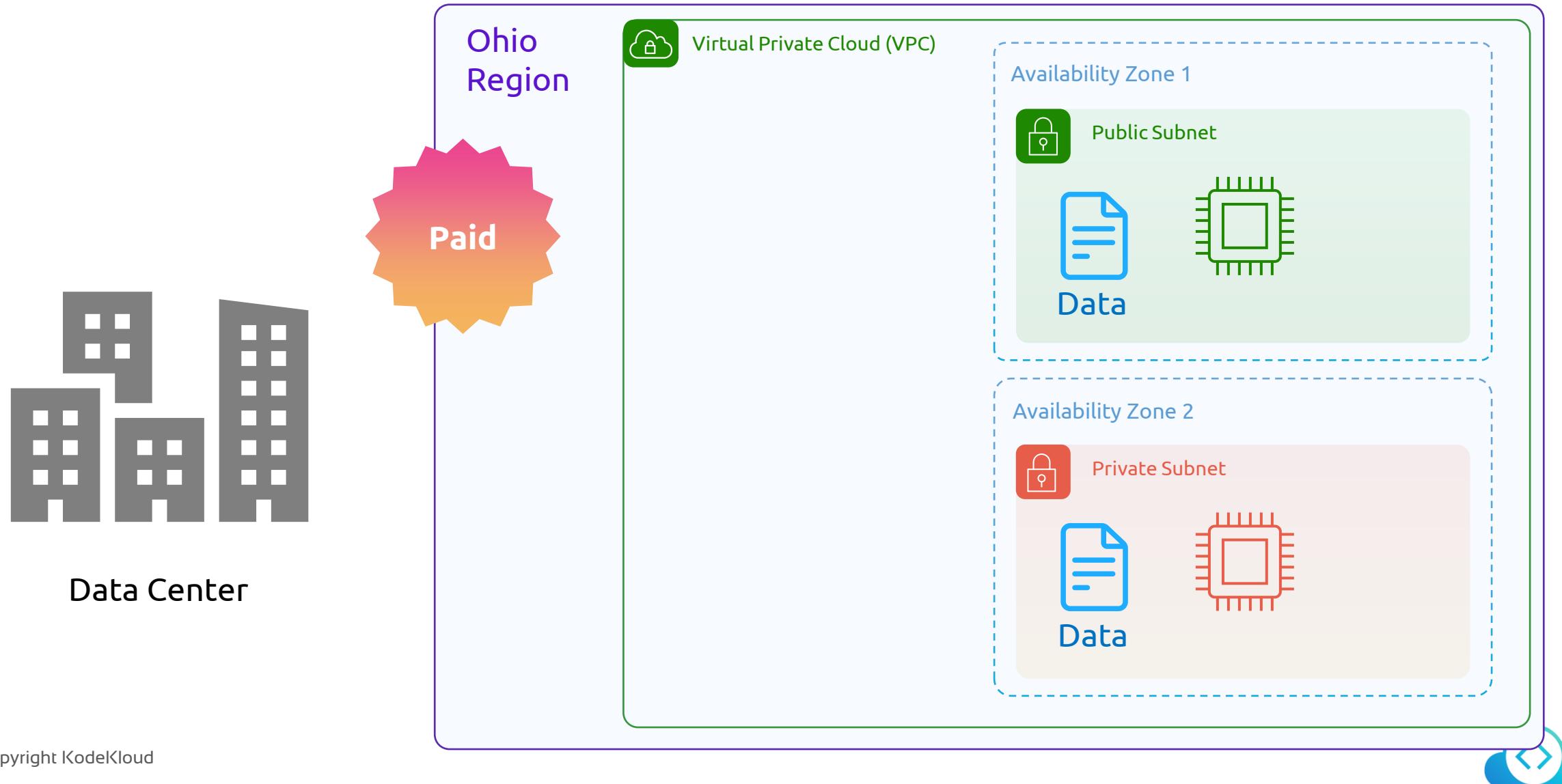
Billing for VPC – Data Transfer Charges



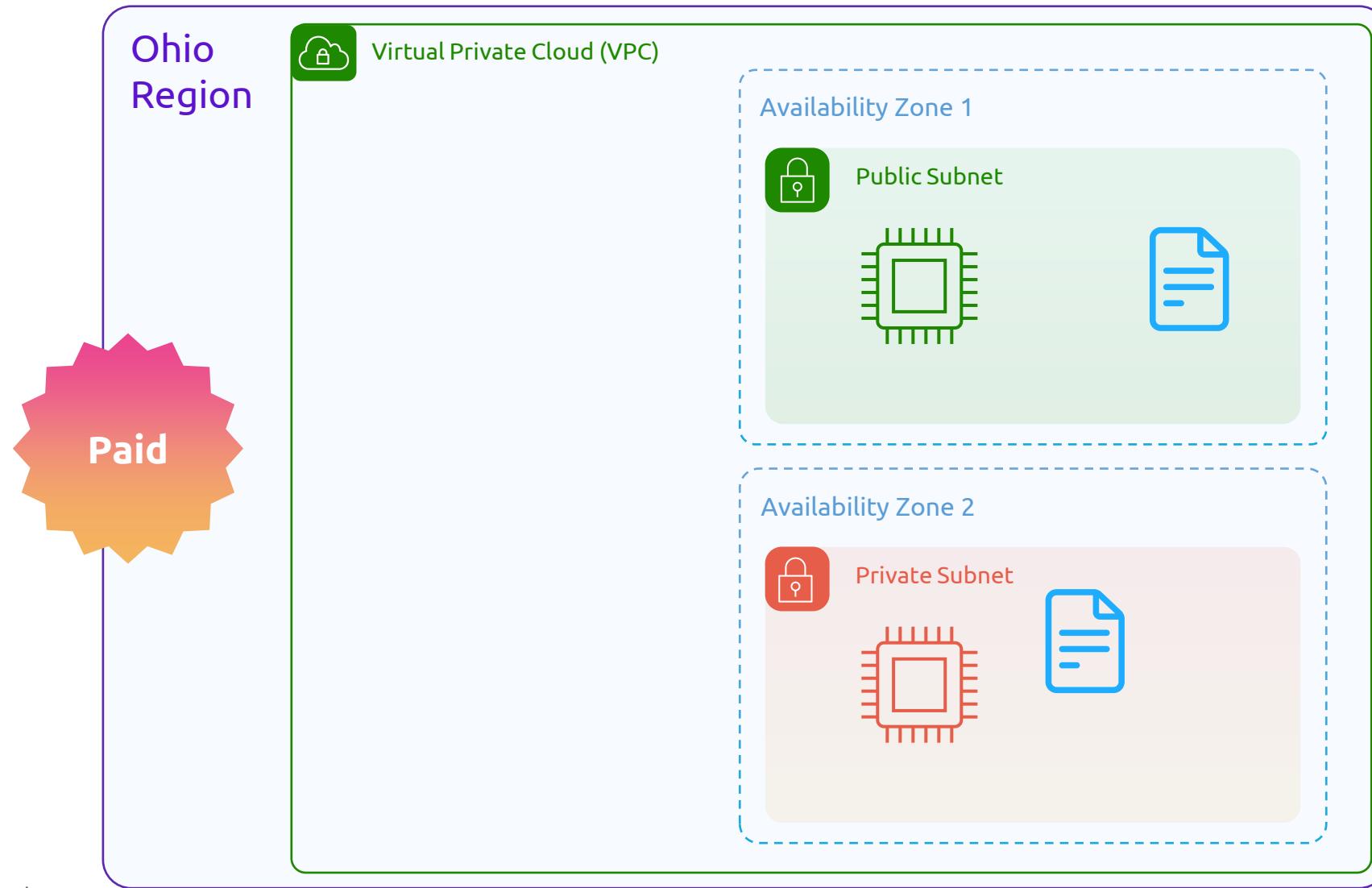
Billing for VPC – Data Inbound to a Region



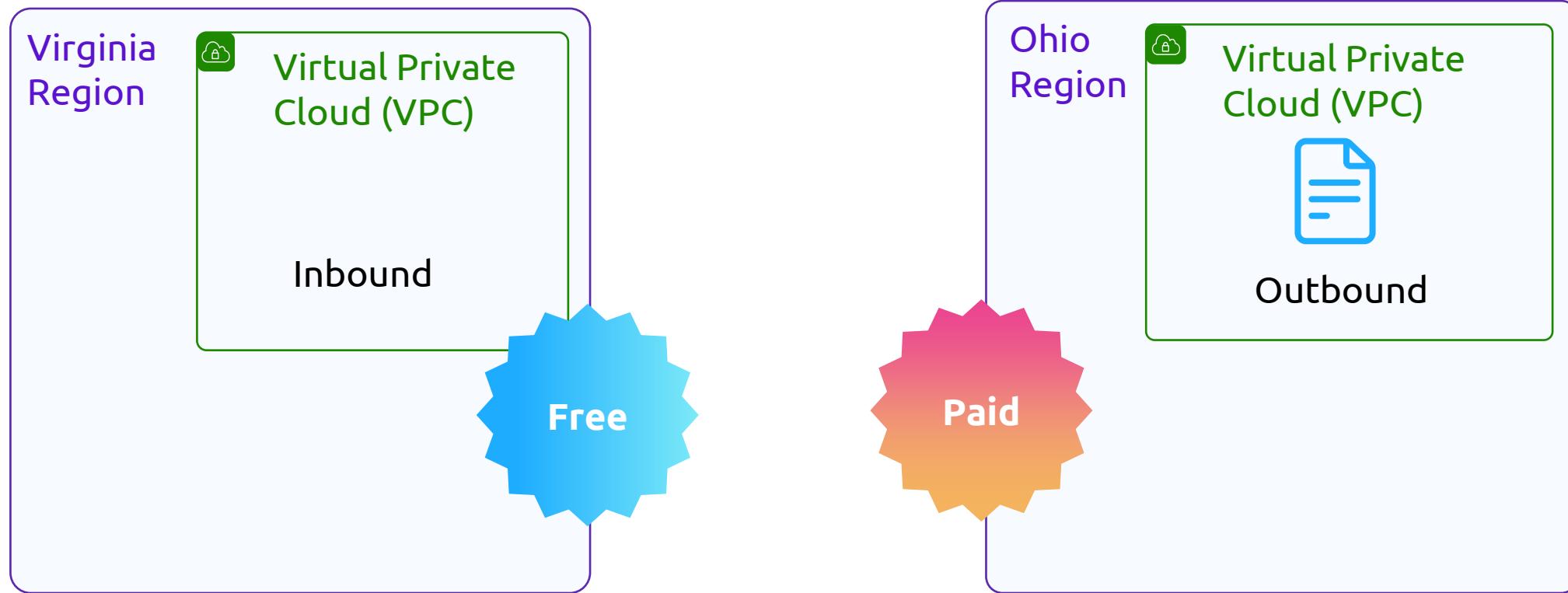
Billing for VPC – Data Outbound from a Region



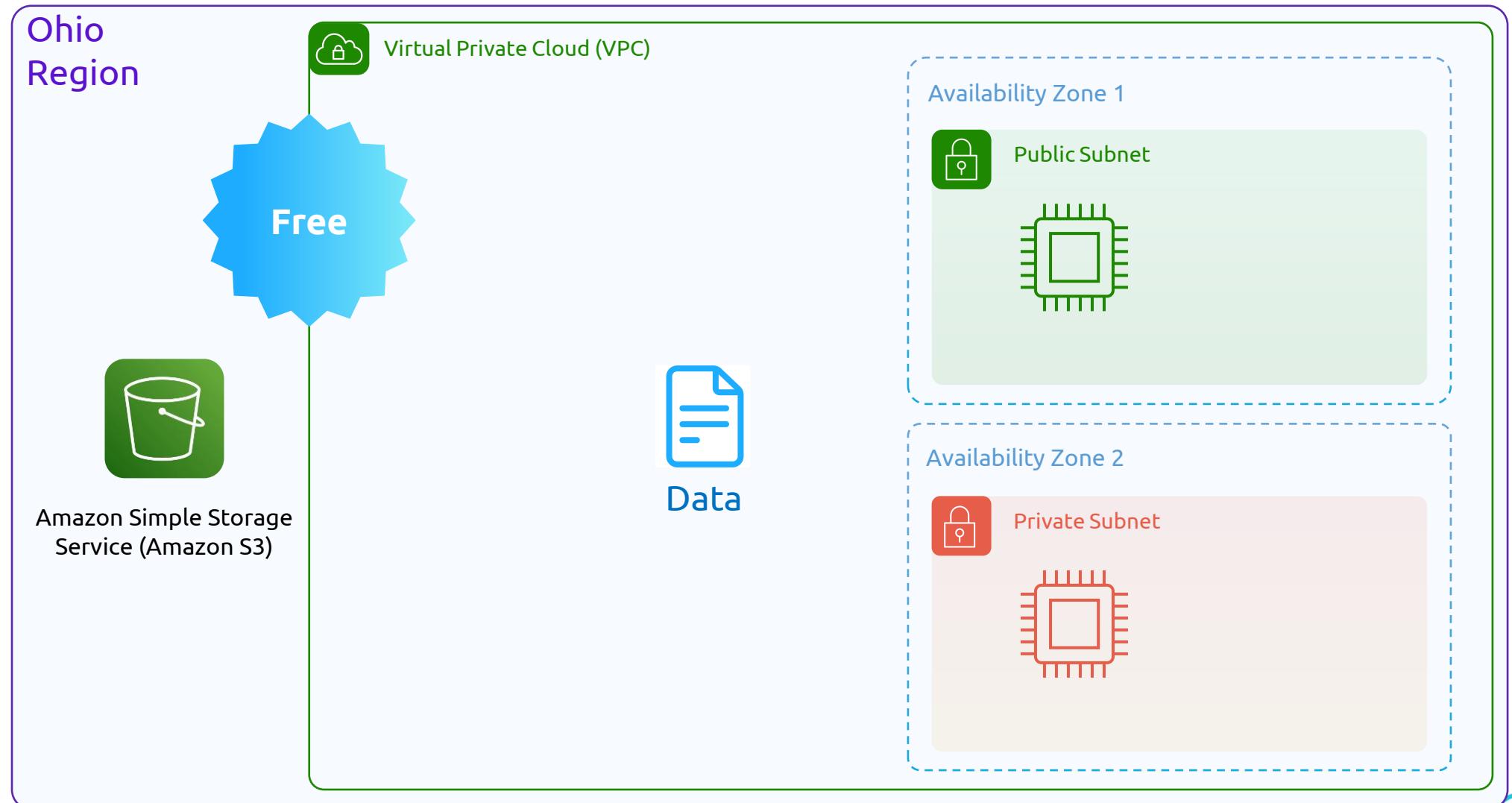
Billing for VPC – Availability Zone to Availability Zone



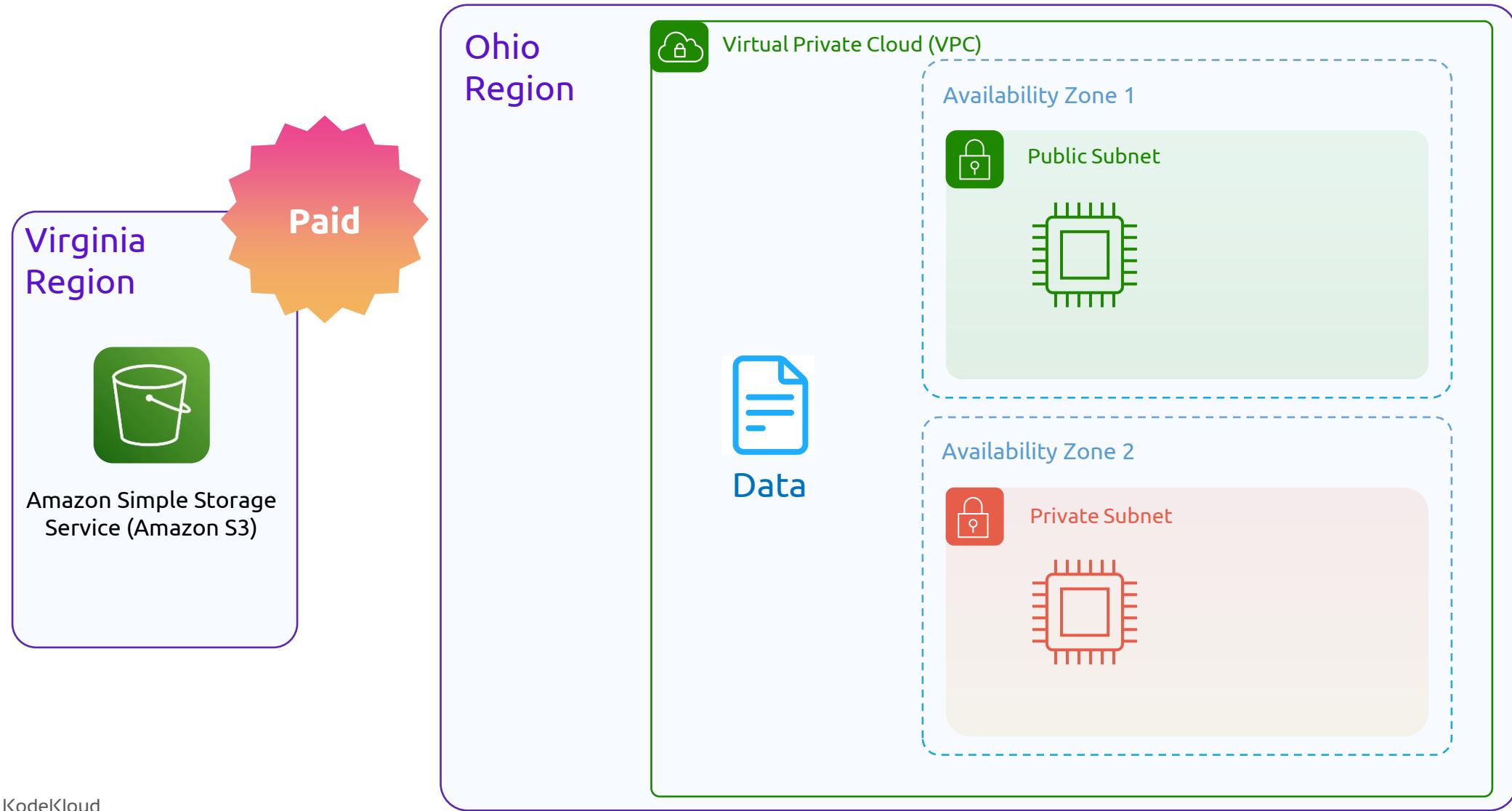
Billing for VPC – Region to Region



Billing for VPC – Same Region EC2 to Same Region S3



Billing for VPC – Region one - EC2 to Region two - S3



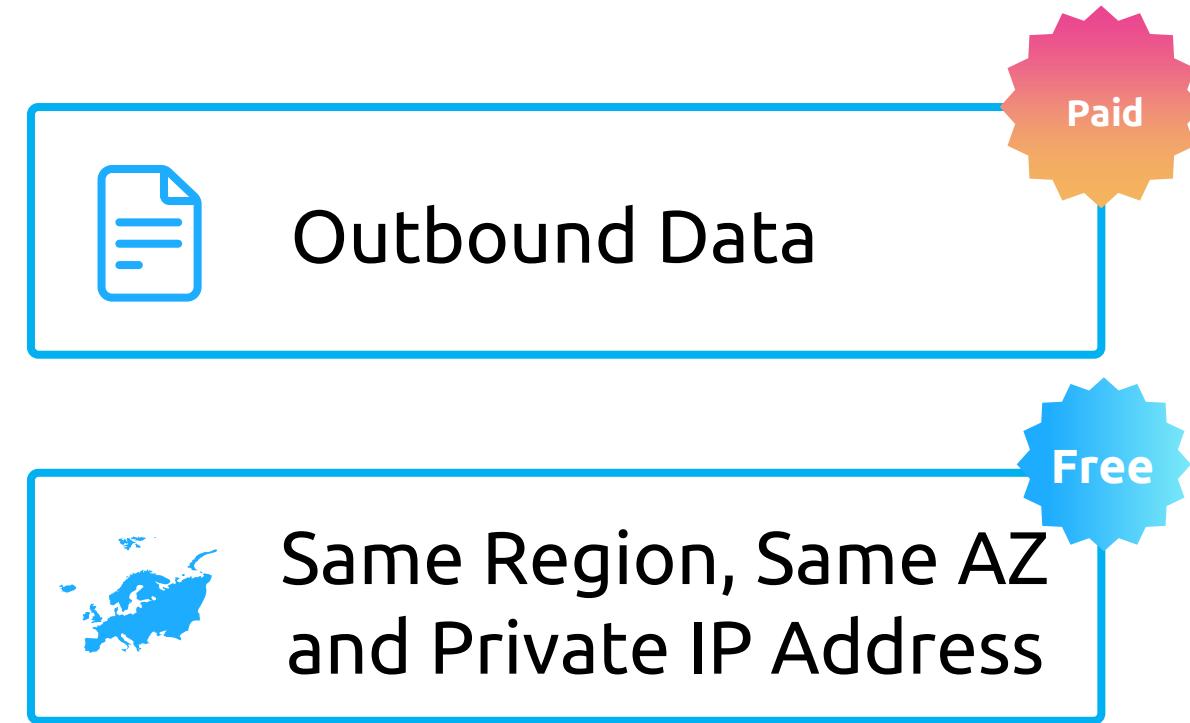
Billing for VPC – Data Transfer Charges

| AWS Service | Data Transfer in | Data Transfer to Different AZ in Region | Data Transfer out to Other Regions | Data Transfer out to Public Internet | Data Transfer out to CloudFront |
|--|------------------|---|------------------------------------|--------------------------------------|---------------------------------|
| Amazon EC2, AWS Lambda, EKS (Includes EBS) | | | | | |
| Amazon S3 + Glacier | | | | | |
| Amazon CloudFront | | | | | |
| Amazon RDS | | | | | |
| Amazon Dynamo DB | | | | | |
| Amazon Aurora | | | | | |
| Amazon CloudSearch | | | | | |
| Amazon SNS + SQS | | | | | |



Billing for VPC – Data Transfer Charges

| AWS Service | Data Transfer in | Data Transfer to Different AZ in Region | Data Transfer out to Other Regions | Data Transfer out to Public Internet | Data Transfer out to CloudFront |
|--|------------------|---|------------------------------------|--------------------------------------|---------------------------------|
| Amazon EC2, AWS Lambda, EKS (Includes EBS) | | | | | |
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| Amazon RDS | | | | | |
| Amazon Dynamo DB | | | | | |
| Amazon Aurora | | | | | |
| Amazon CloudSearch | | | | | |
| Amazon SNS + SQS | | | | | |





Billing for VPC – Pricing - Additional Components



Amazon Virtual Private Cloud
(Amazon VPC)

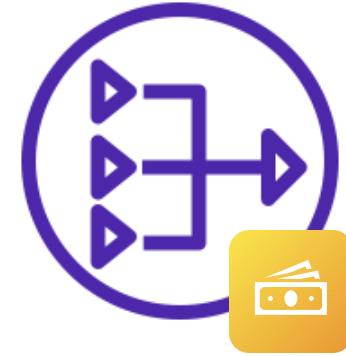




Billing for VPC – Pricing - Additional Components



Amazon Virtual Private Cloud
(Amazon VPC)

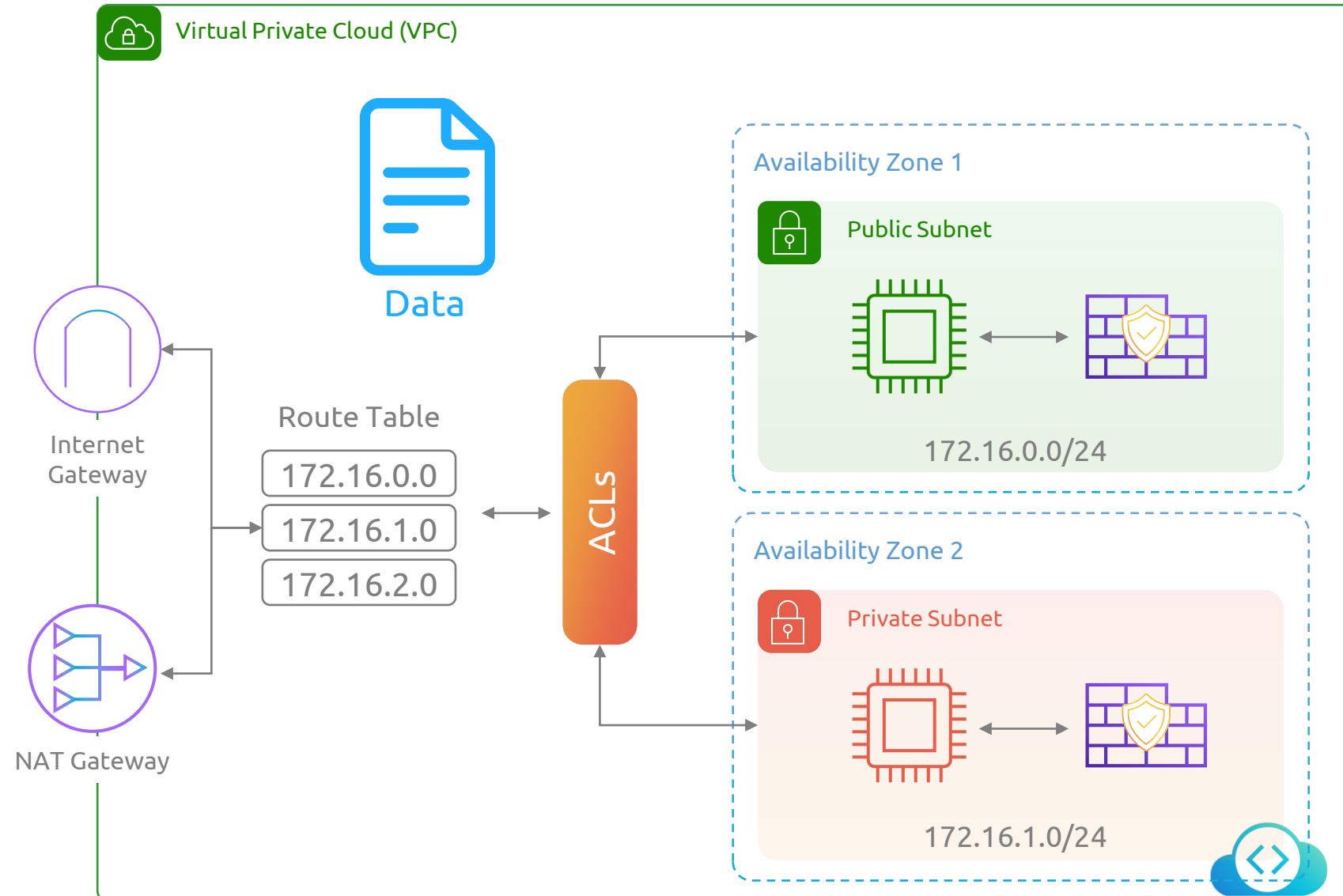


NAT Gateway



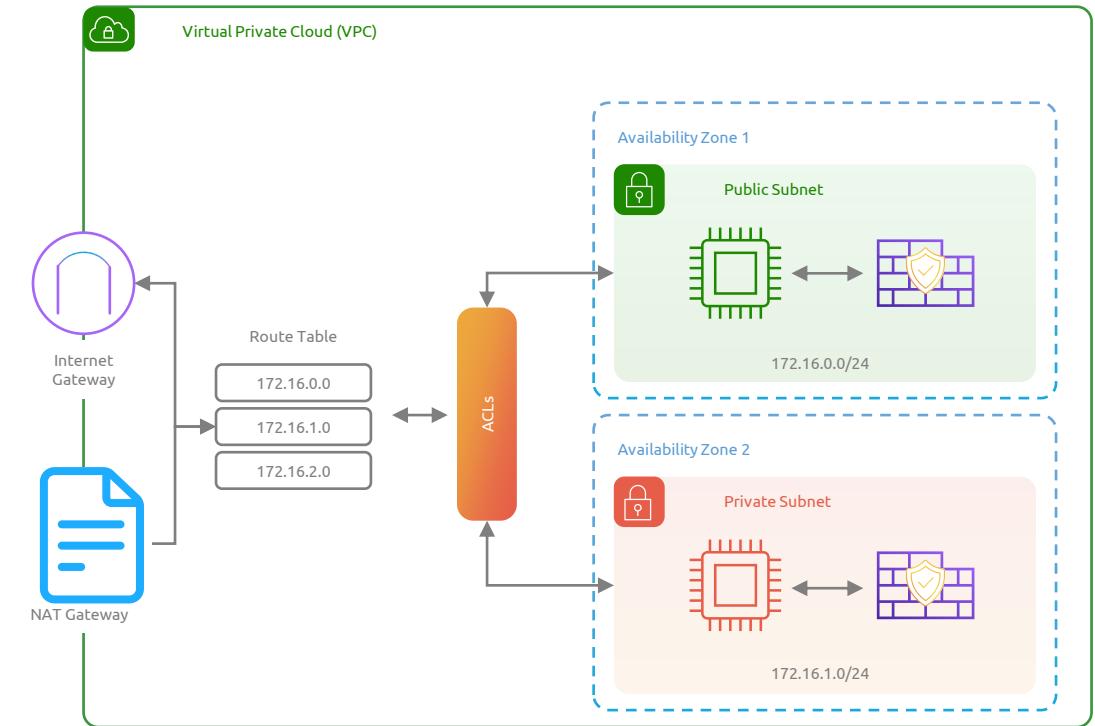
Outbound Data

Billing for VPC – Internet Gateway Charge - An Example



Billing for VPC – Internet Gateway Charge – An Example

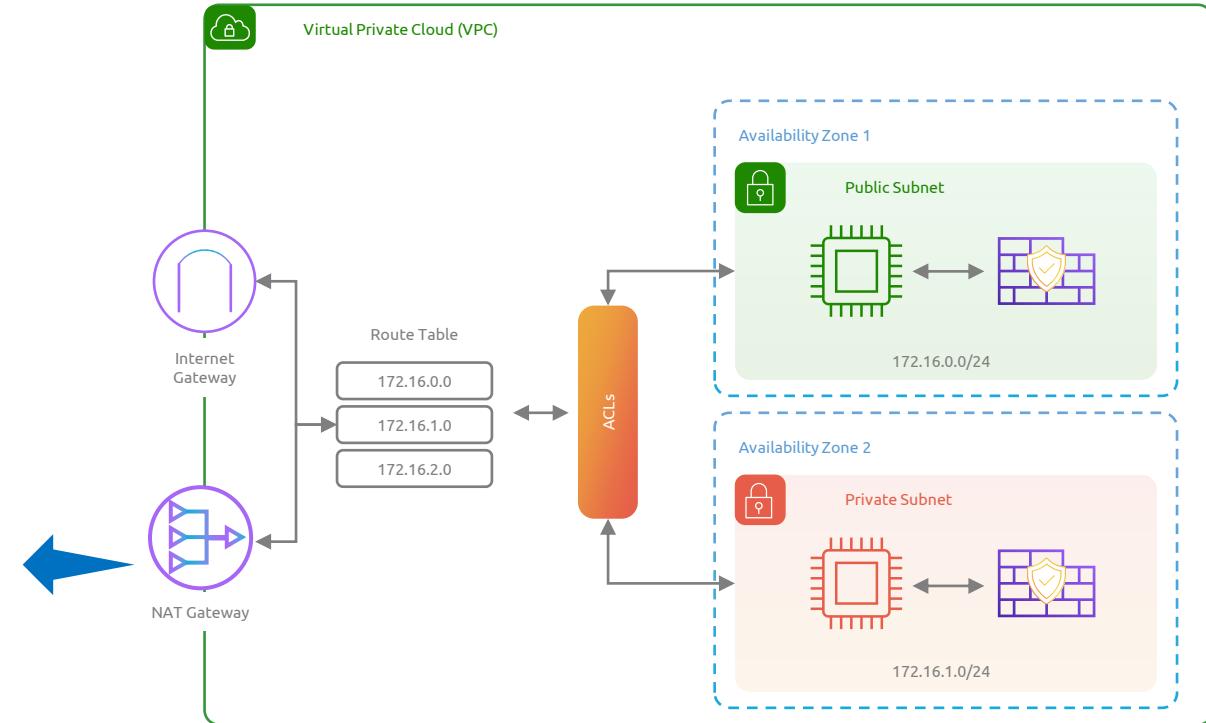
| | |
|------------------------|----------------|
| First 10 TB/Month | \$0.09 per GB |
| Next 40 TB/Month | \$0.085 per GB |
| Next 100 TB/Month | \$0.07 per GB |
| More than 150 TB/Month | \$0.05 per GB |



Billing for VPC – Internet Gateway Charge - An Example

NAT Gateway Hourly
\$0. 045/hour

Data Processing Charge
\$0. 045/GB



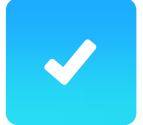
VPC Billing - Summary



VPC components are mostly free



Data, particularly outbound data = Not free



Same region, same AZ, with private IP = Free



Different region or AZ or public IP = Paid



Add-on components add extra cost, particularly when data is run through them



AWS does not test on specific numbers but does only general comparisons

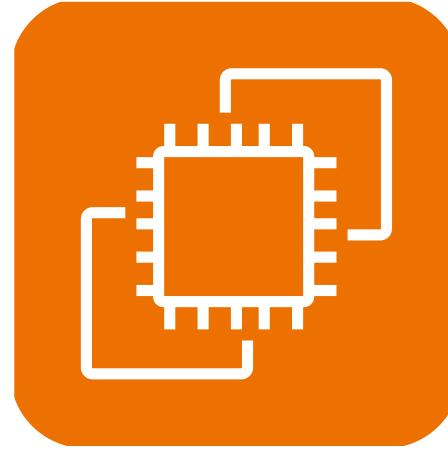


Specific Billing for Lambda





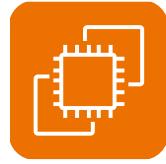
Billing – Lambda (Serverless) Pricing – Overview



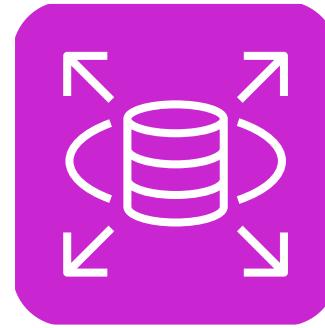
Infrastructure Services



Billing – Lambda (Serverless) Pricing – Overview



Infrastructure Services



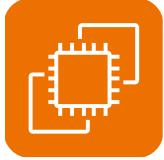
Platform-as-a-Service



Billing – Lambda (Serverless) Pricing – Overview



Infrastructure Services

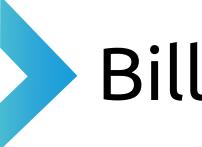


Software-as-a-Service (SaaS)



Platform-as-a-Service (PaaS)

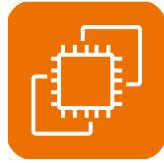




Billing – Lambda (Serverless) Pricing – Overview



Infrastructure Services



Software-as-a-Service (SaaS)



Platform-as-a-Service (PaaS)





Billing – Lambda (Serverless) Pricing – Sizing



= 128 MB



Size





Billing – Lambda (Serverless) Pricing – Sizing

 = 10 GB 

Size





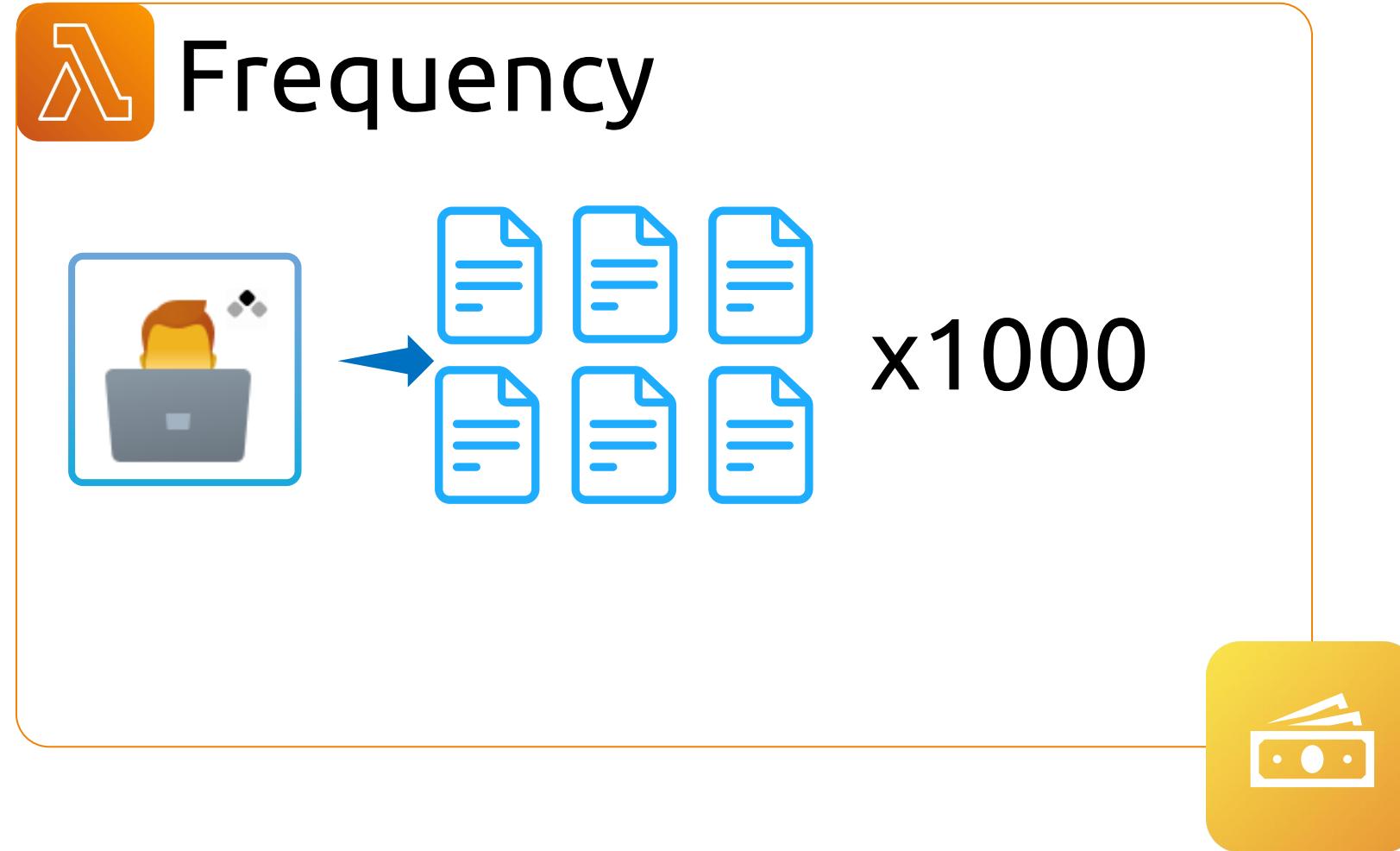
Billing – Lambda (Serverless) Pricing – Sizing



Duration

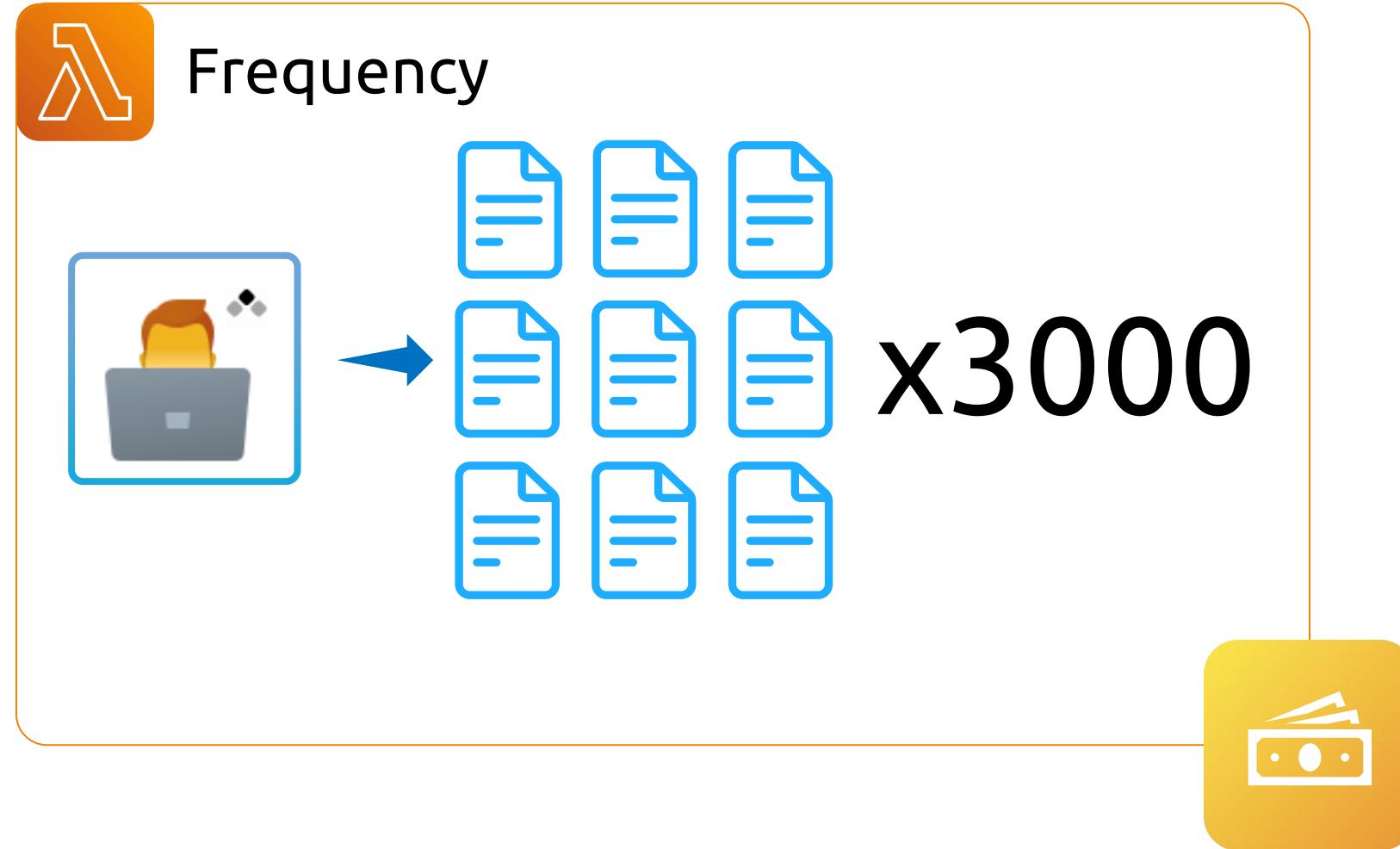


Billing – Lambda (Serverless) Pricing – Frequency



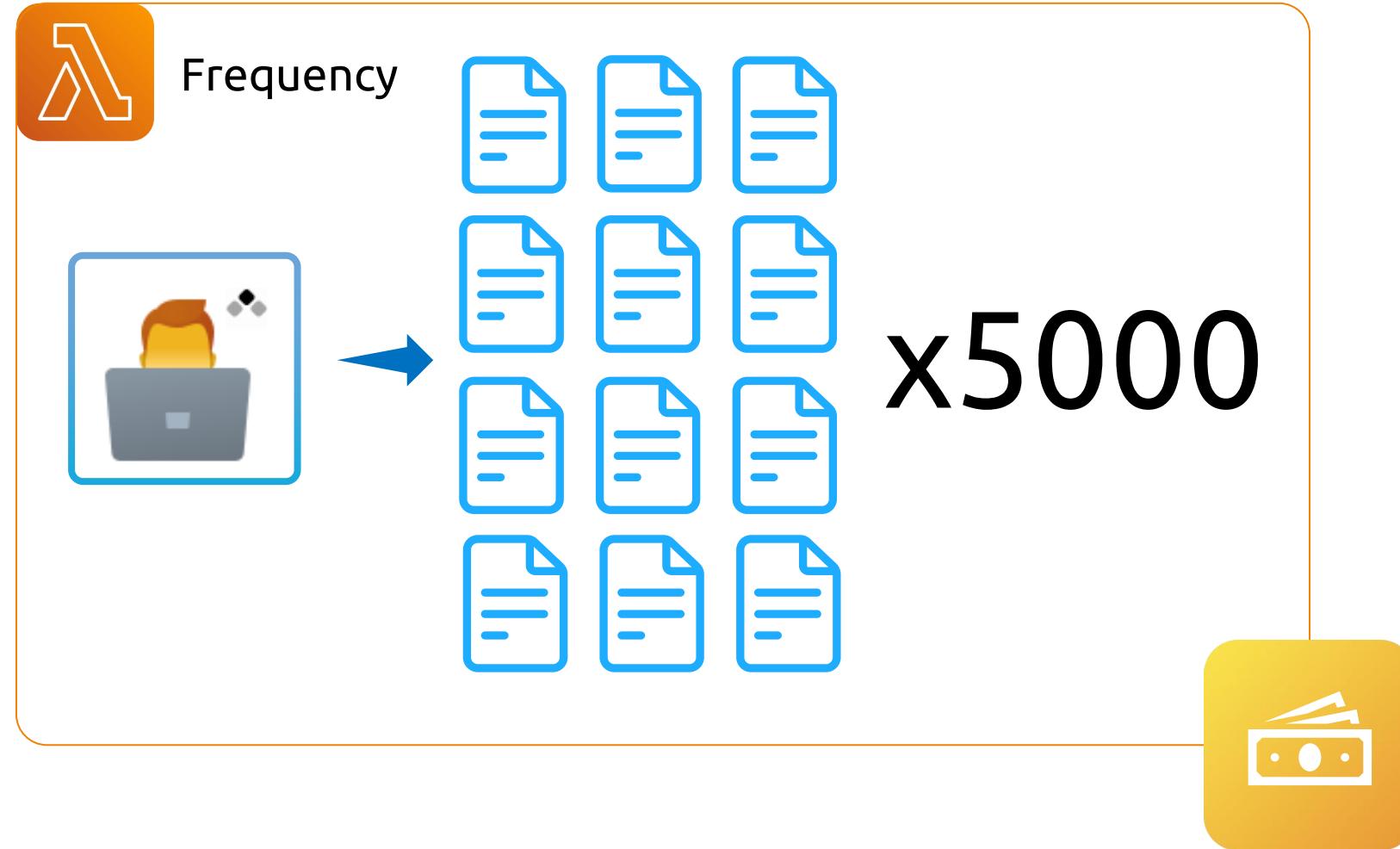


Billing – Lambda (Serverless) Pricing – Frequency





Billing – Lambda (Serverless) Pricing – Frequency



Billing – Lambda (Serverless) Pricing – Example



Request Pricing

- Free Tier: 1 million requests per month
- \$0.20 per 1 million requests thereafter, or
\$0.0000002 per request

Duration Pricing

- 400,000 GB-seconds per month free, up to 3.2 million seconds of compute time
- \$0.00001667 for every GB-second used thereafter

Billing – Fundamentals of Pricing

Three general drivers of billing

Compute

Used/Requested

Storage

Used/Requested

Network

Used/Requested (out only)



Request Pricing

- **Free Tier:** 1 million requests per month
- **\$0.20 per 1 million requests thereafter, or \$0.0000002 per request**

Duration Pricing

- **400,000 GB-seconds per month free, up to 3.2 million seconds of compute time**
- **\$0.00001667 for every GB-second used thereafter**





Billing – Lambda (Serverless) Pricing – Calculations



1 Million
Requests/Month





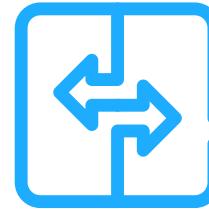
Billing – Lambda (Serverless) Pricing – Calculations



Frequency



1 Million



10 GB



Billing – Lambda (Serverless) Pricing – Calculations



Frequency



1 Million

Size



10 GB



100 Sec



Billing – Lambda (Serverless) Pricing – Calculations



Frequency



1 Million

Size



10 GB

Duration



100 Sec

\$16,660.03

Us-east-2 (Ohio)

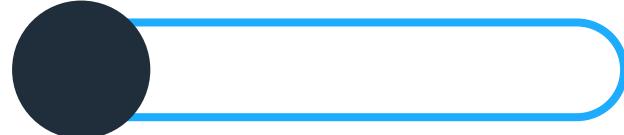




Billing – Lambda (Serverless) Pricing – Features



Other Features





Billing – Lambda (Serverless) Pricing – Features



Other Features

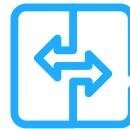




Billing – Lambda (Serverless) Pricing – Features



Other Features



Ephemeral Function Storage
(default 512 MB)



Provision Concurrency



Lambda@edge



Response Streaming



Lambda Billing - Summary



Lambda pricing is based on size, duration, and frequency



The more often you run it, the more you pay (frequency)



The larger the memory and the longer it runs, the more you pay



Lambda functions have a maximum memory limit up to 10 GB and/or execution time up to 15 minutes



Additional features can be added but not required for Cloud Practitioner level



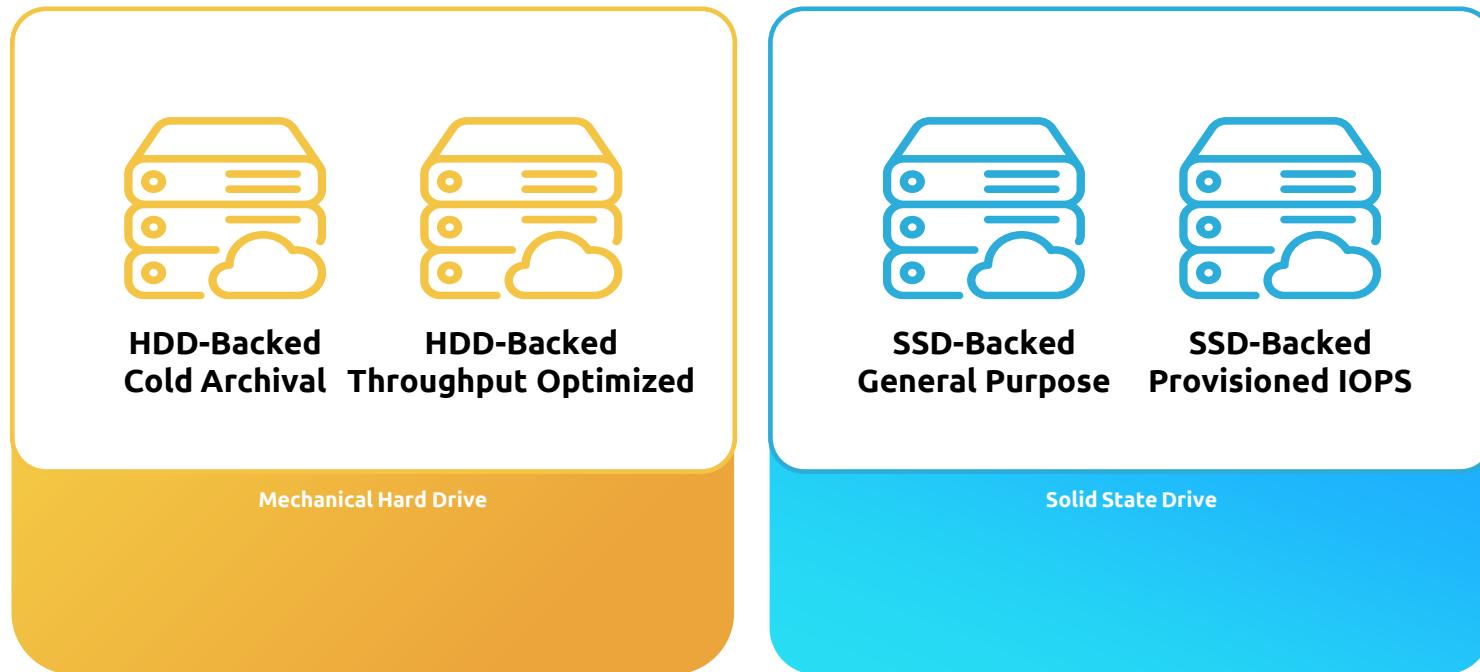
AWS does not test on specific numbers and does only general comparisons. Did we say this already?



General Billing for Other Services

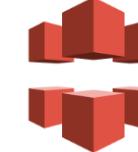
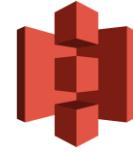


Billing – A Sample for Other Services

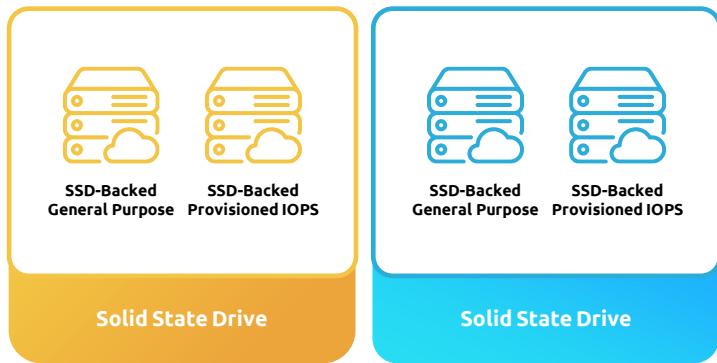




Billing – A Sample for Other Services



Billing – Elastic Block Store – Overview



Volumes – Size and type over time

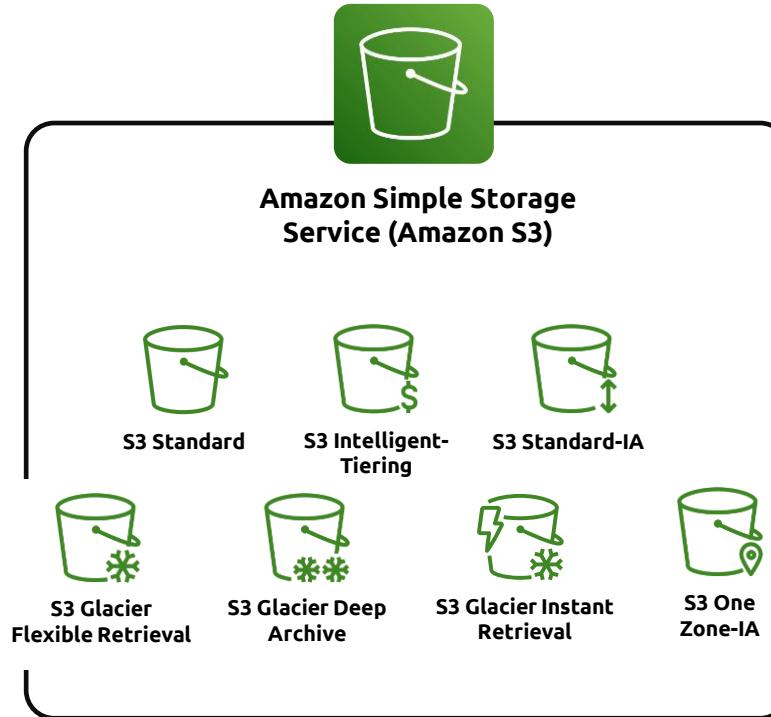
Snapshots – Size over time

EBS Fast Snapshot Restore

EBS Direct APIs for Snapshots



Billing – Simple Storage Service (S3) – Overview



Billing – Simple Storage Service (S3) – Overview



Which class of S3 storage (type and time)?



What number and size of objects are you storing?



How many and what kind of requests are you making against S3?



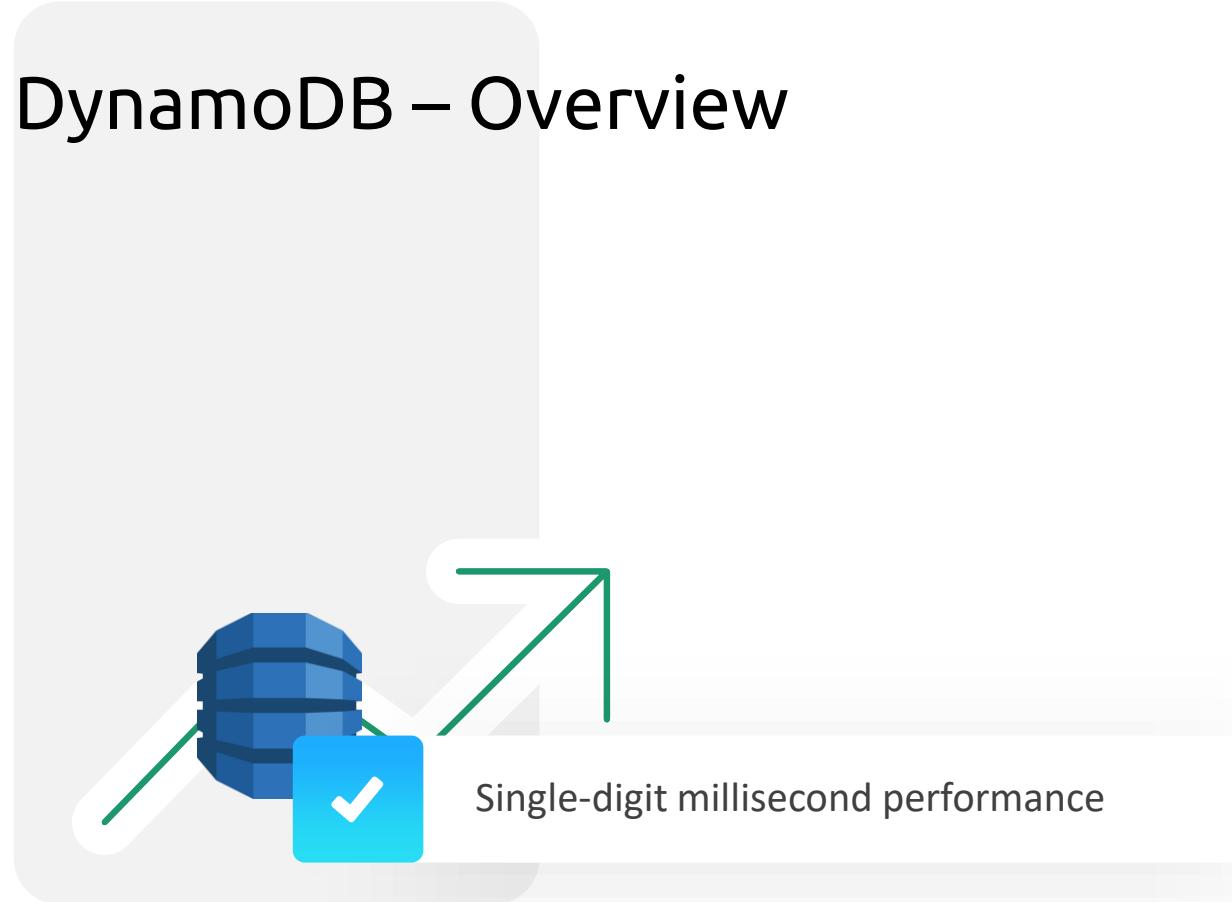
Are you pulling data out of S3 (outbound)?



Did you enable any other management or backup features?



Billing – DynamoDB – Overview





Billing – DynamoDB – Overview

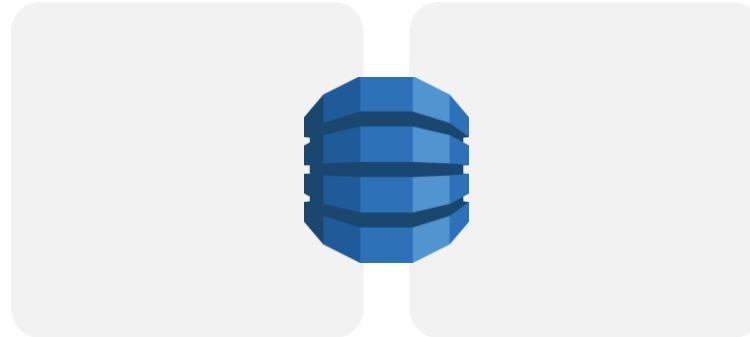


Reading/Writing/Storing data

Works off Read/Write request

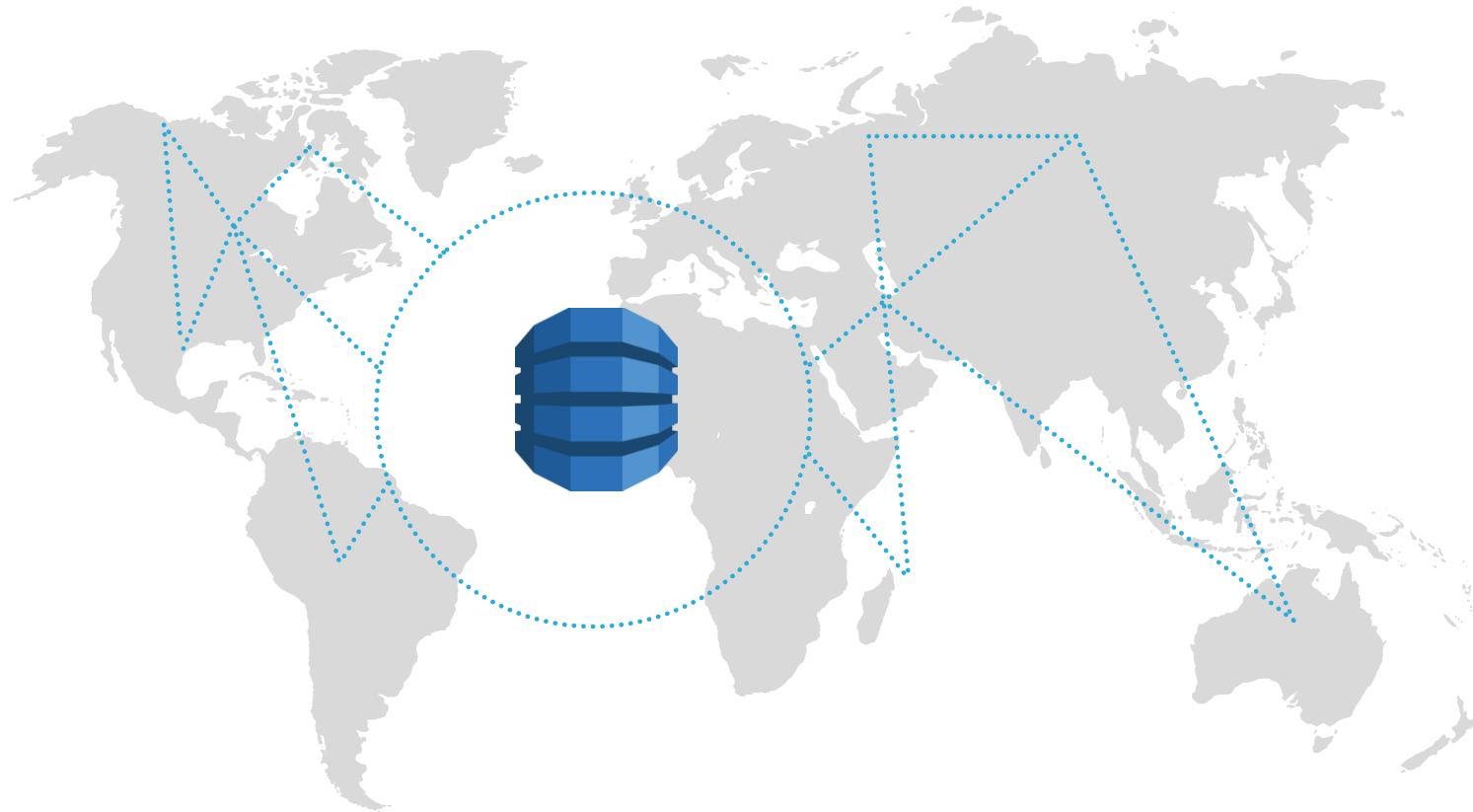


Billing – DynamoDB – Overview



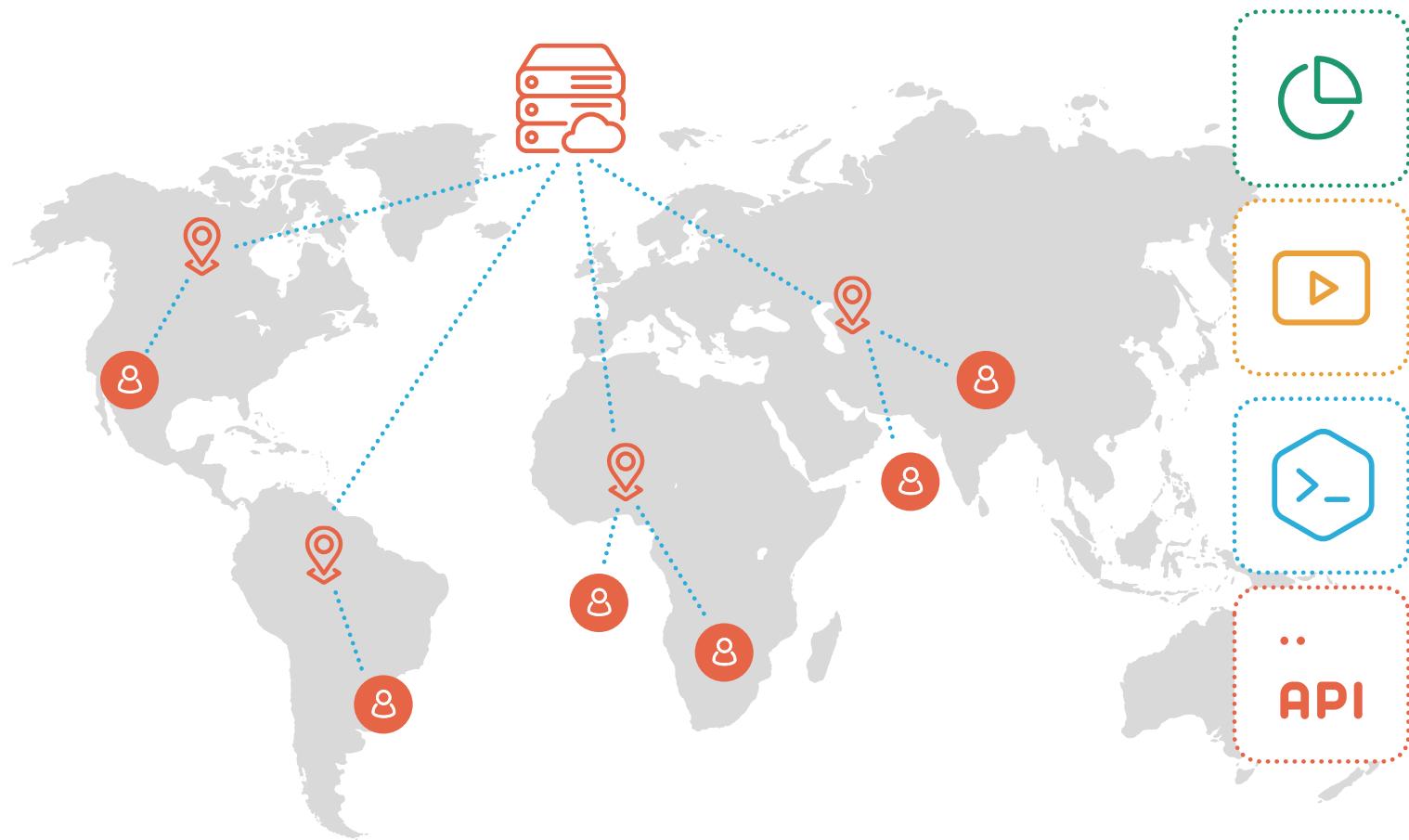


Billing – CloudFront – Overview



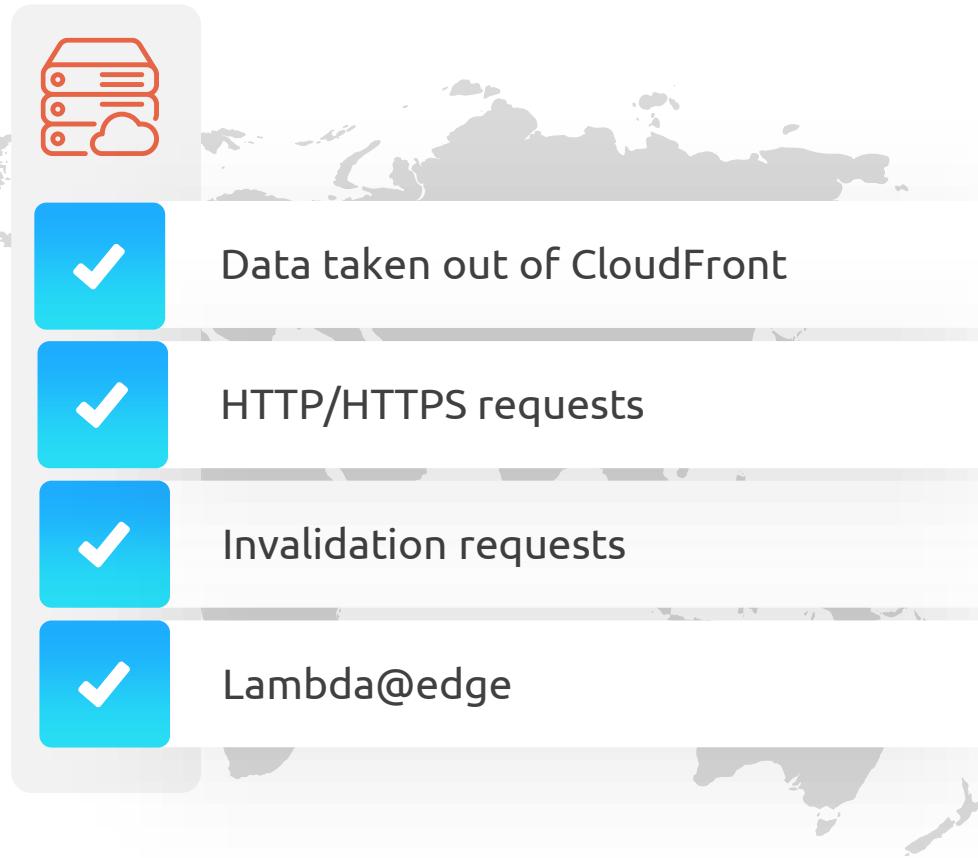


Billing – CloudFront – Overview

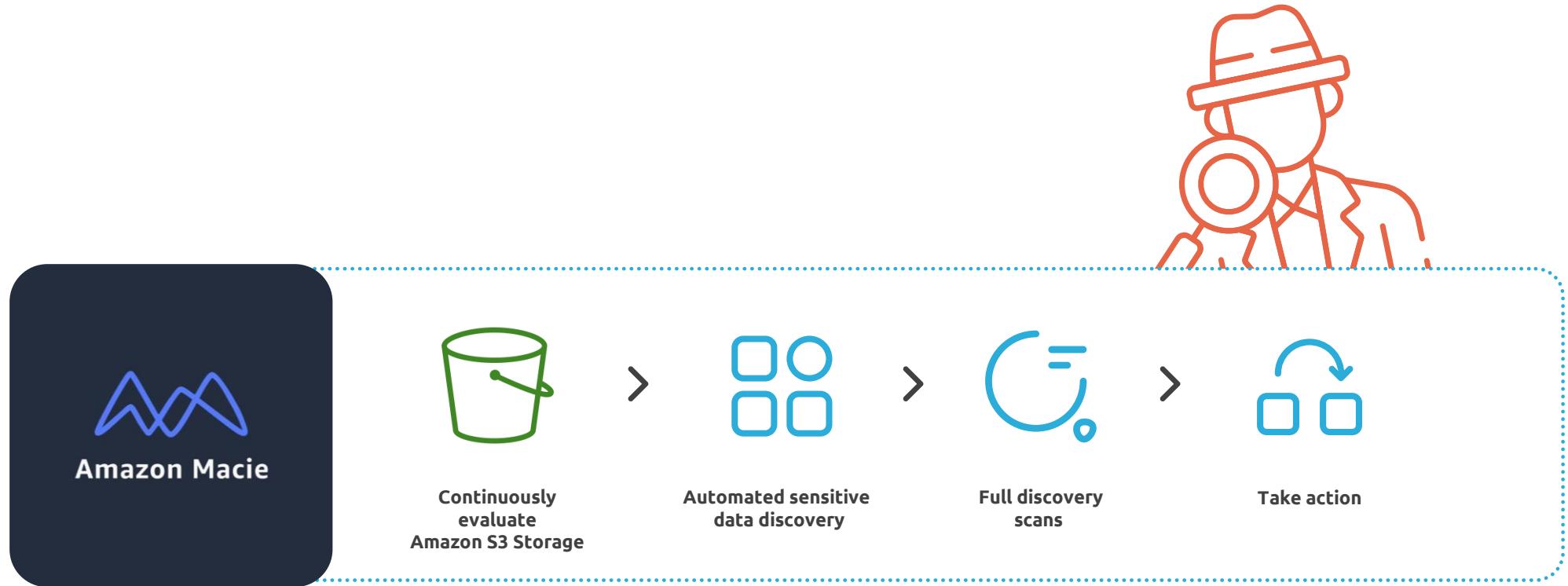




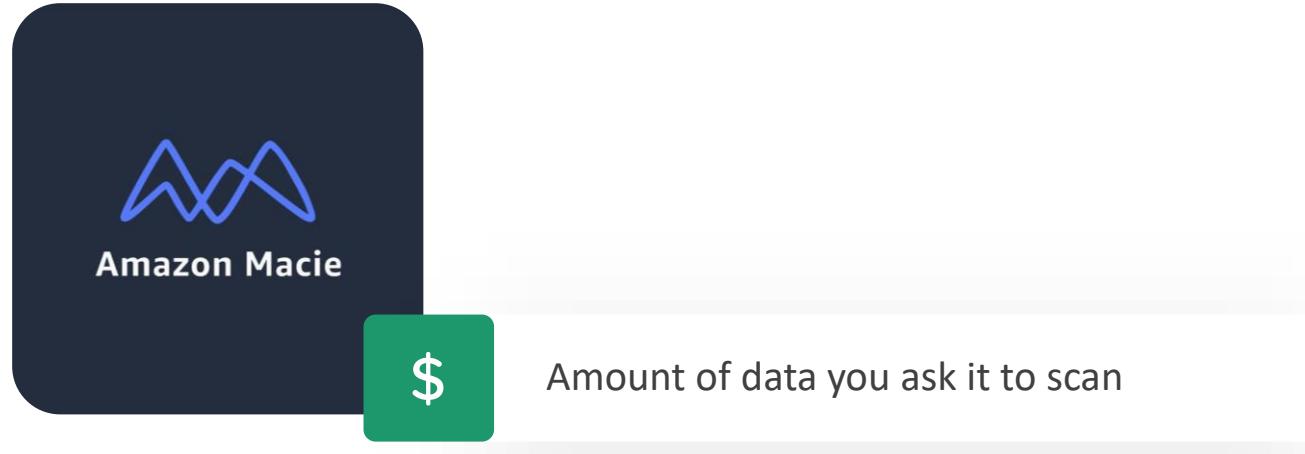
Billing – CloudFront – Overview



Billing – Macie – Overview



Billing – Macie – Overview





Other Services and their Billing - Summary



Not required to know the specifics of billing for every service



EBS charges based on the type, size, and storage duration of the virtual hard drive



S3 charges based on number of objects, **number of requests**, storage class, and outbound pull



DynamoDB charges based on table type, **number of data**, and read/write capacity units



CloudFront charges based on data pulled/actions against “cached” objects



Macie charges based on data scanned (**number of objects**)



Impact of Account Structures on Billing





Billing – Account Structures – A Few Scenarios



One account
all by itself



Billing – Account Structures – A Few Scenarios



Two/More accounts with
Consolidated Billing turned on



Billing – Account Structures – A Few Scenarios



Two/More accounts inside an
AWS Organization





Billing – Account Structures – A Few Scenarios





Billing – Account Structures – One Account



**One account
all by itself**





Billing – Account Structures – One Account



Reservations Plan

Savings Plan



Billing – Account Structures – One Account



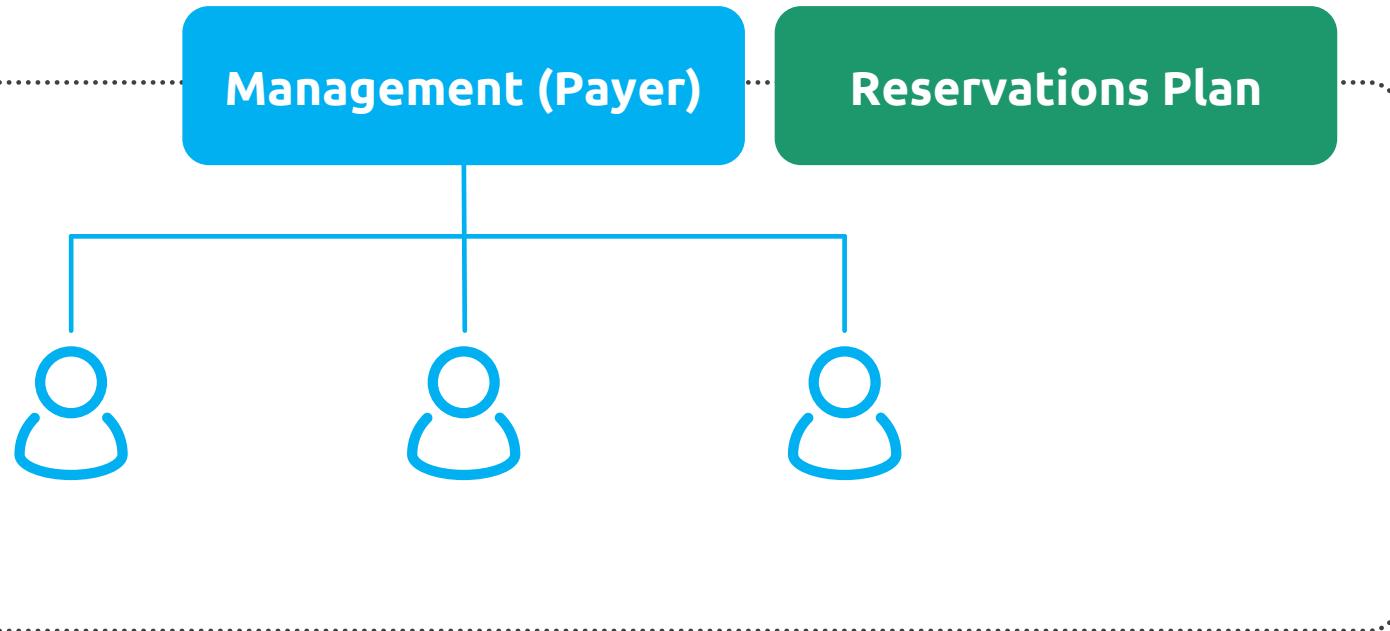
Billing – Account Structures – Consolidated Billing



**Two/More accounts with
Consolidated Billing on**

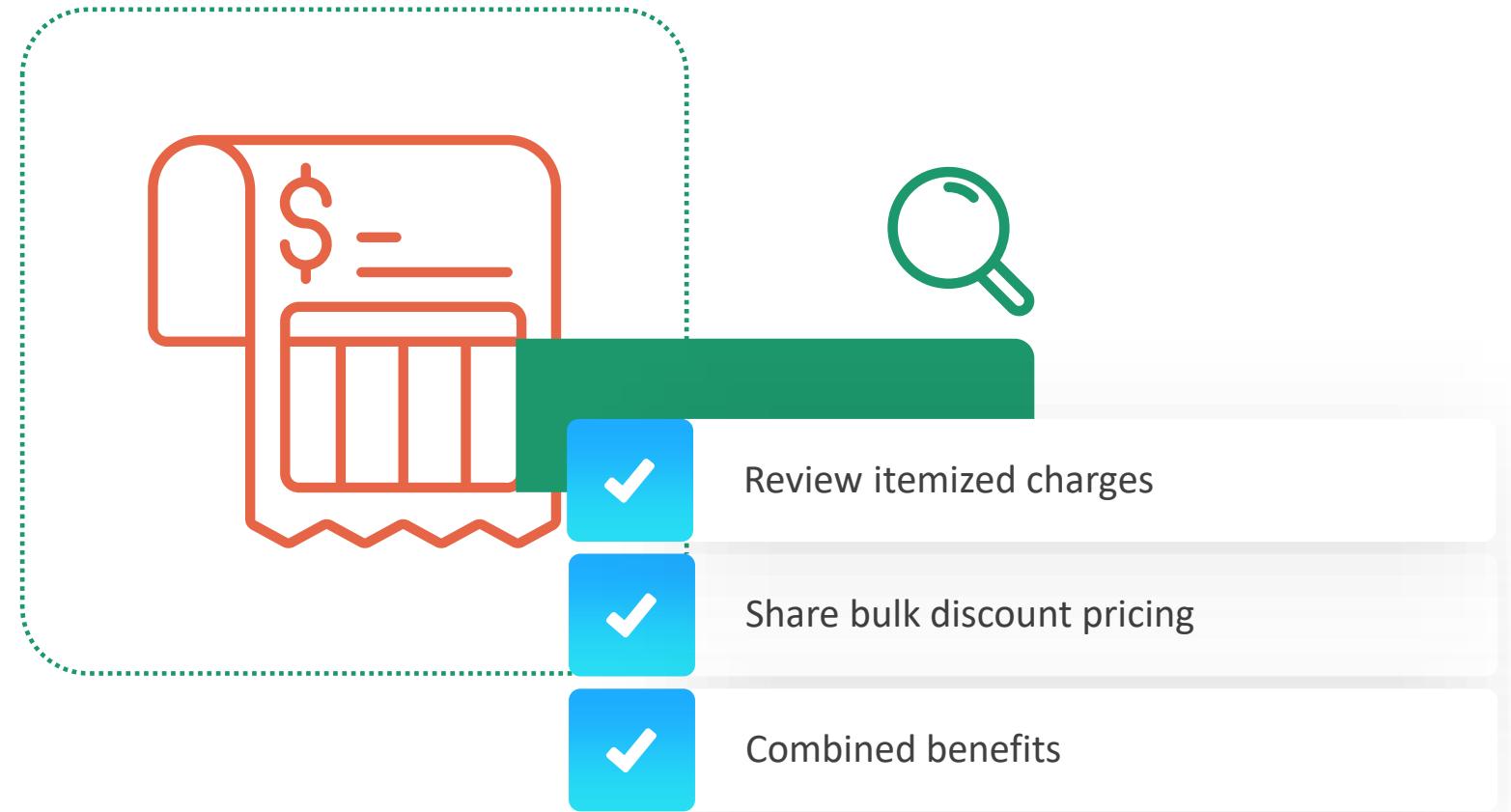


Billing – Account Structures – Consolidated Billing





Billing – Account Structures – Consolidated Billing



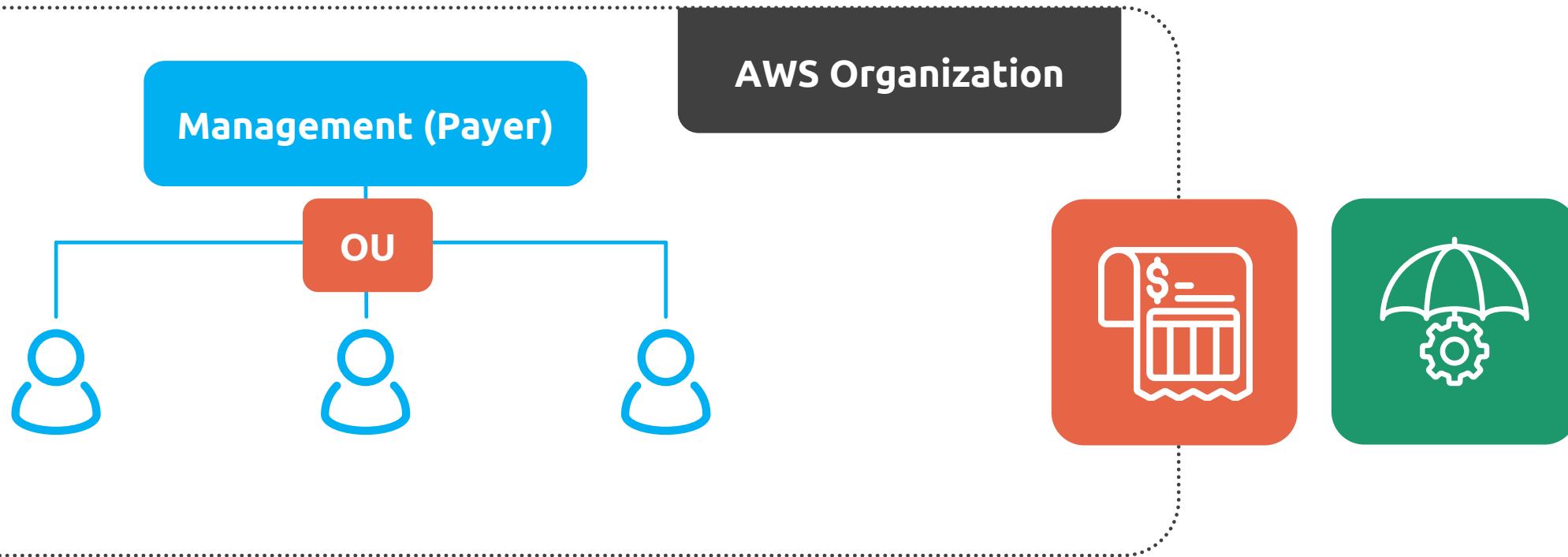
Billing – Account Structures – Two or more accounts in an Org



**Two/More accounts inside
an AWS Organization**



Billing – Account Structures – AWS Organizations



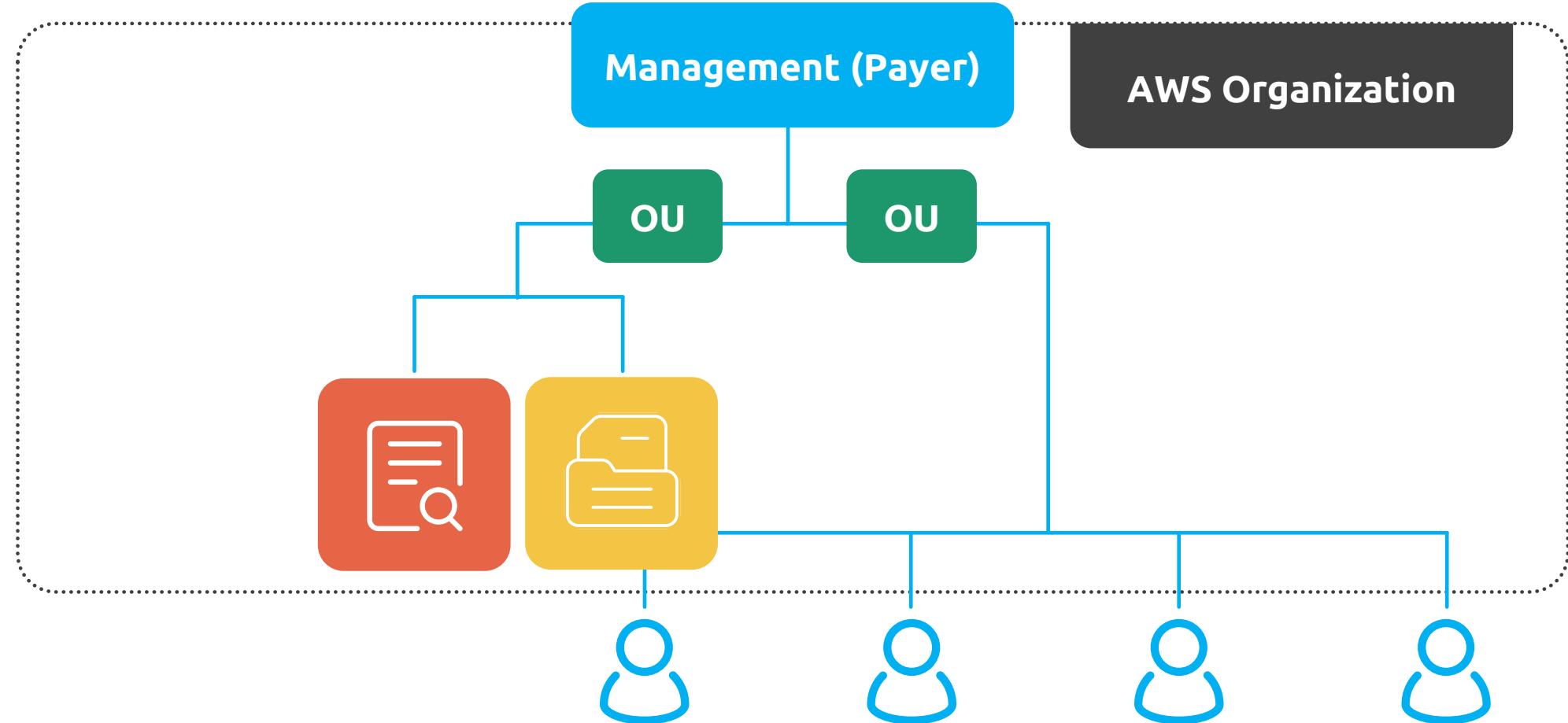
Billing – Account Structures – AWS Control Tower



**Two/More accounts inside
AWS Control Tower**

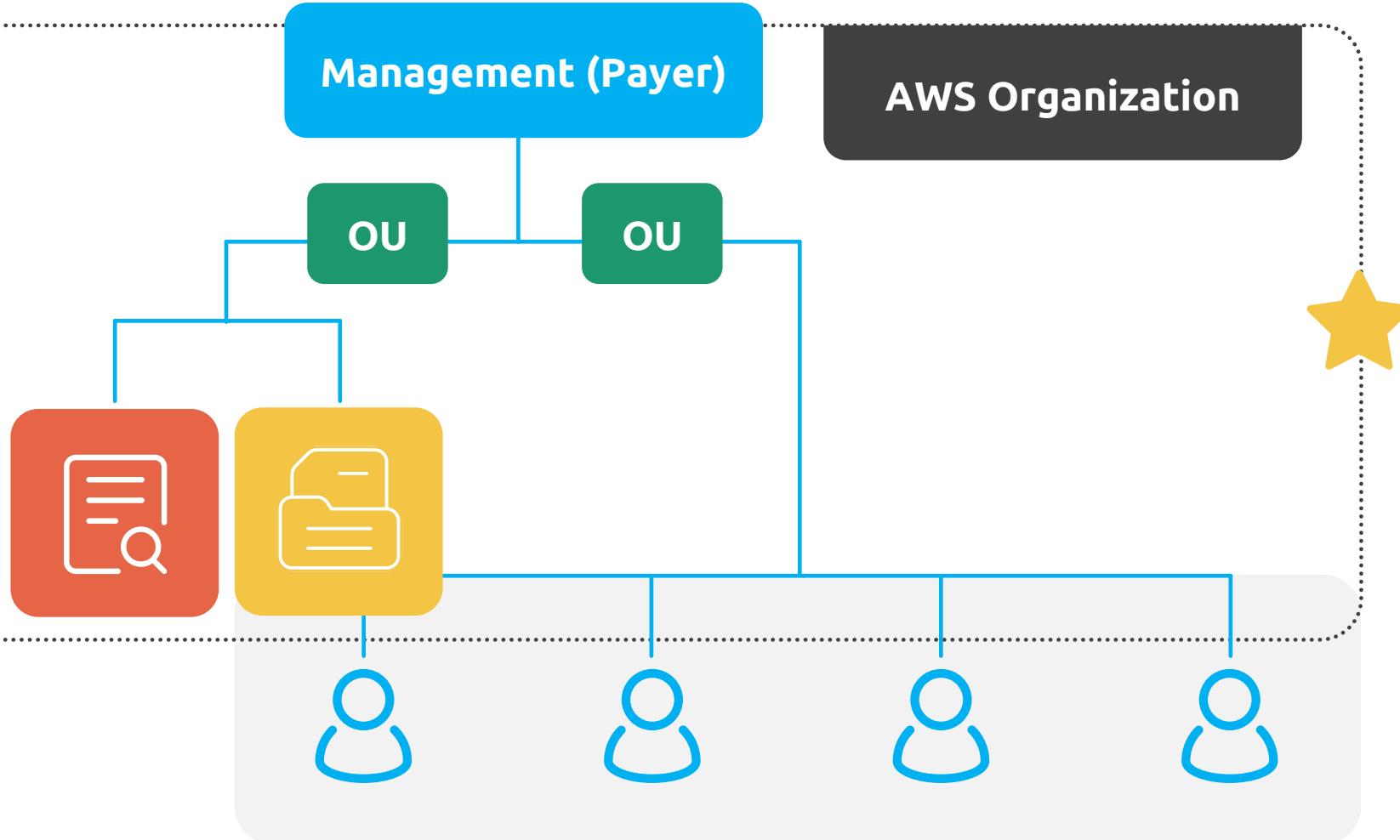


Billing – Account Structures – AWS Control Tower



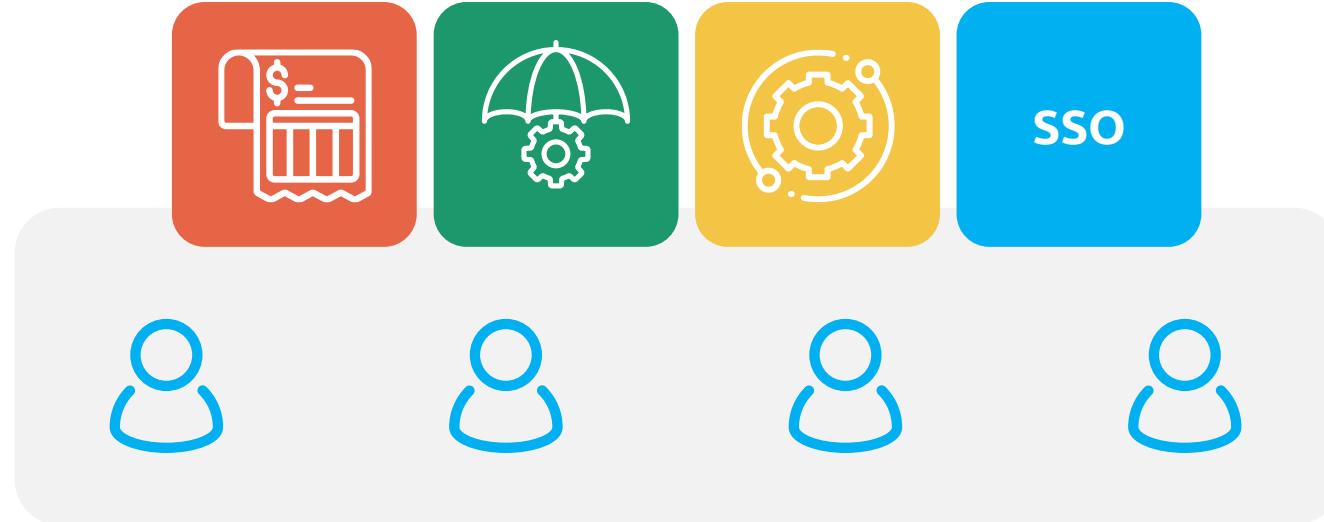


Billing – Account Structures – AWS Control Tower





Billing – Account Structures – AWS Control Tower





Account Structures on Billing - Summary



Solo AWS accounts have their own bills, details, and savings



Two/More accounts can designate a payer account with Consolidated Billing



Biller account ready if it is part of an AWS Organization



Control Tower is a practiced way to deploy a multi-account “Meta” account



All three Consolidated Billing options allow for billing by account



Tools for Billing



Tools for Billing – Agenda

1.



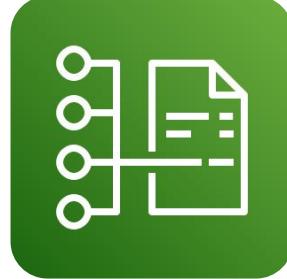
AWS Billing
Dashboard

2.



Cost Explorer

3.



Cost and Usage
Report

4.



AWS Budgets

Tools for Billing – The AWS Billing Dashboard



AWS Billing Dashboard
Page refresh time: Wednesday, May 2, 2023 at 11:11:37 AM EDT

AWS summary

Current month's total forecast
USD 40.92

Total number of active services
21

Highest cost

Service name: Skill Builder Individual

Trend compared to prior month: ↓ 0.0%

Current MTD balance: USD 29.00

Total number of active AWS accounts: **3**

Prior month for the same period: USD 42.00 ↓ 31.0%

Total number of active AWS Regions: **7**

Cost trend by top five services

Total cost in USD

Feb 2023 Mar 2023 Apr 2023

Skill Builder Individual Registrar Elastic File System DynamoDB Amplify

Cost by service

| Service | Average | April | Trend |
|------------------|-----------|-----------|--------|
| Skill B... | USD 29.00 | USD 29.00 | ↓ 0.0% |
| Registrar | USD 13.00 | USD 13.00 | ↓ 0.0% |
| Elastic ... | USD 0.00 | USD 0.00 | ↓ 0.0% |
| Dynam... Amplify | USD 0.00 | USD 0.00 | ↓ 0.0% |



Tools for Billing – The AWS Billing Dashboard



Home

Billing

Bills



Payments

Credits

Purchase orders

Cost & usage reports

Cost categories

Cost allocation tags

Free tier

Billing Conductor

Cost Management

Cost explorer

Budgets

Budgets reports

Savings Plans

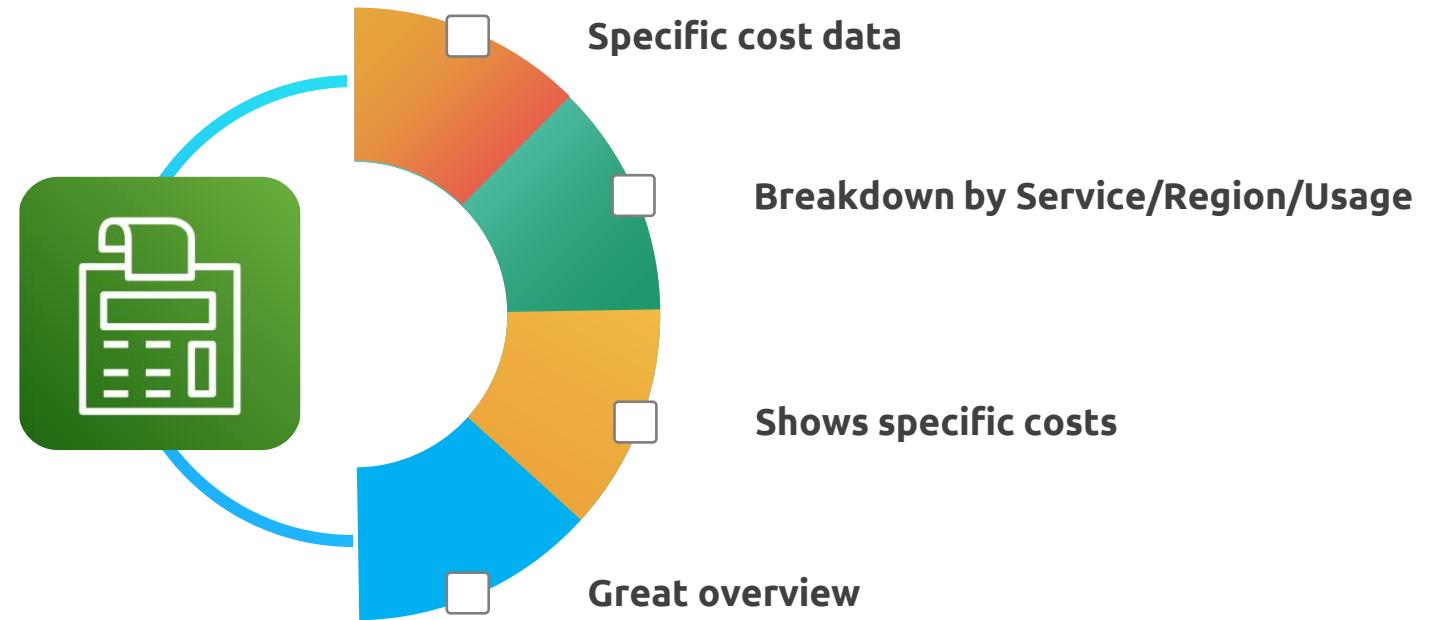
Amazon Web Services, Inc. charges by service [Info](#)

Total active services
21

Filter by service name or region name

| Description | Usage Quantity |
|---|----------------|
| + Skill Builder Individual | |
| + Amplify | |
| + App Runner | |
| CloudTrail | |
| + No Region | |
| + Canada (Central) | |
| + US East (N. Virginia) | |
| AWS CloudTrail USE1-DataEventsRecorded | 46 Events |
| 0.000001 per data event recorded in US East (N.Virginia) region | |
| AWS CloudTrail USE1-FreeEventsRecorded | 47,330 Events |
| 0.0 per free event recorded in US East (N.Virginia) region | |
| AWS CloudTrail USE1-PaidEventsRecorded | 21,639 Events |
| 0.00002 per paid event recorded in US East (N.Virginia) region | |
| + US East (Ohio) | |
| + US West (Oregon) | |
| + CloudWatch | |
| + CloudWatch Events | |

Tools for Billing – Why the Bill?



Tools for Billing – Cost Explorer – A Visual



AWS Cost Management > Cost Explorer > New cost and usage report

New cost and usage report

Cost and usage graph Info

Total cost **\$174.65** Average monthly cost **\$29.11** Service count **30**

Costs (\$)

| Month | Skill Builder Individual | Registrar | Data Transfer | EC2-Other | S3 | Key Management Service | Elastic File System | Secrets Manager | EC2-Instances | Others | Total |
|----------|--------------------------|-----------|---------------|-----------|----|------------------------|---------------------|-----------------|---------------|--------|----------|
| Nov 2022 | ~15 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | \$174.65 |
| Dec 2022 | ~29 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | \$174.65 |
| Jan 2023 | ~29 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | \$174.65 |
| Feb 2023 | ~29 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | \$174.65 |
| Mar 2023 | ~29 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | \$174.65 |
| Apr 2023 | ~29 | ~10 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | ~0 | \$42.00 |

Cost and usage breakdown

Download as CSV

| Service | Service total | November 2022 | December 2022 | January 2023 | February 2023 | March 2023 | April 2023 |
|--------------------------|---------------|---------------|---------------|--------------|---------------|------------|------------|
| Total costs | \$174.65 | \$16.65 | \$29.00 | \$29.00 | \$29.00 | \$29.00 | \$42.00 |
| Skill Builder Individual | \$161.65 | \$16.65 | \$29.00 | \$29.00 | \$29.00 | \$29.00 | \$29.00 |

Recent reports ▼ Save to report library

2022-11-01 — 2023-04-30
Displaying last 6 months

Granularity
Monthly

Group by
Dimension Service

Filters Info
Applied filters (0) Clear all

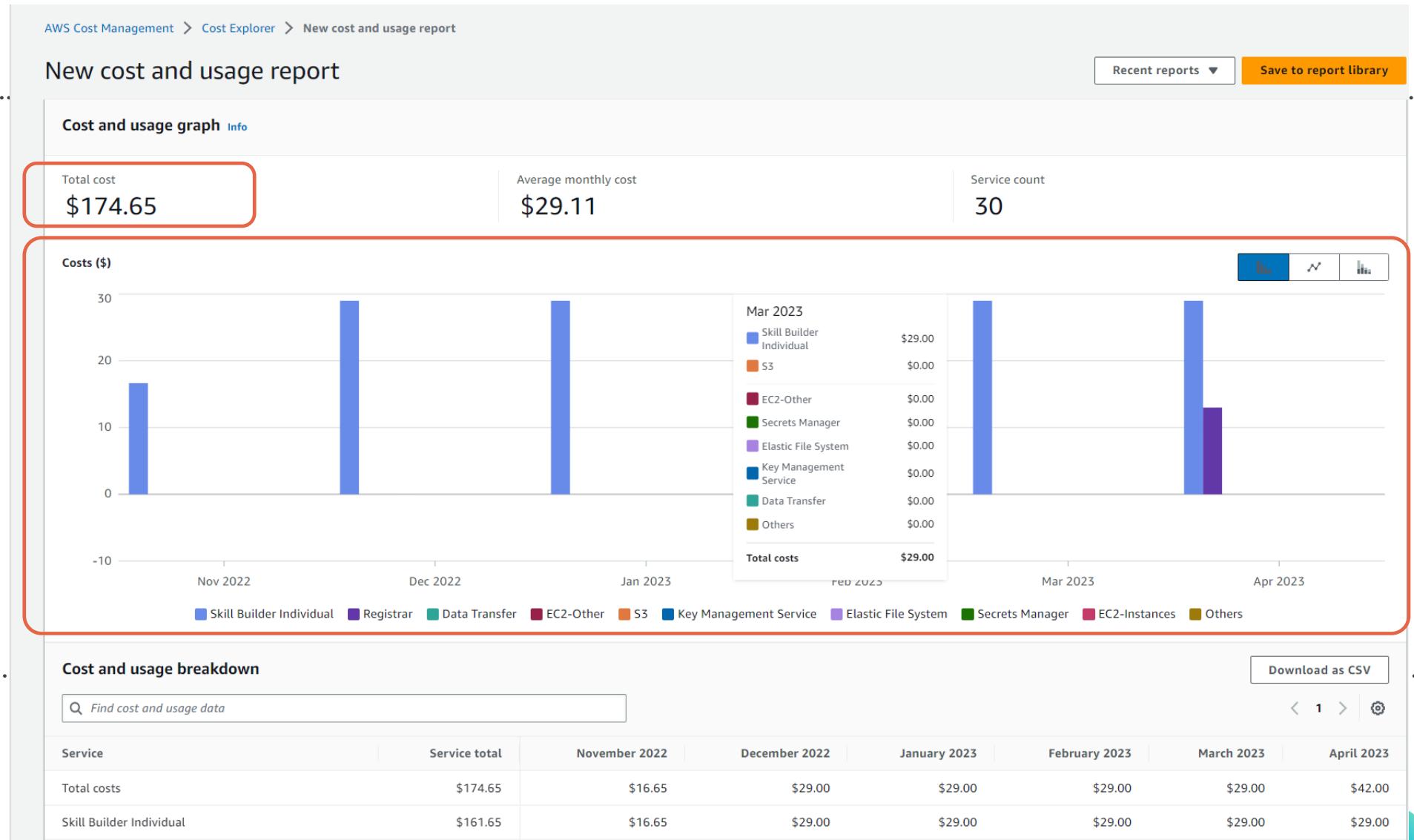
Service Choose services
Linked account Choose linked accounts
Region Choose regions

Instance type Choose instance types
Usage type Choose usage types
Usage type group Choose usage type groups
Resource Choose resources
Cost category Choose cost categories
Tag Choose tags

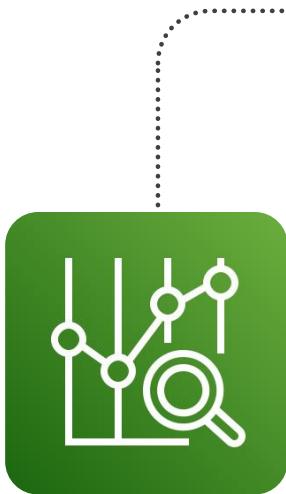
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Tools for Billing – Cost Explorer – A Visual



Tools for Billing – Cost Explorer – A Visual



Cost and usage breakdown

Find cost and usage data

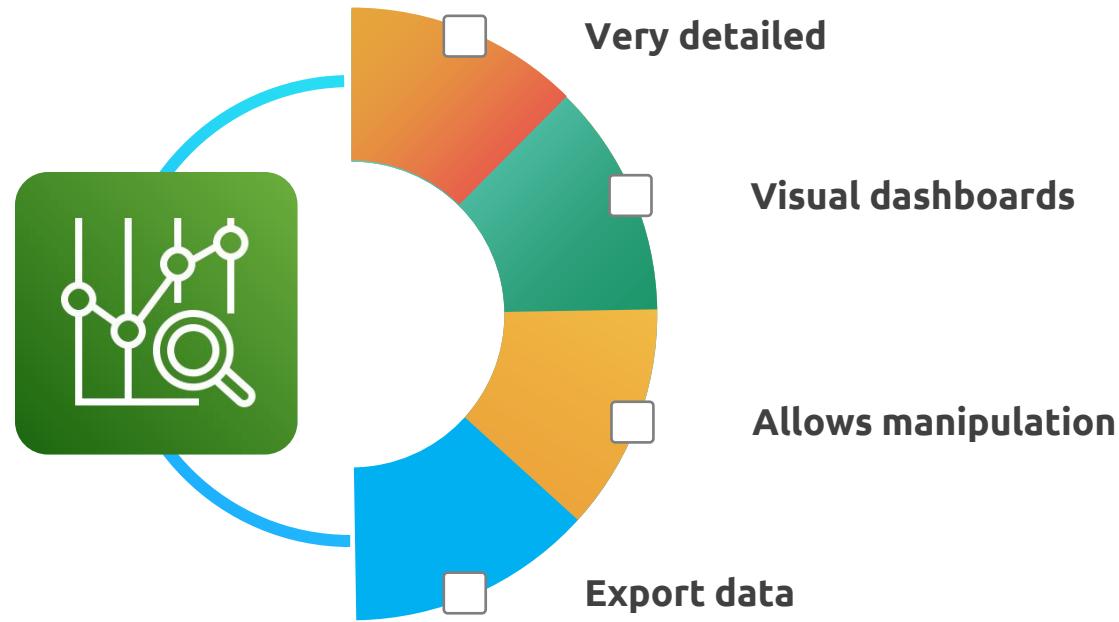
[Download as CSV](#)

| Service | Service total | November 2022 | December 2022 | January 2023 | February 2023 | March 2023 | April 2023 |
|------------------------------|---------------|---------------|---------------|--------------|---------------|------------|------------|
| Total costs | \$174.65 | \$16.65 | \$29.00 | \$29.00 | \$29.00 | \$29.00 | \$42.00 |
| Skill Builder Individual | \$161.65 | \$16.65 | \$29.00 | \$29.00 | \$29.00 | \$29.00 | \$29.00 |
| Registrar | \$13.00 | - | - | - | - | - | \$13.00 |
| EC2-Other | \$0.00 | -\$0.00 | \$0.00 | -\$0.00 | \$0.00 | -\$0.00 | \$0.00 |
| S3 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| EC2-Instances | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | - | -\$0.00 |
| CloudWatch | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| EC2-ELB | \$0.00 | -\$0.00 | \$0.00 | -\$0.00 | \$0.00 | - | - |
| Elastic Container Service | \$0.00 | - | - | - | \$0.00 | - | - |
| EC2 Container Registry (ECR) | \$0.00 | - | - | - | \$0.00 | - | -\$0.00 |
| CloudTrail | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | -\$0.00 |
| Config | \$0.00 | -\$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | -\$0.00 |
| Glue | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Lambda | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |

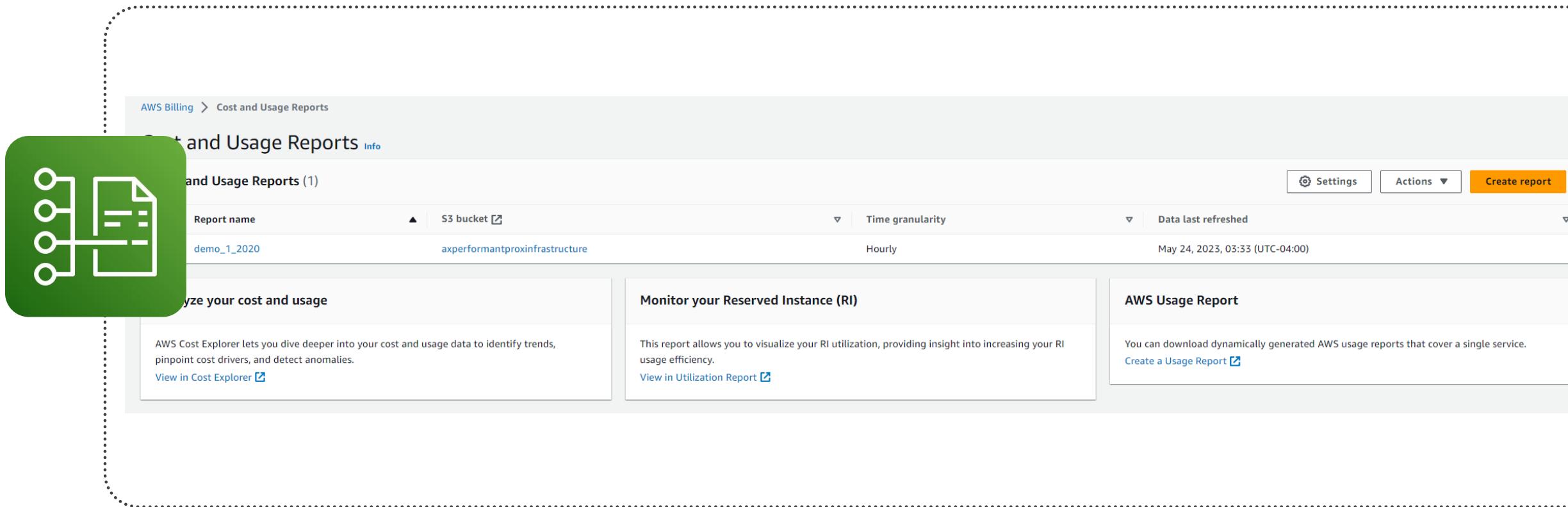




Tools for Billing – Cost Explorer



Tools for Billing – CUR – A Visual



AWS Billing > Cost and Usage Reports

Cost and Usage Reports Info

Cost and Usage Reports (1)

| Report name | S3 bucket | Time granularity | Data last refreshed |
|-------------|--------------------------------|------------------|---------------------------------|
| demo_1_2020 | axperformantproxinfrastructure | Hourly | May 24, 2023, 03:33 (UTC-04:00) |

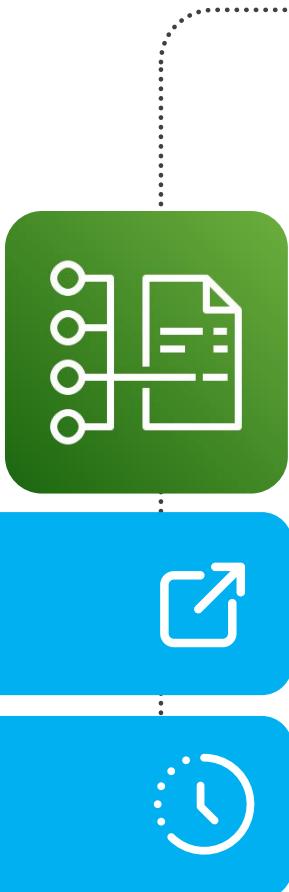
Analyze your cost and usage
AWS Cost Explorer lets you dive deeper into your cost and usage data to identify trends, pinpoint cost drivers, and detect anomalies.
[View in Cost Explorer](#)

Monitor your Reserved Instance (RI)
This report allows you to visualize your RI utilization, providing insight into increasing your RI usage efficiency.
[View in Utilization Report](#)

AWS Usage Report
You can download dynamically generated AWS usage reports that cover a single service.
[Create a Usage Report](#)



Tools for Billing – CUR – A Visual

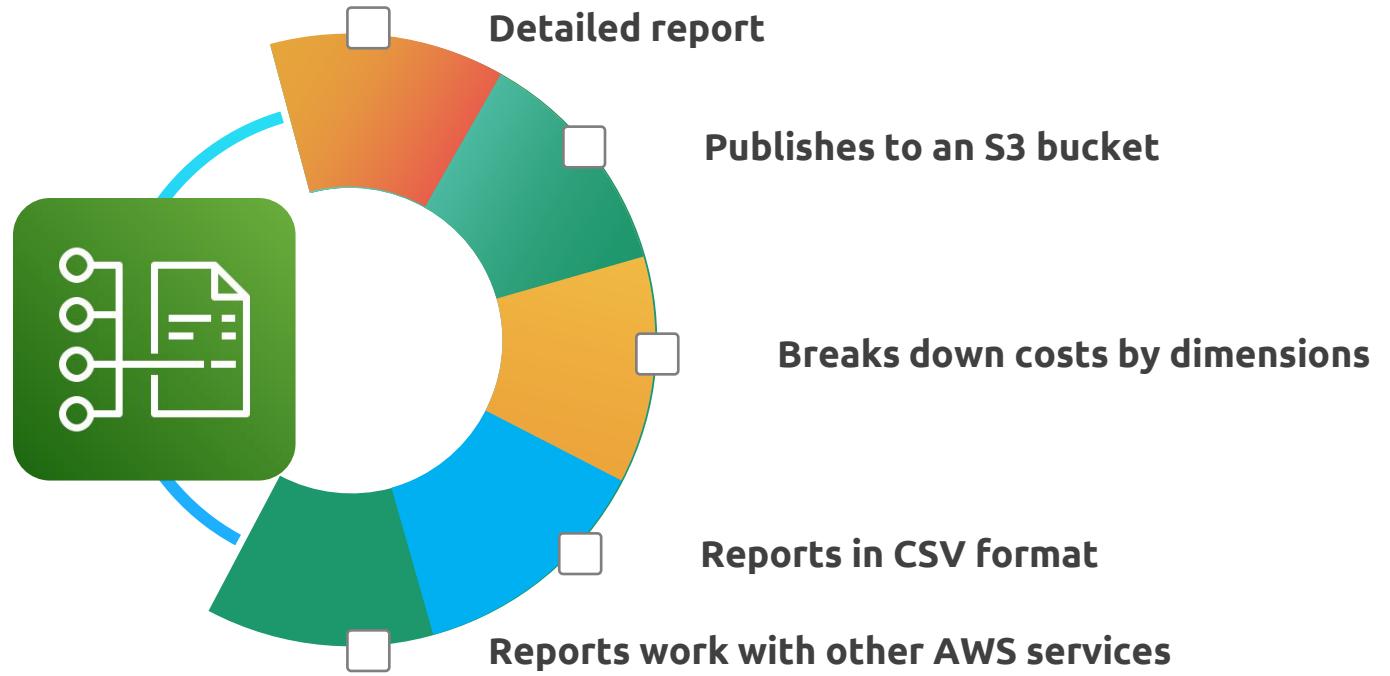


| PayerAccountId | LinkedAccountId | RecordType | RecordID | BillingPeriodStart | BillingPeriodEndDate | InvoiceDate | ProductCode |
|----------------|-----------------|---------------|----------|--------------------|----------------------|----------------|-----------------|
| 67670530788 | | PayerLineItem | -36 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSCloudTrail |
| 67670530788 | | PayerLineItem | -34 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSCloudTrail |
| 67670530788 | | PayerLineItem | -33 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | awskms |
| 67670530788 | | PayerLineItem | -31 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonS3 |
| 67670530788 | | PayerLineItem | -28 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonSNS |
| 67670530788 | | PayerLineItem | -27 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSConfig |
| 67670530788 | | PayerLineItem | -26 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSDataTransfer |
| 67670530788 | | PayerLineItem | -24 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | awskms |
| 67670530788 | | PayerLineItem | -23 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSConfig |
| 67670530788 | | PayerLineItem | -22 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonS3 |
| 67670530788 | | PayerLineItem | -21 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonSNS |
| 67670530788 | | PayerLineItem | -20 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSQueueService |
| 67670530788 | | PayerLineItem | -19 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | awskms |
| 67670530788 | | PayerLineItem | -18 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonS3 |
| 67670530788 | | PayerLineItem | -15 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSQueueService |
| 67670530788 | | PayerLineItem | -14 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonSNS |
| 67670530788 | | PayerLineItem | -13 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AWSConfig |
| 67670530788 | | PayerLineItem | -11 | 5/1/2023 0:00 | 5/31/2023 23:59 | 5/24/2023 8:03 | AmazonCloudWa |

| ProductName | SellerOfRecord | UsageType | Operation | RateId | ItemDescription | UsageStartDate | UsageEndDate | UsageQuantity |
|------------------|----------------------|--------------------------------|-----------|-------------|----------------------------------|----------------|--------------|---------------|
| AWS CloudTrail | Amazon Web Services, | USE1-FreeEventsRecorded | | 14321586440 | 0.0 per free event recorded in U | 5/1/2023 0:00 | ##### | 47330 |
| AWS CloudTrail | Amazon Web Services, | USE2-FreeEventsRecorded | | 14321586637 | 0.0 per free event recorded in U | 5/1/2023 0:00 | ##### | 131696 |
| AWS Key Manage | Amazon Web Services, | us-east-1-KMS-Requests | | 17793264566 | \$0.00 per request - Monthly Gl | 5/1/2023 0:00 | ##### | 138 |
| Amazon Simple S | Amazon Web Services, | Requests-Tier1 | | 15694243495 | \$0.005 per 1,000 PUT, COPY, PC | 5/1/2023 0:00 | ##### | 33235 |
| Amazon Simple N | Amazon Web Services, | USE2-Requests-Tier1 | | 19306472423 | First 1,000,000 Amazon SNS AP | 5/1/2023 0:00 | ##### | 34190 |
| AWS Config | Amazon Web Services, | USW2-ConfigurationItemRecorded | | 15694674624 | \$0.003 per Configuration Item r | 5/1/2023 0:00 | ##### | 8 |
| AWS Data Transfe | Amazon Web Services, | USE1-USW2-AWS-Out-Bytes | | 19366110777 | \$0.02 per GB - US East (Norther | 5/1/2023 0:00 | ##### | 0.00059199 |
| AWS Key Manage | Amazon Web Services, | us-west-2-KMS-Requests | | 17793264569 | \$0.00 per request - Monthly Gl | 5/1/2023 0:00 | ##### | 138 |
| AWS Config | Amazon Web Services, | ConfigurationItemRecorded | | 15694674573 | \$0.003 per Configuration Item r | 5/1/2023 0:00 | ##### | 10 |
| Amazon Simple S | Amazon Web Services, | Requests-Tier2 | | 15694241104 | \$0.004 per 10,000 GET and all c | 5/1/2023 0:00 | ##### | 21793 |
| Amazon Simple N | Amazon Web Services, | USW2-Requests-Tier1 | | 19306455405 | First 1,000,000 Amazon SNS AP | 5/1/2023 0:00 | ##### | 332 |
| Amazon Simple Q | Amazon Web Services, | Requests-RBP | | 14074883304 | First 1,000,000 Amazon SQS Re | 5/1/2023 0:00 | ##### | 46 |
| AWS Key Manage | Amazon Web Services, | us-east-2-KMS-Requests | | 17793264567 | \$0.00 per request - Monthly Gl | 5/1/2023 0:00 | ##### | 1817 |

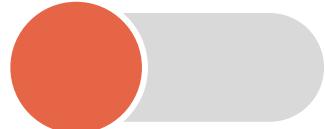


Tools for Billing – Cost and Usage Report





Tools for Billing – AWS Budgets





Tools for Billing – AWS Budgets



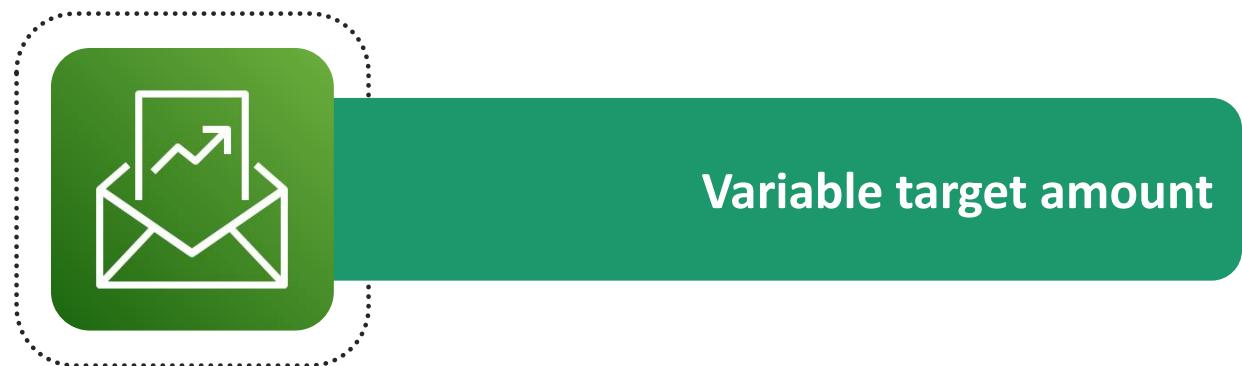


Tools for Billing – AWS Budgets





Tools for Billing – AWS Budgets





Tools for Billing – AWS Budgets





Tools for Billing – AWS Budgets

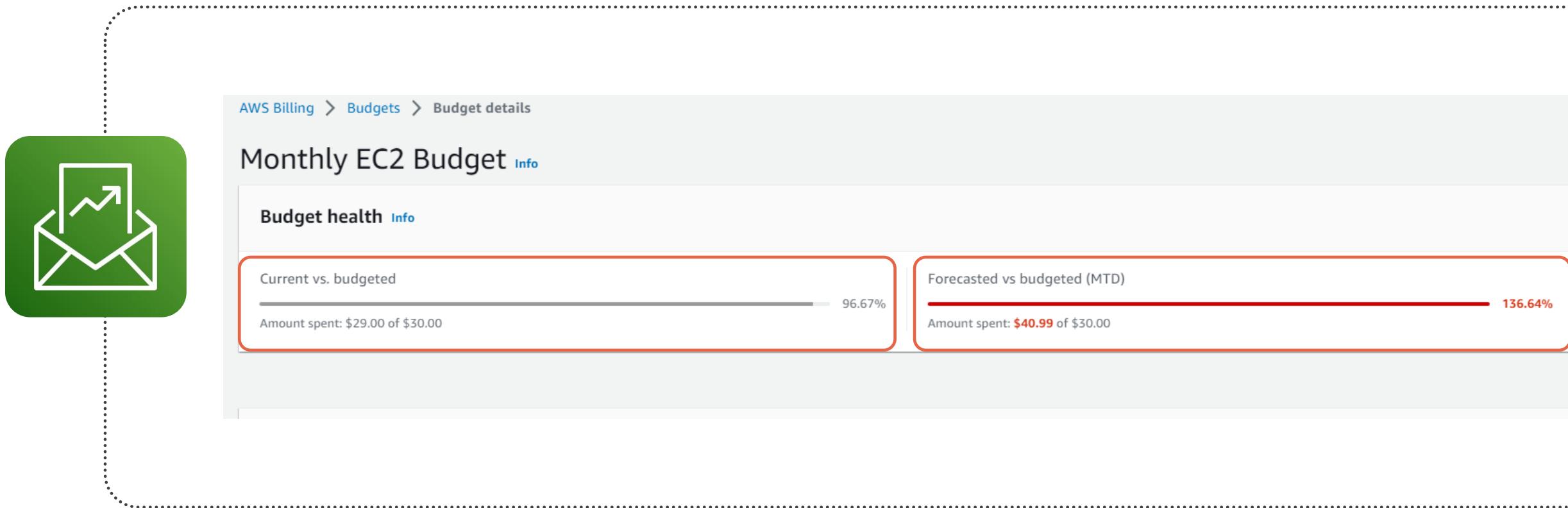


Tools for Billing – AWS Budgets – A Visual

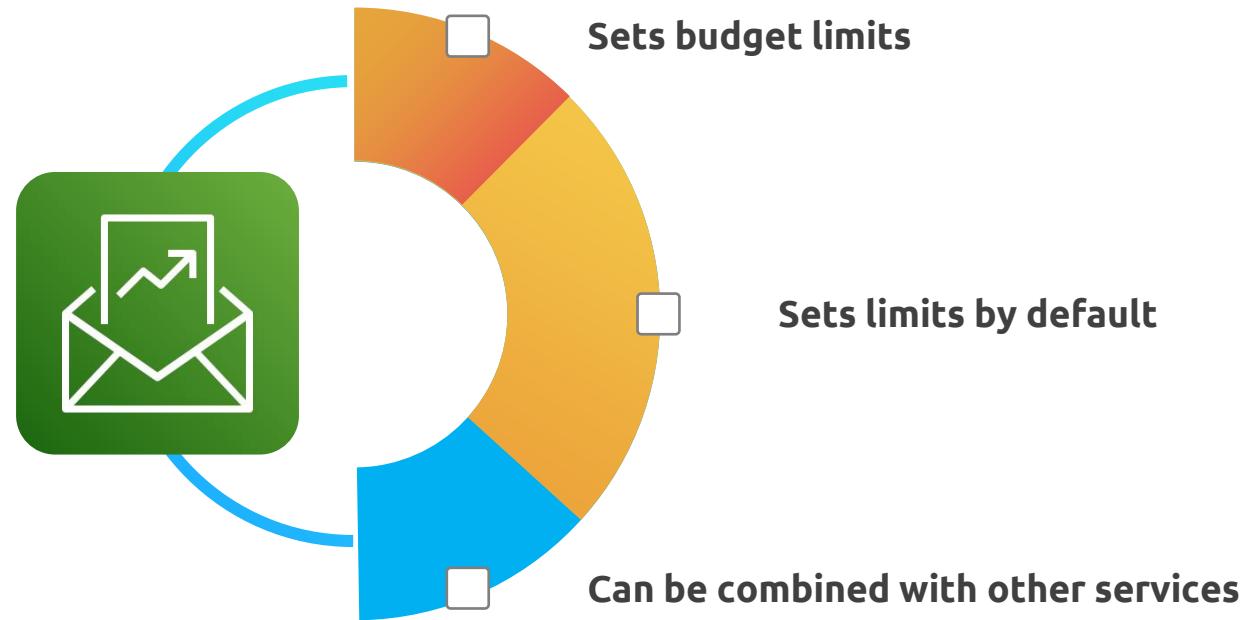
| Name | Thresholds | Budget | Amount used | Forecasted amount | Current vs. budgeted | Forecasted vs. budgeted |
|--------------------|--------------|----------|-------------|-------------------|----------------------|-------------------------|
| Container Anything | OK | \$12.00 | \$0.00 | \$0.00 | 0.00% | - |
| Datastores (both) | OK | \$15.00 | \$0.00 | - | 0.00% | - |
| DNS charges | OK | \$15.00 | \$2.00 | \$2.00 | 13.34% | 13.34% |
| Monitoring Budget | OK | \$12.00 | \$2.02 | \$2.73 | 16.85% | 22.73% |
| Monthly EC2 Budget | Exceeded (1) | \$30.00 | \$29.00 | \$40.99 | 96.67% | 136.64% |
| Monthly Network | OK | \$10.00 | \$0.00 | - | 0.00% | - |
| Monthly S3 Budget | OK | \$10.00 | \$0.00 | \$0.38 | 0.00% | 3.82% |
| Overall Budget | OK | \$100.00 | \$65.99 | \$77.96 | 65.99% | 77.96% |



Tools for Billing – AWS Budgets – A Visual



Tools for Billing – Budgets



Billing Tools - Summary



Billing, Cost Explorer, and CUR are tools for Billing Analysis



AWS Budgets is focused on soft and hard limits and notifications for billing



The “bill” or billing dashboard is great for skimming



Cost Explorer is more about visualization of billing data



CUR is the most detailed in terms of usage report



Modify budgets to “restricts” service launch based on thresholds/alarms



AWS - Support Options



AWS Support – What Are the Options Available?

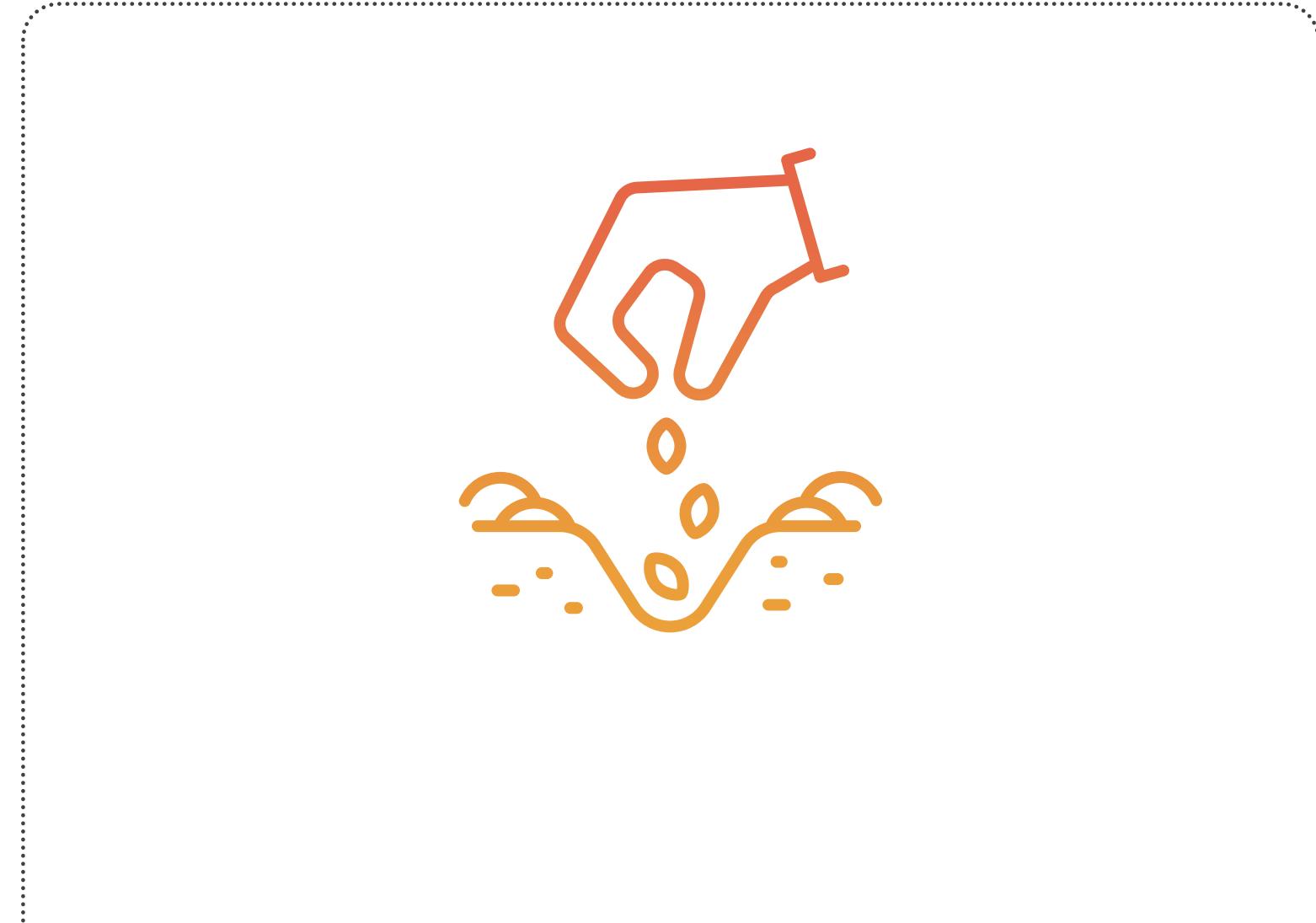


< SUPPORT





AWS Support – Basic Support





AWS Support – Basic Support

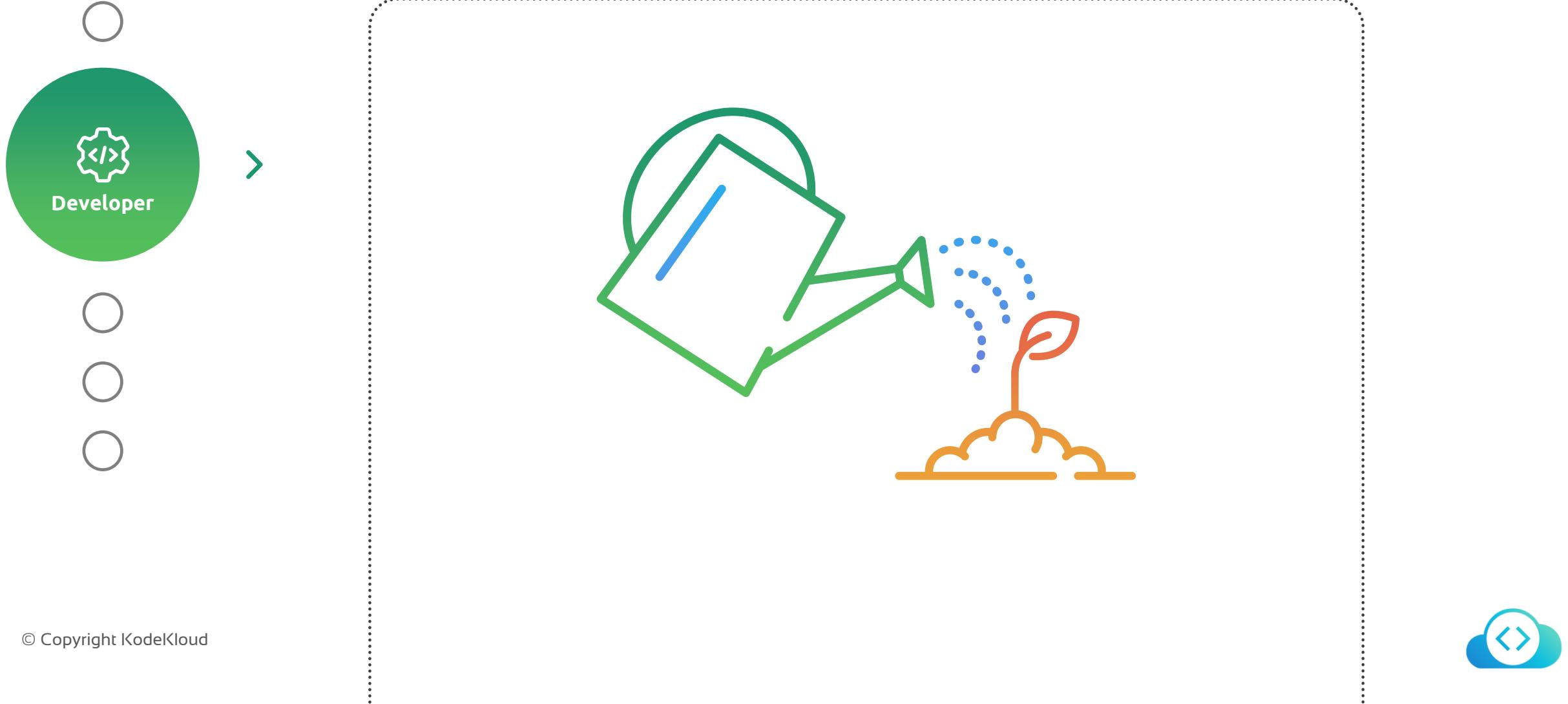


- This support is free for all customers. No case limits via web.
- Web support for cases
- Limited access to AWS Trusted Advisor checks
- Access to Personal Health Dashboard
- No phone support
- No SLA for response or remediation
- No Technical Account Manager
- Cheapest option (free)

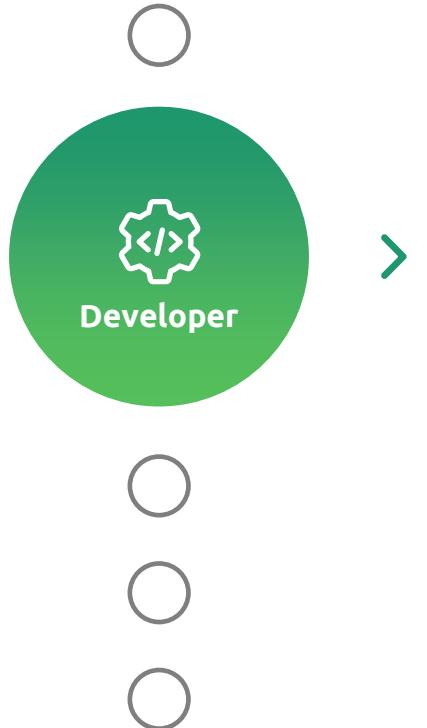




AWS Support – Developer



AWS Support – Developer

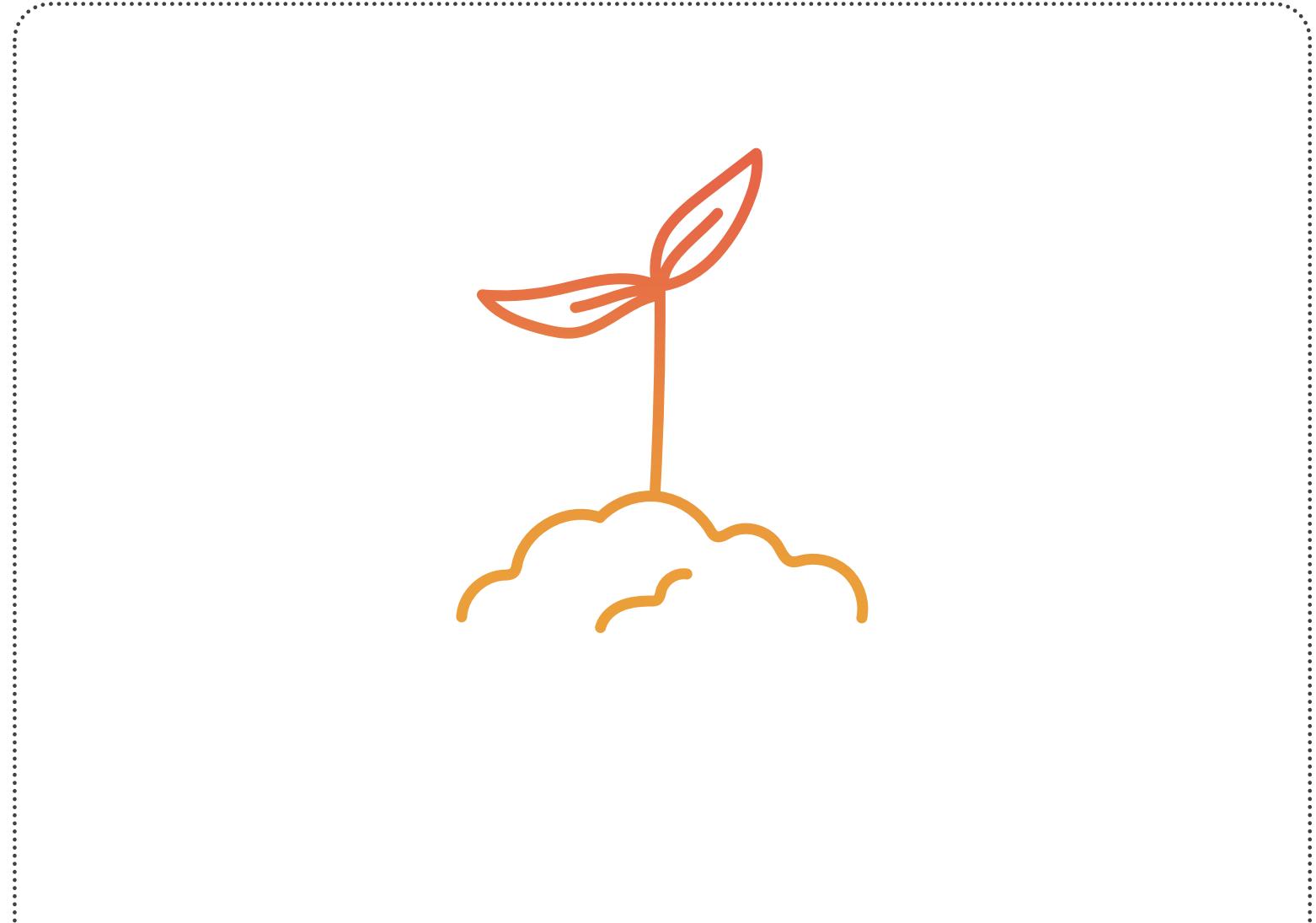


- Includes everything in Basic Support
- Recommended for experimenting and testing on AWS
- Slight increase in Trusted Advisor checks
- Prioritized responses on AWS repost with primary contact
- No phone support; web support only
- Response times of 24 hours for general questions and 12 hours for system impaired
- No Technical Account Manager or Support Team
- Second cheapest at either \$29 or 3% of total AWS spend





AWS Support – Business



AWS Support – Business



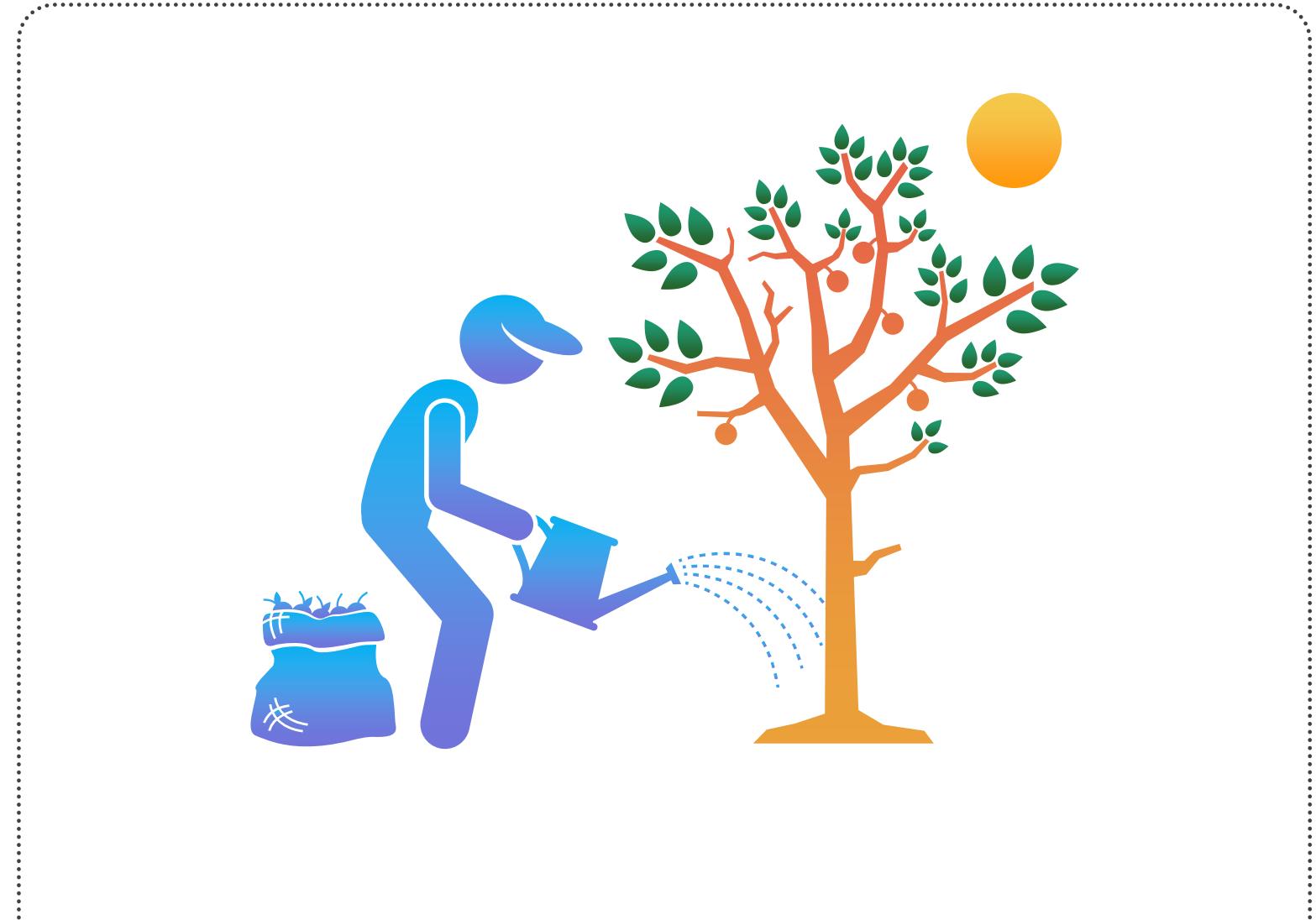
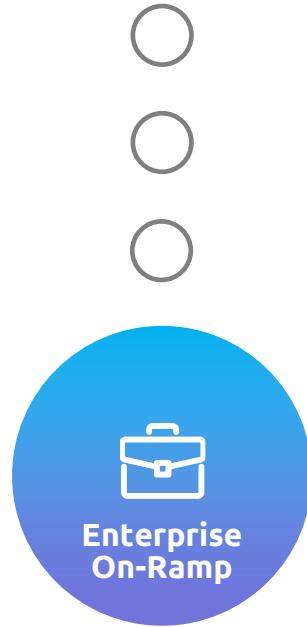
- Includes everything in Developer
- Minimum if you have production workloads on AWS
- Lowest tier that has **ALL** Trusted Advisor checks
- Access to AWS Support App in Slack; AWS Support API access
- Support available 24/7 on phone and web, and chat access to AWS Cloud support
- Same as Developer SLAs plus Production impaired <4 hours vs Production down <1 hour
- No Technical Account Manager or Support Team
- Third cheapest at either \$100 or Tier % of spend***

Note that you can add additional services like AWS managed services to Business.





AWS Support – Enterprise On-Ramp



AWS Support – Enterprise On-Ramp

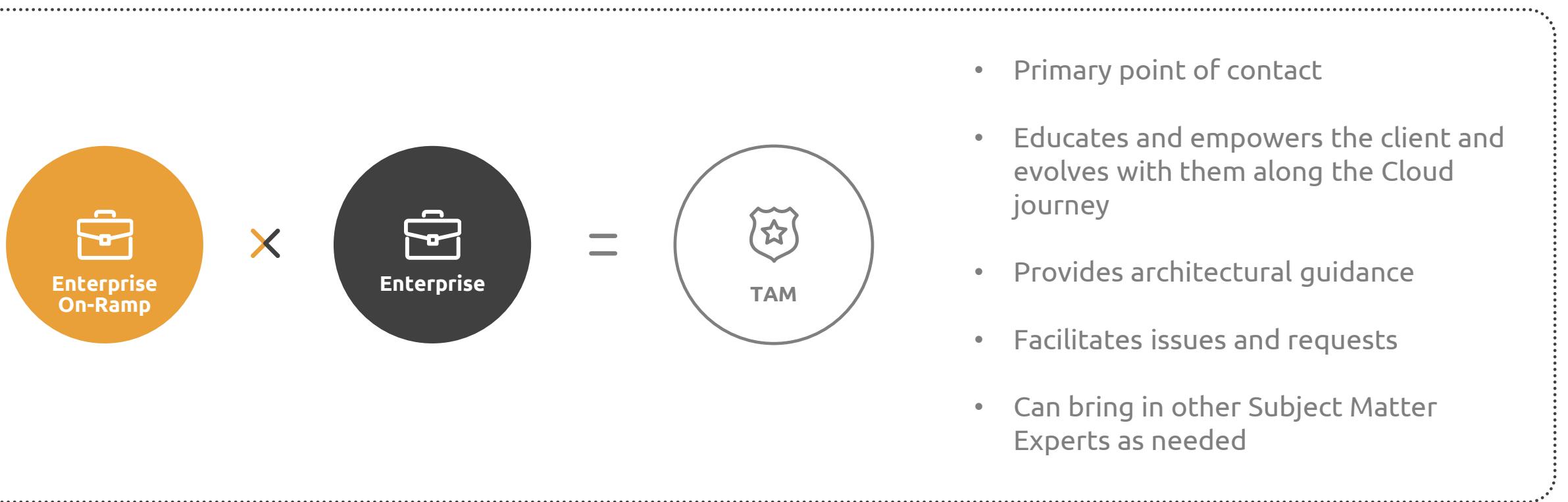


- Includes everything in Business
- Recommended if you have mission-critical workloads in AWS
- **ALL** Trusted Advisor checks (from Business)
- No new electronic support access, but....
- Infrastructure Event Incident Management
- Same as Business SLAs, but Business-critical system down <30 minutes
- A pool of Technical Account Managers is available with a Concierge Support Team
- Second most expensive at either \$5,500 or 10% of spend***

Note that you can add additional services like AWS managed services to Enterprise On-Ramp.

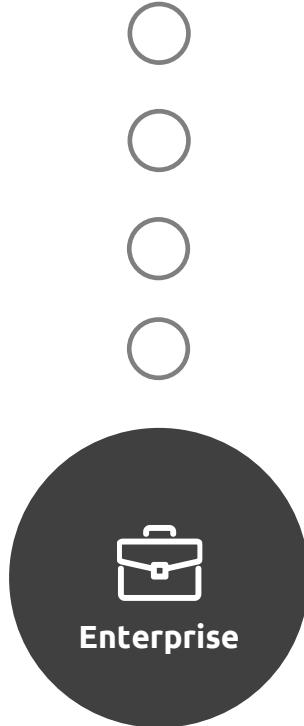


AWS Support – Role of a Technical Account Manager (TAM)





AWS Support – Enterprise



AWS Support – Enterprise



- Includes everything in Enterprise On-Ramp plus.....
- Recommended if you have business-critical workloads in AWS
- **ALL** Trusted Advisor checks (from Business)
- No new electronic support access
- Proactive reviews, training, architecture reviews, workshops, deep dives
- Same as Business SLAs, but mission-critical system down <15 minutes
- Private dedicated Technical Account Manager
- Most expensive at either \$5,500 or Tier % of spend***

Note that you can add additional services like AWS managed services to Enterprise.



AWS Support Plans – Summary



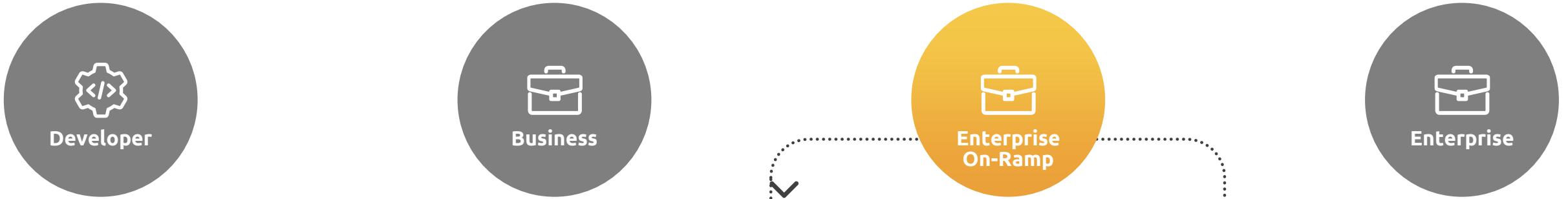
AWS Support Plans – Summary



AWS Support Plans – Summary



AWS Support Plans – Summary



- Application architecture guidance
- Infrastructure event management
- A pool of Technical Account Managers (TAM)



AWS Support Plans – Summary



- ▼
- Application architecture guidance
 - Infrastructure event management
 - A designated TAM



AWS Support – Third-Party Software

What if I need 3rd party software installed in my AWS account, but I want it pre-configured?

ORACLE



CISCO



AWS Support – Third-Party Software



AWS Marketplace – A Visual

AWS Marketplace > Discover products > Search results

Refine results

Categories

- Infrastructure Software (9104)
- DevOps (6596)
- Professional Services (4664)
- Data Products (3862)
- Business Applications (3207)
- Machine Learning (2211)
- Industries (1789)
- IoT (670)

Delivery methods

- Amazon Machine Image (8339)
- Professional Services (4662)
- Data Exchange (3865)
- SaaS (2854)
- SageMaker Model (804)
- Container Image (514)
- CloudFormation Template (506)
- SageMaker Algorithm (140)
- Helm Chart (40)

Publisher

- cloudimg (570)
- Cognosys Inc Hardened Images (506)
- IOAnyT Innovations, Inc. (407)

Search AWS Marketplace products

Search for any product via AWS Marketplace

All products (Over 10000 results) showing 1 - 20

Sort By: Relevance

FORTINET Fortinet FortiGate Next-Generation Firewall 

By Fortinet Inc.  | Ver 7.4.0

 [Free Trial](#)

Starting from \$0.36/hr or from \$1,920.00/yr (up to 69% savings) for software + AWS usage fees

FortiGate-VM on AWS delivers next-generation firewall and VPN/SD-WAN capabilities for organizations of all sizes. It enables broad network protection and automated security management for consistent enforcement and visibility across your AWS VPCs and hybrid cloud infrastructure. FortiGate natively...

CROWDSTRIKE CrowdStrike Falcon Endpoint Protection 

By CrowdStrike 

 2 AWS reviews  | 212 external reviews 

 [Free Trial](#)

Stop breaches with unified endpoint protection delivered from the cloud. CrowdStrike aims to revolutionize endpoint protection by unifying next-generation antivirus (AV), endpoint detection and response (EDR), and a 24/7 managed hunting service - all delivered via a single lightweight agent. The Cr...

TREND MICRO Trend Cloud One 

By Trend Micro 

 25 AWS reviews  | 140 external reviews 

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Support Plans - Summary



Five support levels in AWS



Basic is free, but with web access only



Developer level includes some SLAs, but still with web access only



Business level is the minimum requirement for Production and includes Trusted Advisor/SLAs



Enterprise On-Ramp includes Business plus a pool of TAMs/reduced SLA times



Enterprise includes Enterprise On-Ramp/TAM/ <15 mission-critical SLAs



All support plans beyond Basic have flat fees or a % of spend (higher of the two)





KodeKloud