



Elevate the Cloud Game

**Unveil the power of AWS Cost Optimisation for
business growth**

@ JavaCro23

Tuesday October 15th 2023.

Hotel Istra - Rovinj/Croatia



Kako biti "igrač" u Cloud igri

Otkrijte snagu AWS optimizacije troškova u svrhu
unapredjenja poslovanja

@ JavaCro23

Utorak 17. Oktobar 2023.

Hotel Istra - Rovinj/Hrvatska



"Elevate The Cloud Game" - Stoislavljević Aleksandar @ 2023



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ERROR



STORY BY
Matthew
Panzarino



A sizable outage of Amazon's various web services caused many major web services to crumble on Friday evening. The issues stem from power loss and extend across Amazon's database, cloud and Elastic Compute services, as indicated by Amazon's [status page](#).

The outages began [around 10:45 am EST](#) with outages affecting EC2 instances and EBS volumes, but have certainly gotten worse as the day has gone on. They are currently affecting many services that utilize Amazon's cloud offerings for various portions of their business. This includes popular cloud service Heroku, which says that it has [lost some connectivity to its Virginia architecture](#).

We're currently experiencing technical difficulties and we're working to correct the issues. Thanks for your patience

— Instagram Support (@InstagramHelp) June 30, 2012

Consumer facing services like [Instagram](#), [Netflix](#), [Pocket](#) and [Pinterest](#) have also been experiencing problems. The outage appears to be affecting the US-East-1 zone primarily. This is the second outage to [hit that zone this month](#).

Popular articles

- 1** X-Ray tech uncovers how Pompeii's fleeing residents met their end
- 2** James Webb telescope captures clearest-ever image of Whirlpool galaxy
- 3** Crypto giant Binance sidesteps Belgium ban by redirecting users to Poland
- 4** Myanmar genocide refugees take Meta to Irish court over disinformation claims
- 5** Nordic tech to power the world's biggest electric ship



MANAGE > UPTIME

Generator Fan Failure Triggered AWS Outage

Last week's outage at Amazon Web Services was triggered by a series of failures in the power infrastructure in a northern Virginia data center, including the failure of a generator cooling fan while the facility was on emergency power.

Rich Miller | Jun 21, 2012



Last week's **outage** at **Amazon Web Services** was triggered by a series of failures in the power infrastructure in a northern Virginia data center, including the failure of a generator cooling fan while the facility was on emergency power. The downtime affected AWS customers **Heroku**, **Pinterest**, **Quora** and **HootSuite**, along with a host of smaller sites.

The incident began at 8:44 p.m. Pacific time on June 14, when the Amazon data center lost utility power. The facility switched to generator power, as designed. But nine minutes later, a defective cooling fan caused one of the backup generators to overheat and shut itself down.

Netflix, Instagram, Pinterest, ...

... but some weren't affected? How come?



Aleksandar Stoisljević

it consultant @NovaCode



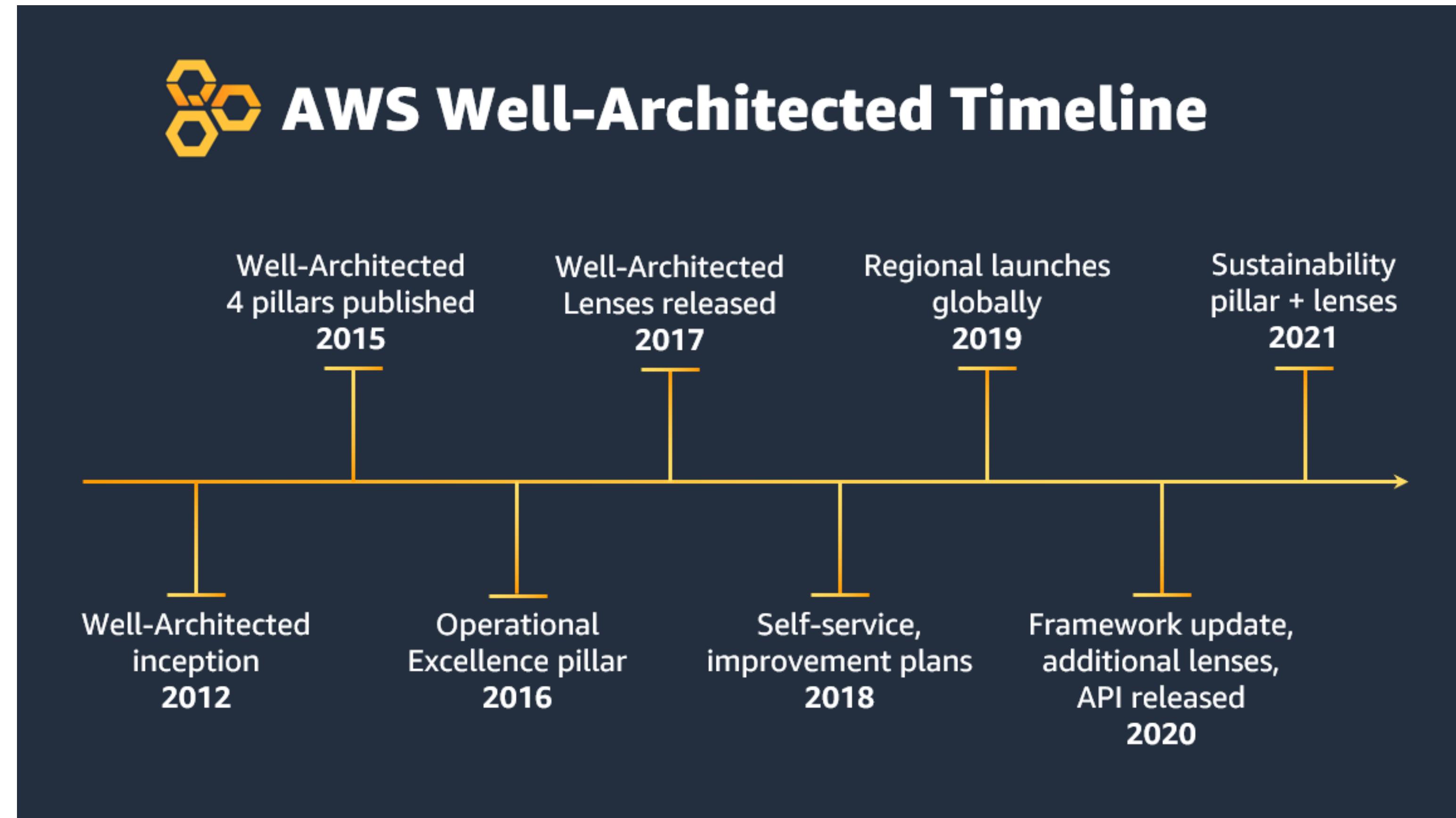
Accomplished individual with a strong background in Java (20+ yrs in IT business). Goal oriented, analytical and sharp individual with a lot of energy. Strong will to spread inspiration among his co-workers. Coming from city of Novi Sad, one of the biggest IT centres in Serbia, Aleksandar has been working in various environments. Professional career started as desktop developer (Delphi IDE) and joined one international company in 2007. with its headquarters in Amsterdam. Primary focus were various kinds of server-side systems and web applications. As from 2015. actively learning and helping clients to prepare and adopt for the Cloud. In 2017. Joined Jatheon where he works nowadays as Software Architect & Director of Engineering (DoE). In the "off-working hours" father of two. Like to play table tennis.

astoisavljevic

@staleksit



AWS Well-Architected Framework



AWS Well-Architected Framework

- 1. Reliability**
- 2. Security**
- 3. Performance Efficiency**
- 4. Cost Optimization**
- 5. Operational Excellence**
- 6. Sustainability**

Cost Optimization



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Cost Optimization

- 1. Implement cloud financial management**
- 2. Adopt a consumption model**
- 3. Measure overall efficiency**
- 4. Analyse and attribute expenditure**
- 5. Stop spending money on undifferentiated heavy lifting**

Design Principles

Cloud Financial Management

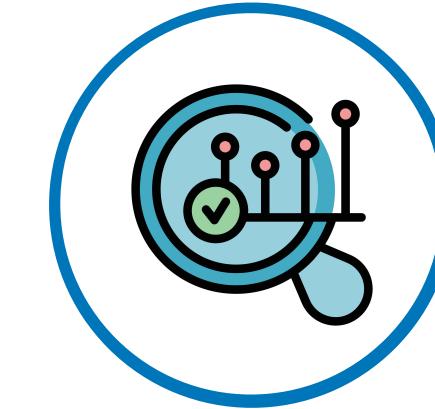
Implement cloud financial management

CFM helps all parts of the company (Finance, Product, Technology and Business teams) to **HANDLE** their money wisely as they use cloud provider services and infrastructure.

HOW? By helping business to make more money and become better at what thy business do, but same time **BE SMART** how they spend their cash.

Cloud Financial Management (a.k.a. CFM) is like a **TOOLBOX** for companies.

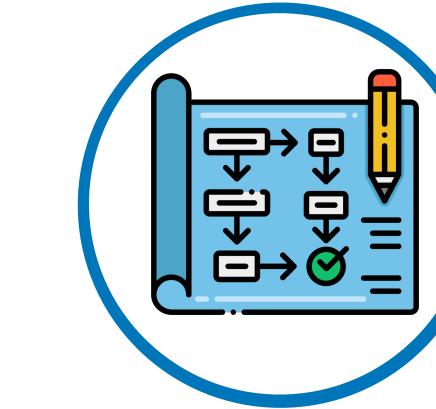
See



Save



Plan

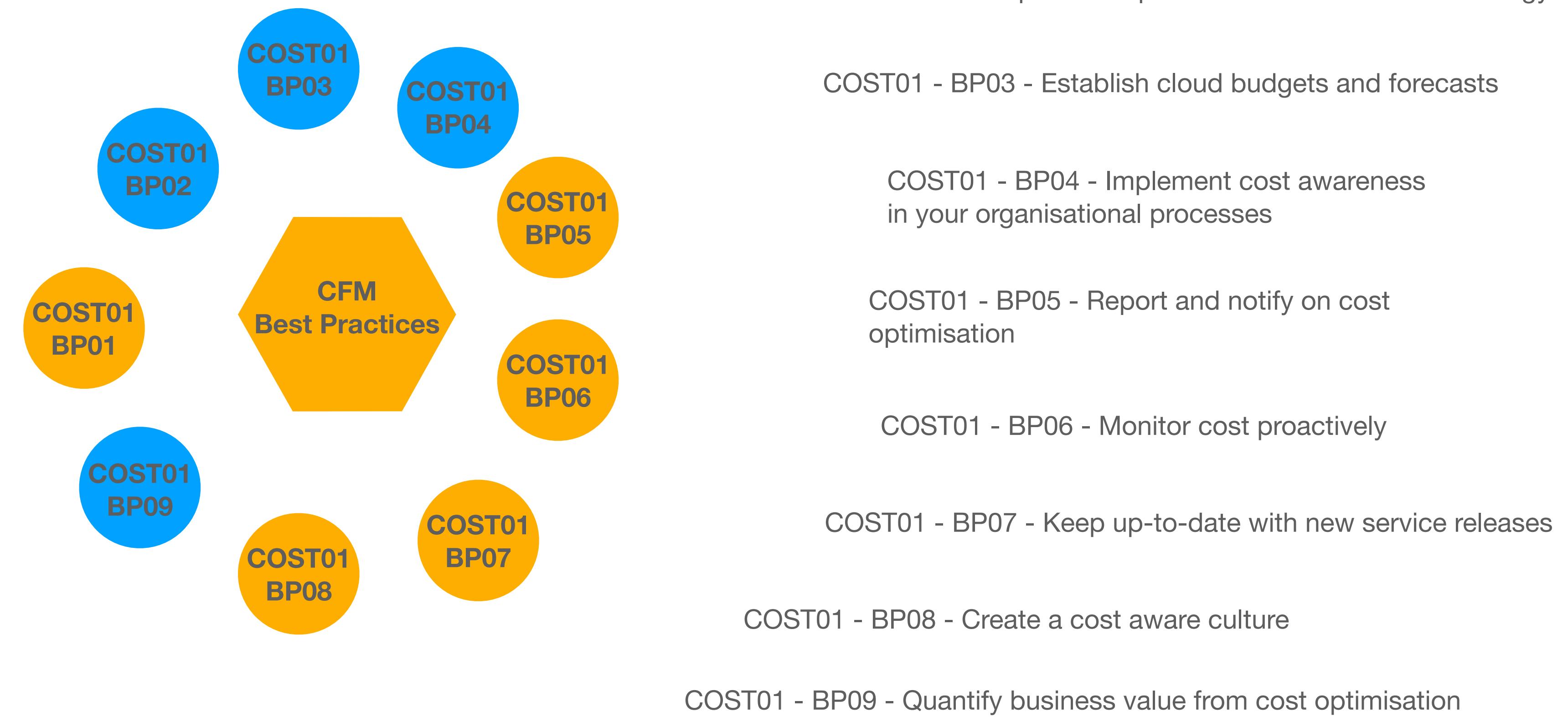


Run



Design Principles

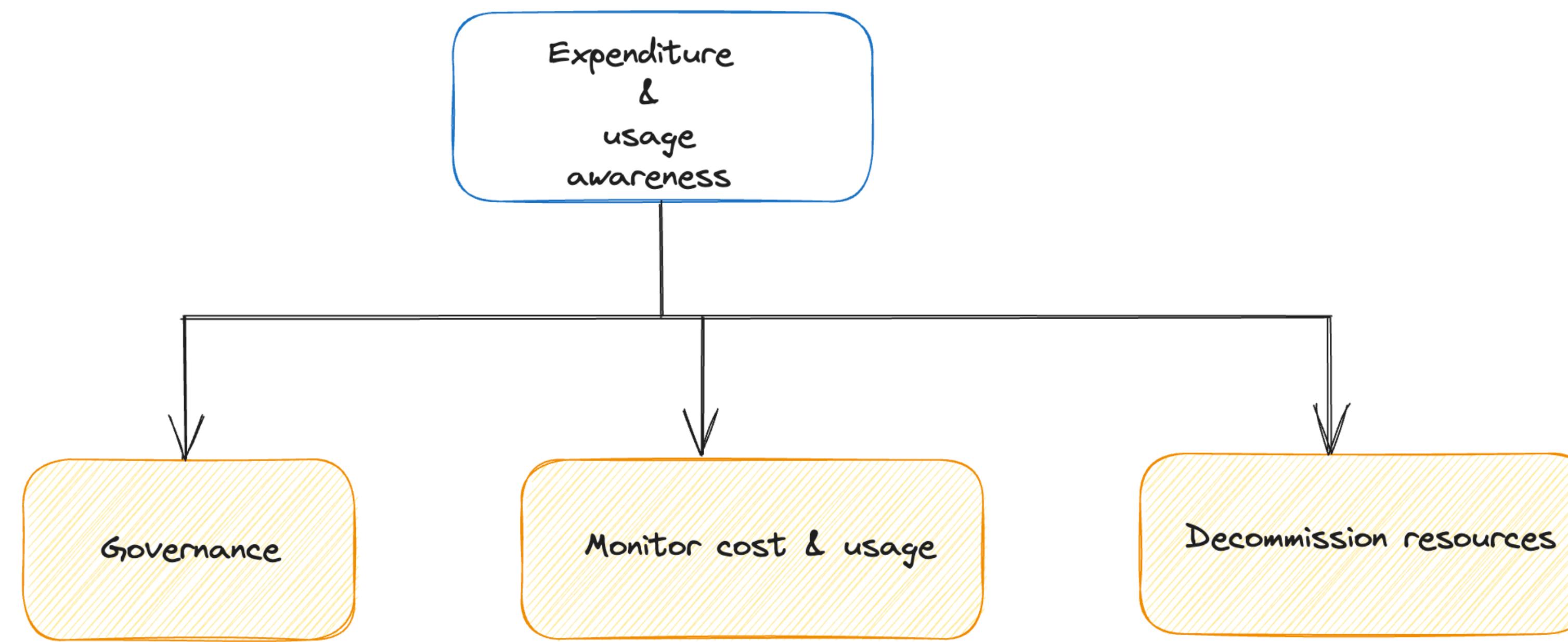
Cloud Financial Management



Design Principles

Cloud Financial Management

Expenditure and usage awareness

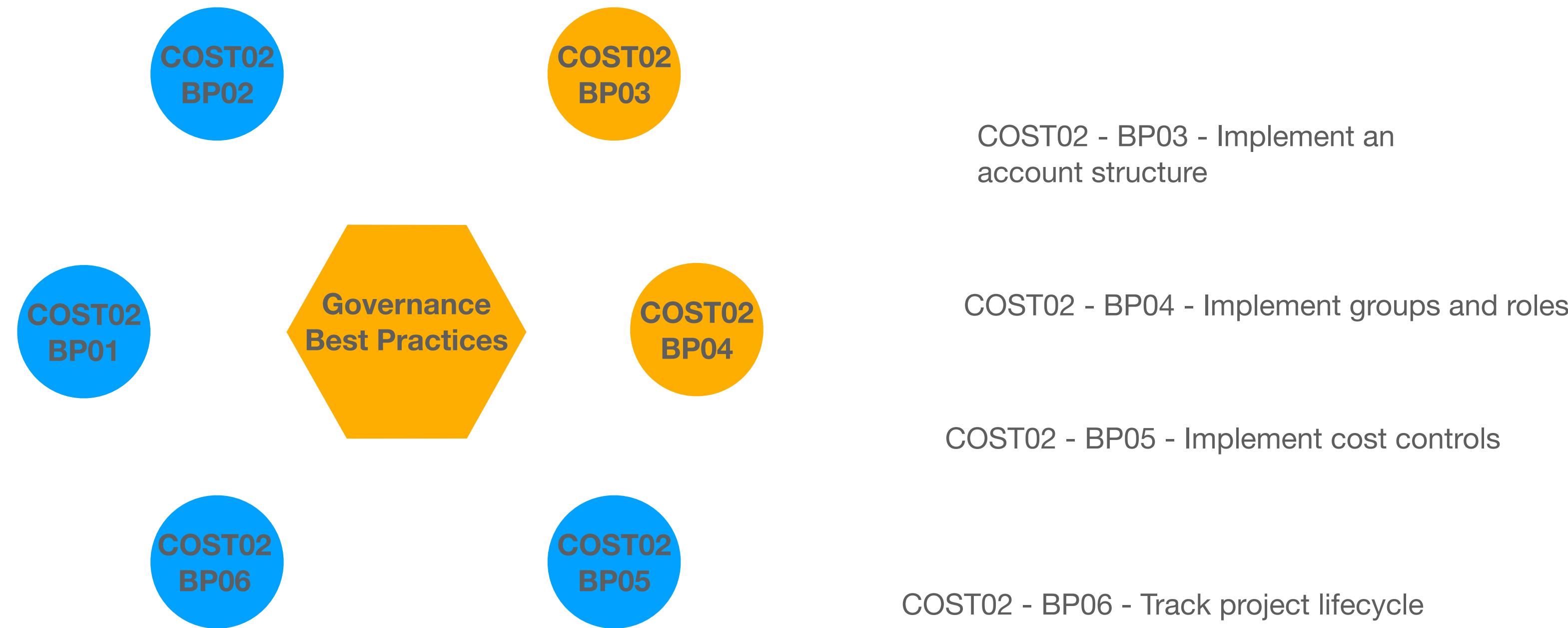


Design Principles

Cloud Financial Management

Expenditure and usage awareness

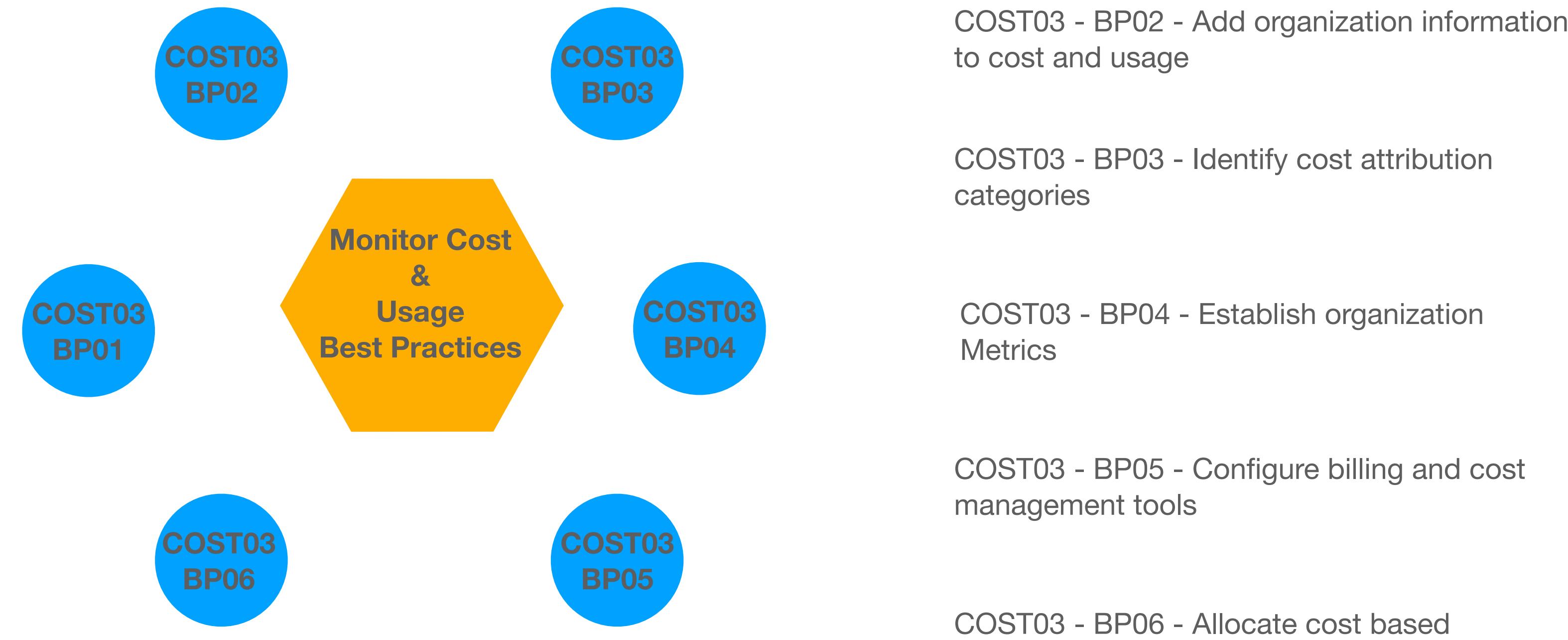
Governance (items: 6)



Design Principles

Cloud Financial Management

Expenditure and usage awareness

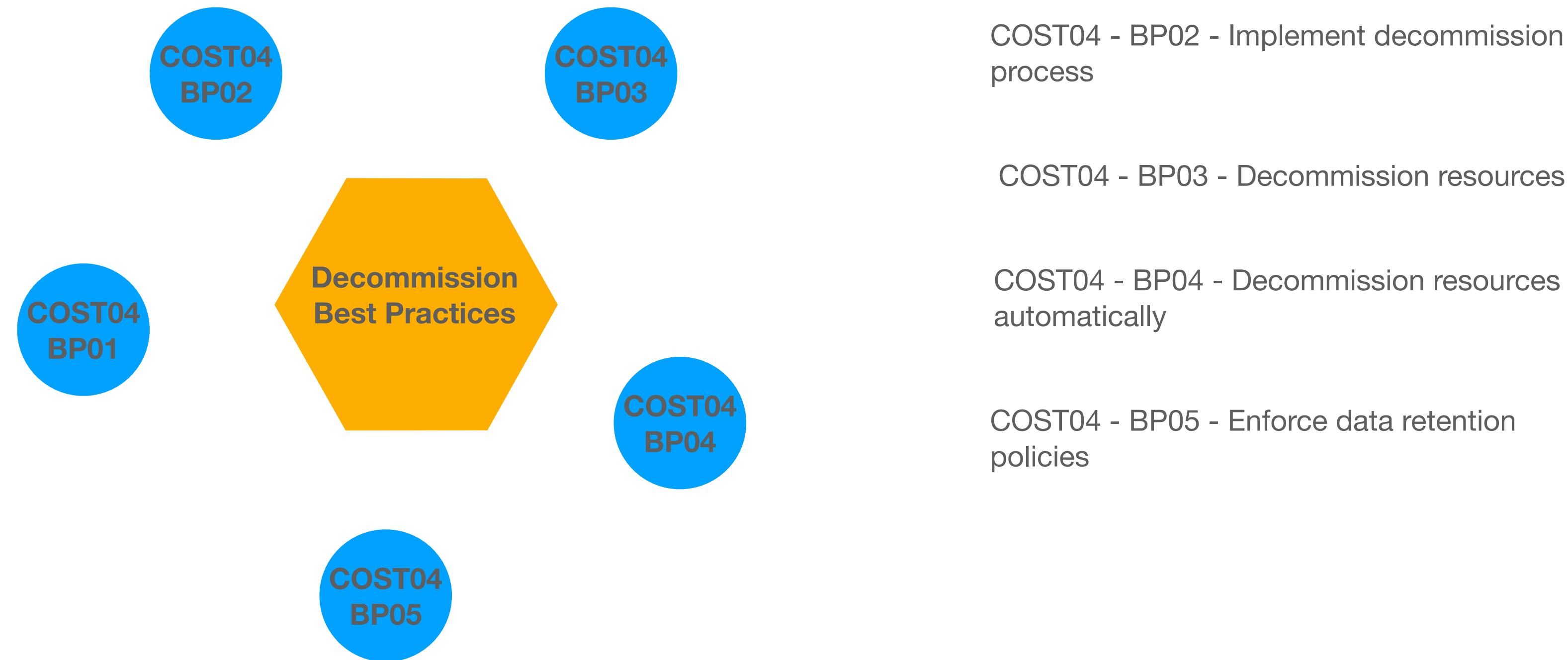


Design Principles

Cloud Financial Management

Expenditure and usage awareness

Decommission resources (items: 5)

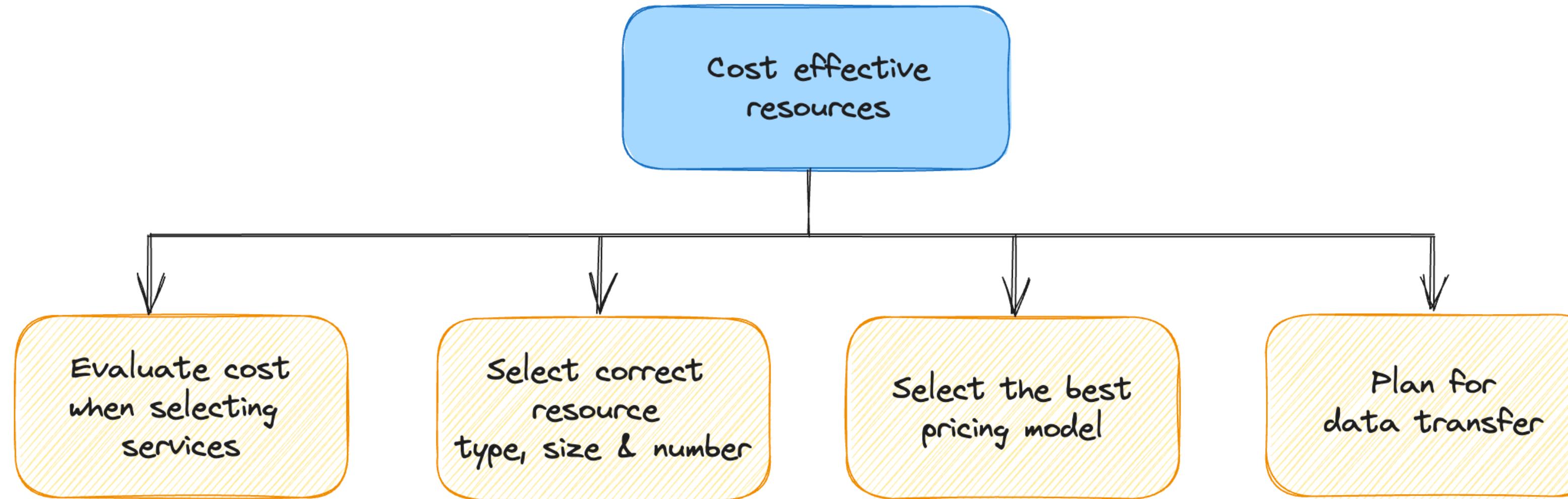


Design Principles

Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

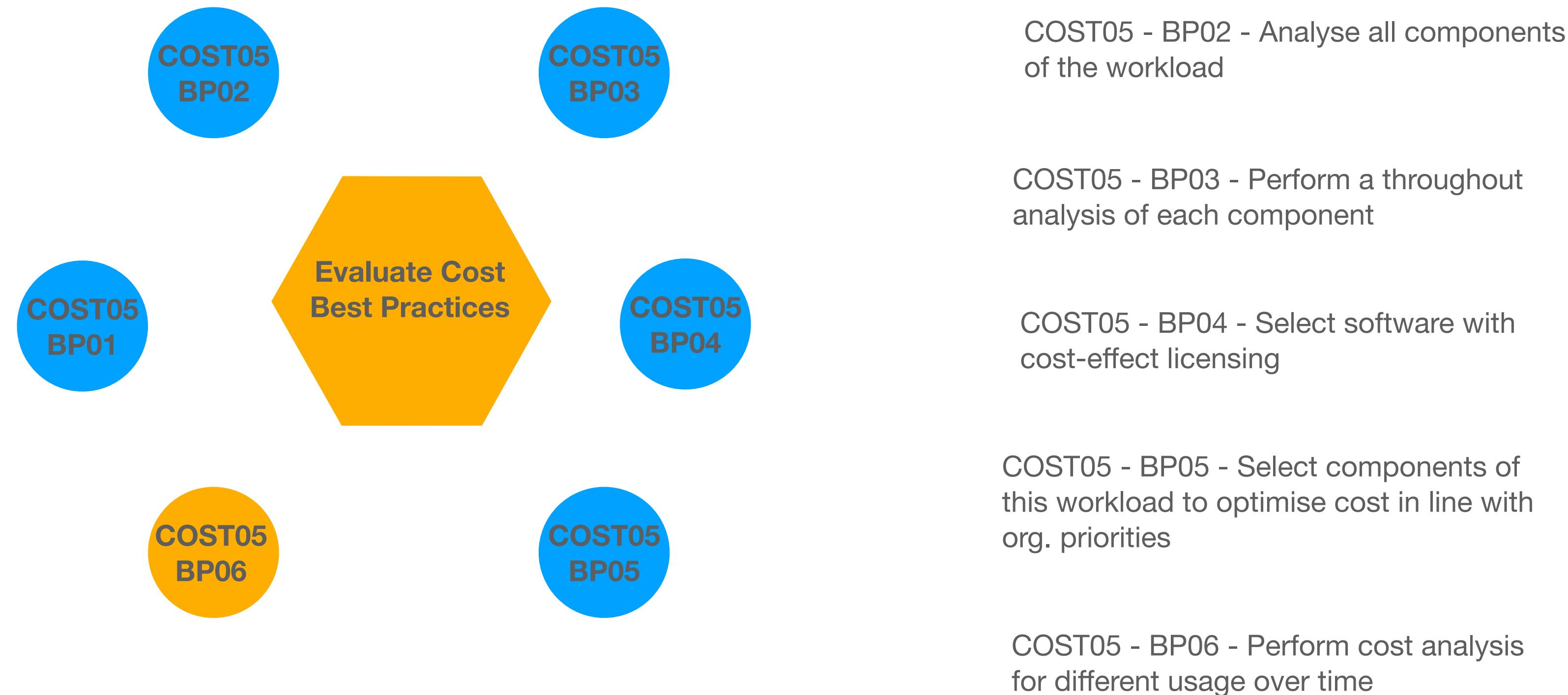


Design Principles

Cloud Financial Management

Expenditure and usage awareness

Evaluate cost when selecting services (items: 6)



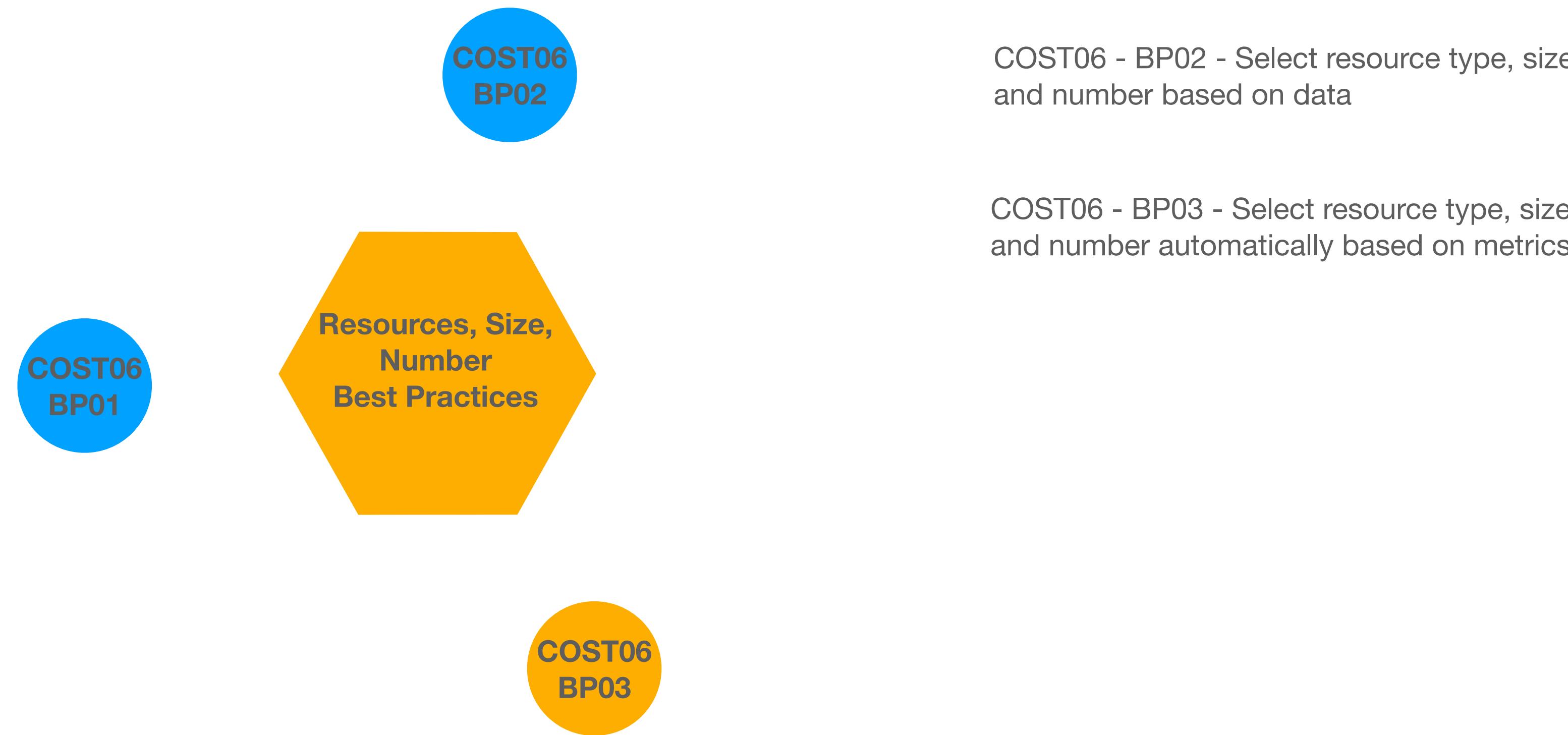
Design Principles

Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

Select the correct resource type, size and number (items: 3)



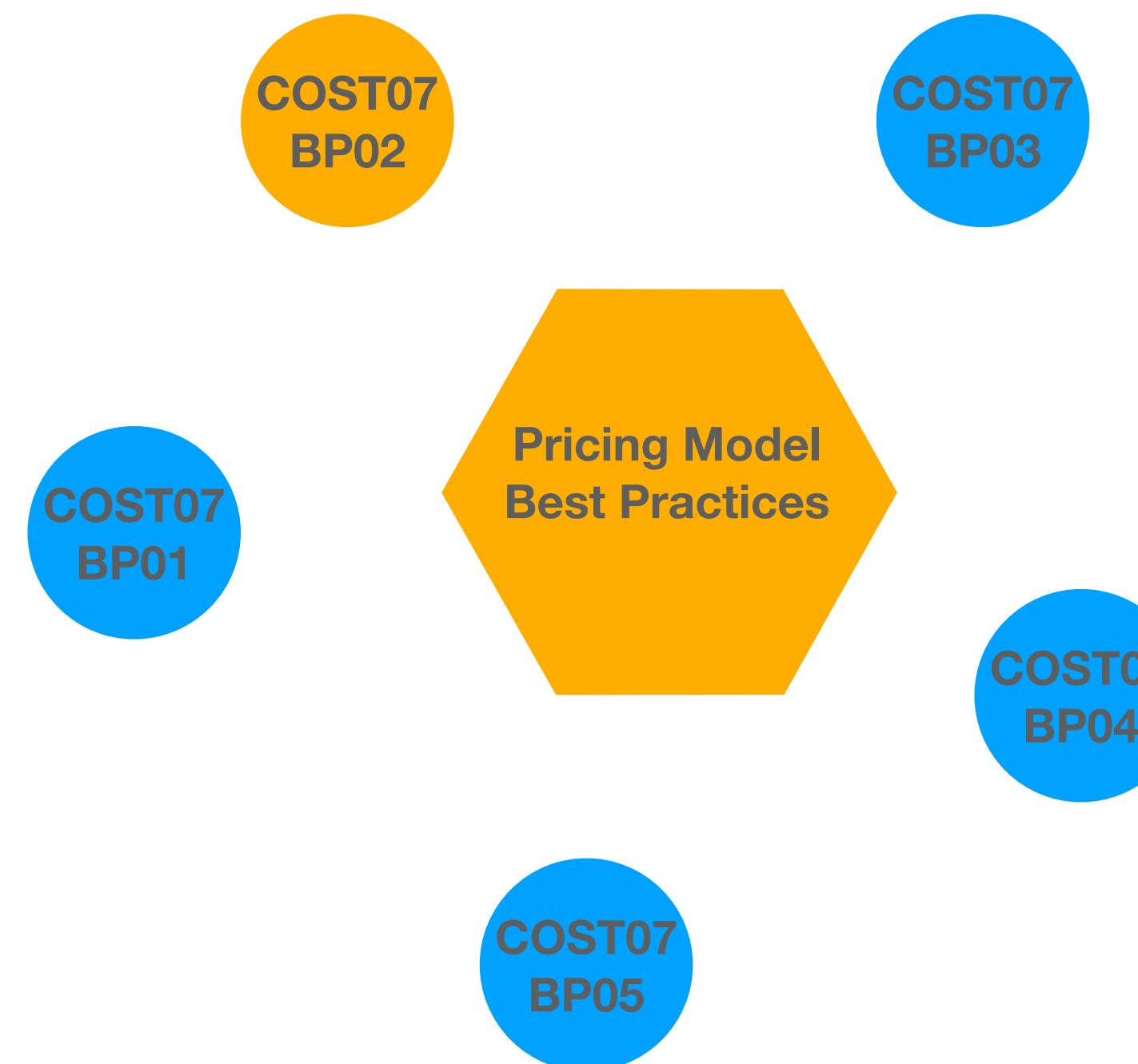
Design Principles

Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

Select the best pricing model (items: 5)



COST07 - BP01 - Perform pricing model analysis

COST07 - BP02 - Implement regions based on cost

COST07 - BP03 - Select third-party agreements with cost-efficient terms

COST07 - BP04 - Implement pricing models for all the components of this workload

COST07 - BP05 - Perform pricing model analysis at the management account level

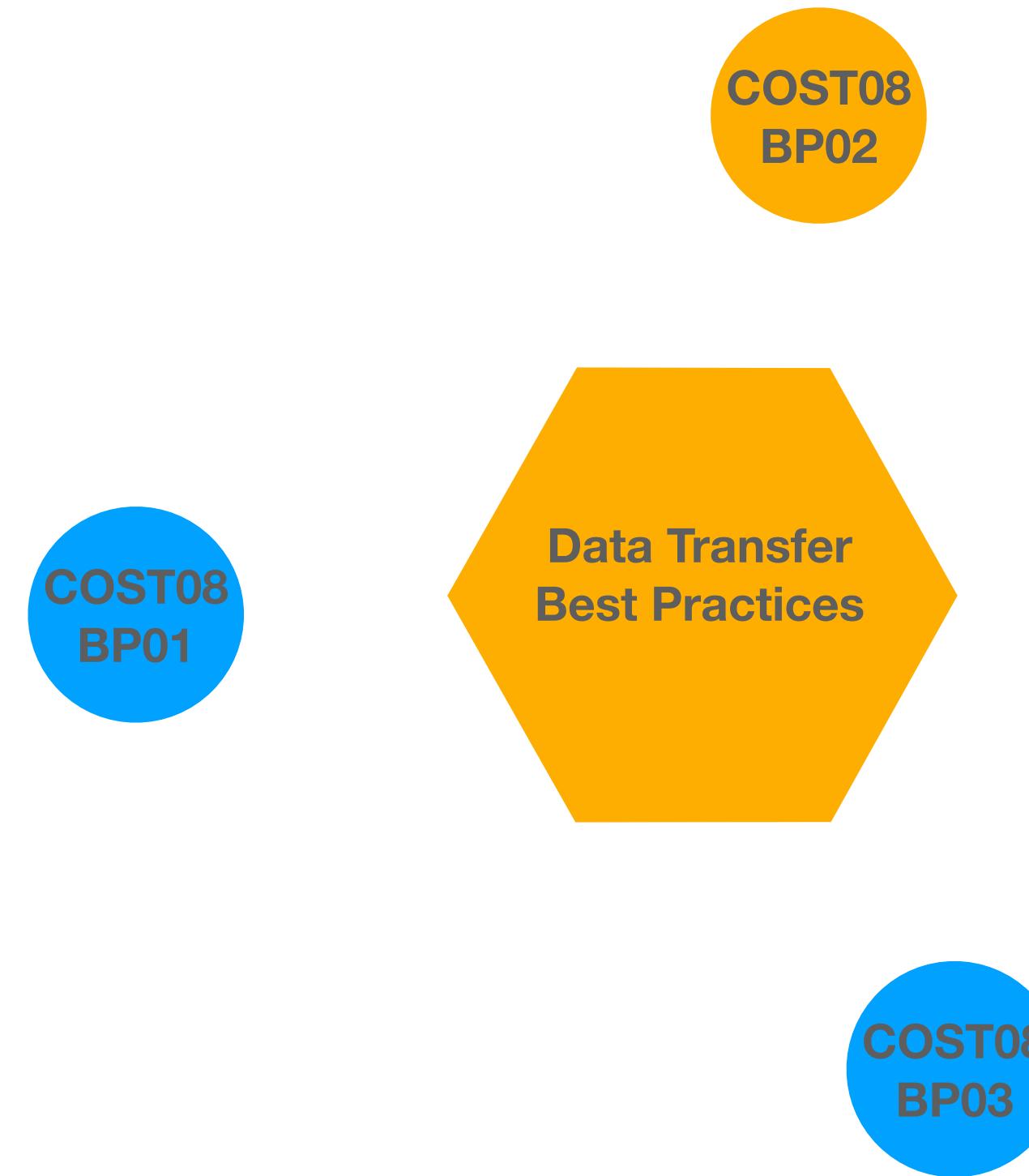
Design Principles

Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

Plan for data transfer (items: 3)



COST08 - BP01 - Perform data transfer modelling

COST08 - BP02 - Select components to optimize data transfer cost

COST08 - BP03 - Implement services to reduce data transfer cost

Design Principles

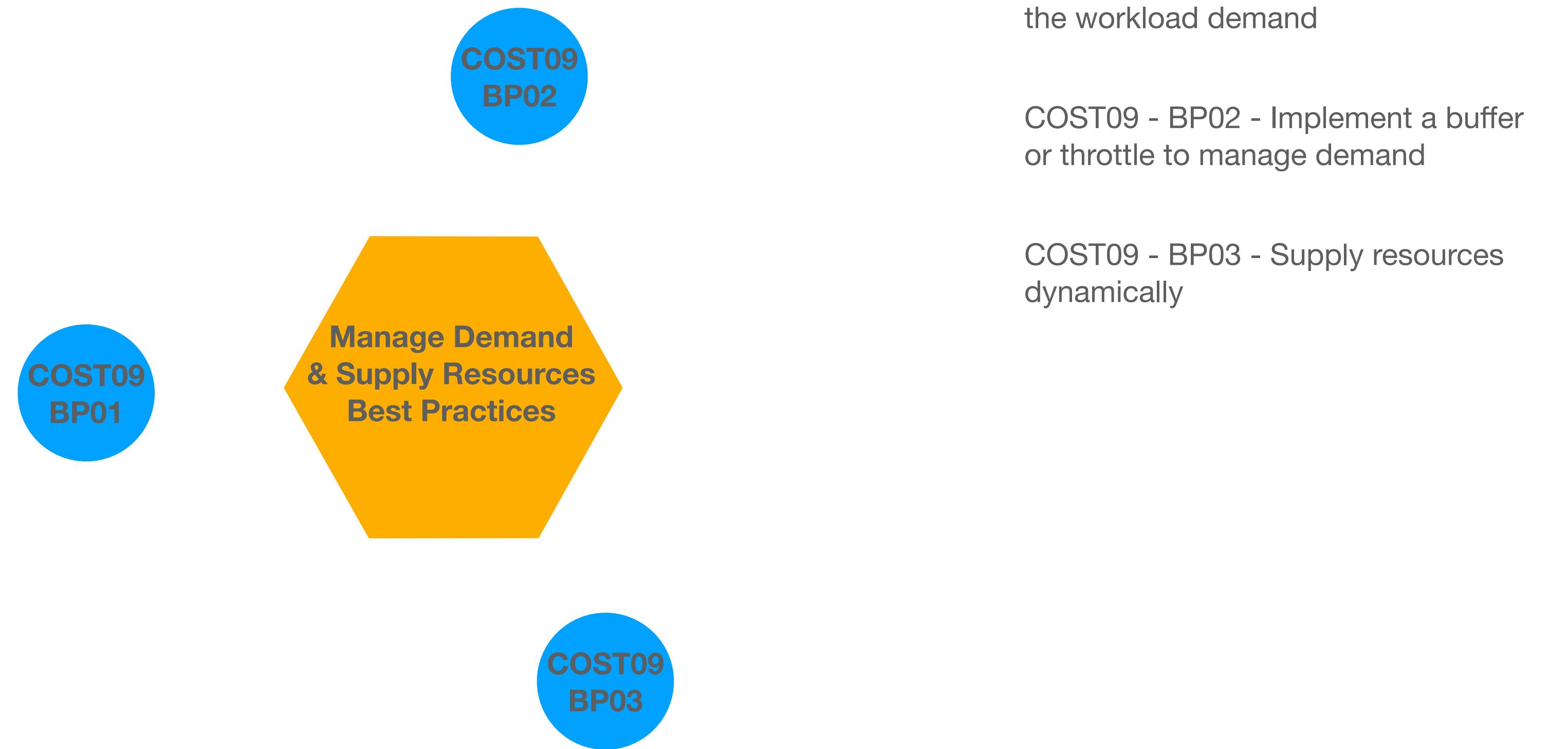
Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

Manage demand & supplying resources

Manage demand and supply resources (items: 3)



Design Principles

Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

Manage demand & supplying resources

Optimize over time

COST10
BP01

Review Workflow & Analyse Best Practices

COST10
BP02

Define a review process and analyze your workload regularly (items: 2)

COST10 - BP01 - Develop a workload review process

COST10 - BP02 - Review and analyze this workload regularly

Design Principles

Cloud Financial Management

Expenditure and usage awareness

Cost effective resources

Manage demand & supplying resources

Optimize over time

COST11
BP01

Automating operations (items: 1)



COST11 - BP01 - Perform automations for operations

Jattheon

Data archiving solutions for compliance and legal support



Data archiving solutions for compliance and legal support

Safeguard your critical communications data. Retrieve what you need in seconds.

[Get a Demo](#)

TOP-RATED DATA ARCHIVING SOFTWARE ON INDEPENDENT WEBSITES



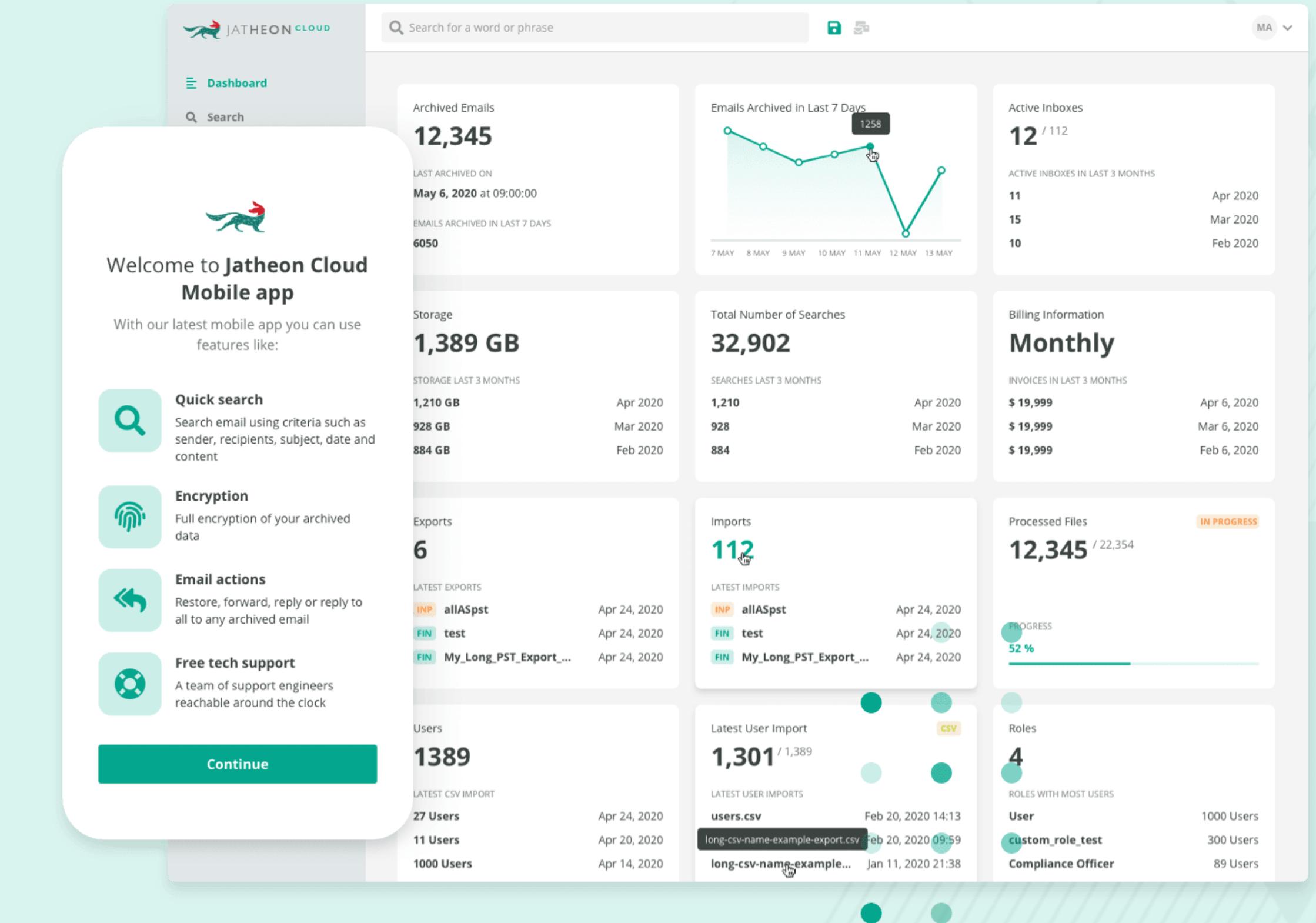
GARTNER 4.9 / 5
★★★★★



CAPTRERA 4.8 / 5
★★★★★



G2 CROWD 4.6 / 5
★★★★★



Archiving is like having a digital paper trail of your organisation's history, making it invaluable for compliance and record-keeping.

“





Sarbanes - Oxley (**SOX**) Compliance Act



Securities and Exchange Commission (**SEC**) Compliance



Commodity Futures Trading Commission (**CFTC**) Compliance



Health Insurance Portability And Accountability (**HIPAA**) Compliance



Family Educational Rights and Privacy (**FERPA**) Act



New York State Cyber **SHIELD** Act

**FREE
INFORMATION
ACT**



*A well-archived communication is
a shield against the storms of
legal scrutiny.*



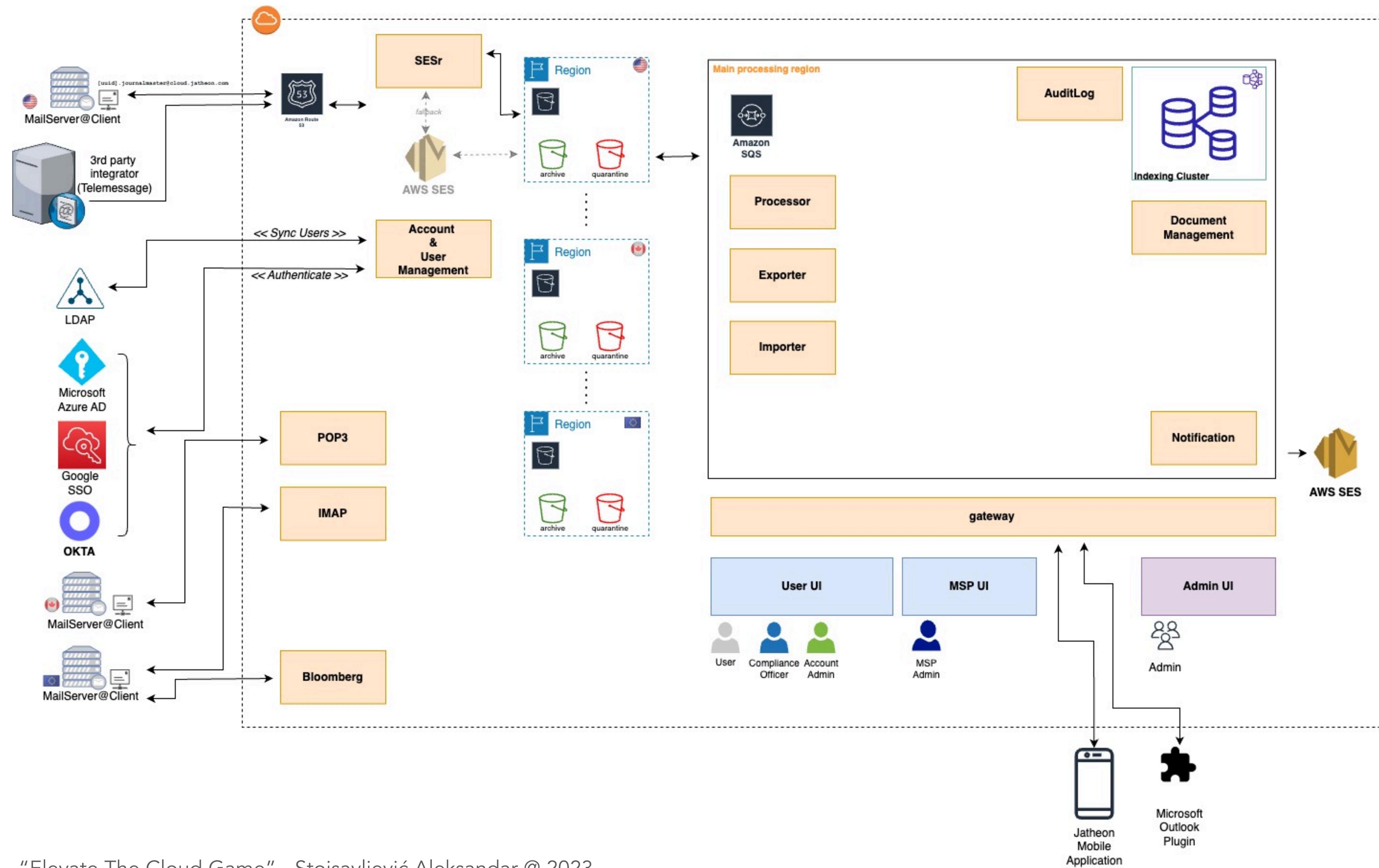
Marko Dinic
CEO of Jatheon Technologies

ErgoCloud

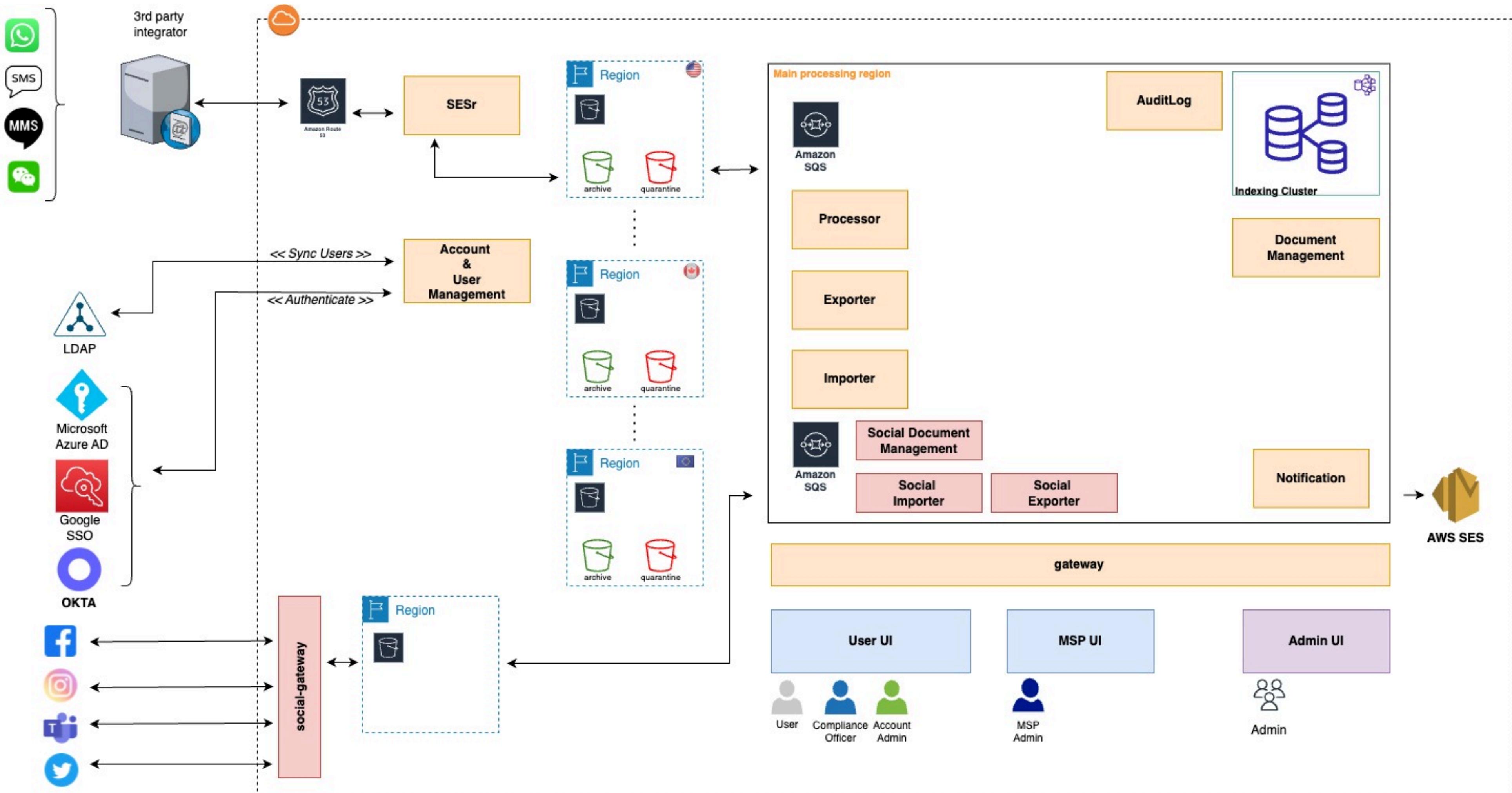


Architecture

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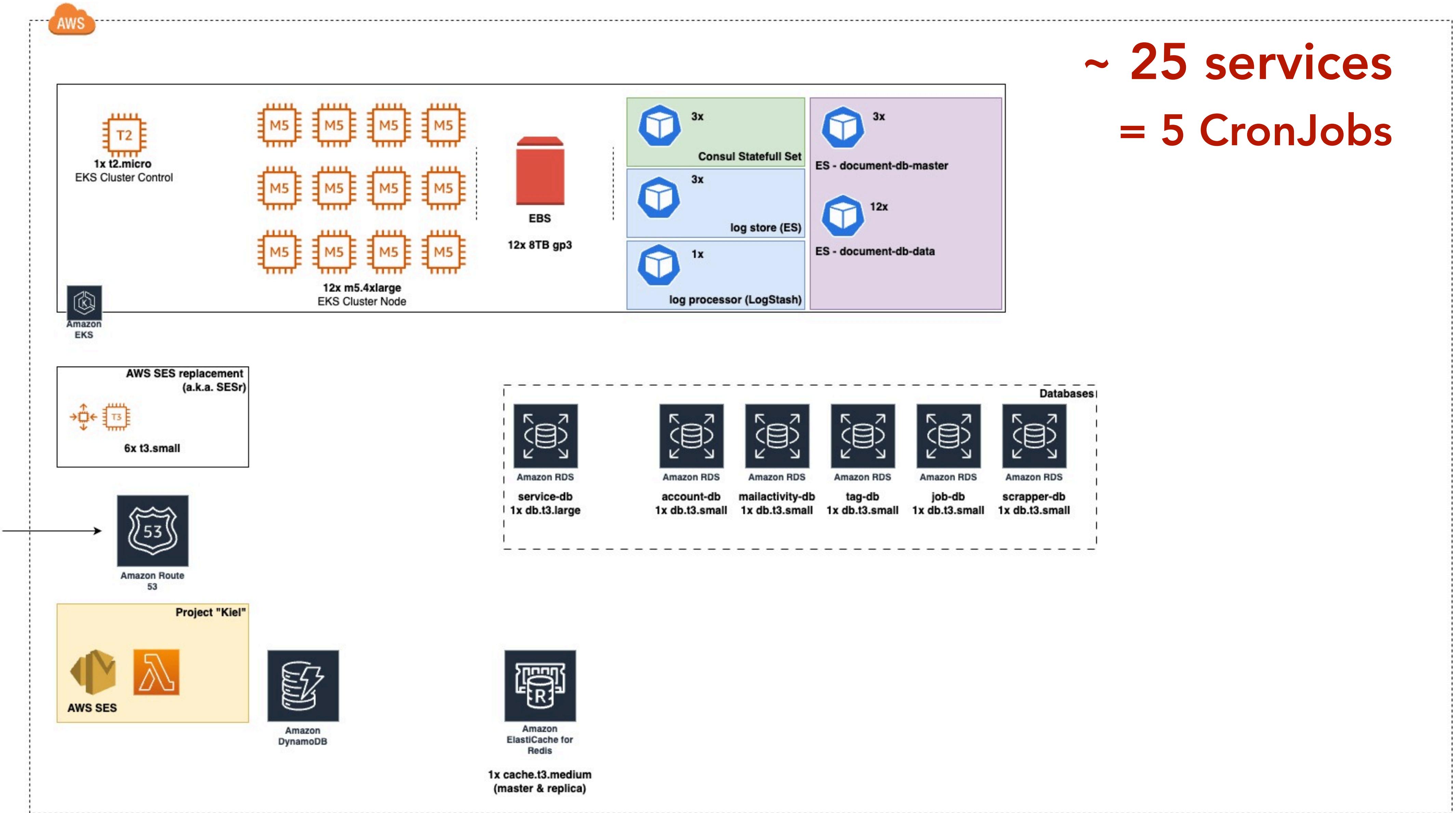
"Elevate The Cloud Game" - Stojsavljević Aleksandar @ 2023



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Infrastructure



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Key Cost Indicators

JATHEON
DATA | KNOWLEDGE | INSIGHT

Model	cCore 48x
Storage Capacity	48TB (RAIDZ3)
Available Storage	32TB



Core 48x

Today's leading enterprises depend on secure and powerful data management tools to capture valuable business data in corporate email communications to meet compliance regulations, tackle eDiscovery and enable intelligent corporate governance.

Jatheon's cCore48x delivers: providing the unmatched protection of an on-premise solution, cCore48x easily handles high data flow, dynamically monitors, indexes and securely stores all emails, providing essential control over confidential information and letting users intelligently manage and retrieve information instantly. Fully scalable, cCore48x grows with your needs as your company embraces new markets and opportunities.

Graphics:
Matrox G200eW

I/O Interfaces:
2x SATA 3.0 ports (6Gbps)
+ 4x SATA 2.0 ports (3Gbps)
8x SAS2 ports (6Gbps)
4x RJ45 Gigabit Ethernet LAN ports
1x RJ45 Dedicated IPMI LAN port
1x iBOD Expansion Port
9 USB 2.0 ports total
(4 rear + 4 via header + 1 Type A)
1x VGA port
1x Fast UART 16550 port / 1 Header

Front Panel:
Power On/Off button
System Reset button
Power status LED
Hard drive activity LED
2x Network activity LEDs
System Overheat LED
Power fail LED

Back Plane:
SAS2 / SATA3 single expander per backplane

Power Supply:
920W high-efficiency (94%+) AC-DC
Redundant power supplies with PMBus and I2C
Input: 100-240V, 50-60 Hz, 11-4.5 Amp
Output: 4 Amp @ +5V standby
75 Amp @ +12V

Operating Environment / Compliance:
RoHS Compliant
Operating Temperature: 10°C to 35°C (50°F to 95°F)
Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)
Operating Relative Humidity: 8% to 90%

BUDGET = CAPEX + OPEX

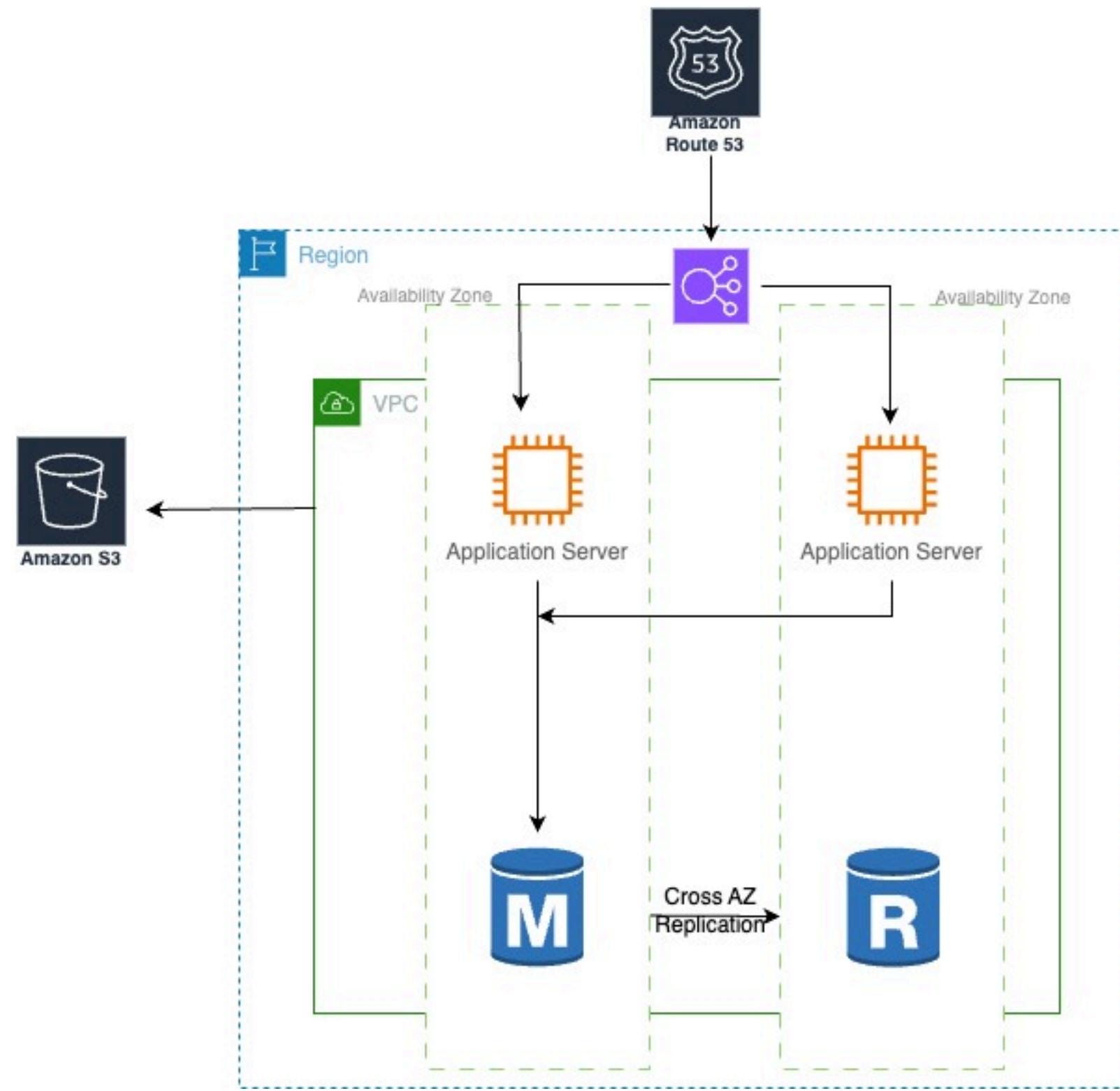
VS.



PAY AS YOU GO BILLING MODEL FOR SAAS BUSINESSES



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Service	Type	Quantity	Monthly price	Total
AWS EC2	t3.small	2	\$ 14.976	\$ 29.952
AWS EBS (EC2)	20 GB gp3 storage	2	\$ 1.6	\$ 3.2
AWS RDS MySQL Multi AZ	db.t3.small	1	\$ 48.96	\$ 48.96
AWS EBS (RDS)	20 GB	2	\$ 2.3	\$ 4.6
AWS S3	100 GB	1	\$ 2.3	\$ 2.3
AWS ELB	ALB, 1 LCU	1	\$ 21.96	\$ 21.96
Total:				\$ 117.78

“Hidden” costs?

Costs that you have to be aware of !

AWS S3 costs

Actual Storage Cost	80 %
API HTTP PUT object to the bucket	2 %
Data Transfer IN	0 %
API HTTP GET object to the bucket	3 %
Data Transfer OUT	15 %

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Jatheon - Cost Optimization

@BeforeAll

**“Someone should take care for
the cost control”**

@BeforeAll

**“Someone MUST care for
the cost control!”**

Categories



ErgoCloud

Category I
"Low Hanging Fruits"

Reserved Instances (RI)

On-Demand

Reserved Instances

Spot Instances

Category I "Low Hanging Fruits"

Reserved Instances (RI)



Amazon EC2 Reserved Instances (RI) provide a significant discount (up to 72%) compared to On-Demand pricing and provide a capacity reservation when used in a specific Availability Zone.

t3.medium On-Demand \$ 0.0416/h **VS.** t3.medium RI \$ 0.026/h

Savings: 38%

Can be purchased for 1-year or 3-years

NOTE: Convertible Reserved Instances

Savings Plans (SP)

Savings Plans is a flexible pricing model offering lower prices compared to On-Demand pricing, in exchange for a specific usage commitment (measured in \$/hour) for a one- or three-year period.

There are 3 types of Savings Plans (SP):

Compute Savings Plans

EC2 Instance Savings Plans

SageMaker Savings Plans

Make a promise to stick with **Savings Plans** using the advice given in AWS Cost Explorer to get the most savings.

The suggested hourly commitment is based on how is used compute power in the past and the choices you make for your plan type, how long you want it to last, and how you want to pay for it.

When you join a Savings Plan, your computer usage will be charged at the cheaper Savings Plan prices without you having to worry about it, and any extra usage will be charged at the regular rates.

Category I "Low Hanging Fruits"

EBS Migration

General Purpose SSD volume type (GP2) provided a cost effective way to achieve SSD performance for variety of applications.

Performance is coupled with provisioned size and increases linearly with the volume size.

December 2020. AWS announced general availability of new EBS General Purpose SSD volume type (GP3).

Volume Type	gp2	gp3
Volume size	1 GB - 16 TB	1 GB - 16 TB
Baseline IOPS	3 IOPS / GB (min 100 IOPS) Max. 16.000 IOPS	3.000
Max. throughput	250 MB/s	1.000 MB/s
Price	\$ 0,1 GB/month	\$ 0,08 GB/month 3.000 IOPS free*

* \$ 0,005 over 3.000 IOPS

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Category I
"Low Hanging Fruits"

COST06
BP03

AWS RDS Optimization

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project based tasks



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Category I
"Low Hanging Fruits"

Category II
Project based tasks

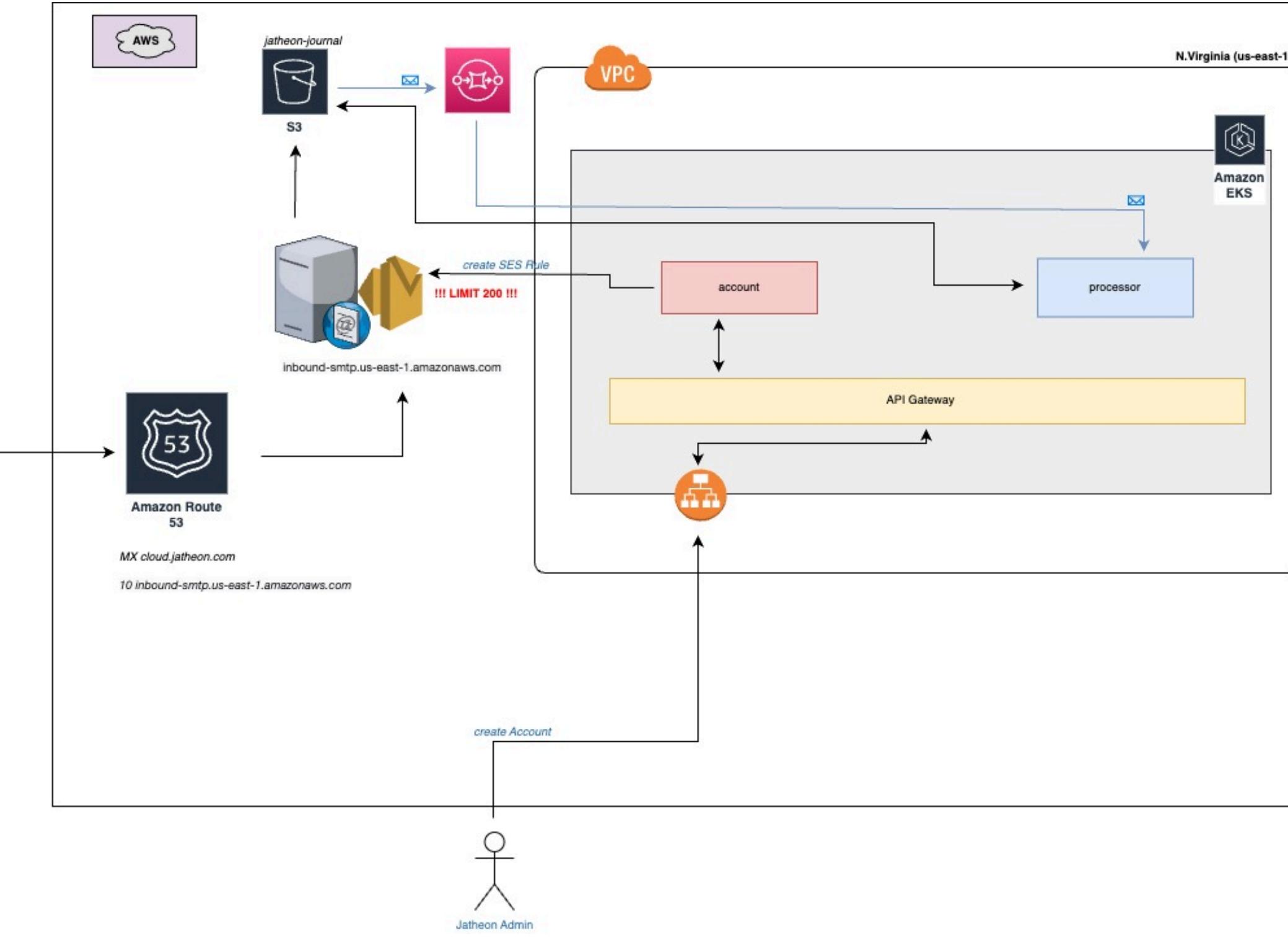
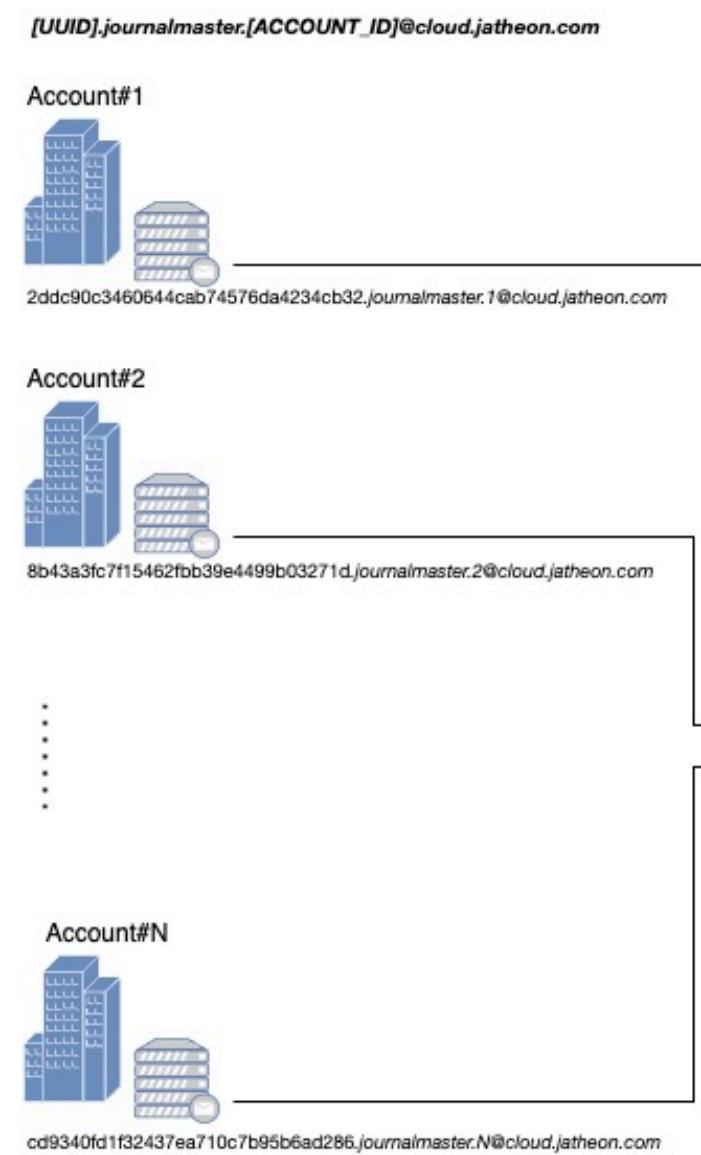
Project "Kiel"

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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Kiel"

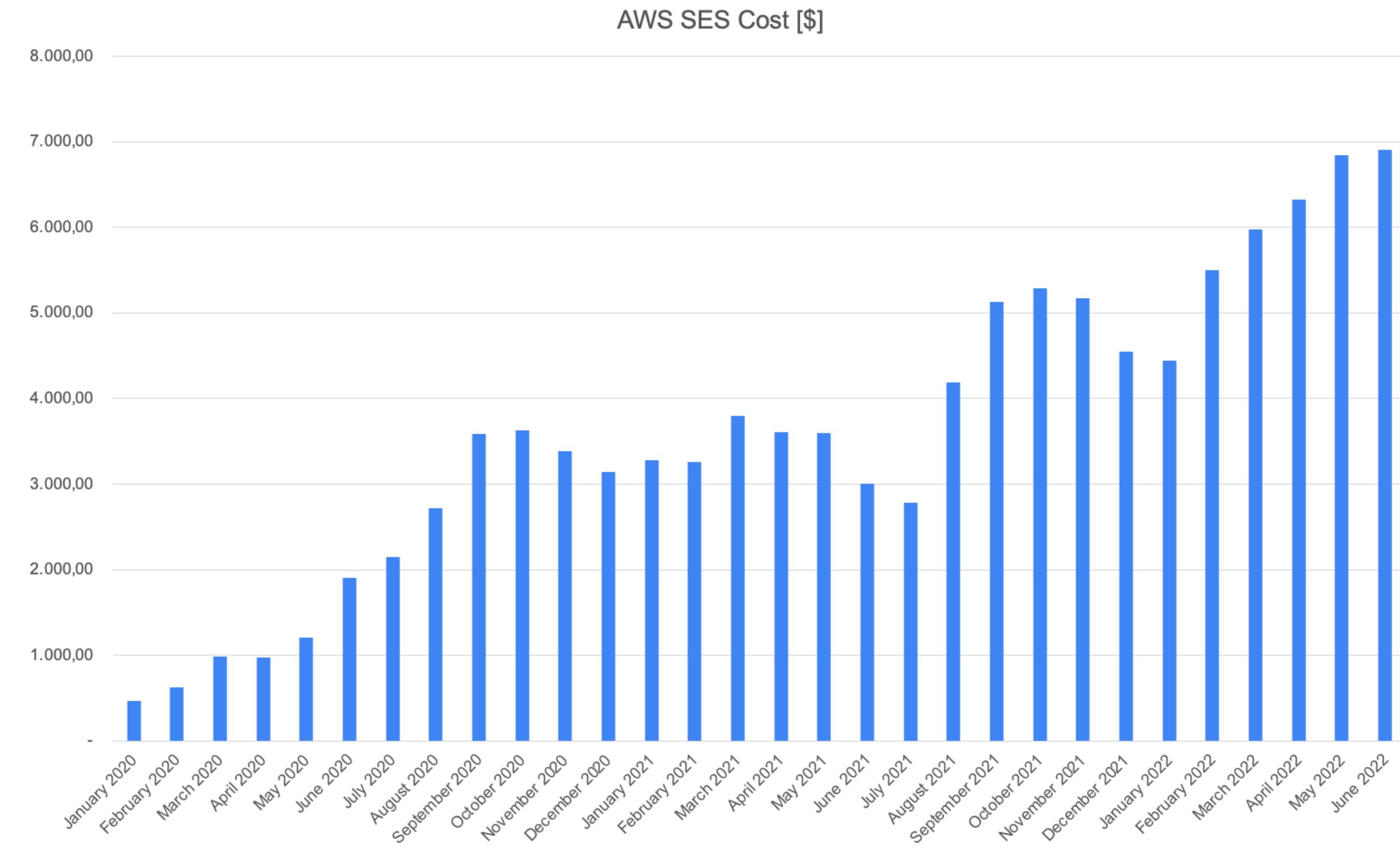


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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Kiel"

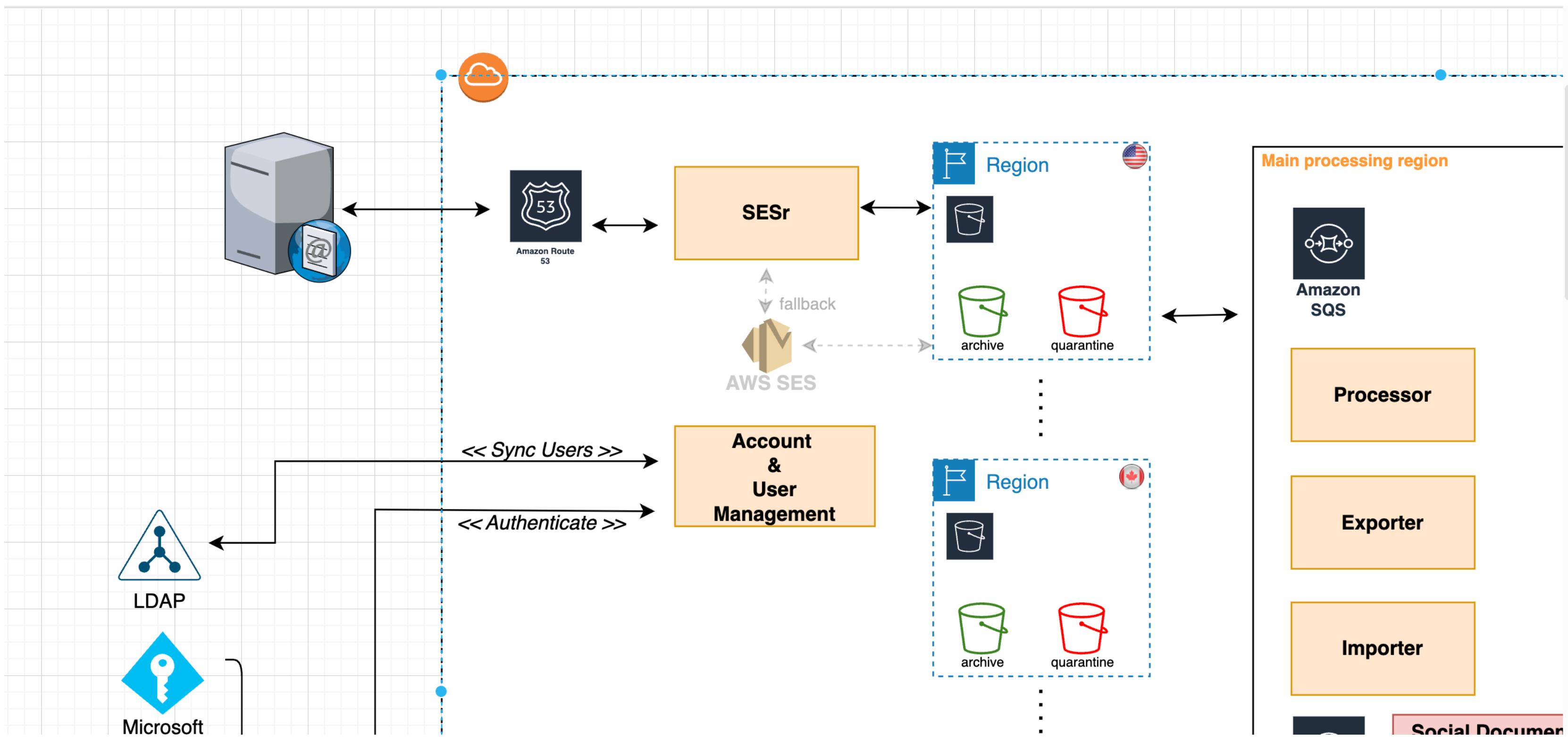


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Category I
"Low Hanging Fruits"

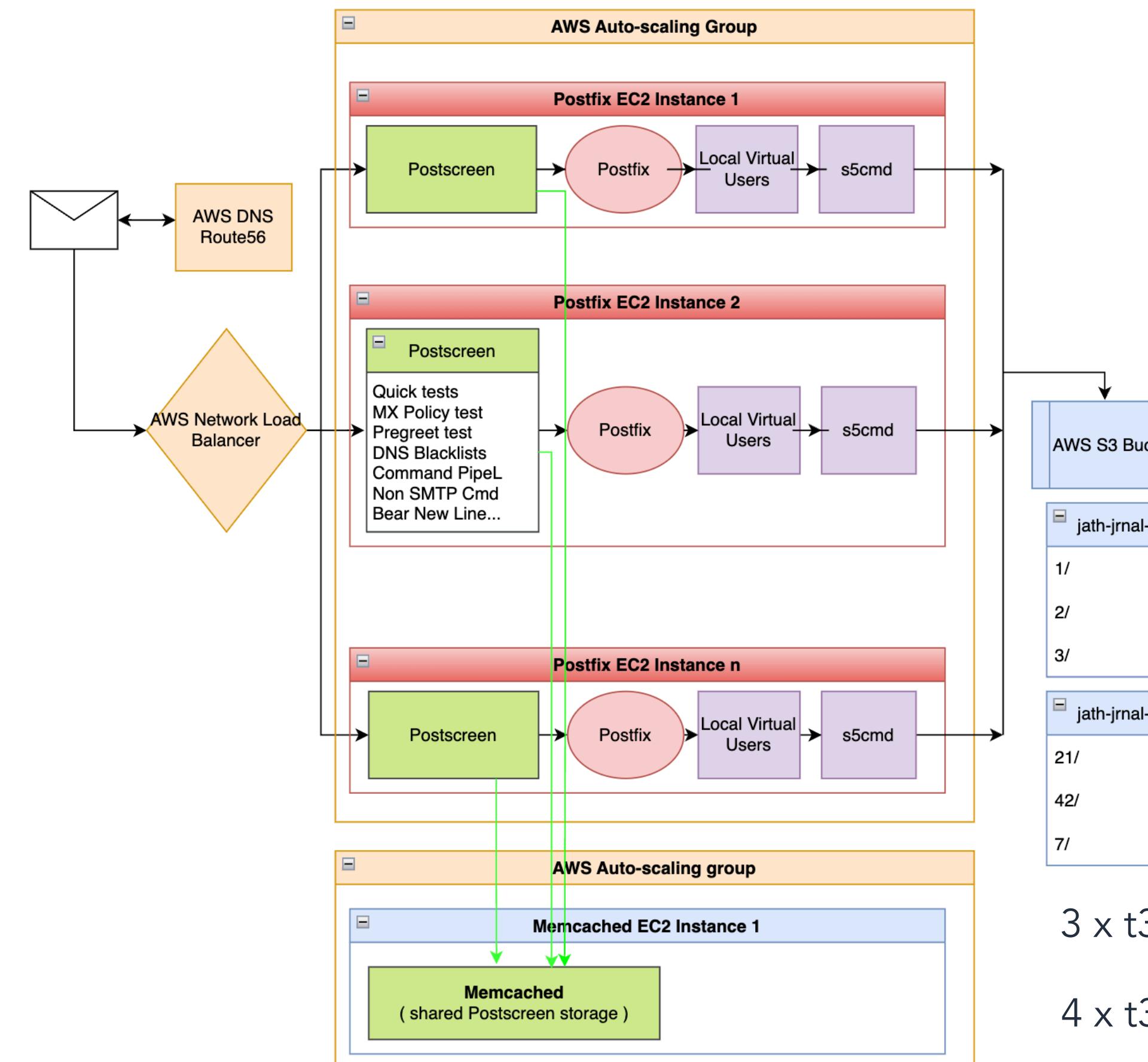
Category II
Project based tasks

Project "Kiel" [SES Replacement - SESr]



Category I "Low Hanging Fruits"

Category II Project based tasks



$3 \times t3.small (2 \text{ vCPU, RAM } 2 \text{ GB}) + 1 \times t3.small$

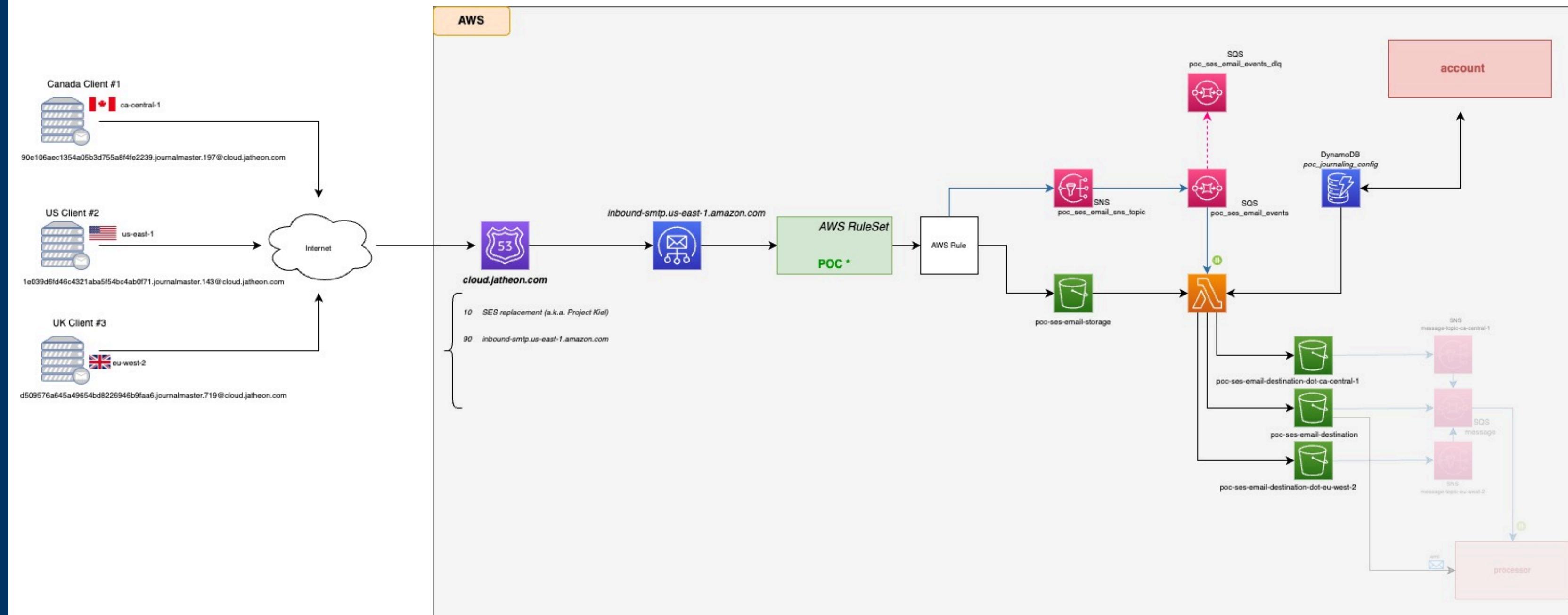
$4 \times t3.small \times 15,6 \text{ \$/month} = 62,4 \text{ \$/month}$

2 AZ - 2 x 62,4 \\$/month = 124,8 \\$/month

Category I "Low Hanging Fruits"

Category II Project based tasks

Project "Kiel" [SES Replacement - SESr]

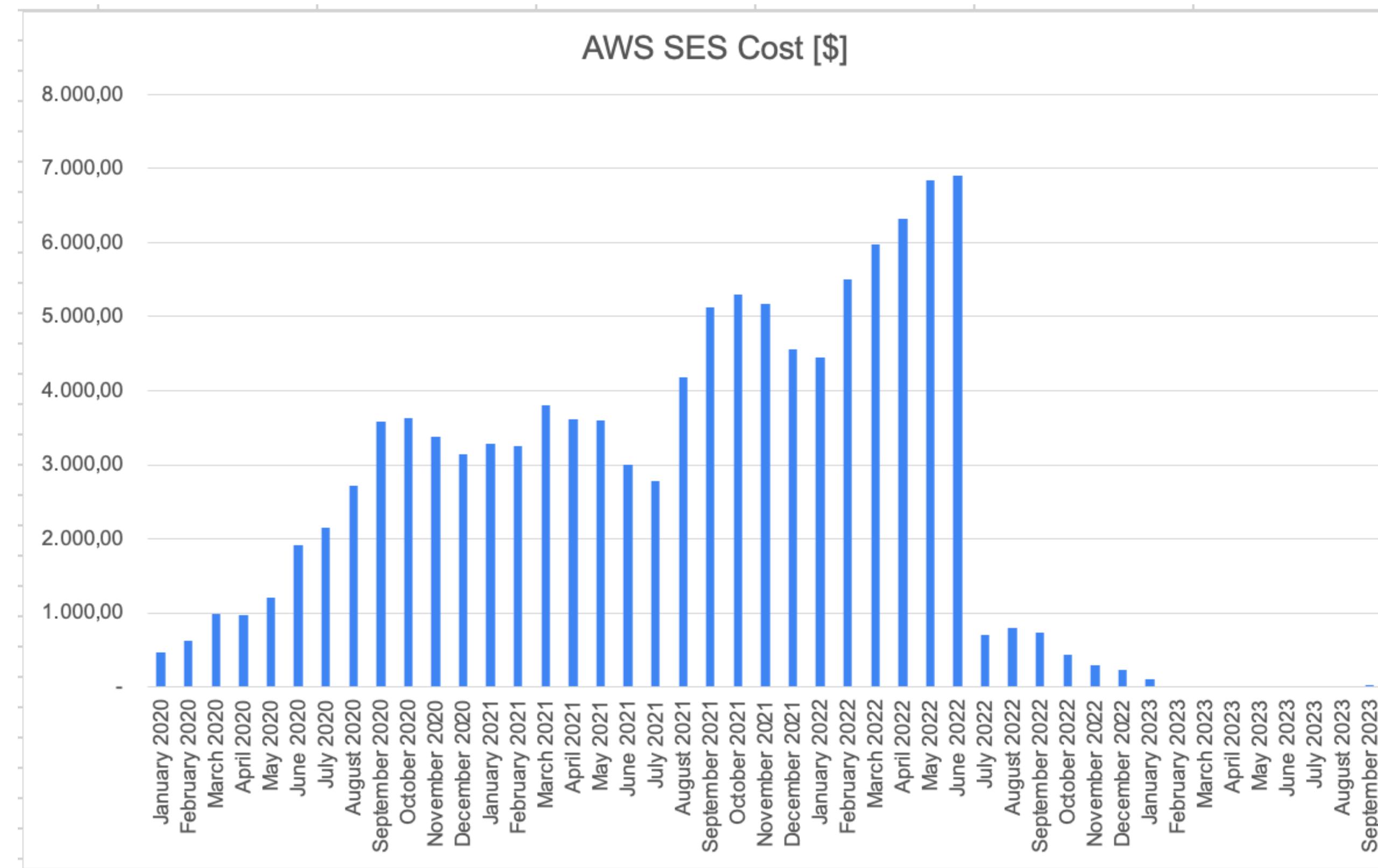


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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Kiel" [SES Replacement - SESr]



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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"

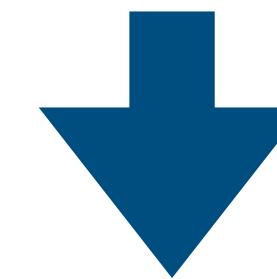
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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"

Jatheon is Archiving Company



Acquired Data Can Only Be Getting
BIGGER
And
BIGGER
And
BIGGER

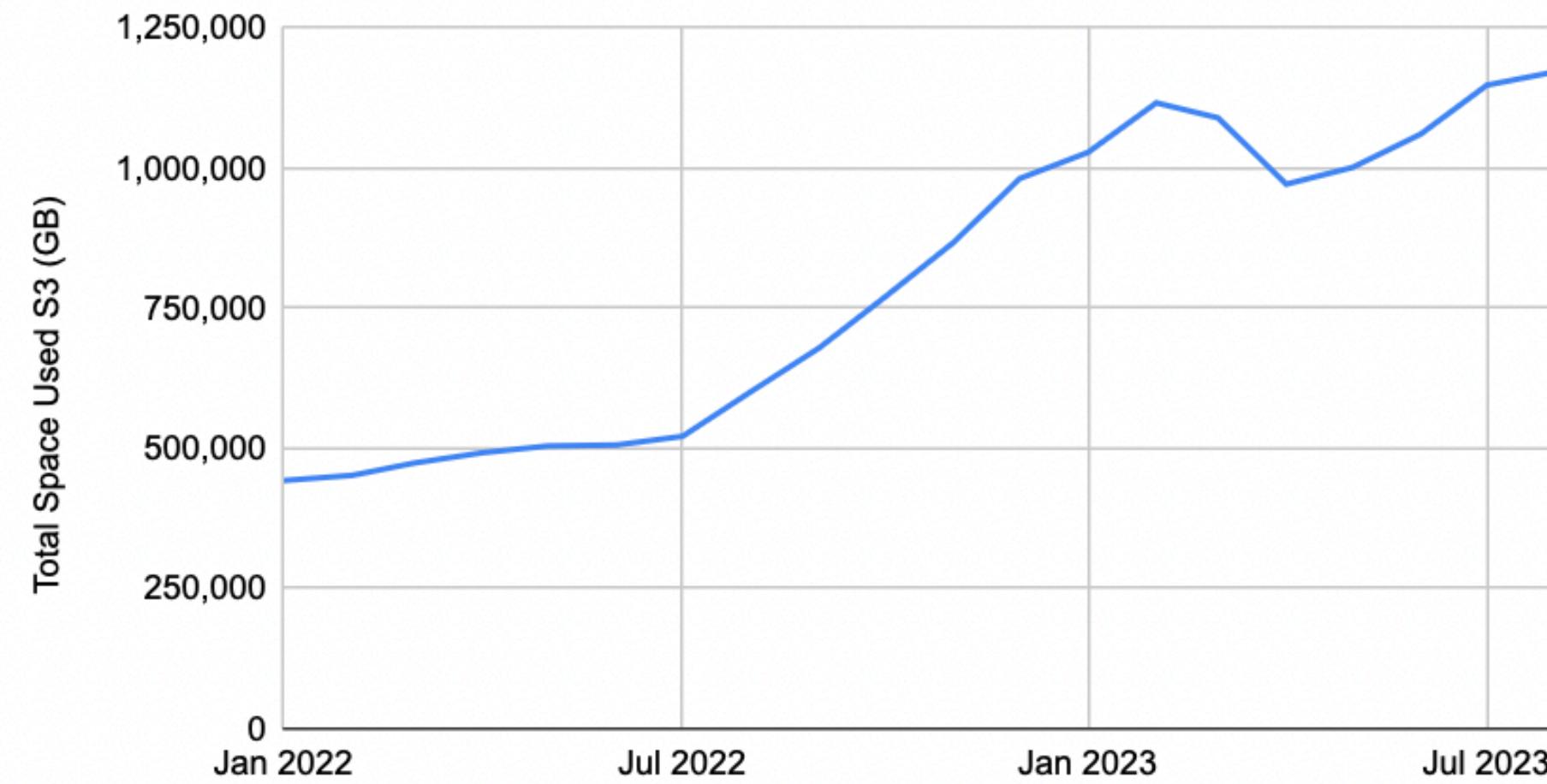
ErgoCloud

Category I
"Low Hanging Fruits"

Category II
Project based tasks

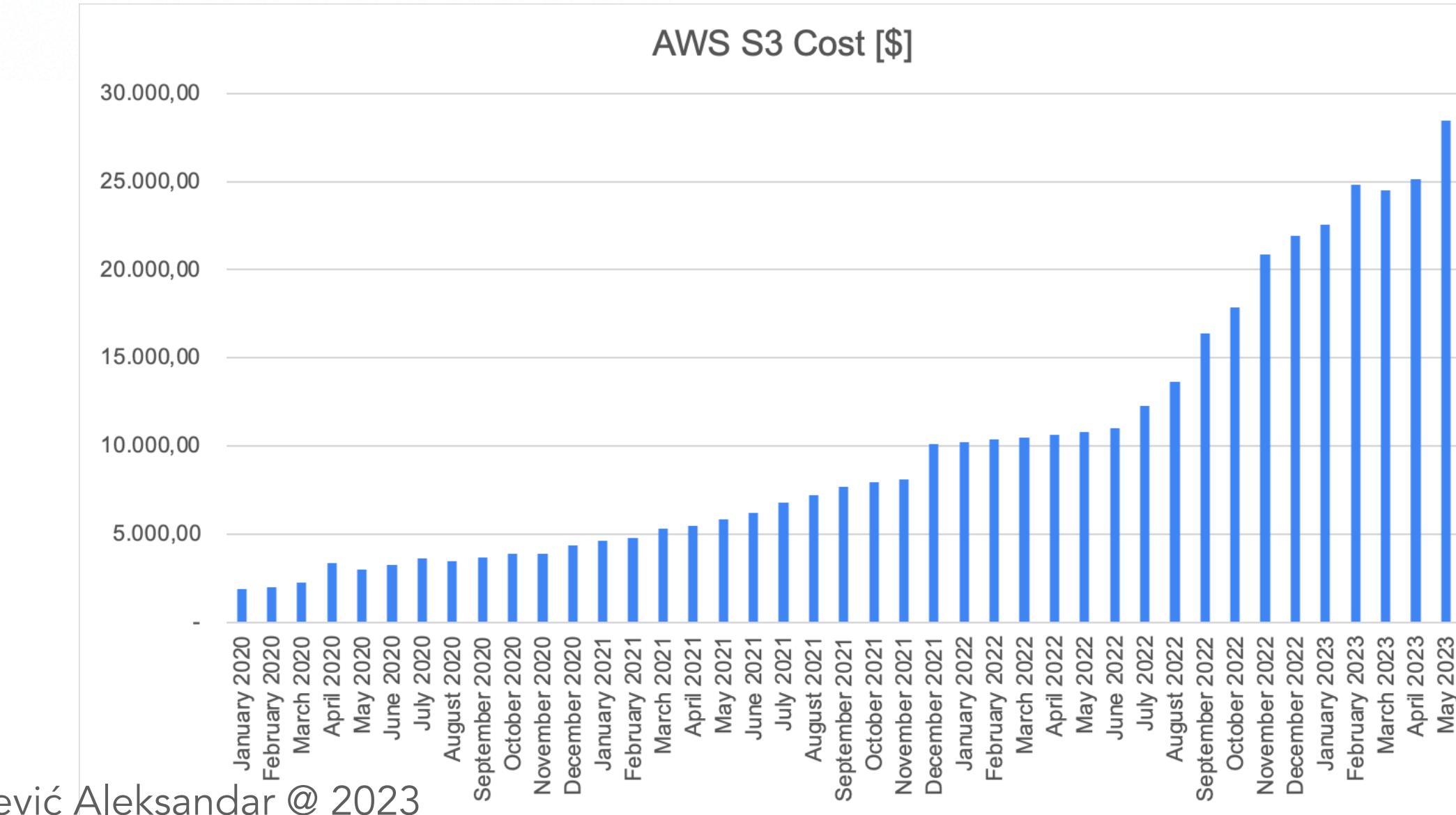
Project "Lima"

Total Space Used S3 (GB) vs. -

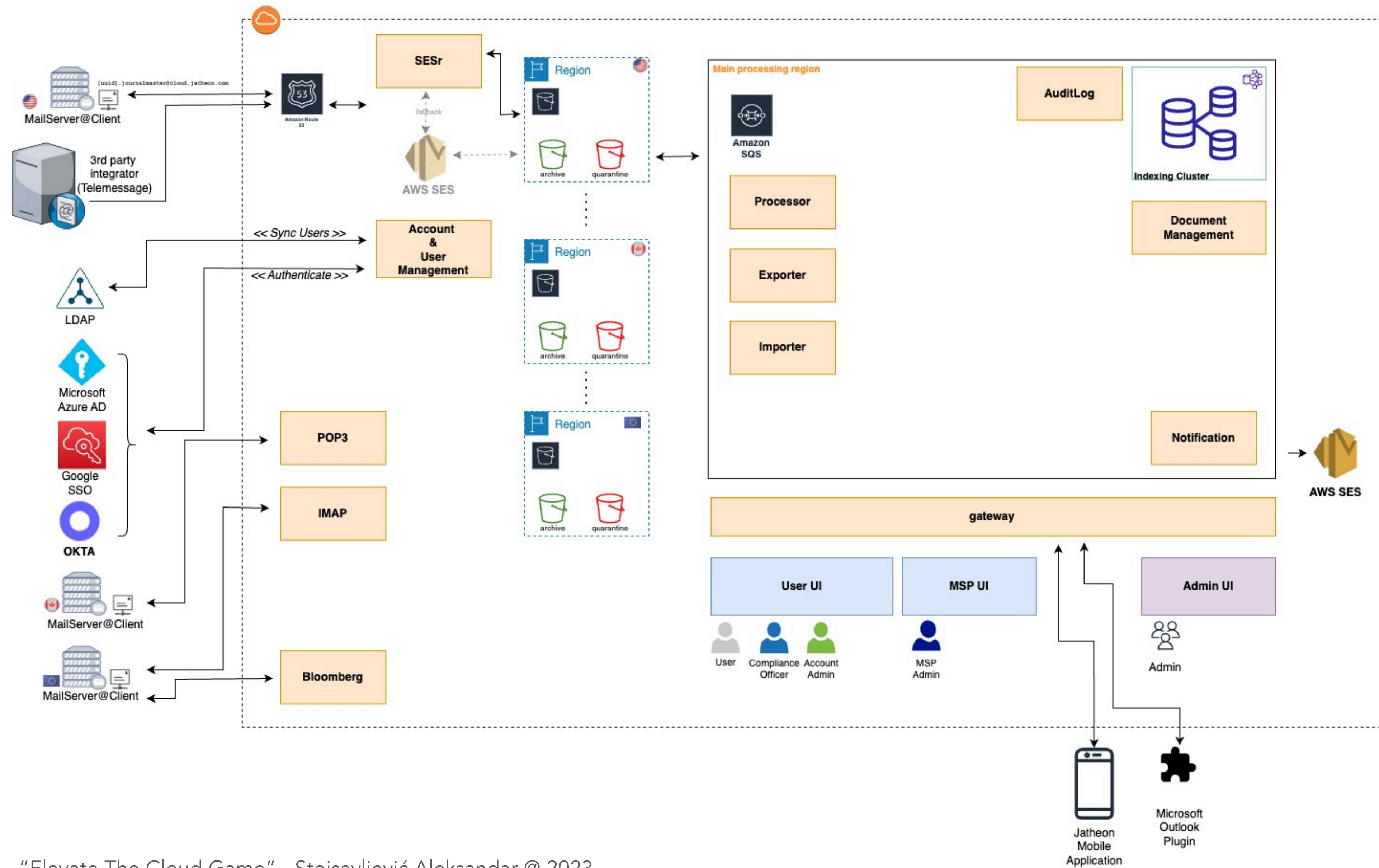


⋮

AWS S3 Cost [\$]



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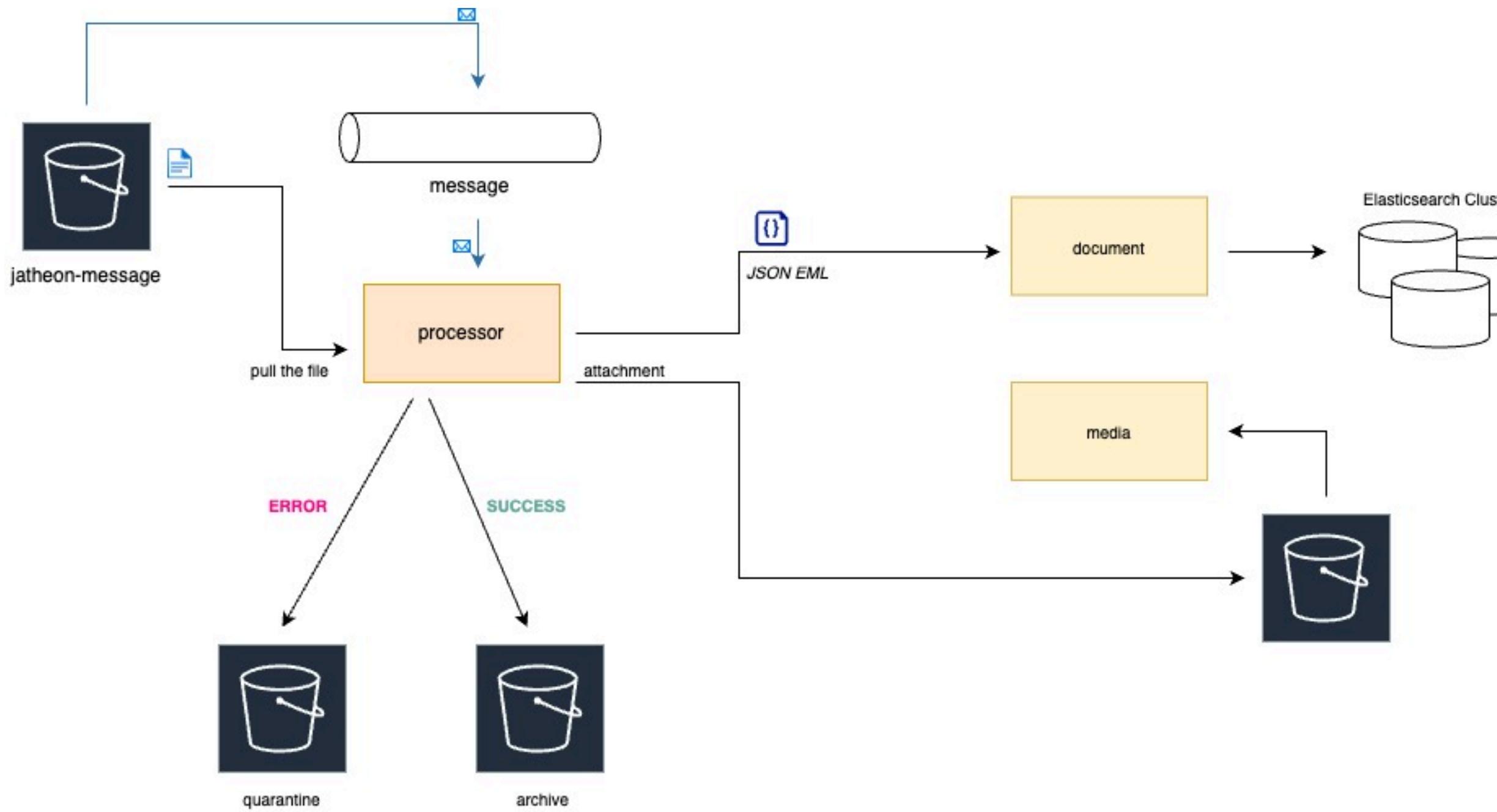
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ErgoCloud

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"



Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"

Snapshot February 2023.

AWS S3 Bucket: `jatheon-archive`

Total size: **384 TB**

Total number of objects: **2.427.231.600** (~ 2.5 Billions)

Number of objects > 128KB: 12% - **291.267.792** (~ 300 Millions)

Size of objects > 128KB: 86.17% - **330,89 TB**

Structure size of objects in 'jatheon-archive'

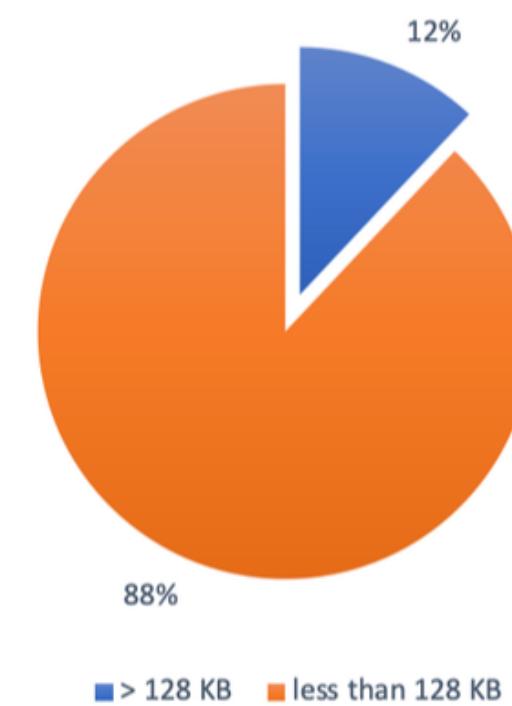


Image 3. - `jatheon-archive` bucket structure,
objects larger than 128 KB

Perc of bytes larger than 128 KB

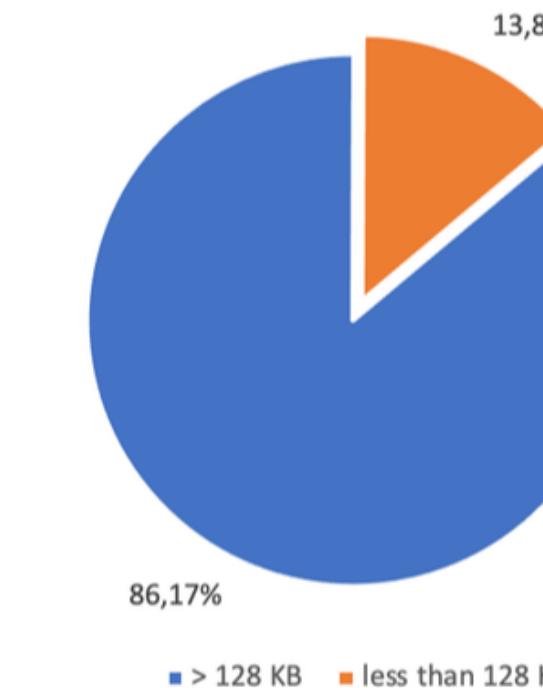


Image 4. - `jatheon-archive` bucket structure,
percentage of bytes larger than 128 KB

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"

Snapshot February 2023.

AWS S3 Bucket: `jatheon-media`

Total size: **88 TB**

Total number of objects: **473.036.133** (~ 474 Millions)

Number of objects > 128KB: 18,33% - **86.707.524** (~ 87 Millions)

Size of objects > 128KB: 93,42% - **82,21 TB**



Image 5. - `jatheon-media` bucket structure,
objects larger than 128KB

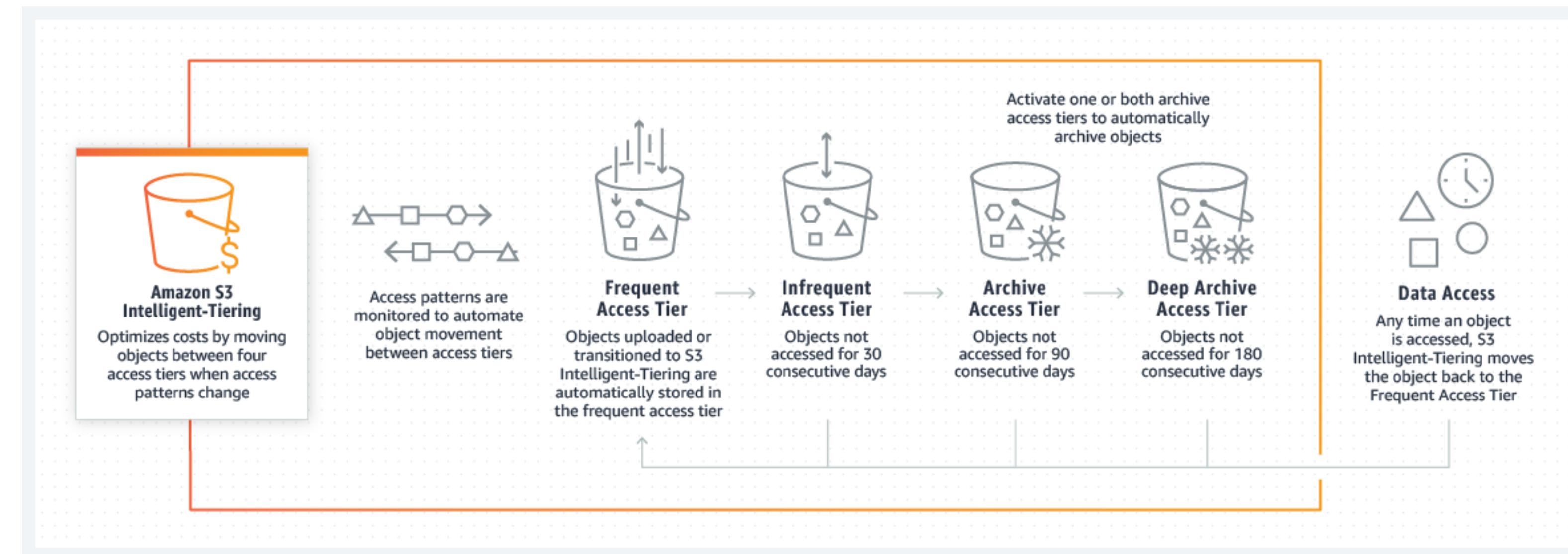
Image 6. - `jatheon-media` bucket structure,
percentage of bytes larger than 128KB

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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"



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Category I
"Low Hanging Fruits"

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Project "Lima"

AWS S3 Standard - \$ 0,023 / GB / month

~ **1.250.000 GB x \$ 0,023 GB/month = 28.750 \$/month**

VS.

AWS S3 INT Tiering

AWS S3 INT Tiering - Frequent Access Tier - \$ 0,023 / GB / month

AWS S3 INT Tiering - Infrequent Access Tier - \$ 0,0125 / GB / month

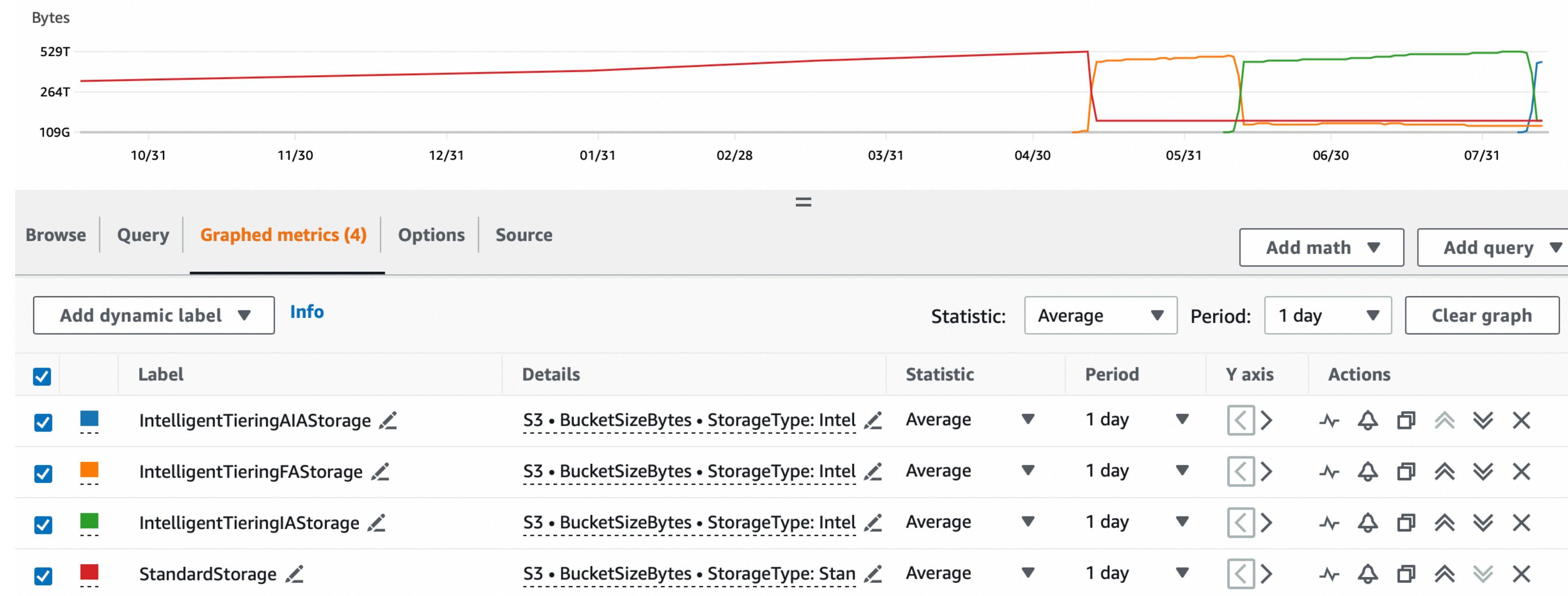
AWS S3 INT Tiering - Archive Instant Access Tier - \$ 0,004 / GB / month

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Category I
"Low Hanging Fruits"

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Project "Lima"

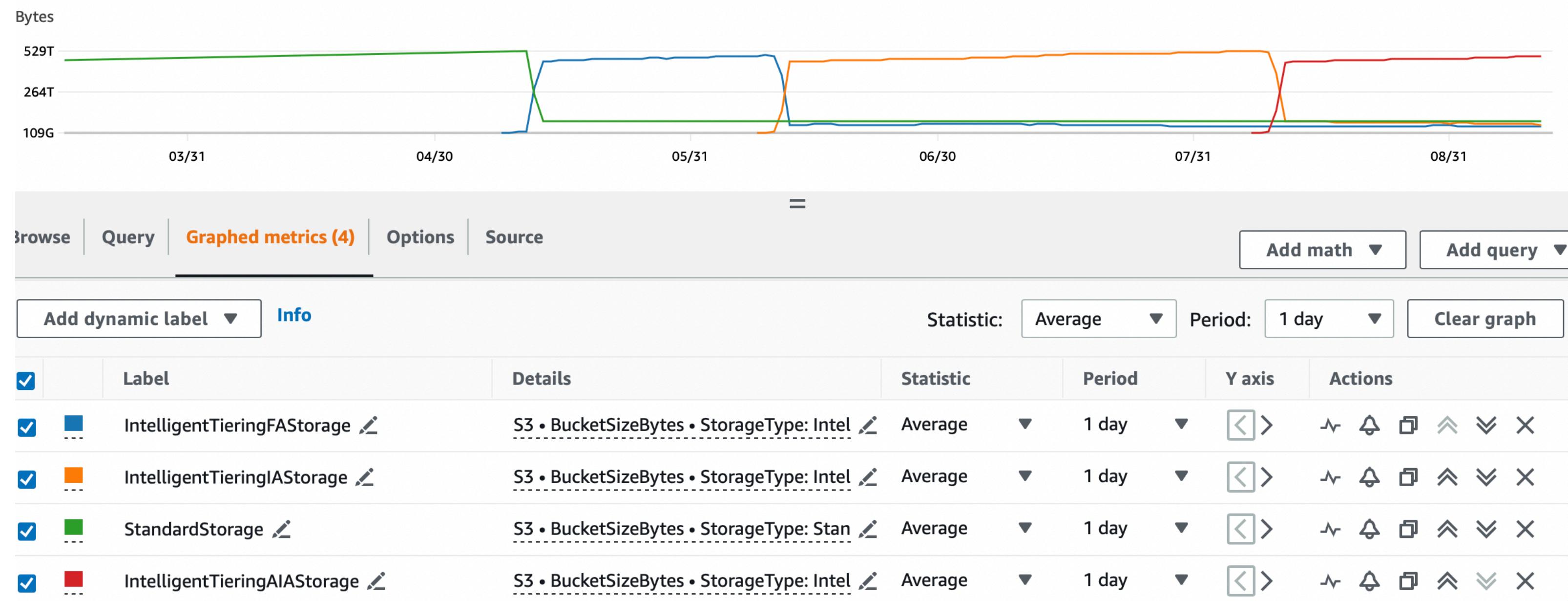


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Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"



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Category I
"Low Hanging Fruits"

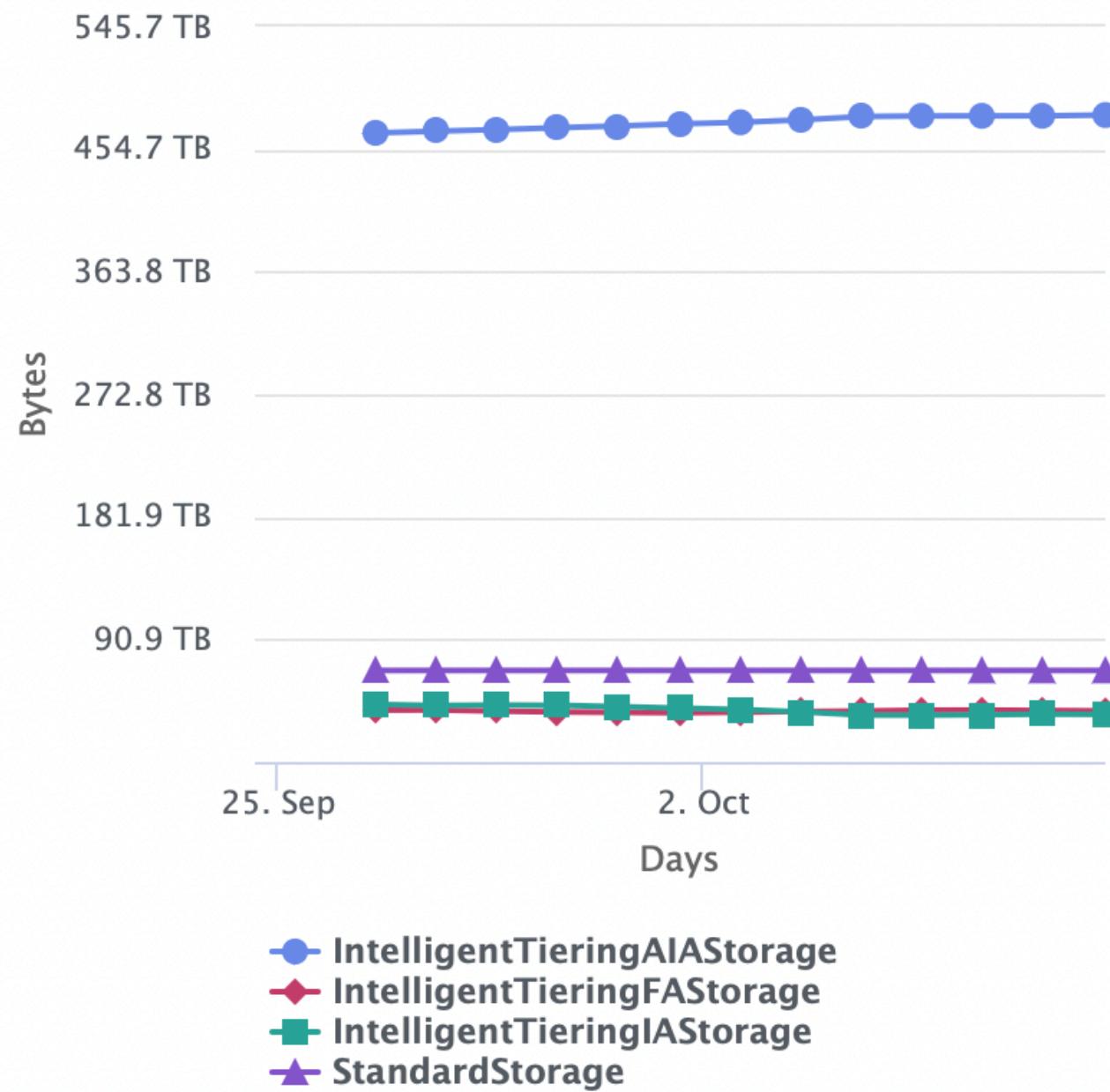
Category II
Project based tasks

Project "Lima"

Total bucket size

Amount of data in bytes stored in this bucket.

[View in CloudWatch](#)



Total bucket size

Amount of data in bytes stored in this bucket.

[View in CloudWatch](#)

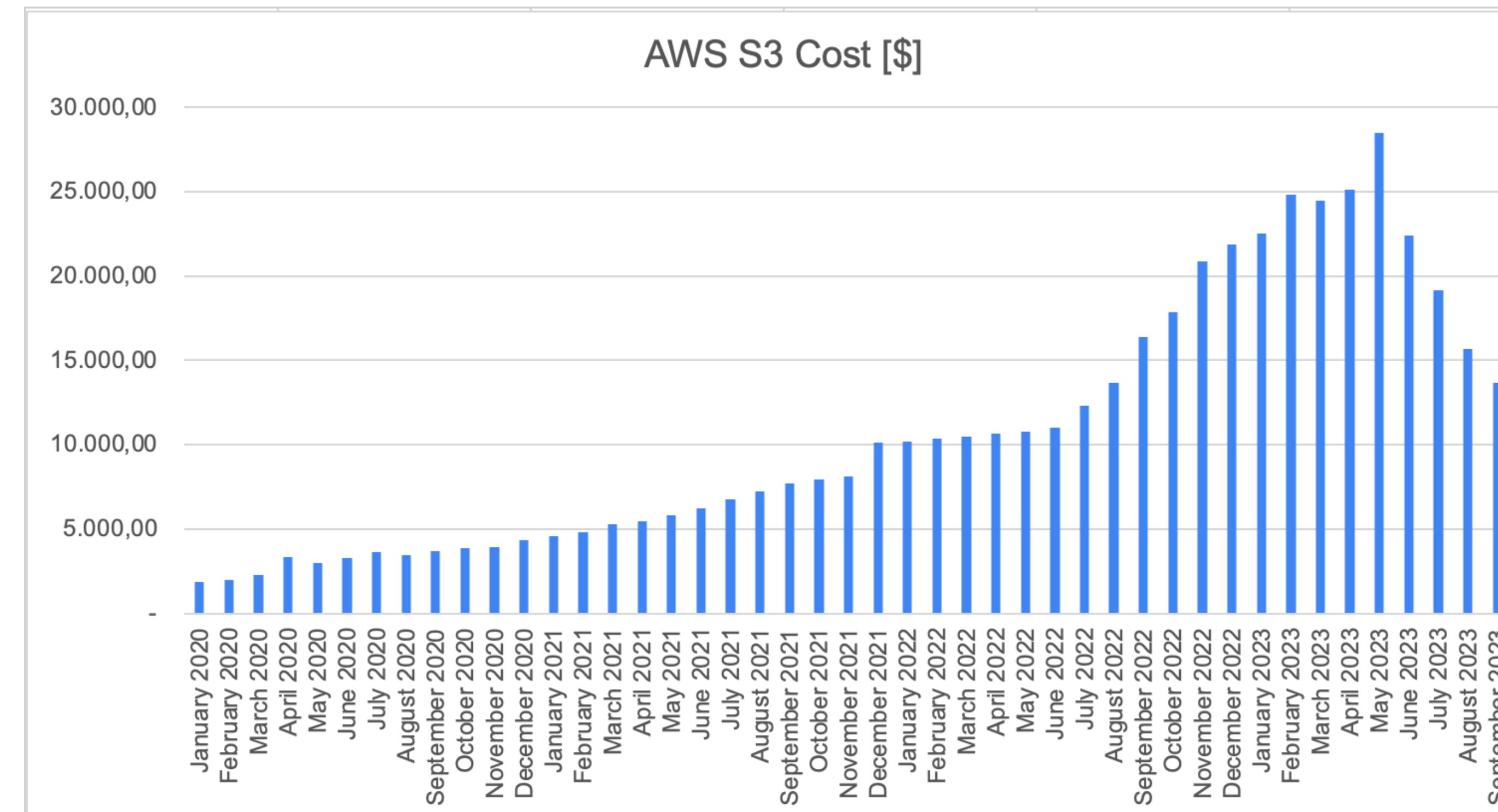


ErgoCloud

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"



ErgoCloud

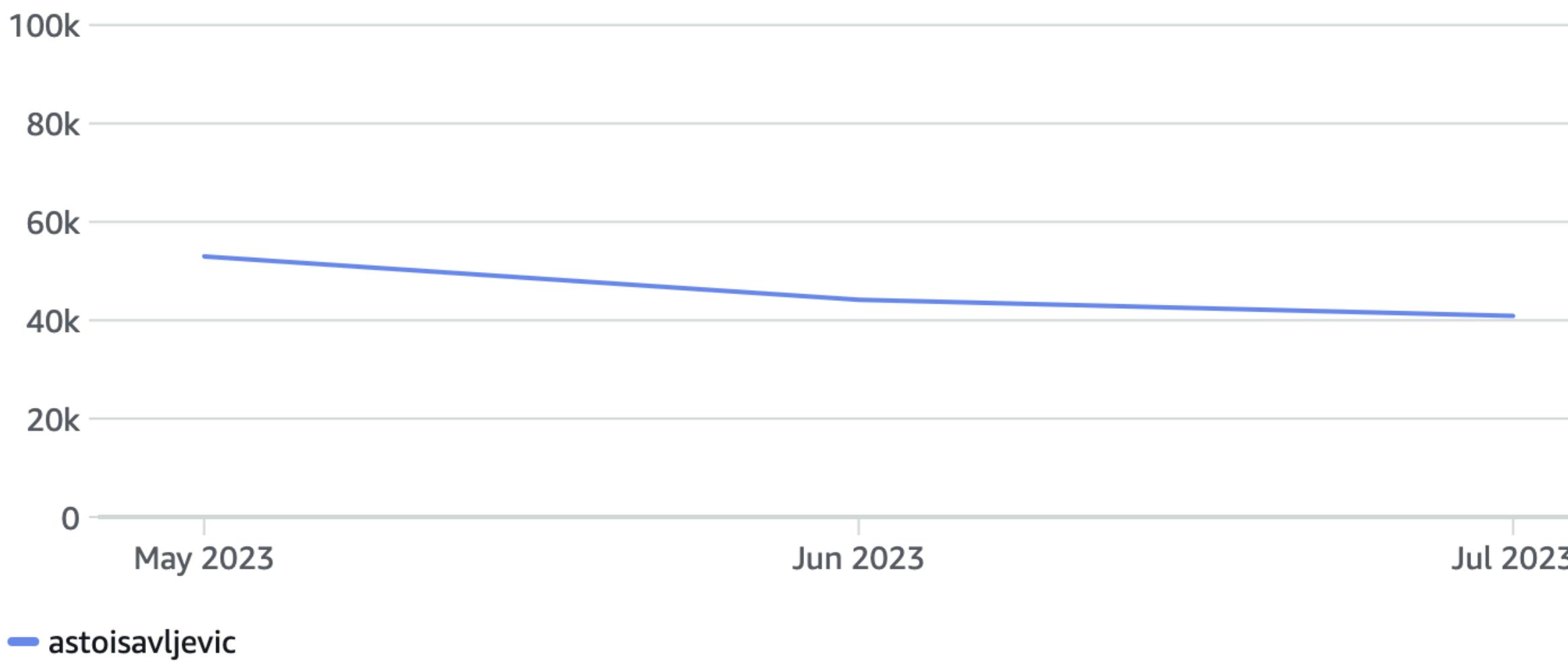
Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Lima"

Account cost trend [Info](#)
Viewing data over a period of 3 months.

Total cost in USD



ErgoCloud

Category I
"Low Hanging Fruits"

Category II
Project based tasks

COST02
BP03

Project "Bern"

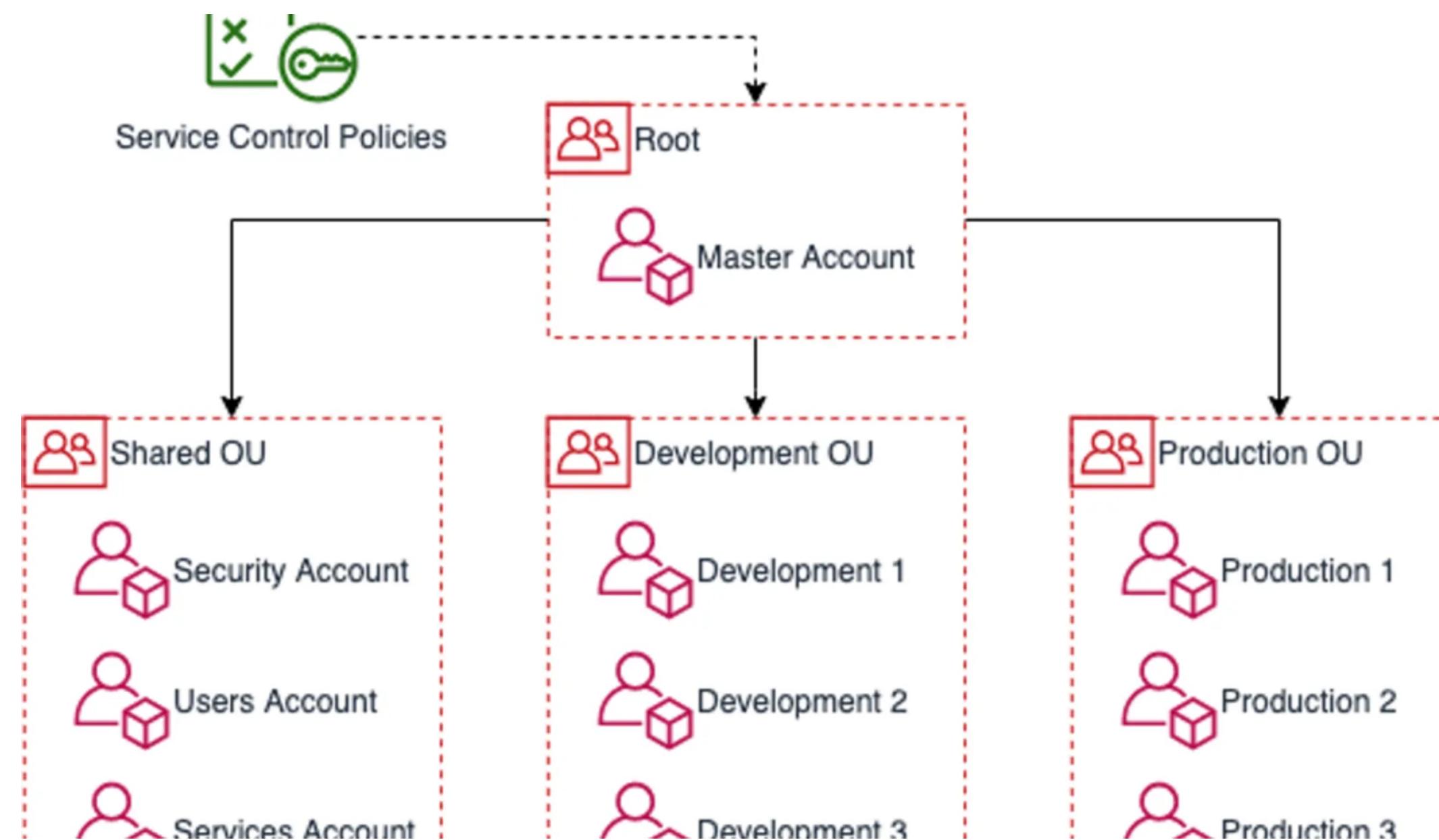
Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Bern"

COST02
BP03

Implement a structure of accounts that maps well to your organization. This assists in allocating and managing costs throughout your organization.



ErgoCloud

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Bern"

DTAP / DTSP

AWS EKS "on-premisse"?

COST02
BP03

ErgoCloud

Category I
"Low Hanging Fruits"

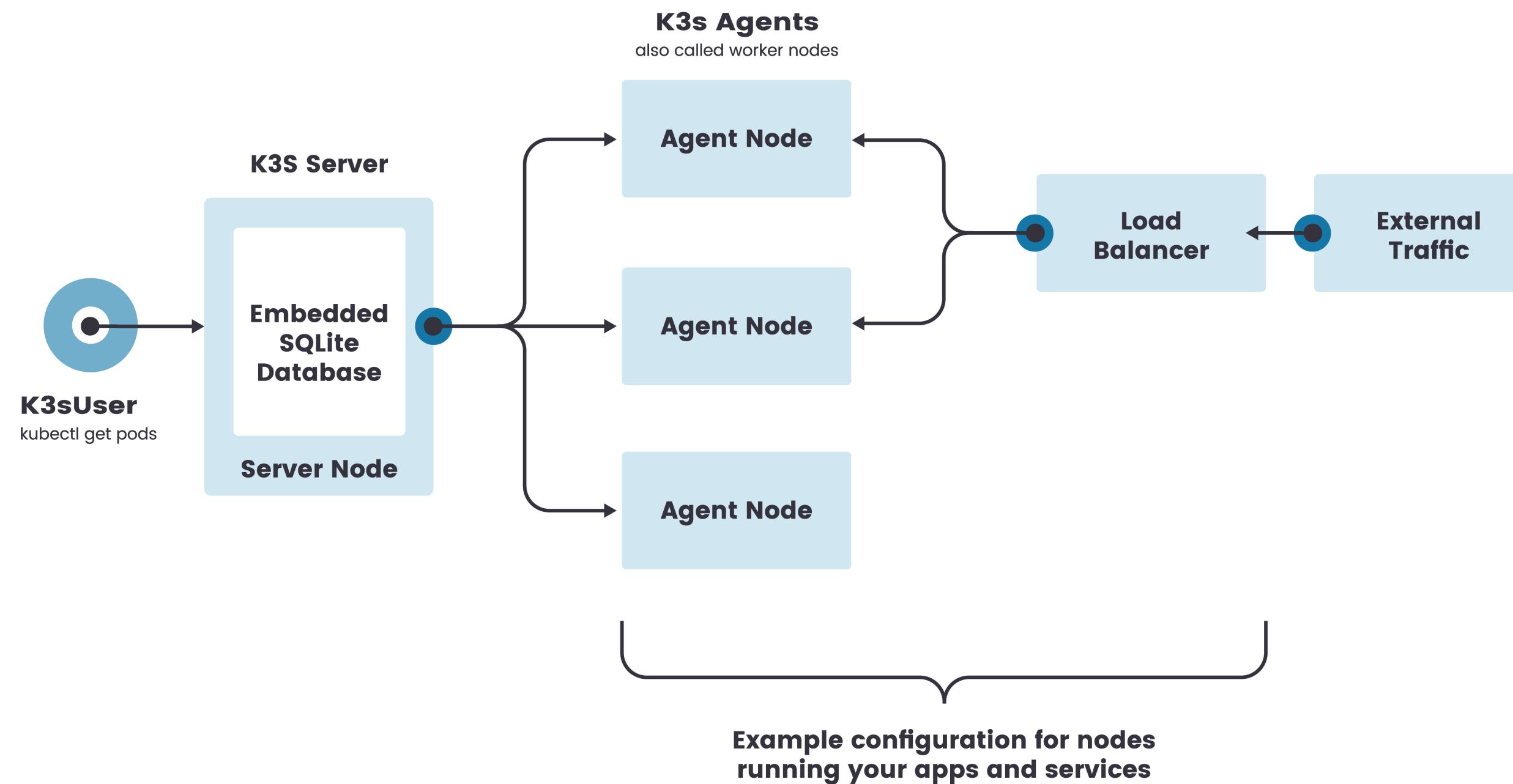
Category II
Project based tasks

Project "Bern"

COST02
BP03



K3S



Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Bern"

COST02
BP03

The screenshot shows the ErgoCloud interface for the 'Project "Bern"' cluster. The left sidebar contains navigation links for Cluster, Projects/Namespaces, Nodes (10), Events (628), Workloads, Apps, Service Discovery, Storage, Policy, and More Resources. The main panel is titled 'Nodes' and displays a table of 10 nodes. The columns include State (Active), Name, Roles, Version, External/Internal IP, OS, CPU, RAM, Pods, and Age. The nodes listed are k3s-server-01 through k3s-server-03 and k3s-worker-01 through k3s-worker-06. Each node entry includes a 'Labels' section showing purpose=integration and service=document-db. The interface also features a 'Cluster Tools' button at the bottom left.

	State	Name	Roles	Version	External/Internal IP	OS	CPU	RAM	Pods	Age
□	Active	k3s-server-01	Control Plane, Etcd	v1.26.4+k3s1	- / 192.168.1.60	Linux	24%	66%	11%	148 days
□	Active	k3s-server-02	Control Plane, Etcd	v1.26.4+k3s1	- / 192.168.1.62	Linux	29%	64%	4.5%	148 days
□	Active	k3s-server-03	Control Plane, Etcd	v1.26.4+k3s1	- / 192.168.1.63	Linux	14%	73%	3.6%	148 days
□	Active	k3s-worker-01	Worker	v1.26.4+k3s1	- / 192.168.1.138	Linux	6.4%	64%	7.3%	148 days
Labels:	purpose=integration service=document-db									
□	Active	k3s-worker-02	Worker	v1.26.4+k3s1	- / 192.168.1.139	Linux	11%	79%	4.5%	148 days
Labels:	purpose=integration service=document-db									
□	Active	k3s-worker-03	Worker	v1.26.4+k3s1	- / 192.168.1.141	Linux	10%	50%	6.4%	148 days
Labels:	purpose=integration service=document-db									
□	Active	k3s-worker-04	Worker	v1.26.4+k3s1	- / 192.168.1.108	Linux	11%	69%	5.5%	148 days
Labels:	purpose=integration service=document-db									
□	Active	k3s-worker-05	Worker	v1.26.4+k3s1	- / 192.168.1.109	Linux	11%	64%	7.3%	148 days
Labels:	purpose=integration service=document-db									
□	Active	k3s-worker-06	Worker	v1.26.4+k3s1	- / 192.168.1.58	Linux	11%	78%	4.5%	148 days

ErgoCloud

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Project "Bern"

COST02
BP03

Only User Namespaces

Cluster Workloads Apps Service Discovery Storage Policy More Resources

Deployments

Redeploy Download YAML Delete

Deployments

State	Name	Image	Ready	Up To Date	Available	Restarts	Age	Health
Active	account	jatheon/account	1/1	1	1	0	146 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	audit	jatheon/audit	1/1	1	1	2	147 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	bloomberg-processor	jatheon/bloomberg-processor	1/1	1	1	0	147 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	document	jatheon/document	1/1	1	1	0	147 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	document-db-dashboard	docker.elastic.co/kibana/kibana:7.17.11	1/1	1	1	0	147 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	exporter	jatheon/exporter	1/1	1	1	0	146 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	gateway	jatheon/gateway	1/1	1	1	4	147 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	importer	jatheon/importer	1/1	1	1	2	146 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	job	jatheon/job	1/1	1	1	3	146 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	log-dashboard	docker.elastic.co/kibana/kibana:7.17.11	1/1	1	1	0	148 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	mail-activity	jatheon/mail-activity	1/1	1	1	1	146 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	media	jatheon/media	1/1	1	1	0	147 days	<div style="width: 100%; background-color: #2e7131;"></div>
Active	notification	jatheon/notification	1/1	1	1	1	148 days	<div style="width: 100%; background-color: #2e7131;"></div>

Cluster Tools v2.7.3

Category I
"Low Hanging Fruits"

Category II
Project based tasks

Category III
Other stuff

Monitor cost proactively

Report and notify on cost optimization

Quantify business value from cost optimization

AWS Resource Tagging Best Practice

Implement regions based on cost

AWS Organisations & consolidate billing

... and many other that we learned along the way!

ErgoCloud

Billing & Cost Tooling

AWS Cost Management

The screenshot shows the AWS search interface with the query "AWS Cost Management" entered. The results page displays several services related to cost management:

- AWS Application Cost Profiler**: Cost per tenant and workload.
- Billing**: Access, analyze, and control your AWS costs and usage.
- AWS Billing Conductor**: Simplifying your billing practice.
- AWS Budgets**: Set Custom Budgets and Receive Alerts.
- AWS Cost Explorer**: Visualize and Explore Your AWS Costs and Usage.
- AWS Marketplace Subscriptions**: Digital catalog where you can find, buy, and deploy software.

The left sidebar shows the AWS navigation menu with various service links like Analytics, Application Integration, AWS Cost Management, Blockchain, Business Applications, Compute, Containers, Customer Enablement, Database, Developer Tools, End User Computing, Front-end Web & Mobile, and Game Development.

AWS Cost Explorer

AWS Services Search [Option+S] Global a.stoisavljevic@staleks.com

Console Home EC2 S3 Simple Queue Service CloudFormation Resource Groups & Tag Editor CloudWatch

AWS Cost Management

- Home
- Cost Explorer**
- Reports
- Budgets
- Cost Anomaly Detection
- Rightsizing recommendations
- Savings Plans**
 - Overview
 - Inventory
 - Recommendations New
 - Purchase Savings Plans
 - Utilization report
 - Coverage report
 - Cart **0**
- Reservations**
 - Overview
 - Recommendations
 - Utilization report
 - Coverage report
- Preferences
- Billing Console Feedback
- Documentation Feedback

New cost and usage report

Recent reports Save to report library

Cost and usage graph Info

Total cost **\$407.04** Average monthly cost **\$67.84** Service count **25**

Costs (\$)

Apr 2023 May 2023 Jun 2023 Jul 2023 Aug 2023 Sep 2023

OpenSearch Service Tax EC2-Instances EC2-Other Relational Database Service Route 53 Registrar S3 Cost Explorer Others

Cost and usage breakdown

Download as CSV

Find cost and usage data

Service total April 2023 May 2023 June 2023 July 2023 August 2023 September 2023

Report parameters

Time

Date Range Displaying last 6 months

Granularity

Group by

Dimension Clear

Filters Info

Applied filters (0) Clear all

Service Clear

Linked account Clear

Region Clear

Instance type Clear

Usage type Clear

AWS Budgets

The screenshot displays the AWS Billing console interface. On the left, a navigation sidebar titled 'Billing' is open, showing various options like Home, Billing (selected), Bills, Payments, Credits, Purchase orders, Cost & usage reports, Cost categories, Cost allocation tags, Free tier, and Billing Conductor. Under 'Cost Management', the 'Budgets' option is also selected. Other sections include Preferences, Consolidated billing, Tax settings, and Permissions.

The main content area shows the 'TopMobileRepair-MonthlyBudget' details. It includes a 'Budget health' section with two progress bars: 'Current vs. budgeted' at 20.49% and 'Forecasted vs. budgeted (MTD)' at 49.98%. Below this is a 'Details' section with the following information:

Budget name	\$100.00	Start date	2023-10-01
Budget type	Cost budget	Period	Monthly
Additional budget parameters			

Below the details are tabs for 'Budget history' (selected) and 'Alerts'. The 'Budget history' section shows a cost of \$350. A button 'View in AWS Cost Explorer' is available. At the top right of the main content area, there are 'Delete' and 'Edit' buttons. To the right of the main content area, there is a separate 'Alerts' section showing one alert entry: 'OK'.

AWS Cost Anomaly Detection

Screenshot of the AWS Billing dashboard showing cost trends and service usage.

Billing (Left Sidebar)

- 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
- Preferences**
 - Billing preferences
 - Payment preferences
 - Consolidated billing
 - Tax settings
- Permissions**
 - Affected policies

Total cost in USD

July 2023 Aug 2023 Sep 2023

Elastic Compute Cloud OpenSearch Service Relational Database Service Route 53 Simple Storage Service

Cost by service

September 2023 total spent compared to previous 3 month average.

Service	Average	Sept...	Trend
Elastic Compute Cloud	USD 18.24	USD 39.88	↑ 118.6%
OpenSearch Service	USD 39.03	USD 38.22	↓ 2.1%
Relational Database Service	USD 3.55	USD 3.55	0.0%
Route 53	USD 3.15	USD 3.13	↓ 0.6%
Simple Storage Service	USD 2.29	USD 2.21	↓ 3.5%

[View your bill](#)

Account cost trend (Info)
Viewing data over a period of 3 months.

Chart type: Line | Period: Last 3 months by account

Total cost in USD

July 2023 Aug 2023 Sep 2023

a.stoisavljevic

Account cost

September 2023 total spent compared to previous 3 month average.

Account	Average	Sept...	Trend
a.stois...	USD 71.56	USD 91.59	↑ 28.0%
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

[View your bill](#)

CloudShell Feedback "Elevate The Cloud Game" - Stoisavljević Aleksandar @ 2023 © 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

AWS Cost Anomaly Detection

Screenshot of the AWS Billing dashboard showing cost trends and service usage.

Billing (Left Sidebar)

- Home
- Billing
 - Bills
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 - Free tier
 - Billing Conductor
- Cost Management
 - Cost explorer
 - Budgets
 - Budgets reports
 - Savings Plans
- Preferences
 - Billing preferences
 - Payment preferences
 - Consolidated billing
 - Tax settings
- Permissions
 - Affected policies

Total cost in USD (Main View)

Cost by service

September 2023 total spent compared to previous 3 month average.

Service	Average	Sept...	Trend
Elastic Compute Cloud	USD 18.24	USD 39.88	↑ 118.6%
OpenSearch Service	USD 39.03	USD 38.22	↓ 2.1%
Relational Database Service	USD 3.55	USD 3.55	0.0%
Route 53	USD 3.15	USD 3.13	↓ 0.6%
Simple Storage Service	USD 2.29	USD 2.21	↓ 3.5%

Account cost trend (Info)

Viewing data over a period of 3 months.

Chart type: Line | **Period:** Last 3 months by account

Total cost in USD (Bottom View)

Account cost

September 2023 total spent compared to previous 3 month average.

Account	Average	Sept...	Trend
a.stois...	USD 71.56	USD 91.59	↑ 28.0%
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

CloudShell **Feedback** "Elevate The Cloud Game" - Stoisavljević Aleksandar @ 2023 © 2023, Amazon Web Services, Inc. or its affiliates. **Privacy** **Terms** **Cookie preferences**

AWS Cost Anomaly Detection

Screenshot of the AWS Billing dashboard showing cost trends and service usage.

Billing (selected)

- 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
- Preferences
 - Billing preferences
 - Payment preferences
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Total cost in USD

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Route 53	USD 3.15	USD 3.13	↓ 0.6%
Simple Storage Service	USD 2.29	USD 2.21	↓ 3.5%

Account cost trend (Info)
Viewing data over a period of 3 months.

Total cost in USD

Account cost

September 2023 total spent compared to previous 3 month average.

Account	Average	Sept...	Trend
a.stoisavljevic	USD 71.56	USD 91.59	↑ 28.0%
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

CloudShell **Feedback**

"Elevate The Cloud Game" - Stoisavljević Aleksandar @ 2023

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Other tools that I didn't have time to address :(

AWS S3 Analytics (AWS S3 Storage Lens)

AWS CloudWatch

AWS CloudTrail

References:

AWS Well-Architected Framework Cost Optimization Pillar

<https://docs.aws.amazon.com/pdfs/wellarchitected/latest/cost-optimization-pillar/wellarchitected-cost-optimization-pillar.pdf>

The well-architected way - AWS re:Invent 2022

<https://www.youtube.com/watch?v=nOKvA8HykW8>

Cost Optimization on AWS

<https://www.youtube.com/watch?v=nNS2VBLH6ks>

Conclusion & key takeaways

Conclusion & key takeaways

- ◆ Trade-offs (like everything in a life)

optimize for speed-to-market

VS.

optimize for cost

- ◆ Don't miss to tag everything. It will save your nerves later.
- ◆ Measure the base line. Monitor as much as you can. Alert on exceptions.
- ◆ Establish responsibility model.
- ◆ If you are already addressing the cost, then take time to properly address the issue.

Thank You



astoisavljevic



@staleksit

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Questions & Answers

Thank You



astoisavljevic



@staleksit

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ErgoCloud

Admin UI

JATHEON ADMIN
AS


Search clients...
All MSPs
Filters

Type	Status	ID	Company & MSP Name	Domains	Users	Inboxes	2FA	Last 24h	Total Emails	Social	Actions
PAID	ACTIVE	1039	1 Skynet Int US east Yearly ID 1039 Jatheon Technologies Inc.	2	44	5/39	OFF	0	12,584		...
PAID	ACTIVE	1060	11aa South America Client Jatheon Technologies Inc.	2	2	0/0	OFF	0	117,529		...
PAID	ACTIVE	1061	11aa Switzerland Client Jatheon Technologies Inc.	1	1	0/0	OFF	0	10,975		...
DEMO	ACTIVE	1063	1c Demo Client ID 1063 Jatheon Technologies Inc.	1	6	0/0	OFF	0	0		...
PAID	ACTIVE	1048	1e google chat ingestion client Jatheon MSP master	1	1	0/0	OFF	0	28		...
PAID	ACTIVE	1045	2a client for import milos aca Jatheon Technologies Inc.	1	1	0/0	OFF	0	19,228		...
PAID	ACTIVE	1046	3a new new client Jatheon MSP master	1	18	0/0	OFF	0	14,464		...
PAID	ACTIVE	1043	a1bautotestjatheoncompanya Jatheon Technologies Inc.	1	1	0/0	OFF	0	0		...
PAID	ACTIVE	1032	A2 Canada Quarterly Jatheon Technologies Inc.	1	5	0/0	OFF	0	0		...
Arma Inc											
PAGE 1 OF 1											« « 1 - 32 OF 32 » »
HIDE SIDEBAR											



Clients

Users

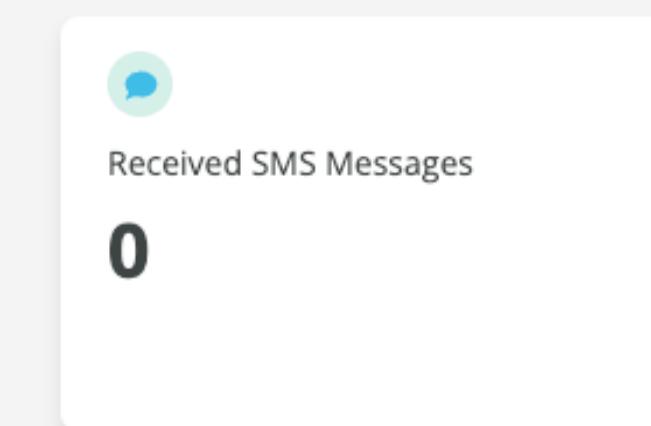
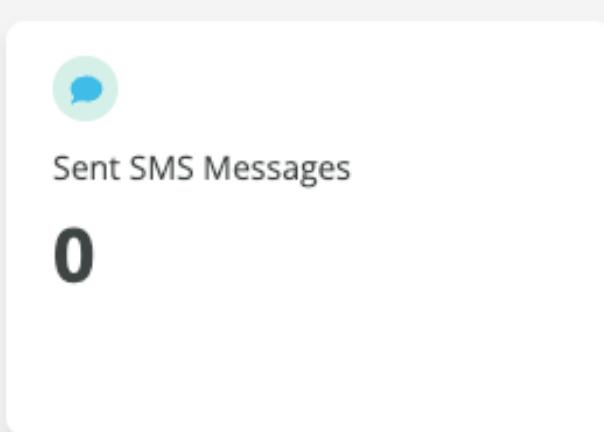
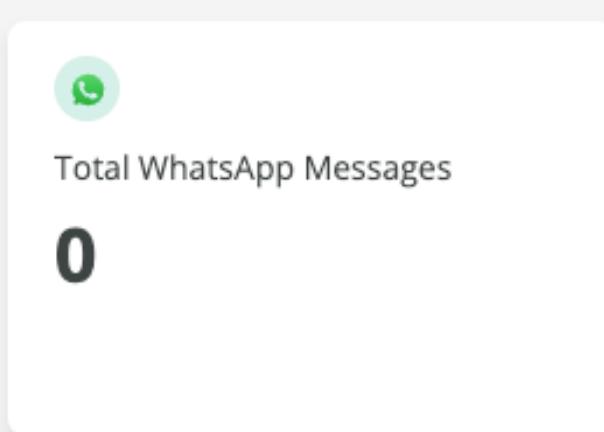
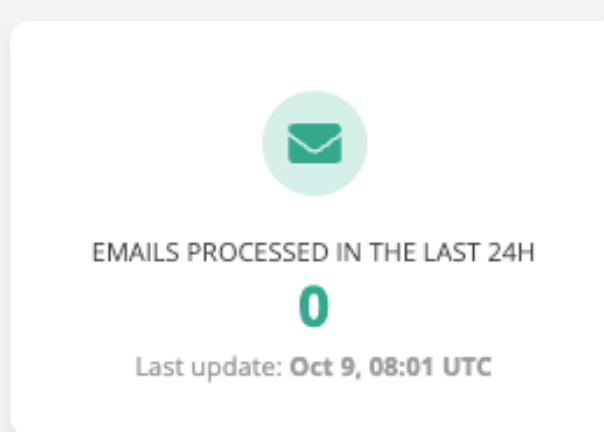
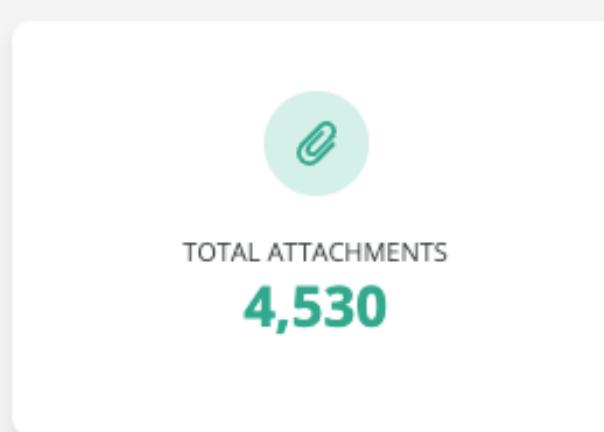
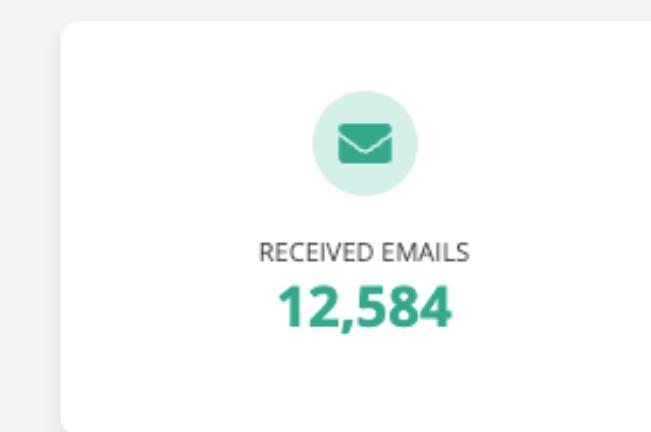
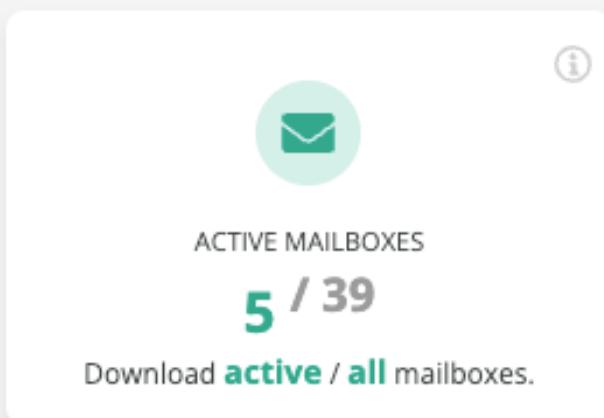
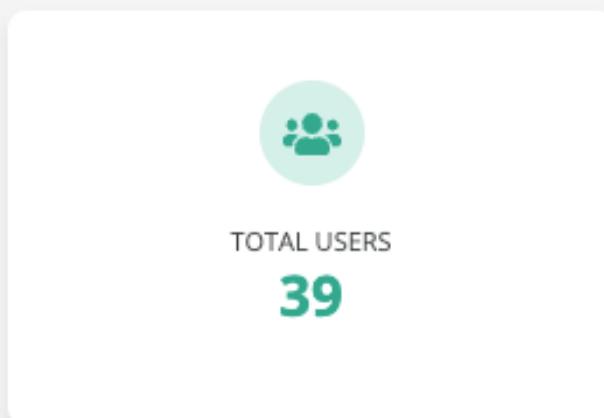
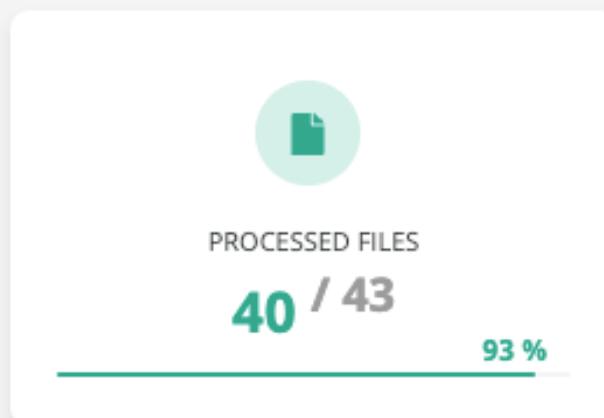
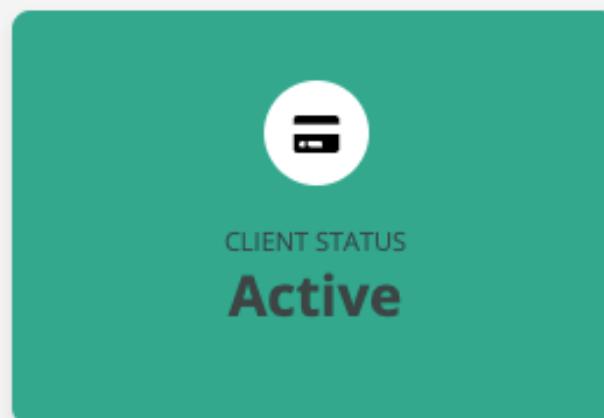
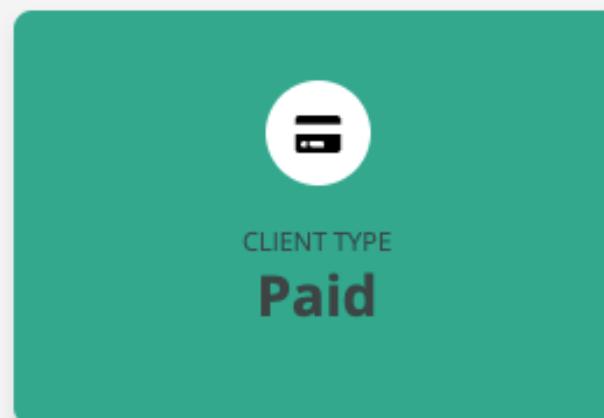
Roles

Groups/AUs

Audit

MSPs

1 Skynet Int US east Yearly ID 1039



|← HIDE SIDEBAR

ErgoCloud

Customer UI

 Advanced Search with 2 filters Forever - Forever Search Print Export Copy

SIMPLE EMAIL SEARCH ADVANCED EMAIL SEARCH

And + Add Field

Message (Subject, Body,...	Does Not Contain Phrase	asdfsfsfhgdshjgjdsgfsdh	Remove
Body	Contains Phrase	java	Remove

Wellfound

Add Block OPPORTUNITIES

From Wellfound (formerly AngelList Talent) <team@hi.wellfound.com>
To staleks@gmail.com
[SHOW MORE](#)

BODY (SHOW BLOCKED CONTENT)



AngelList Talent is now **Wellfound**. [Learn more](#)
 Update your job search status
[Ready to interview](#) [Open to offers](#) [Closed to offers](#)

Java · Unsubscribe

 Moyyn
 AI based reverse job platform

Java Developer (Junior/Mid-Level) (m/w/d) - Onsite in Dortmund (28_CL_8_10) · Dortmund
 Full-time · \$40-55K/yr
 Results are based on your saved filters
[Manage these filters](#)
 Receive these alerts
[Daily](#) [Weekly](#) [Never](#)

You're receiving this email because you signed up for alerts from **Wellfound**



Advanced Search with 1 filter



Search

Recent Searches

Saved Searches

Keyword Lists

Exports

Personal Tags

Legal Hold

Retention

Redactions

Classifications

Audit

Cases

Help

HIDE SIDEBAR

Export Download Restore Forward Apply Tag Add To Case Remove Tag Redact

Filters

54 RESULTS FOUND

SORT BY DATE ▾

resting journal - 2023053011100

Indie Hackers <channing@indiehackers.com>
What's New: Lessons from launching a paid community

May 25, 2023
13:28:07

88 KB

Indie Hackers <channing@indiehackers.com>
What's New: Increasing your organic traffic

May 23, 2023
12:06:22

120 KB

Indie Hackers <community@indiehackers.com>
Today's Digest: How a college student reached \$64,000/mo in 6 months by being an AI first mover

May 22, 2023
10:33:45

28 KB

Indie Hackers <channing@indiehackers.com>
What's New: Attracting users without an existing audience

May 20, 2023
12:04:51

92 KB

Indie Hackers <channing@indiehackers.com>
What's New: Turning your company into an AI company

May 18, 2023
12:06:00

104 KB

Wellfound (formerly AngelList Talent) <team@hi.wellfound....>
New job: Java Developer (Junior/Mid-Level) (m/w/d) – Onsite in Dortmund (28_CL_8_10) at Moyyn - Wellfound

May 17, 2023
14:14:12

32 KB

Indie Hackers <channing@indiehackers.com>
What's New: Hitting the front page of Hacker News

May 16, 2023
12:06:13

162 KB

Indie Hackers <channing@indiehackers.com>
What's New: Fixing your landing page copy

May 13, 2023
12:04:55

111 KB

PAGE 1 OF 2 ▾

« « 1 - 50 OF 54 » »

EXPORT DOWNLOAD RESTORE APPLY TAG ... MORE

SUBJECT

New job: Java Developer (Junior/Mid-Level) (m/w/d) – Onsite in Dortmund (28_CL_8_10) at Moyyn - Wellfound

JOB OPPORTUNITIES

From Wellfound (formerly AngelList Talent) <team@hi.wellfound.com>

To staleks@gmail.com

SHOW MORE ▾

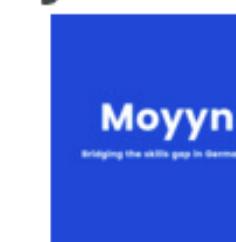
BODY

AngelList Talent is now Wellfound. [Learn more](#)

Update your job search status

[Ready to interview](#) [Open to offers](#) [Closed to offers](#)

Java • Unsubscribe



Moyyn

Bridging the skills gap in Germany

AI based reverse job platform

Java Developer (Junior/Mid-Level) (m/w/d) – Onsite in Dortmund (28_CL_8_10) · Dortmund

Full-time · \$40-55K/yr

Results are based on your saved filters

Edit Filter

X Y Z

X Y Z

X Y Z

X Y Z

X Y Z #1

X Y Z

"Elevate The Cloud Game" - Stoisljević Aleksandar @ 2023

DEMO

LOADING...

LOADING...

"Elevate The Cloud Game" - Stoisljević Aleksandar @ 2023