



**everythingcloud**

Boost ROI, Cut Costs

## Initial Findings

Aug 01, 2024

*“ You manage your business. We manage the cost. ”*

## 01 Agenda

Spend Duration: 6 months

- **1. Environment Review:**
  - Overall spend by account
  - Top 10 Services
  - Reservations

- **2. Existing Optimization:**
  - Reservations
  - General Architecture
  - Reservations

- **3. Potential Optimization:**
  - Business Context Services  
*follow up meeting required*
  - Minor Reservations
  - Minor Rightsizing

- **4. Next Steps:**
  - Contract
  - Remediation / Partnership

## 02 Environment Review - Total Spend (Top 6 month)



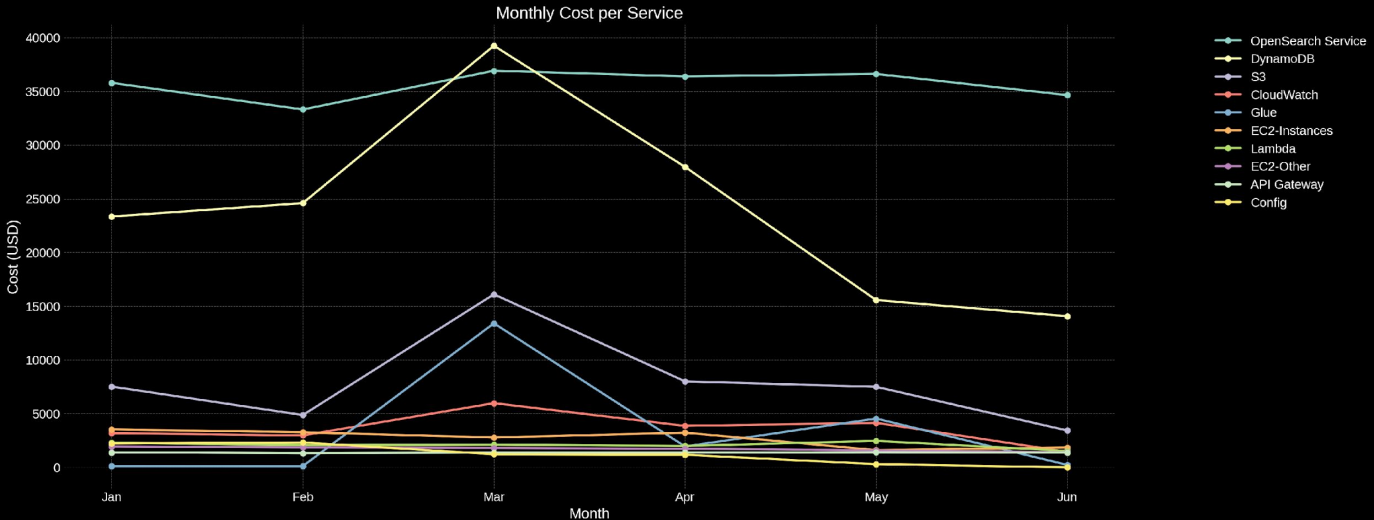
	Jan	Feb	Mar	Apr	May	Jun
<b>Account Totals</b>	\$ 84,725.14	\$ 80,050.58	\$ 124,286.12	\$ 91,179.30	\$ 78,926.06	\$ 62,345.31

**July: 70K**

### INSIGHTS

- Absolutely trending in the right direction.
- Can any insight be given for March 2024? (\$124,286.12)  
  
Possible seasonal we can prepare for / understand?
- July looks like 70K, but you have reservations purchased in that cost as one time.

# 03 Environment Review - Spend by Service (Top 10)



## INSIGHTS

### Main Saving Opportunities:

- OpenSearch
- DynamoDB
- S3

### Need to understand S3:

- High, cut in half, high, cut in half.

	Jan	Feb	Mar	Apr	May	Jun
<b>OpenSearch</b>	\$ 35,793.32	\$ 33,311.84	\$ 36,918.09	\$ 36,392.56	\$ 36,624.27	\$ 34,647.75
<b>DynamoDB</b>	\$ 23,345.12	\$ 24,595.08	\$ 39,244.35	\$ 27,966.03	\$ 15,569.83	\$ 14,069.70
<b>S3</b>	\$ 7,519.05	\$ 4,867.43	\$ 16,104.59	\$ 8,002.14	\$ 7,493.63	\$ 3,426.25
<b>CloudWatch</b>	\$ 3,182.69	\$ 2,968.51	\$ 5,977.66	\$ 3,859.62	\$ 4,143.74	\$ 1,439.57
<b>Glue</b>	\$ 118.35	\$ 113.60	\$ 13,405.82	\$ 1,941.20	\$ 4,542.00	\$ 222.91
<b>EC2-Instances</b>	\$ 3,524.05	\$ 3,267.25	\$ 2,774.84	\$ 3,231.98	\$ 1,601.17	\$ 1,844.62
<b>Lambda</b>	\$ 2,281.74	\$ 2,061.58	\$ 2,115.11	\$ 1,987.95	\$ 2,459.27	\$ 1,523.39
<b>EC2-Other</b>	\$ 1,941.81	\$ 1,849.97	\$ 1,808.33	\$ 1,724.07	\$ 1,585.47	\$ 1,398.58
<b>API Gateway</b>	\$ 1,388.10	\$ 1,311.99	\$ 1,360.73	\$ 1,361.80	\$ 1,405.10	\$ 1,363.68
<b>Config</b>	\$ 2,214.77	\$ 2,310.02	\$ 1,217.74	\$ 1,170.88	\$ 295.68	\$



# 04 Existing Optimizations - Current Reservations (July)

DynamoDB Reserved Capacity					
Purchase Date	Capacity Type	Capacity Units	Term (Yrs)	Potential Savings (Mth)	Expire
July 26 2024	Write Capacity Units	5,100	1	\$14,000	July 26, 2025
July 26 2024	Read Capacity Units	12,400	1	\$7,000	July 26, 2025
				<b>\$21,000</b>	

Amazon OpenSearch					
Subscription ID	Instance Type	Utilization	Hours Used	Savings	Expire
<a href="#">15232384022</a>	c5.large.search	100%	2,016	\$78.62	2025-02-22
<a href="#">15305043583</a>	i3.large.search	100%	10,080	\$786.24	2025-03-01
<a href="#">16416653152</a>	c5.large.search	100%	1,665	\$65.00	2025-07-05
<a href="#">16416685247</a>	i3.2xlarge.search	100%	13,320	\$4,121.15	2025-07-05
<a href="#">16417046576</a>	i3.large.search	100%	6,648	\$519.61	2025-07-05
<a href="#">16417052519</a>	c5.large.search	100%	1,662	\$64.96	2025-07-05
				<b>\$5,635.58</b>	

## INSIGHTS

July 26th. 2 x DynamoDB Reserved Capacity Purchased:

- Potential 21K savings.

July 5<sup>th</sup> 4 x OpenSearch Reservations Purchased:

- Potential 5K savings.

Feb, March: 2 x OpenSearch will expire:

- Added to notifications to the platform to alert us prior. (normally start talking 4 to 6 month prior)

Summary:  
Reduction 20K in the past month.

# Jump To Day Over Day Report

## INSIGHTS

### Day Over Day Report

- Monitoring for anomalies: DynamoDB / July 26<sup>th</sup>
- Scheduling > Server Pausing > adsgrader Staging
- Scheduling Keyword. Aitools > Dev
- Recommendations
- Orphans AMI's, Volumes

# 06 Recommended Reservations (July)



## Reservations EC2: \$32.32

Instance Type	Quantity (norm units)	Term	Est. Monthly Savings
t3a.*	16	1	\$20.04
t2.*	6	1	\$9.64
t3.*	2	1	\$2.64
			<b>\$32.32</b>



## Reservations RDS: \$13.00

Instance Type	Quantity (norm units)	Term	Est Monthly Savings
db.t3.micro	16	1	\$8.70
db.t3.micro	6	1	\$4.31
			<b>\$13.00</b>



## Reservations OpenSearch: \$1,561.49 \*lets get context first

Instance Type	Quantity	Term	Est Monthly Savings
i3.2xlarge.search	6	1	\$1,219.85
i3.large.search	6	1	\$341.64
			<b>\$1,561.49</b>

## INSIGHTS

### EC2

Minor reservations available.

### RDS

Minor reservations available.

### OpenSearch

A few more reservations possible \$1,500. But we need more context.

Opensearch is the #1 cost, so has the most opportunity to resolve.



## Rightsizing EC2: \$35.29

Instance Name	Current	Recommendation	Est, Monthly Savings
aitools-dev	t3a.medium	t3a.small	\$13.64
amzn linux MATE xrdp cert warning	t2.micro6	t2.nano	\$4.23
prod-aitools	t3a.medium	t3a.small	\$13.64
SparkUI	t3.micro	t3.nano	\$3.77
			<b>\$35.29</b>



## Can Test / Dev be scheduled?

- We typically see better savings and less risk in scheduling vs Reservation / Savings Plans.



## Compute Savings Plan: \$152.20

- 1yr term, based on 30-day lookback.

## INSIGHTS

### Rightsizing

A few available. However should talk about scheduling first.

### Scheduling

Need to have these discussions with DevOps.

### Savings Plan

Once EVERYTHING is cleaned, rightsized, we can apply a Savings plan on top.

## 08 What is working for you? (July)



### Amazon DynamoDB

- Reserved Capacity (Can save up to 70%)



### OpenSearch

- Reservations Purchased



### Auto Scaling with Spot Instances

- Significant Savings
- Automates Instance management and resiliency



### General

- Clean environment
- Very few orphans
- Leveraging the proper tech

## INSIGHTS

### DynamoDB

Great job with reserved storage capacity. July 26<sup>th</sup>. Is 3 year possible?

### OpenSearch

Bulk of Reservations on July 5<sup>th</sup>. More available, but let's talk more about this on the next slides.

### Auto Scaling with Spot Instances

No better cost savings. This also shows how resilient your application is. MANY orgs want to be here.

### General

You have done some amazing leaps forward in July. We can help you keep it up.

### → Amazon OpenSearch Service

- uber-serps-v2 average CPU does not go over 17%.
- 33 node cluster.

### → Amazon OpenSearch Service (Options)

- Reduce cluster size.
- Reduce node size.
- Possible use ultra warm storage to reduce storage costs.
- Elastic Scaling of OpenSearch.
- Move OpenSearch to Serverless.

### → S3

- Fluctuating up to \$8,000 a month over 209 S3 buckets.
- Is all this data needed.

### → Support Plan (OPTIONAL)

- Currently on Basic.
- Suggesting Developer 3% of spend: 50K will be 1,500
  - Business hr Support
  - Trusted Advisor: Security, Service Limits, fall back and keeping us honest.

## 10 Next Steps

- **Platform Contract - 12 Mth**
  - \$9,600 yr (\$800 Mth)
    - Platform Access, Monthly Review, Quarterly Report & Meeting.
  
- **Recommended Add-ons**
  - Professional Services Bucket (\$80/hr) Remediation, Context Meetings, Architecture Work.
    - Recommended 52 hrs (1 hr a week / 1 yr)
  
  - On Demand Professional Services (\$100/hr)

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- **Context Meetings**
  - Dev / Infra Team Introduction
  
- **AWS Discount**
  - 1% -3% At Current Spend.
    - We need to stabilize the cost before we go to the well.