



Cos'è la FinOps



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Sponsor



Partner



AWS
User Groups
Milano



What can you expect?



What can you expect?



What can you expect?



A person wearing a grey textured sweater is sitting at a light-colored wooden table, writing in a white spiral-bound notebook with a black pen. Their hands are visible, and they are wearing a ring on their left hand. To the right of the notebook, there is a white ceramic mug with a yellow circular logo on it, and a small arrangement of dried flowers in a vase. The background shows a window with white horizontal blinds.

Once upon a
time...

“

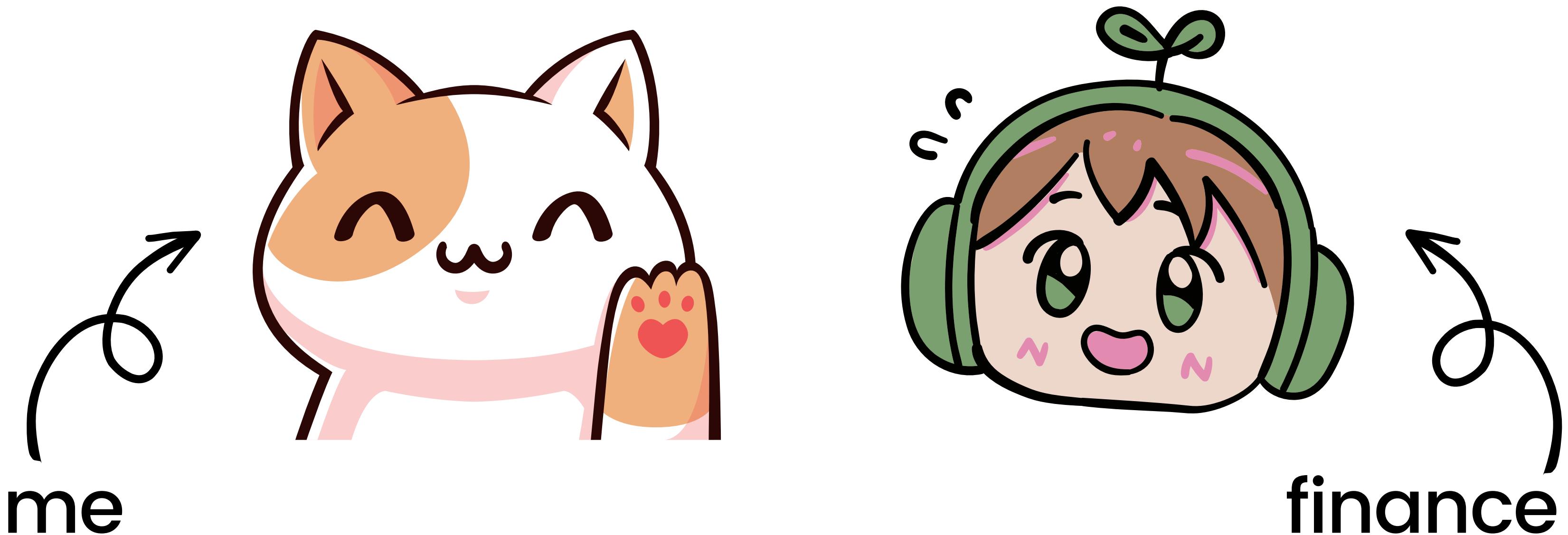
1 year ago



me

“

1 year ago



“

Towards the end of 2021



“

Fast forward a couple of months



“

The cake is a lie



What was happening?

- Cloud is a different consumption model
- No control on Cloud usage
- AWS has more than 200 individual products
- Some products are billed at per second resolution
- AWS invoice not really easy to read



Let's talk about billing

“

Cloud billing is complex

2019-07-22T00:00:00Z/2019-07-22T01:00:00Z,,AWS,Anniversary,01234567890,2019-07-01T00:00:00Z,2019-08-01T00:00:00Z,09876543210,DiscountedUsage,2019-07-22T00:00:00Z,2019-07-22T01:00:00Z,AmazonEC2,BoxUsage:m3.medium,RunInstances,us-east-1b,i-0dd86597c590879b9,1.00000000000,USD,0.00000000000,0.00000000000,0.0402772184,0.0402772184,"Linux/UNI X (Amazon VPC), m3.medium reserved instance applied",,Amazon Elastic Compute Cloud,,,,,2.5 GHz,,,No,,,,,,3,,,,General purpose,m3.medium,,,No License required,US East (N. Virginia),AWS Region,,,,,3.75 GiB,,,Moderate,Linux,RunInstances,,,Intel Xeon E5-2670 v2 (Ivy Bridge/Sandy Bridge),,,64-bit,Intel AVX; Intel Turbo,Compute Instance,,,,AmazonEC2,ASDZTDFMC5425T7P,,,1 x 4 SSD,,,,Shared,,,,BoxUsage:m3.medium,1,,,3yr,convertible,No Upfront,0.0670000000,0.0670000000,Reserved,Hrs,,,arn:aws:ec2:us-east-1:01234567890:reserved-instances/36768f14-be7f-455f-9657-6d1c4e06401a,,,Infrastructure Svcs-Software,,mfuller,serviceA,,Infrastructure Svcs,Infrastructure Svcs,,,2.0,2.00000000000,,,,2,,,us-east-1,Amazon Elastic Compute Cloud,,,m3,,,serviceA,,0.0670000000,0.0670000000,0.0670000000,0.0670000000,,,0.00000000,,0.04300000,,0.04300000,,,,Public,"38.953116,-77.456539",,,s3://billing-reports/cost_reports/hourly_with_resources/20190701-20190801/2755e466-dc41-4a04-9d9ef1771805729b/hourly_with_resources-059.csv.gz,"Amazon Web Services, Inc.",Used,,,,awseb-e-myky2mqvfv-stack-AWSEBAutoScalingGroup-WAUJKY5MFRGL,,14292253,1947602408,infrastructure svcs,,,,2019-07

You are not buying things

- You're buying proportion of usage over time
- You're being charged for the actual time in the period that the thing was on

A month is
not a month,
a dollar is
not a dollar

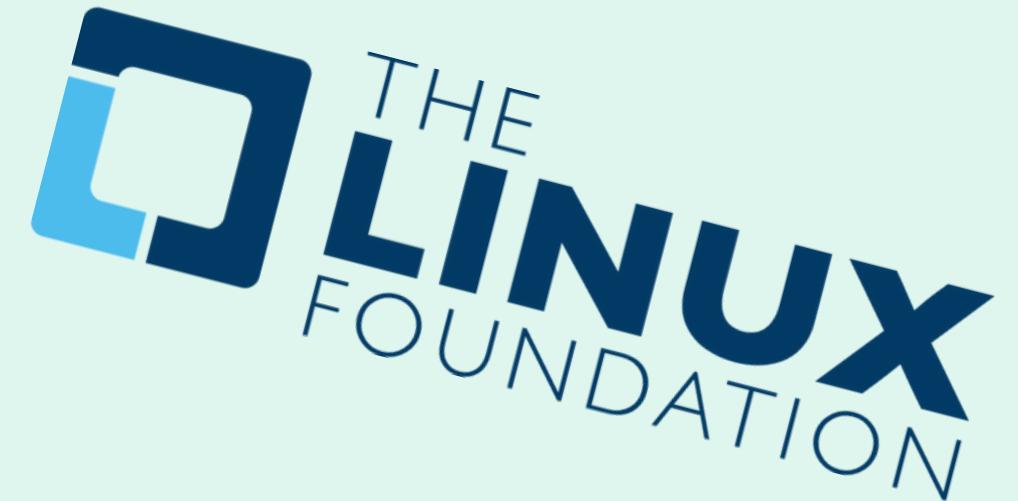
- Cloud billing is all about time
- Cloud rates can vary wildly

Meet FinOps

FinOps is an evolving cloud financial management discipline and cultural practice that enables organizations to get maximum business value by helping engineering, finance, technology and business teams to collaborate on data-driven spending decisions

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The promise

Bring accountability and make tradeoffs between speed, cost and quality in the cloud architecture and investment decisions, cross functional conversation about where to invest and when

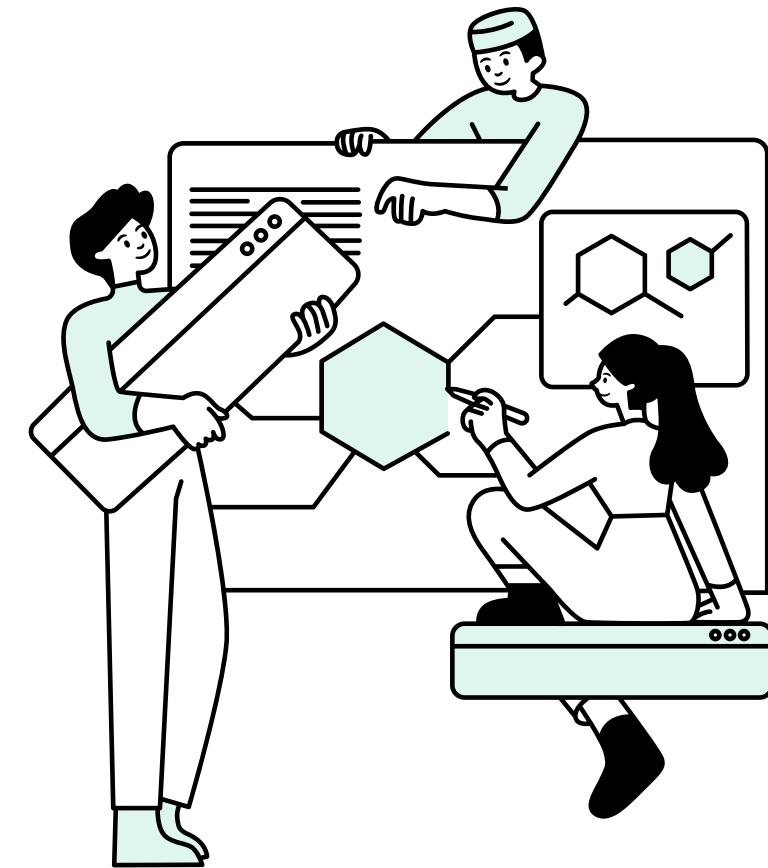
The FinOps principles



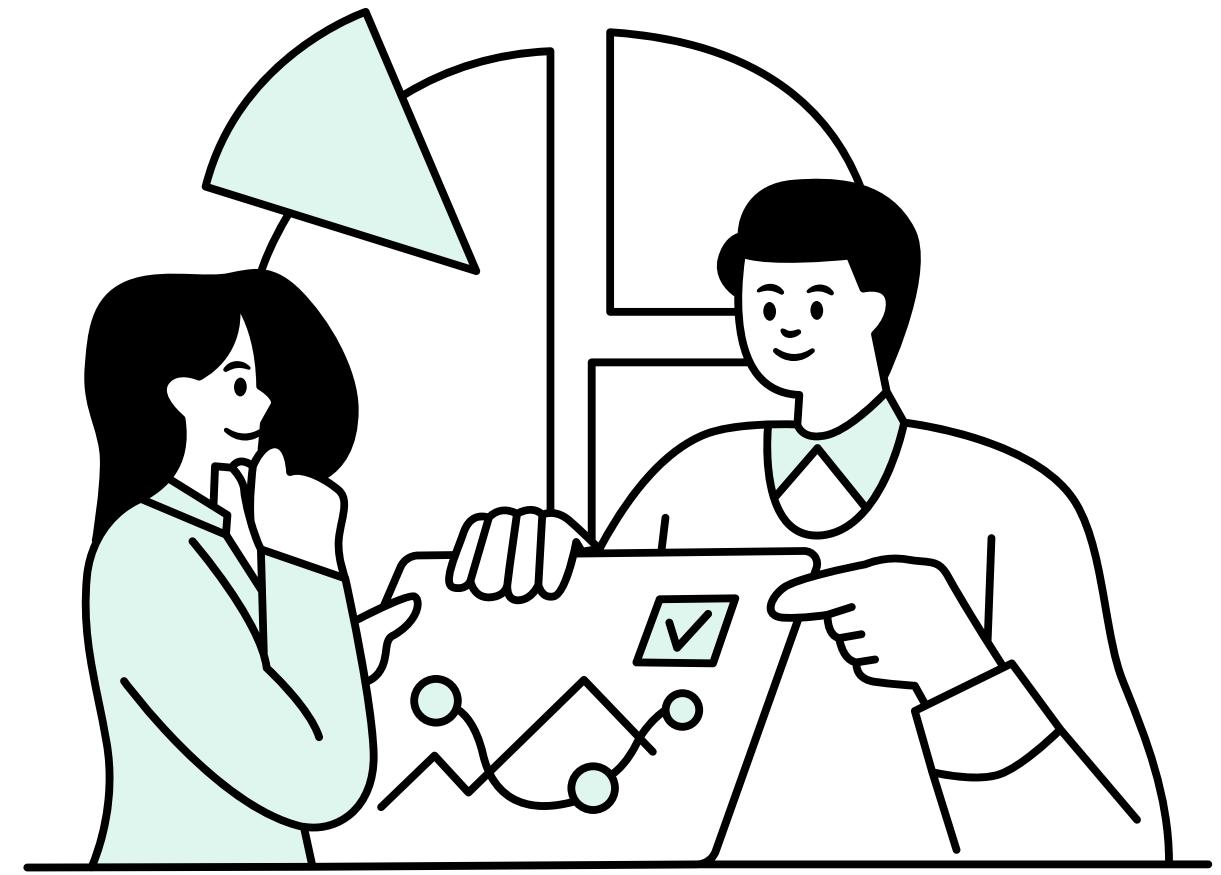
- **Teams need to collaborate**
- Everyone takes ownership for their cloud usage
- A centralized team drives FinOps
- Reports should be accessible and timely
- Decisions are driven by business value of cloud
- Take advantage of the variable cost model of the cloud

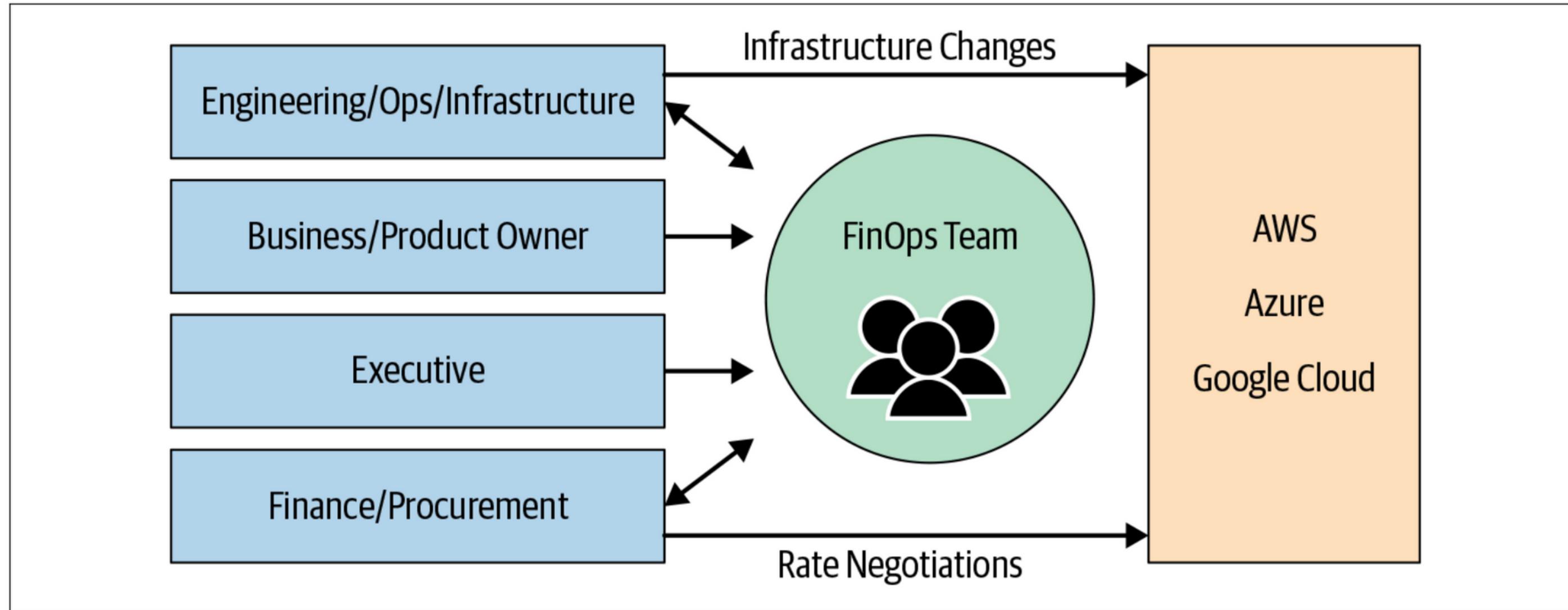


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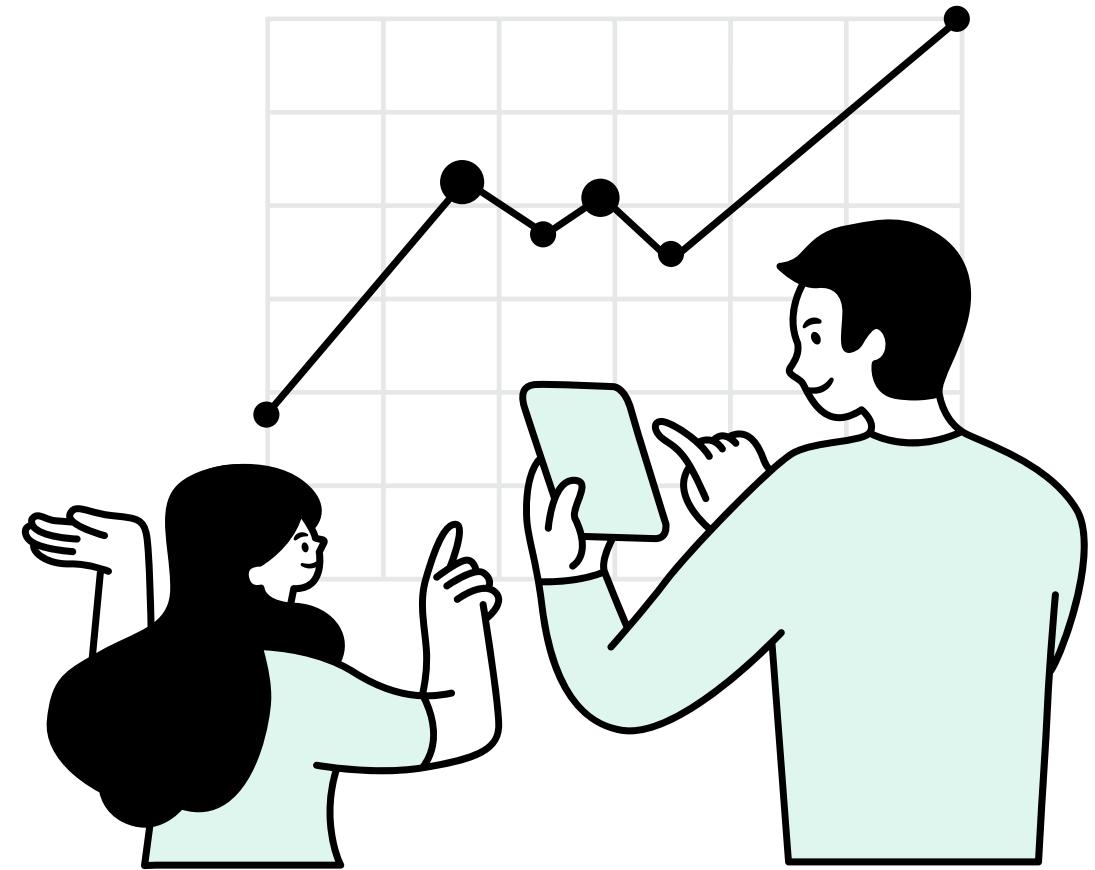


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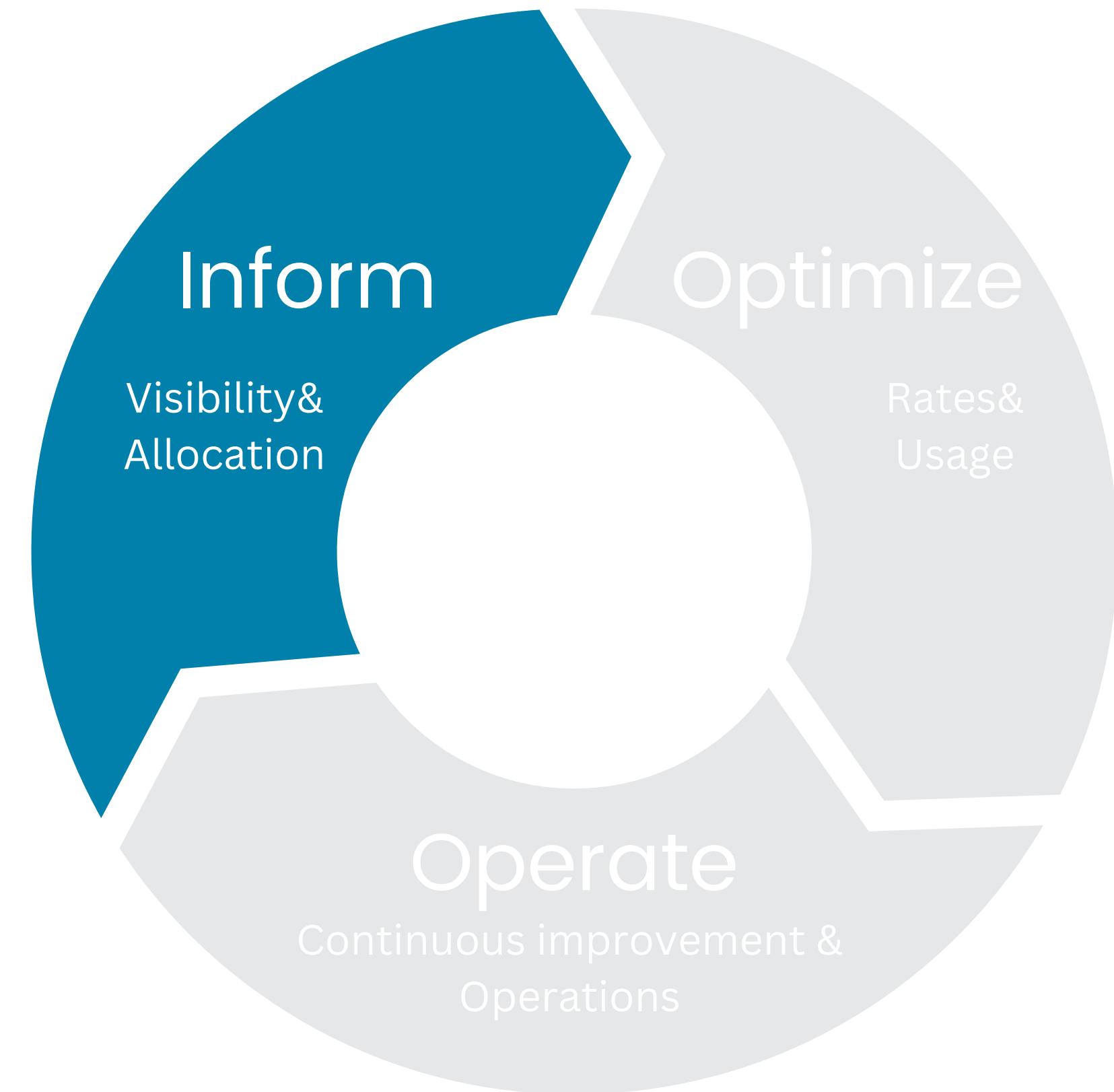


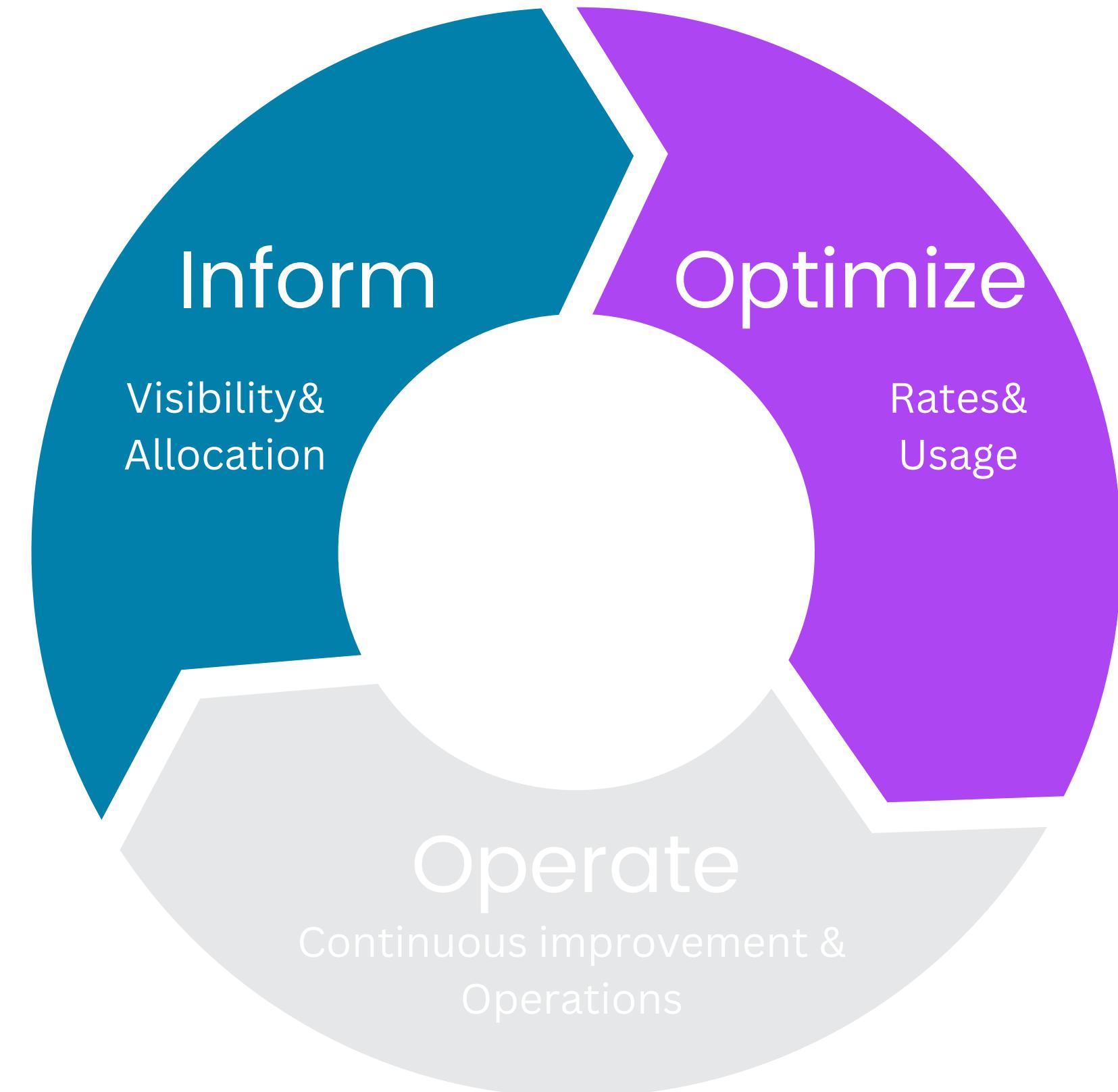
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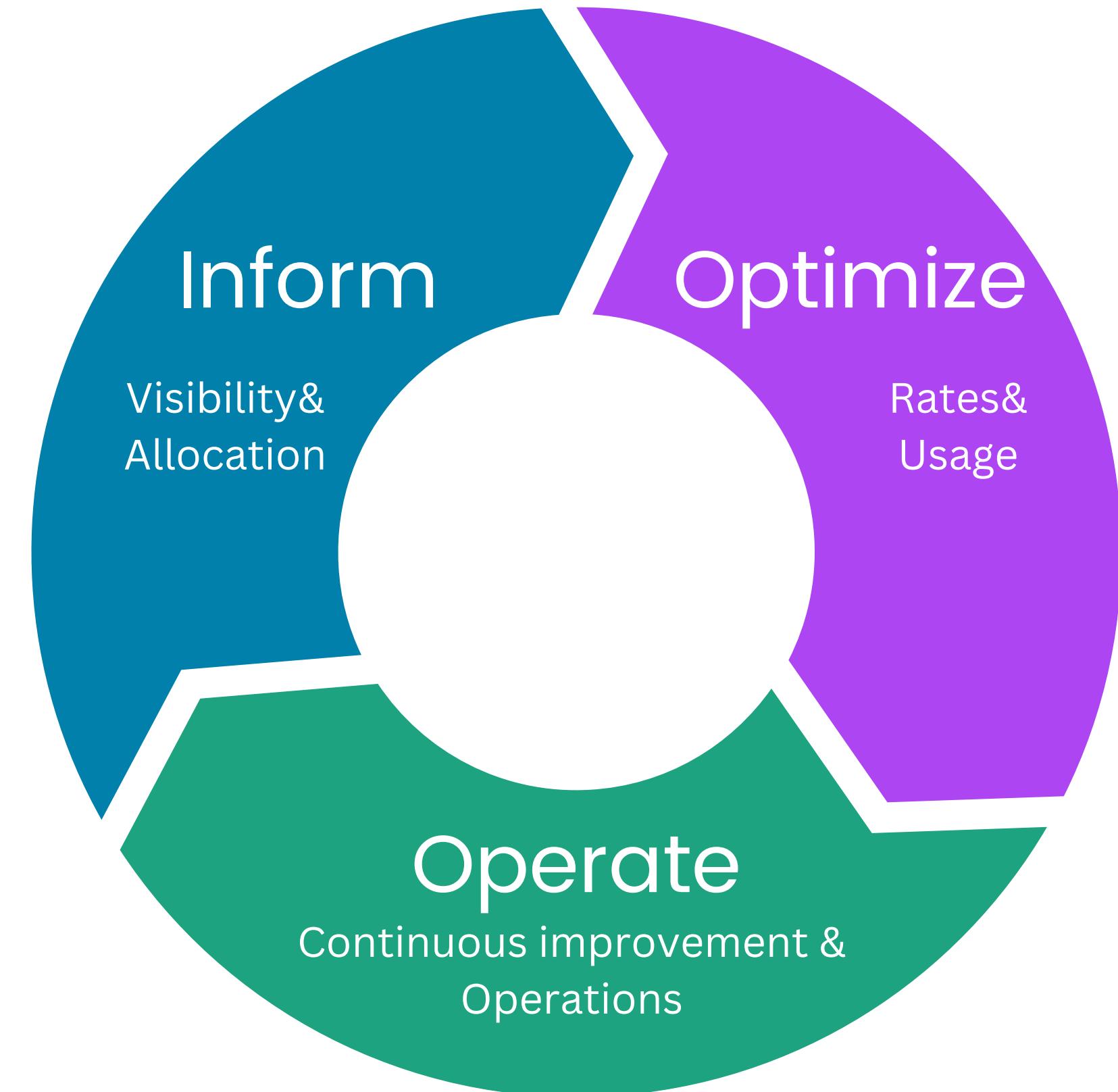




Phases

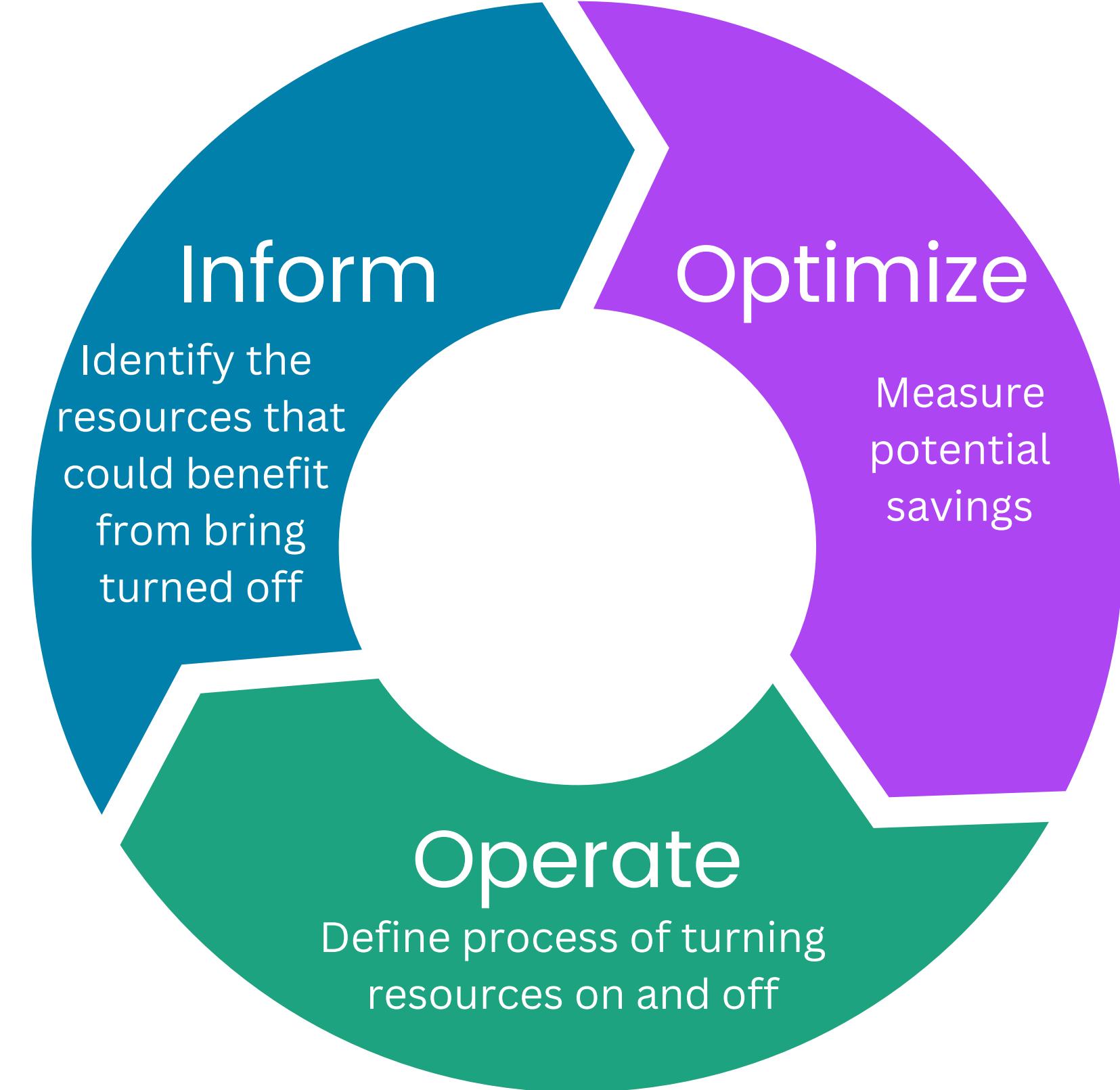






An example?

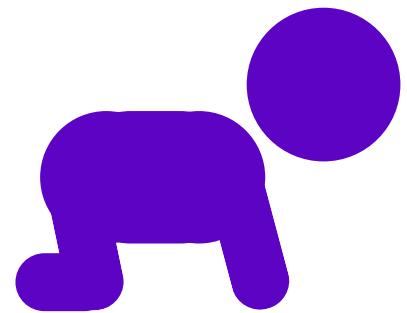




Maturity



Maturity model



Crawl

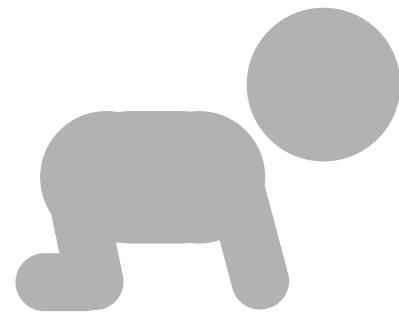


Walk

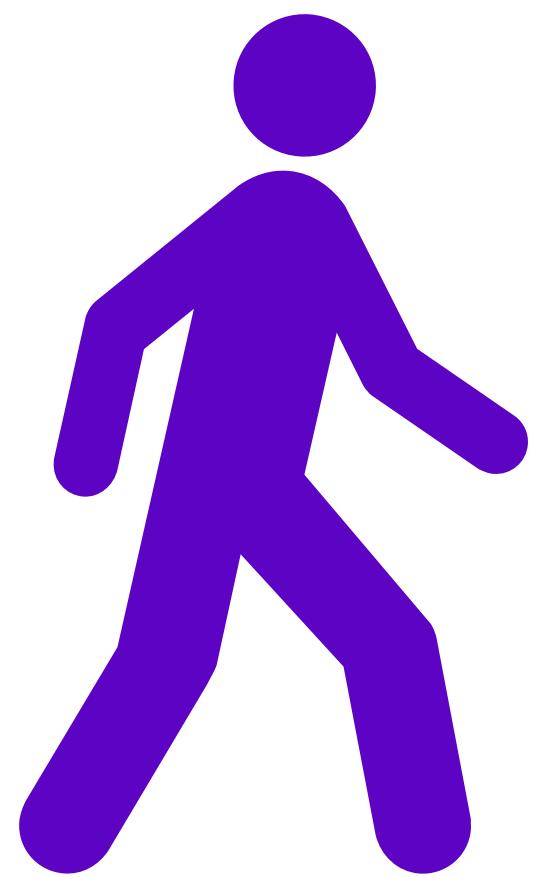


Run

Maturity model



Crawl

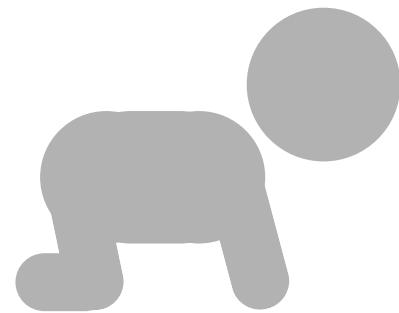


Walk



Run

Maturity model



Crawl



Walk



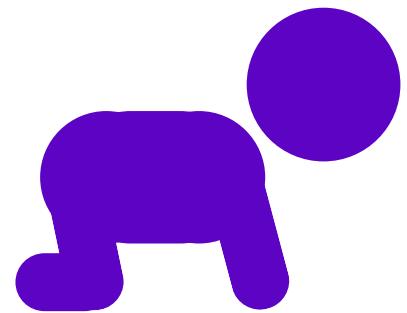
Run

A photograph of a two-lane asphalt road curving through a hilly, arid landscape. The hills are covered in sparse, light-colored vegetation. The sky above is filled with soft, grey clouds.

So, where do we
start?

start

Maturity model



Crawl



Walk



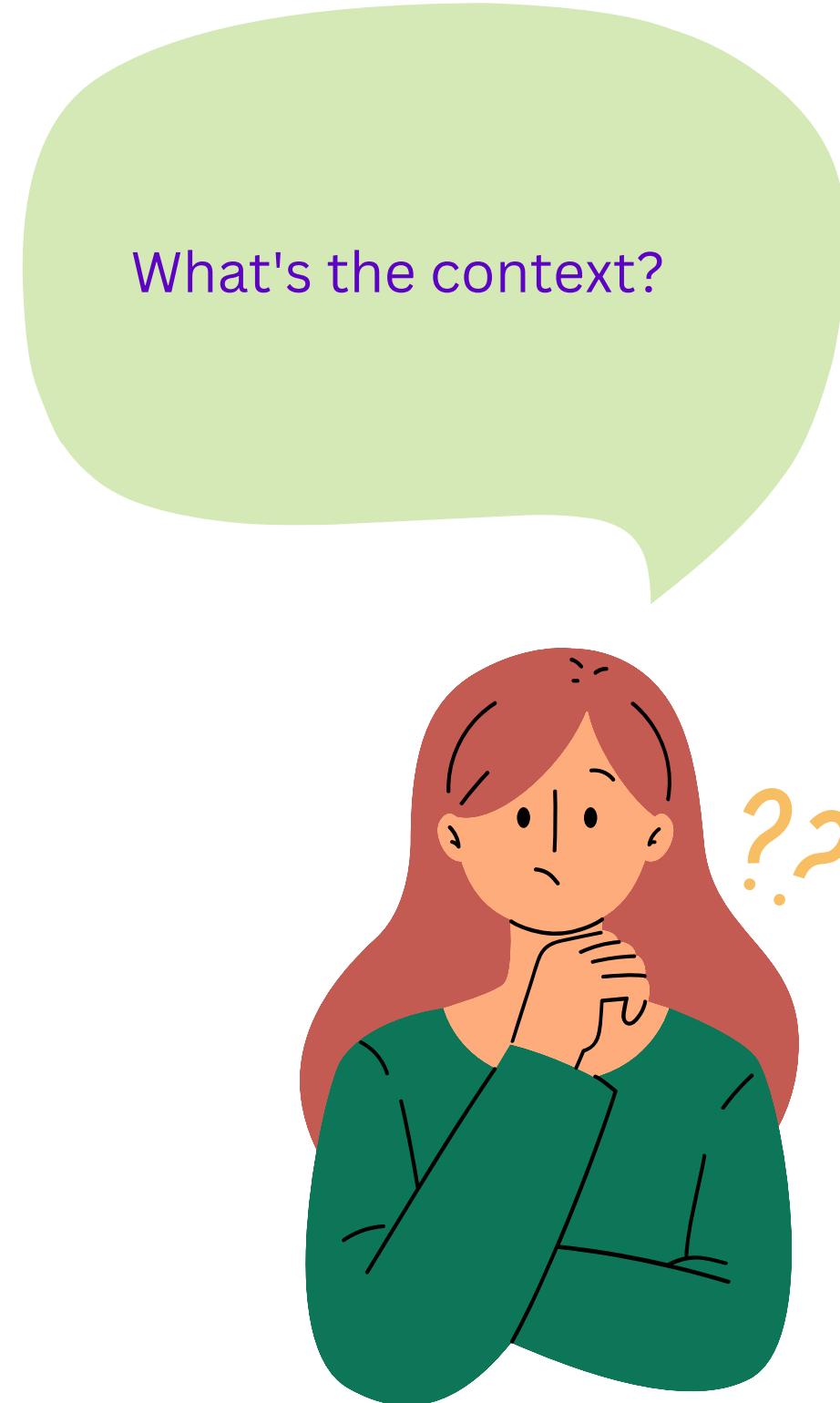
Run

KPIs

- Budgeted to Actual spend accuracy variance of 20%
- At least 50% allocated resources
- Resource-based commitments discount target coverage of approximately 60%

Inform phase

You begin your Finops
journey by asking questions



Inform phase: allocation

- Account structure
- Tagging strategy

Optimize

Research shows that there are two types of cloud teams: those that forget about some of their resources, and those that lie about forgetting about some of their resources

Hey, it looks like you're not utilizing these instances over here.
Do you need them?

Oh, those are still there?
I forgot about them!
I'll delete them now.



Spend = Usage x Rate

Two levers to affect your bill

Avoiding costs

- Terminating idle resources
- Rightsizing oversized ones
- Scaling down during off-peak hours

Rate reduction

- Reserved Instances or Saving Plans
- Spot instances

Reserved instance

- you don't actually reserve a specific server instance or commit to a specific resource
- providers will allocate the reservation randomly to a resource in the account
- RIs may share the discount they offer across accounts within the same AWS Organization

Saving plans

- you do not purchase actual instances but commit to one or three years at a discounted price
- commitment to spend a particular dollar amount per hour over a specific period

Operate

Put the processes, workflow,
and responsibilities outlined
in the previous phases into
action



Operate: setting up processes

- who is responsible for the process
- what parts of the organization must follow the process
- what goal or goals the process contributes

Operate: setting up processes

- Onboarding
- Responsibility
- Visibility
- Action

What about containers?



Inform phase

- Cost allocation
- Measure container proportions by considering vCPU and memory allocation
- Strategies to allocate Idle costs
- Tagging containers and namespaces

Optimize phase

- Rightsize cluster and containers
- Use k8s container classes
- Consider spot instances

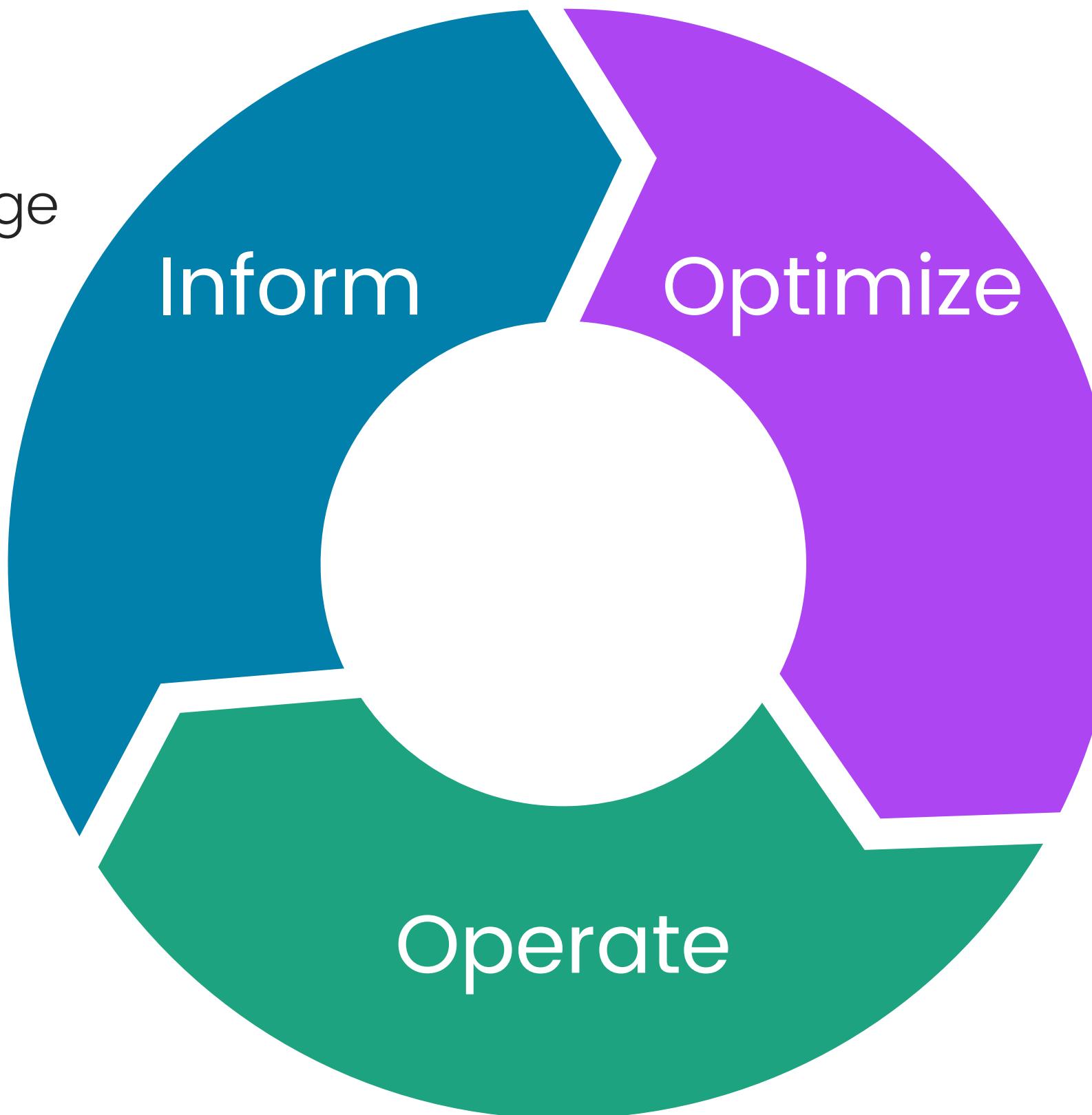
Operate phase

- Scheduling development containers to be turned on and off around business hours
- Finding and removing idle containers

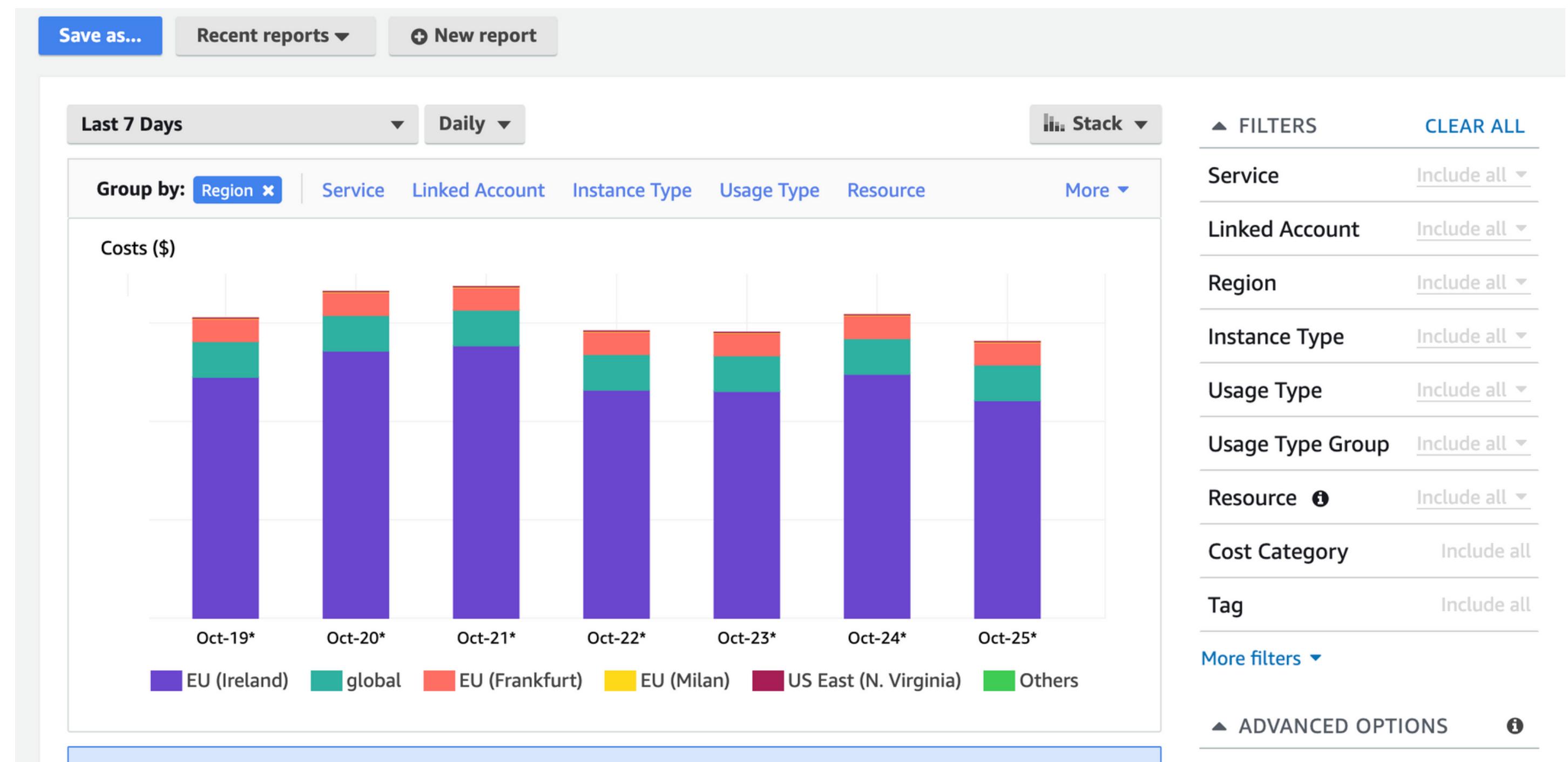
**What if I can't
have a FinOps
team?**



- AWS Bills Page
- AWS Cost category
- RI/Savings usage Report
- Cost Explorer
- Anomaly detection



Cost explorer



Cost anomaly detection

Anomaly details (2022-09-20) Info

Summary

[View in Cost Explorer](#)

Start date
September 20th

Last detected date
September 21st

Duration
2 days

Total cost impact
\$261.12

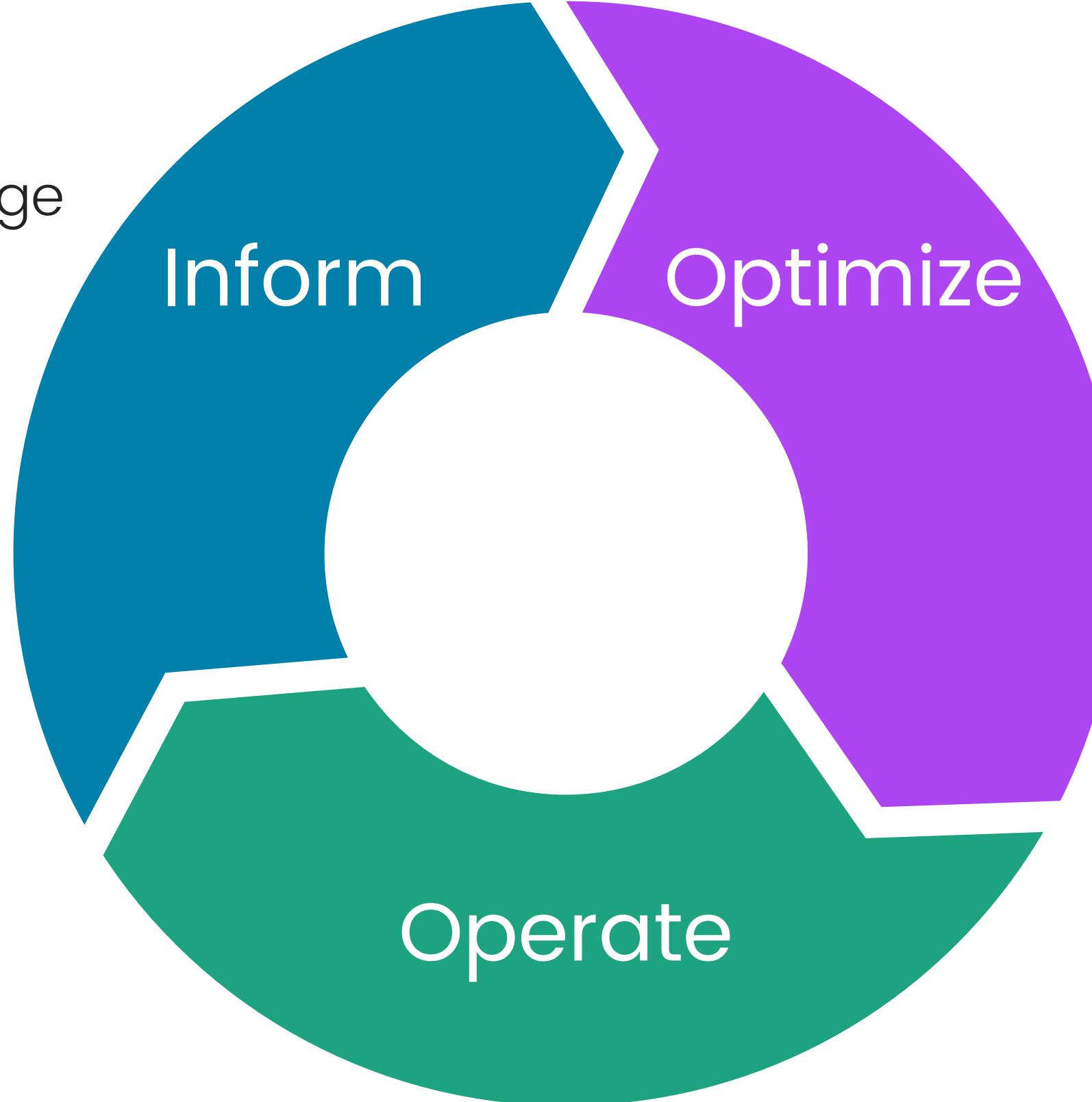
► How was this identified?

Top ranked potential root causes

These are the top ranked potential root causes identified for this anomaly. The root causes will not add up to the total cost impact.

Service	Linked account	Region	Usage type	Cost Explorer Link
Amazon Elastic Block Store	087849981844	eu-west-1	EU-DataTransfer-Regional-Bytes	View root cause
AWS Transfer Family	101304653876	eu-west-1	EU-ProtocolHours	View root cause

- AWS Bills Page
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- EC2 Rightsizing Report
- RI/Saving plans recommendation
- Trusted Advisor

Trusted advisor

Acct ID: 123456789012

Dear AWS customer:

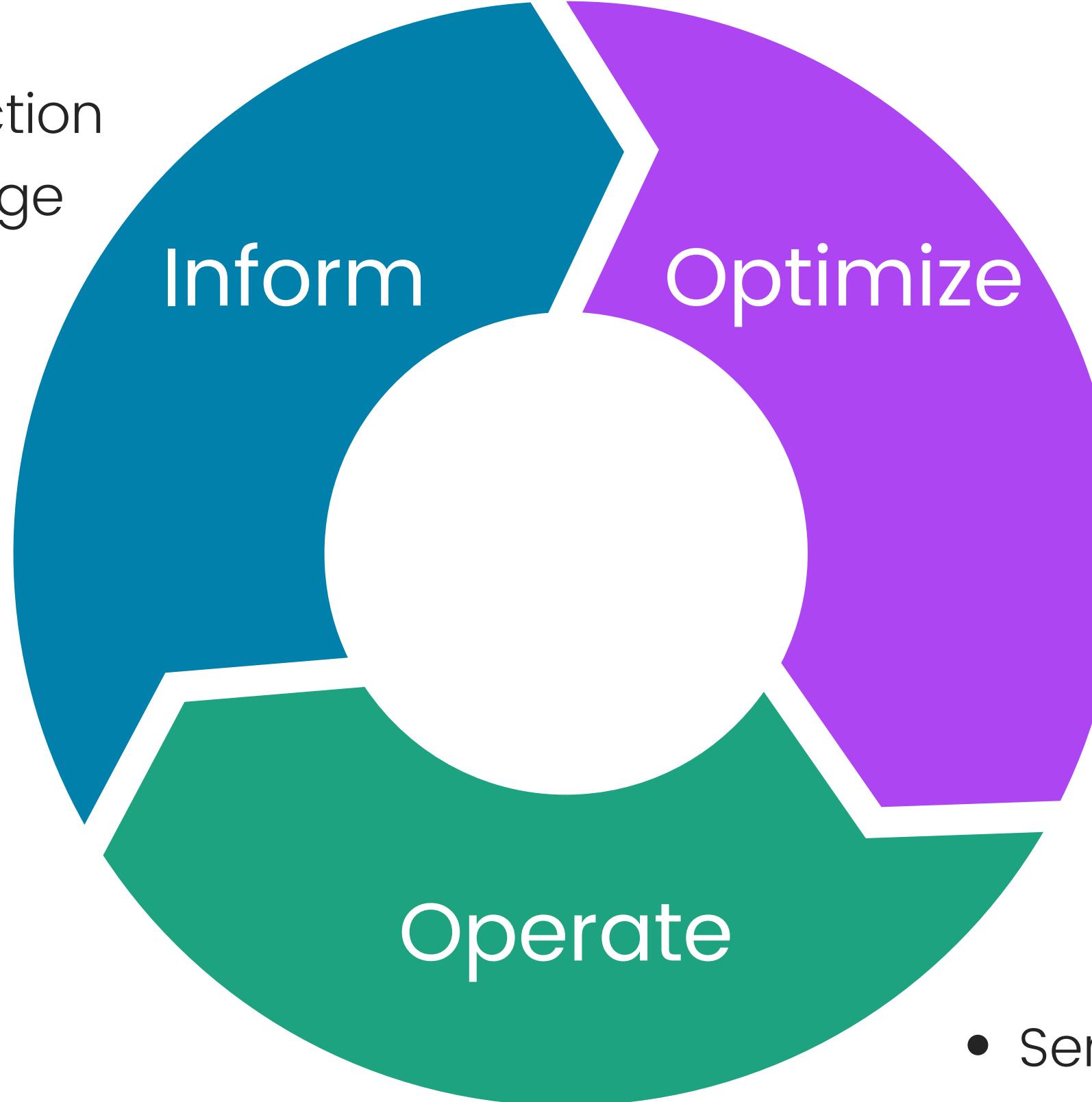
AWS Trusted Advisor currently shows alerts for 3 checks (2 red and 1 yellow) and \$100 of potential monthly savings based on your usage.

Here is a summary of status changes for this week:

The alert severity of these checks has increased to red (action recommended):

- From green:
 - [EC2](#)
 - [RDS](#)

- AWS Bills Page
- Cost Explorer
- Anomaly detection
- RI/Savings usage Report
- AWS Cost category



- EC2 Rightsizing Report
- RI/Saving plans recommendation
- Trusted Advisor
- Serverless

“

It's not only about saving
money, but about driving
business value and
innovation.



“

Resources

<https://www.finops.org/>



#CLOUDDAY2022

Grazie!