
STORM REPLY
THE CLOUD COMPANY - powered by aws
REPLY
STORM

Alessandra Mazzola

Manager @ Storm Reply Roma

#AWS #DATA ANALYTICS #FINOPS

AGENDA

Storm Reply & AWS Partnership

Serverless Cloud Platform (SCP)

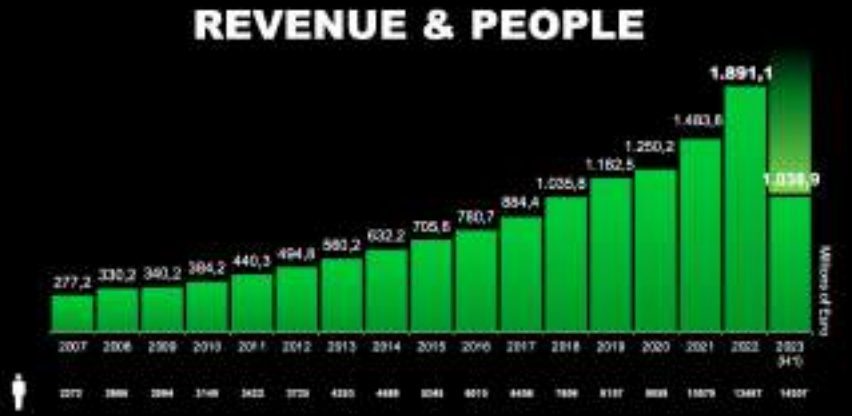
Cloud Native Application (CNA)

Contact & Thesis proposal

Q&A


REPLY

REPLY S.P.A. PEOPLE, REVENUES AND GEOGRAPHIES



- **Double digit** grow since 1996
- **1,8+ billion** of revenue in 2022
- More than **14,000+ professionals**

- In Italy **organic growth**
- Principal market **Europe**
- Acquisition focus on **North America** market

| CLOUD STRATEGY & MIGRATION |
| APPLICATION MODERNIZATION |
| CLOUD GOVERNANCE |

Storm Reply is part of the Reply group, focused on the design and implementation of innovative AWS based solutions and services.

« WE MAKE CLOUD WORK FOR YOU »

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REPLY AND AWS

TIMELINE AND MILESTONE

2011

REPLY STORM

2014

Premier Consulting Partner

Partner network

2017

Innovation Award

2019

Best competencies Partner

Next Generation Service Provider

2020

Italian Partner of the year

Reply - AWS global Strategic partnership Re:Stack

2021

Italian Partner of the year

2022

EMEA System Integrator Partner of the Year

EMEA Security Partner of the Year

2023

EMEA System Integrator Partner of the Year

Global Energy&Utilities Partner of the Year

PARTNERSHIP IN NUMBERS

14
AWS COMPETENCIES

Big Data · DevOps · Oracle · Migration · IoT · Industrial Software · SaaS · Machine Learning · Security · Financial · Retail · Energy · Cloud Operations

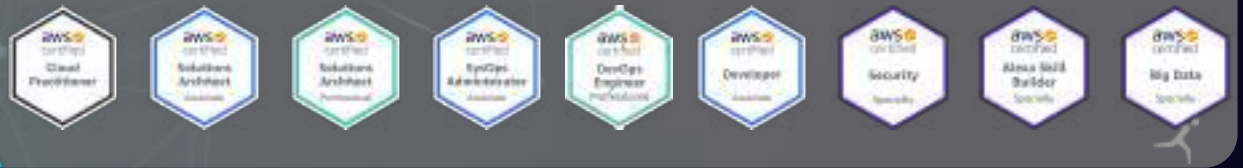
16
SERVICE DELIVERIES

Lambda · EC2 for Windows Server · IoT Core · WAF · CloudFront · EMR · Cloud Formation · Direct Connect · Connect · Redshift · Quicksight · EKS · MSK · Open Search · System Manager · ECS

9
PROGRAMS

MSP · SPP · Public Sector · ACE · Training Partner · CAF · Immersion Days · WAR · MSA ProServ

1000+
CERTIFICATIONS



CNCF PARTNERSHIP

CLOUD NATIVE COMPUTING FOUNDATION
SILVER MEMBER

KUBERNETES CERTIFIED SERVICE PROVIDER

KUBERNETES TRAINING PARTNER

RECOGNIZED AS OFFICIAL **KUBERNETES PROVIDER** SINCE 2018

REPLY STORM

CENTRE OF EXCELLENCE COMPOSED BY KUBERNETES CERTIFIED EXPERTS

CERTIFIED KUBERNETES ADMINISTRATOR

CERTIFIED KUBERNETES APPLICATION DEVELOPER

CERTIFIED KUBERNETES SECURITY SPECIALIST

HASHICORP PARTNERSHIP

STORM AROUND THE GLOBE

500+ Cloud Architects And Developers In The World

800+ AWS Certifications

100+ Customers on Cloud

100+ Cloud Projects in Production

20+ Public Cases

1k+ Cloud Managed Instances

STORM IN ITALY

Main AWS customer base

200+ Stormers in Italy

270+ AWS Certifications

100+ AWS Certified Stormers

STORM REPLY OFFERING

A COMPLETE JOURNEY INTO THE CLOUD

Cloud Strategy & Migration

- Mass Migration Expertise
- Cloud Strategy
- Cloud Operating Model
- Cloud Adoption
- CCoE - Cloud Center of Excellence

Application Modernization

- Cloud Native Architecture
- Application Modernization
- Mainframe modernization
- Microservices development
- Serverless & Containerized applications
- DevOps & Automation

Cloud Governance

- MSP - Next-Gen Managed Service Provider
- FinOps & Cloud Cost Governance
- **Cloud Security**

Innovative Services

- Connected Vehicle
- Smart Mobility
- Sustainability
- Advanced Contact Center
- Smart manufacturing
- Gen AI LLM

CROSS INDUSTRY FOCUS

MIGRATION AND DEVELOPMENT FACTORY

STORM REPLY ROMA

Alessandro Pecchini

Consultant @ Storm Reply Roma

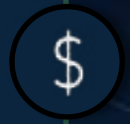
#AWS #DATA ANALYTICS #FINOPS #AI

SERVERLESS CLOUD PLATFORM

AGENDA

Cloud computing what and why

Serverless computing



Cost management and FinOps

Data analytic platforms

Use cases

Serverless Cloud Platform

CLOUD COMPUTING

ON PREMISE COMPUTING

Company

Property

ON PREMISE COMPUTING

SOME ON PREMISE ISSUES

- SCALABILITY
- AVAILABILITY
- INFRASTRUCTURAL MANAGEMENT
- HUGE UPFRONT COSTS

NIST DEFINITION

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model is composed of five essential characteristics, three service models, and four deployment models.

NIST 2011

NIST DEFINITION

On-demand network access

Shared pool of ***configurable resources***

With ***minimal management effort***

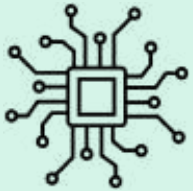
Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. This cloud model is composed of five essential characteristics, three service models, and four deployment models.

NIST 2011

MANAGEMENT EFFORT
ATTENTION POINTS

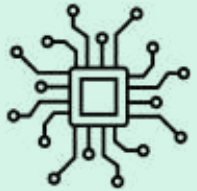
MANAGEMENT EFFORT
ATTENTION POINTS

COMPUTATION



MANAGEMENT EFFORT
ATTENTION POINTS

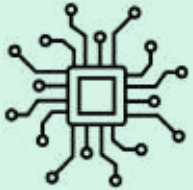
COMPUTATION



SOFTWARE

MANAGEMENT EFFORT
ATTENTION POINTS

COMPUTATION

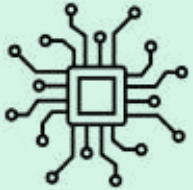


NETWORK

SOFTWARE

MANAGEMENT EFFORT
ATTENTION POINTS

COMPUTATION



NETWORK

SOFTWARE

OTHER

MANAGEMENT EFFORT
QUESTIONS

Which OS best fits the technical needs?

How much disk space is needed?

Which is the forecasted machine load?

Which storage type?

Is my application stateful or is it stateless?

How are the requests distributed?

Is the work par… a…

…storage or a volatile storage?

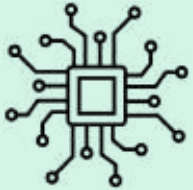
Which is the expect… each r… per…

Which type of filesyst… for the task?

SERVERLESS

SERVERLESS
IDEA

COMPUTATION

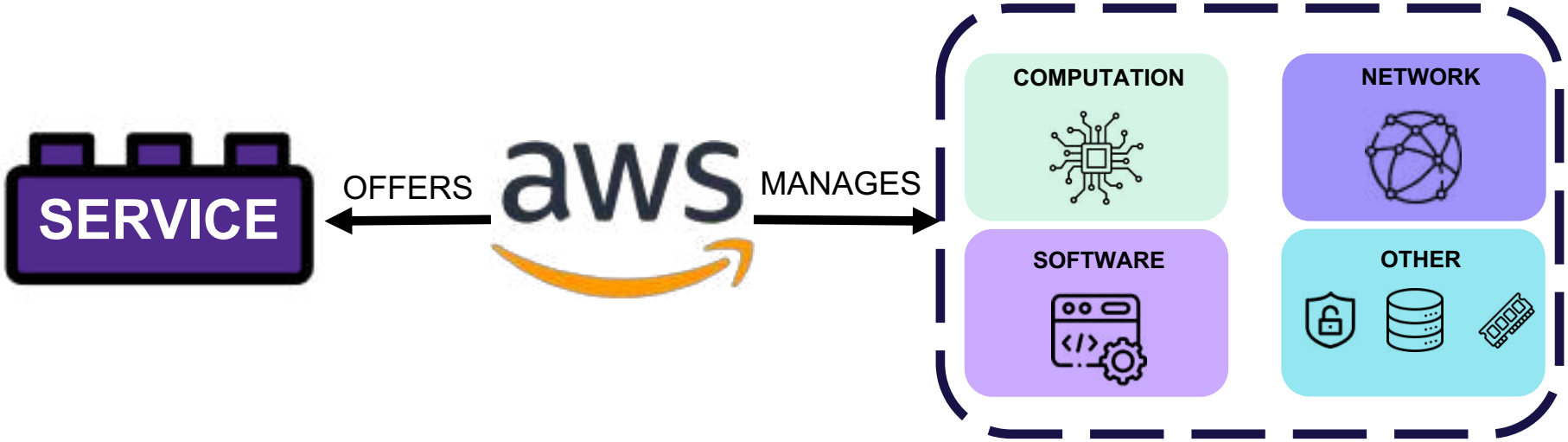


NETWORK

SOFTWARE

OTHER

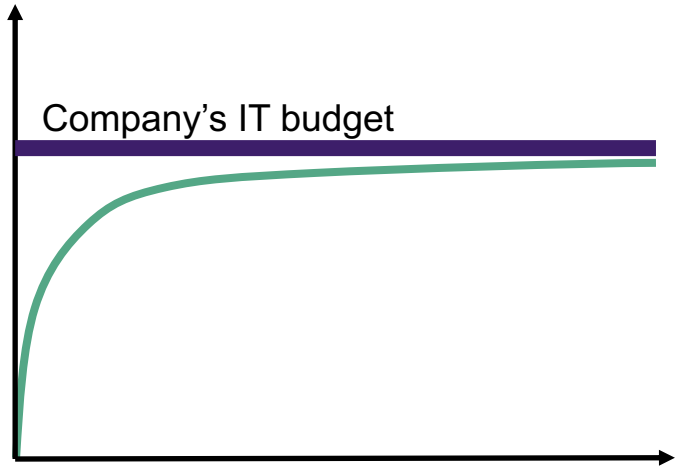
SERVERLESS
IDEA



WHAT ABOUT COSTS?

CLOUD COSTS PARADIGM
CAPEX VS OPEX

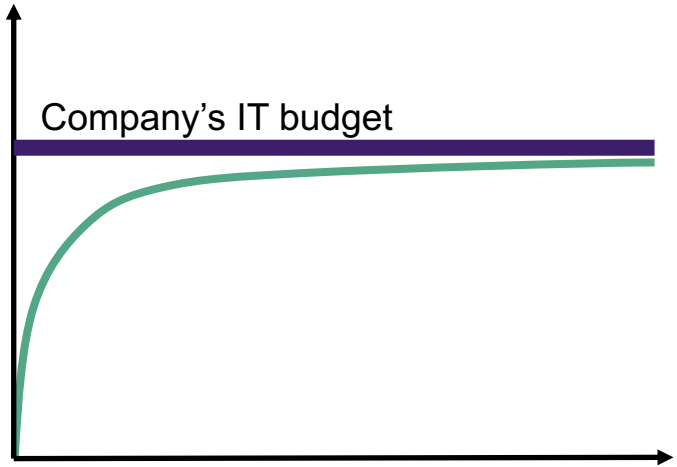
CAPEX



CapEX → Capitalization Expenses (able to generate value during time)

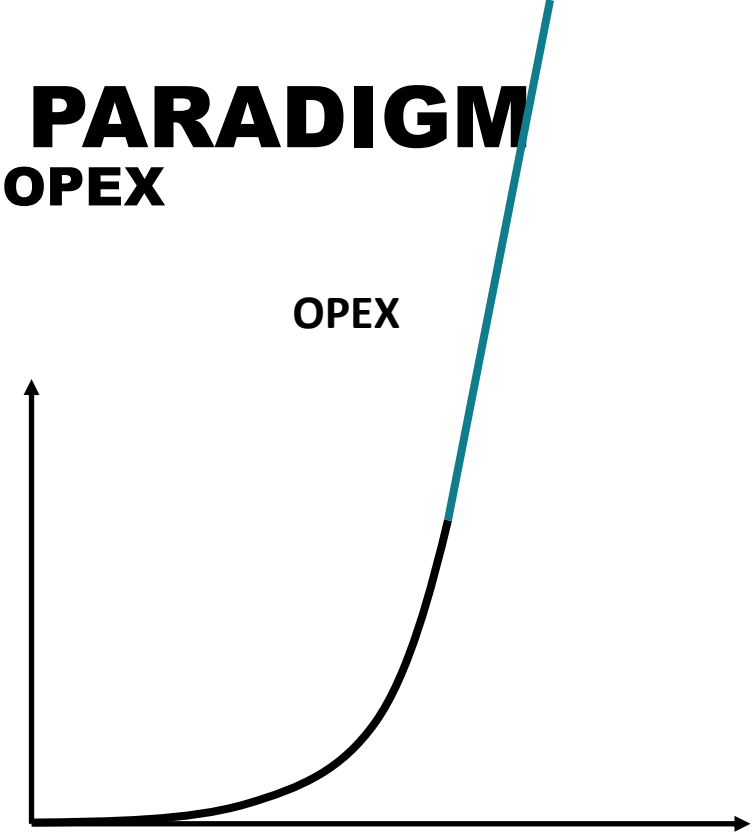
CLOUD COSTS PARADIGM
CAPEX VS OPEX

CAPEX



CapEX → Capitalization Expenses (able to generate value during time)

OPEX

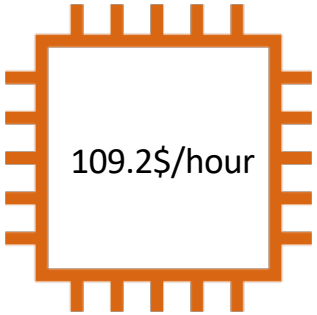


OpEX → Operating Expenses (no return on the future)

HOW COULD CLOUD EXPENSES BECOME BE AN ISSUE

CLOUD COSTS PARADIGM

COST WASTE EXAMPLE



u-12tb1.112xlarge

Friday

6 P.M.

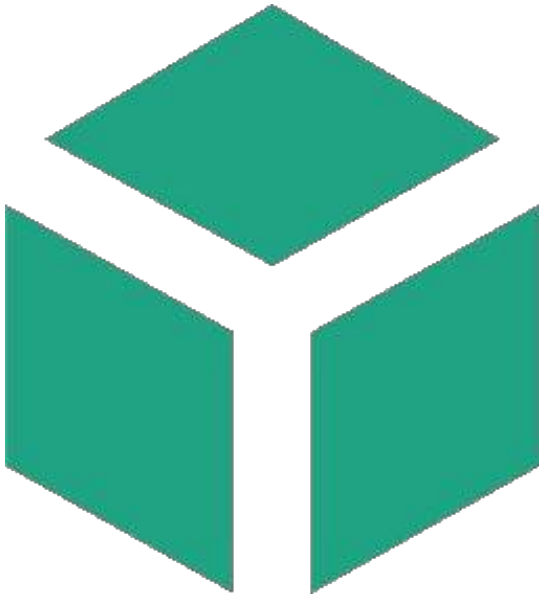
$6,879.6

63

LOST

Monday

9 A.M.



FINOPS

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****.»*

FINOPS

Iteratively take
Data-driven decisions

Involving
multiple teams

The final goal is to
reduce the costs

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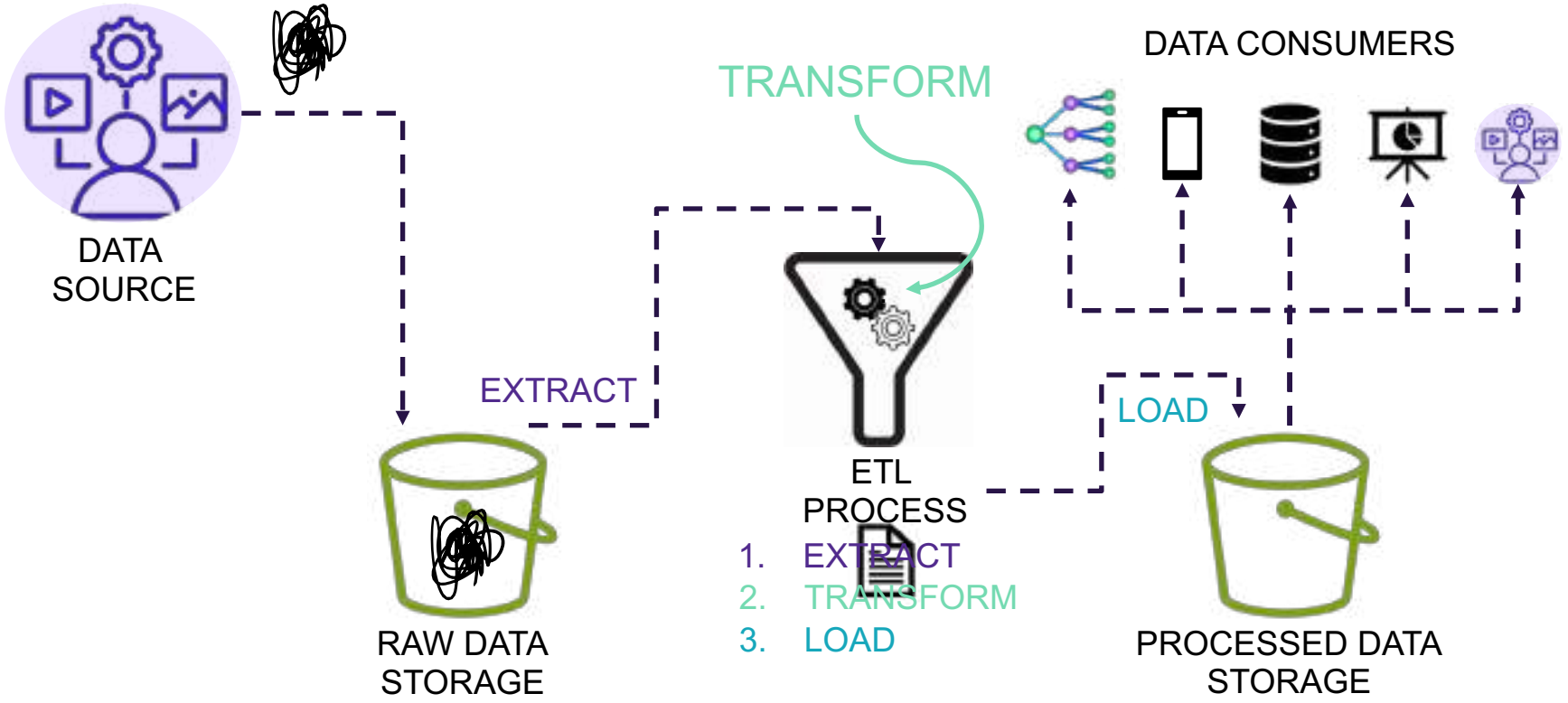
Iteratively take
Data-driven decisions

Involving
multiple teams

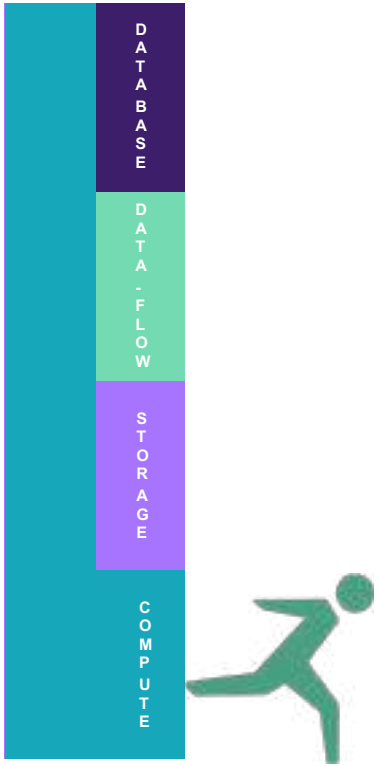
The final goal is to reduce the costs

DATA ANALYTIC PLATFORMS

DATA ANALYTIC PLATFORM
GENERAL STRUCTURE



DATA ANALYTIC PLATFORM
MAIN SERVICES



DATA ANALYTIC PLATFORM
MAIN SERVICES

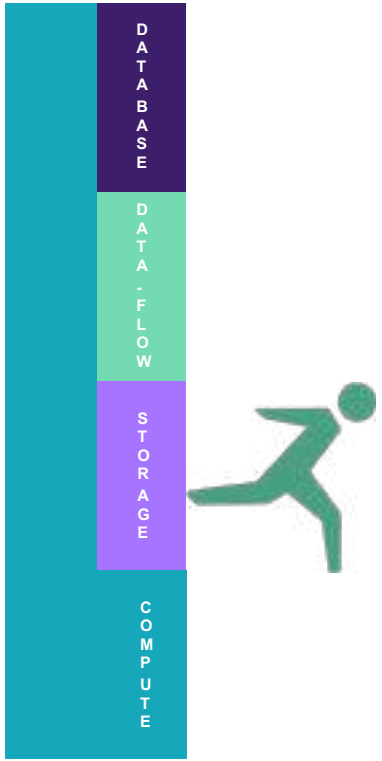
AWS Batch

AWS Glue

AWS Lambda

COMPUTE

DATA ANALYTIC PLATFORM
MAIN SERVICES



DATA ANALYTIC PLATFORM
MAIN SERVICES

Amazon Elastic Block Store
(Amazon EBS)

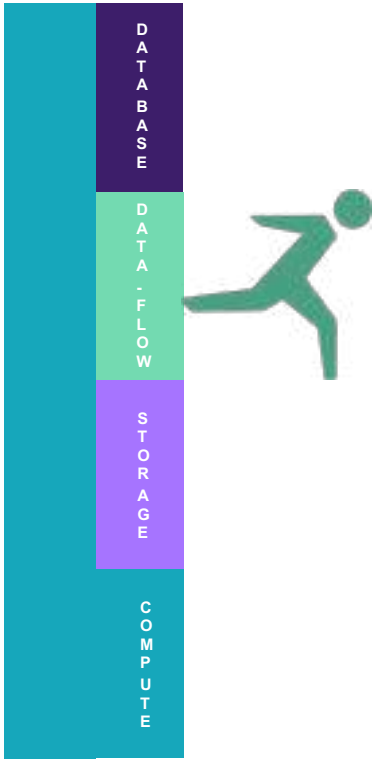
Amazon Elastic File System
(Amazon EFS)

Amazon Simple Storage
Service (Amazon S3)

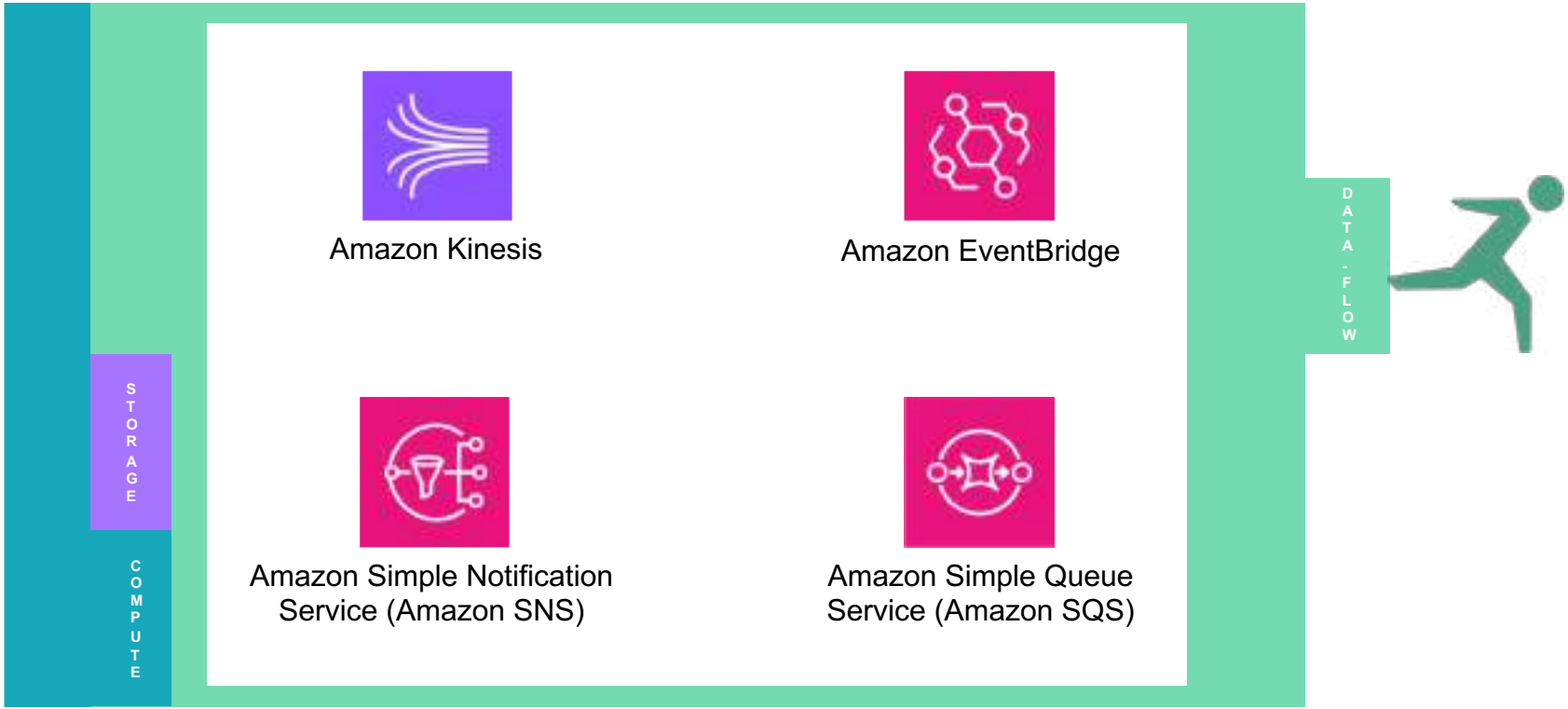
COMPUTE

STORAGE

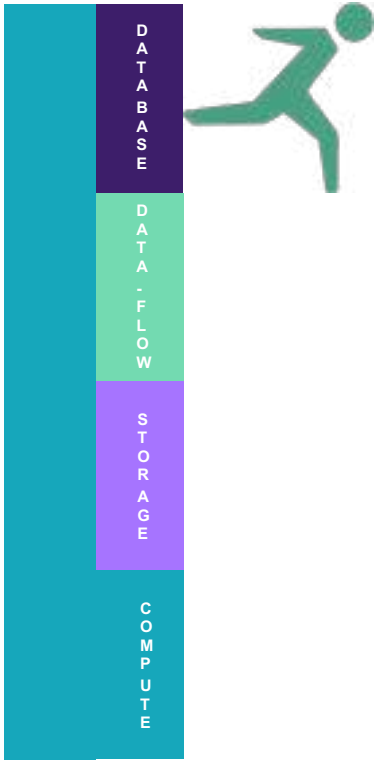
DATA ANALYTIC PLATFORM
MAIN SERVICES



DATA ANALYTIC PLATFORM
MAIN SERVICES

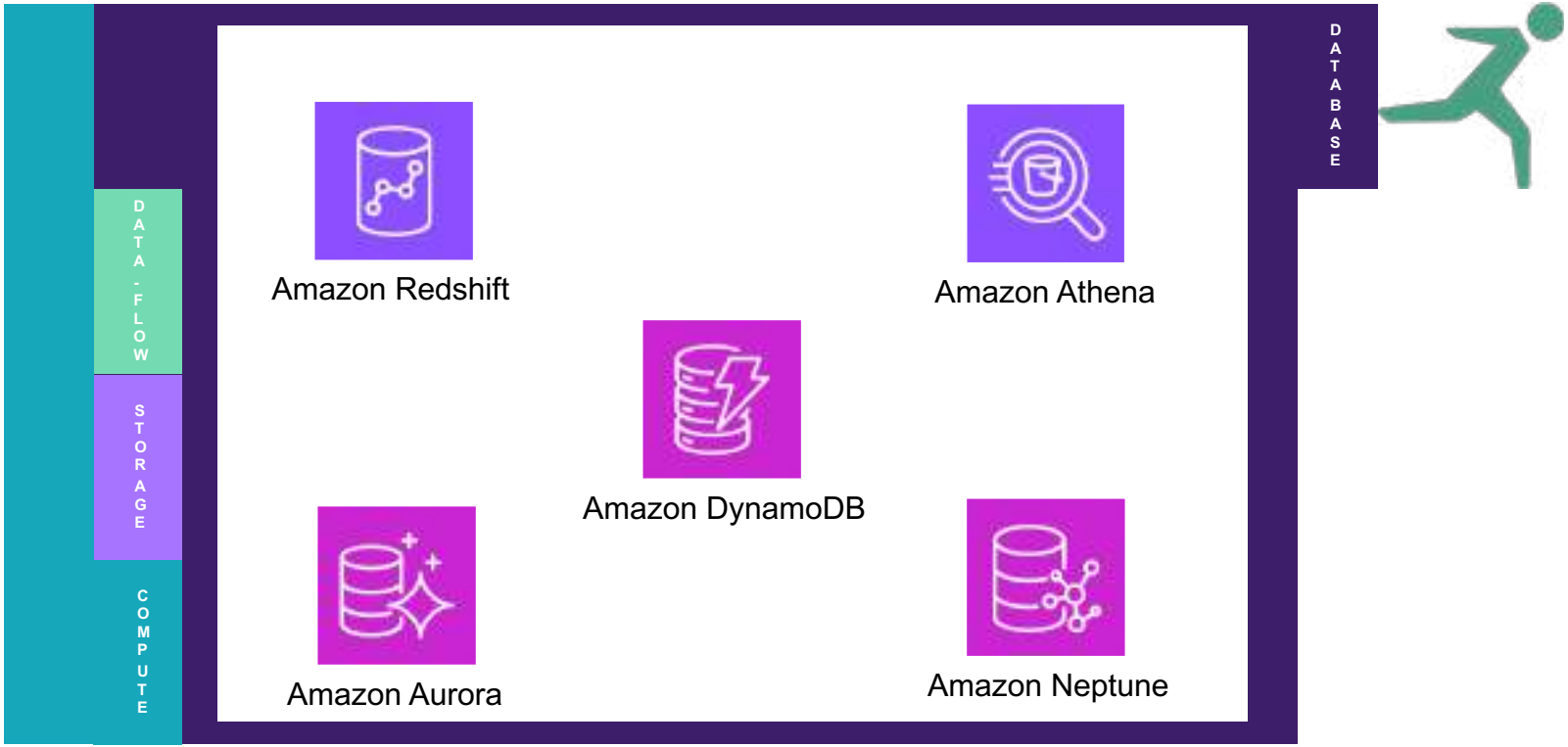


DATA ANALYTIC PLATFORM
MAIN SERVICES

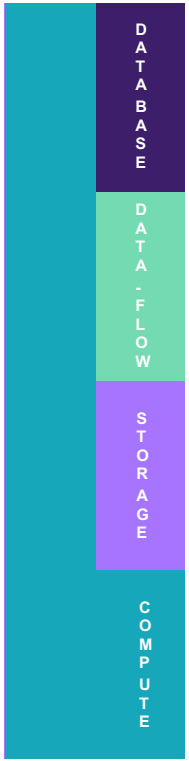


DATA ANALYTIC PLATFORM

MAIN SERVICES



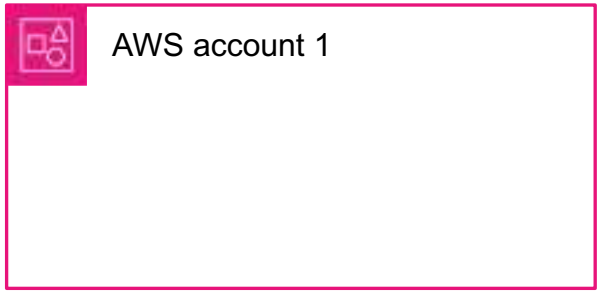
DATA ANALYTIC PLATFORM
MAIN SERVICES

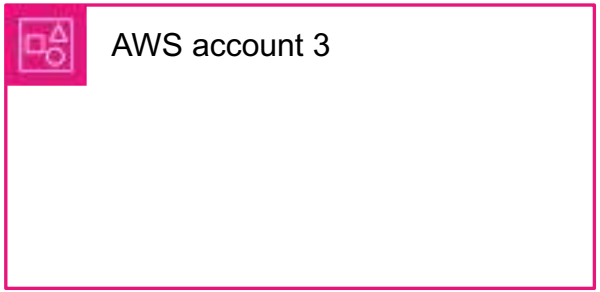


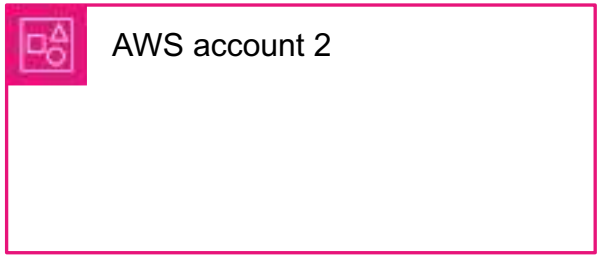
PRACTICAL USE CASE

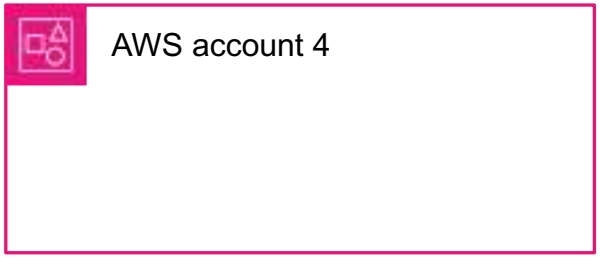
USE CASE

SCENARIO



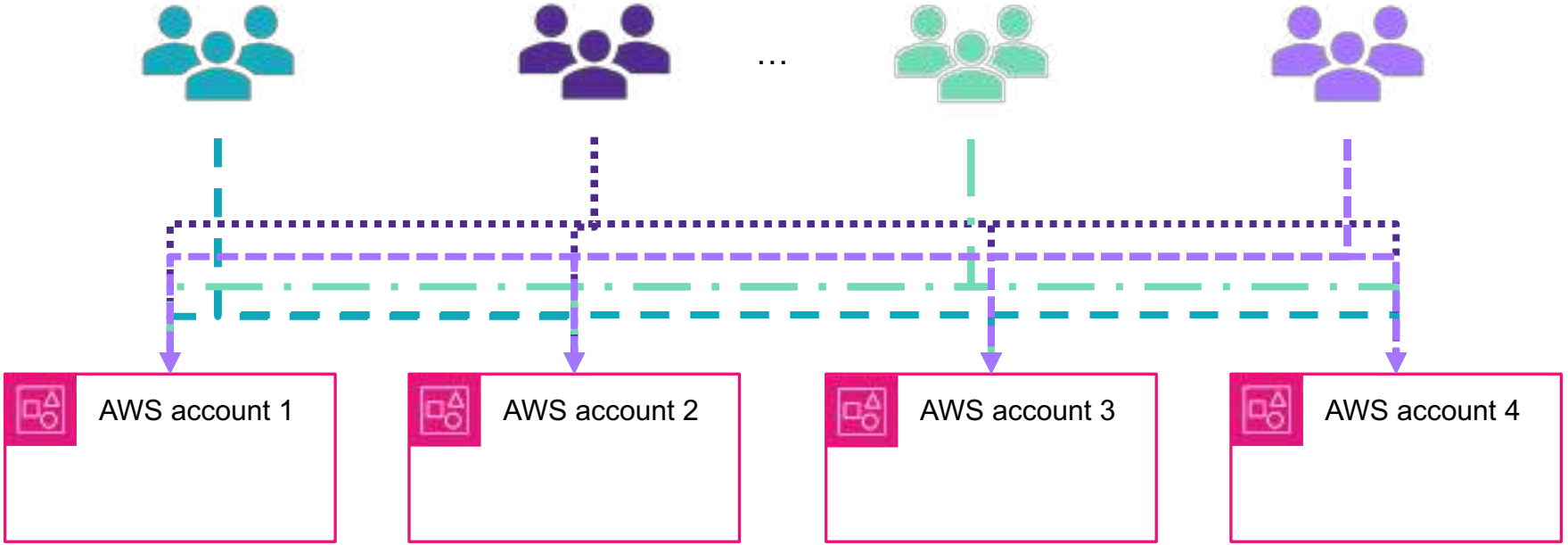






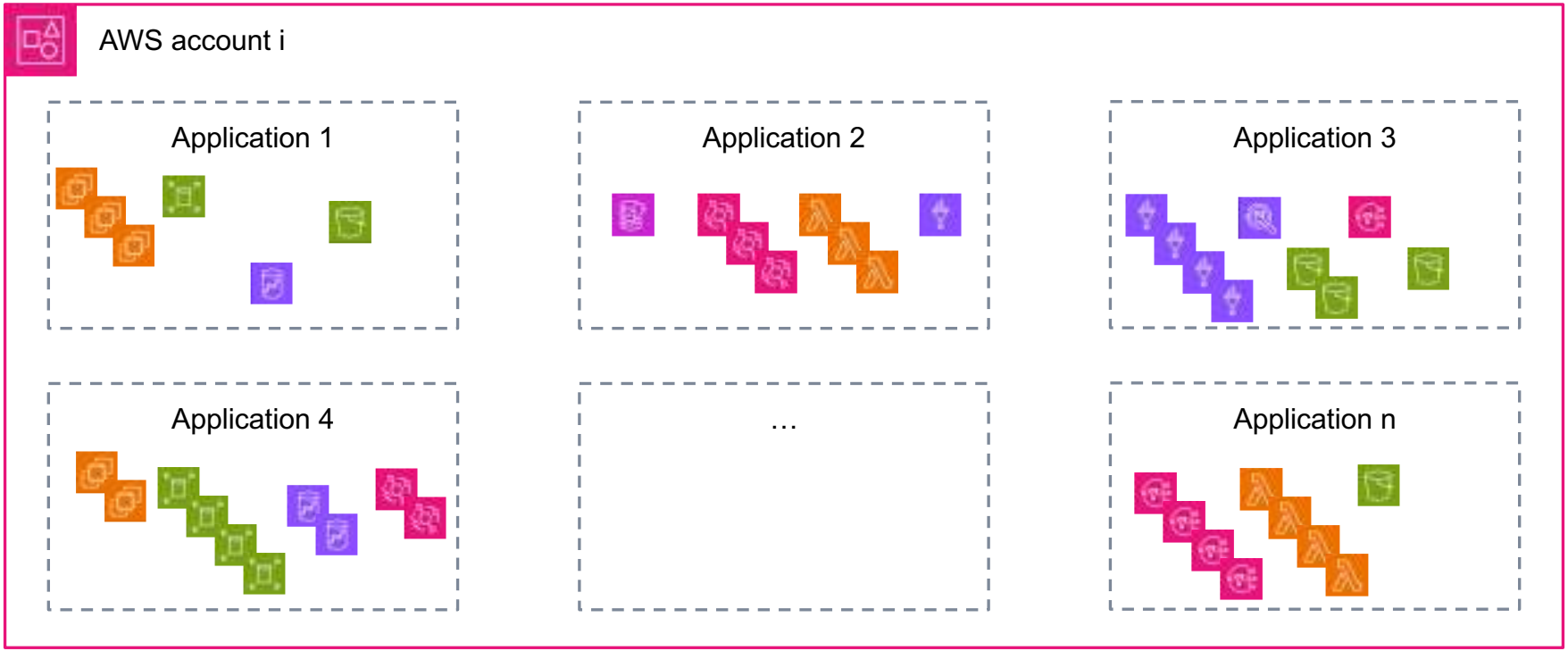
USE CASE

SCENARIO



USE CASE

SCENARIO



PROJECT GOALS

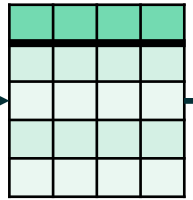
- Associate to each costcenter the costs coming from its own application across all of the accounts
- Forecast the future costs in order to facilitate budgeting tasks
- Recognize anomalous consumption in order to act as soon as possible

MAIN INFRASTRUCTURE

Original CUR

Cost allocation

Processed costs



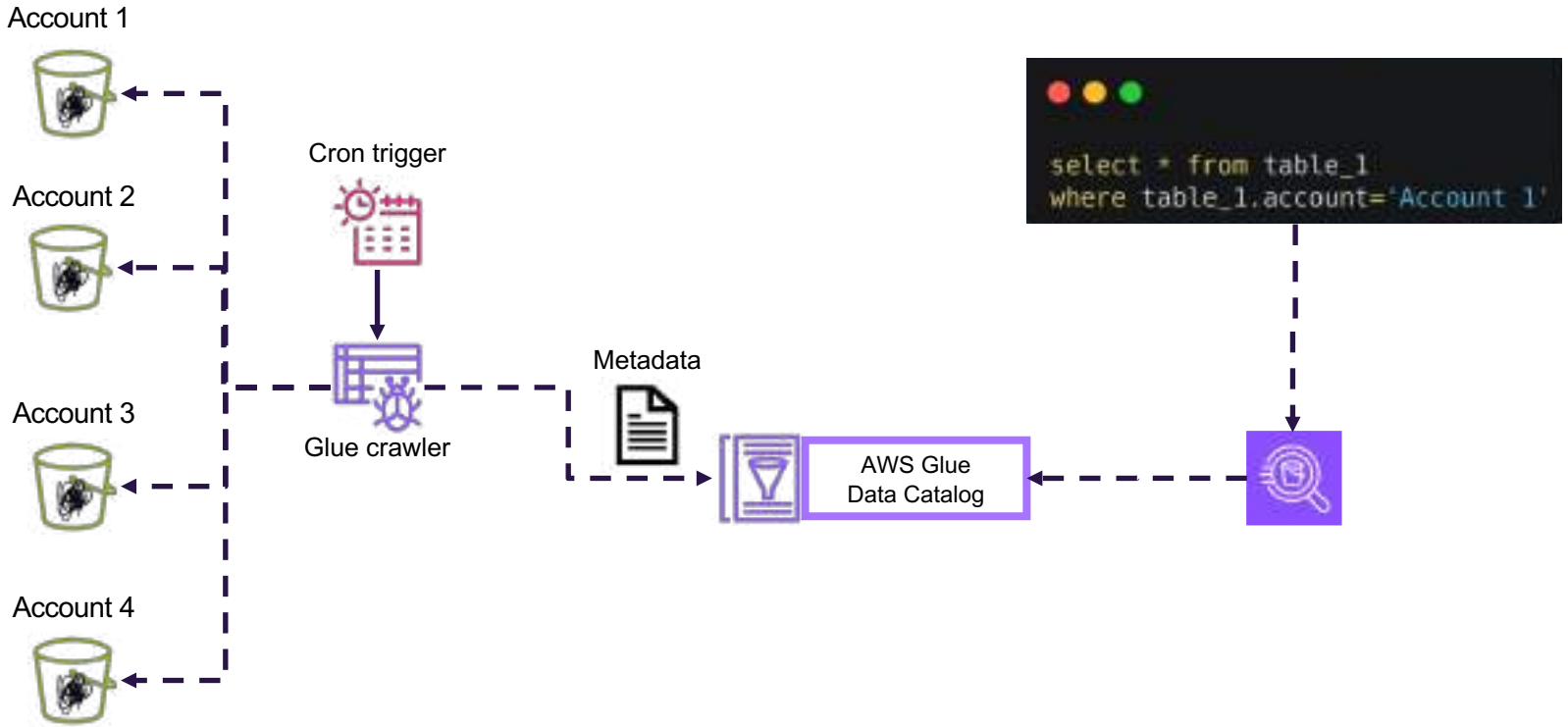
Data preparation

Cost forecasting

Anomaly detection

INFRASTRUCTURE DETAILS

CRAWLING



INFRASTRUCTURE DETAILS
FORECAST

Used to do **time series forecasting**

Auto select of the best model (deep and statistic)

Time consuming and requires **more than one st**ep to forecast the values

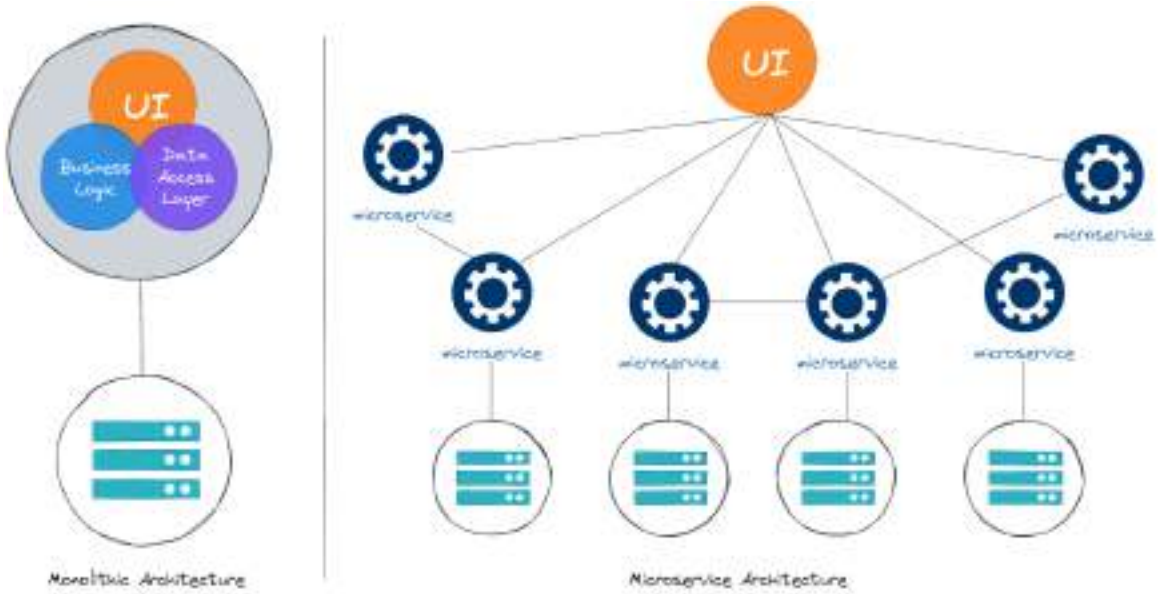
INFRASTRUCTURE DETAILS
FORECAST

Ernesto Sparaco

Senior Consultant @ Storm Reply Roma

#AWS #DEVOPS #KUBERNETES

CLOUD NATIVE ARCHITECTURE

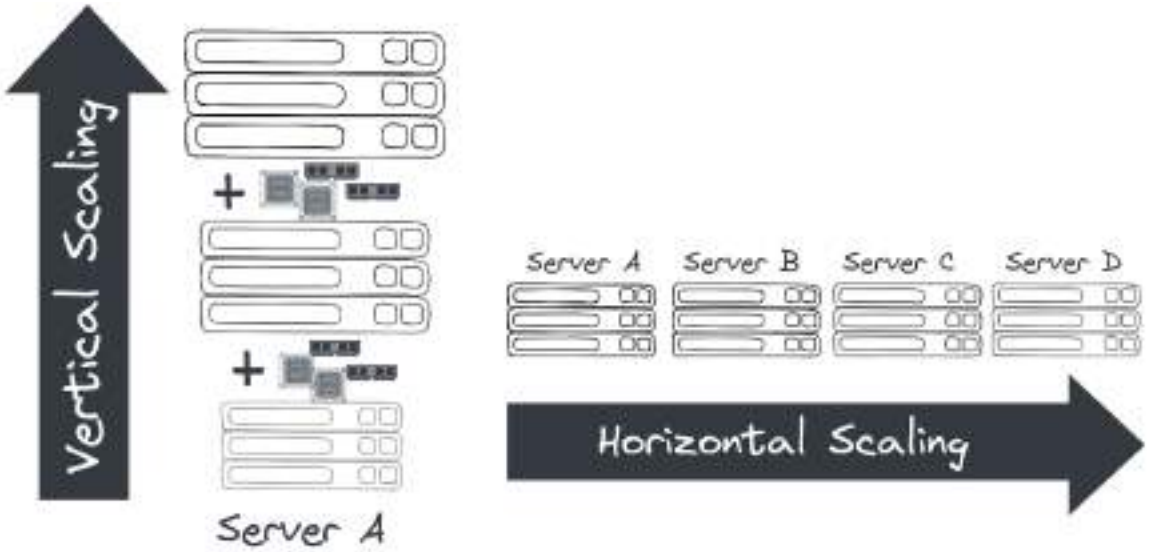


Cloud native architecture can have a lot of advantages, but can also be very complex to integrate and therefore must fulfill some requirements to work efficiently.

CHARACTERISTICS

- High level of automation 
- Self healing 
- Scalable 
- Cost Efficient 
- Easy to mantain 

- Secure by default 



Vertical scaling describes the change in size of the underlying hardware.
Horizontal scaling describes the process of spawning new compute resources

CLOUD NATIVE ROLES

Cloud Architect

DevOps Engineer

Security Engineer

DevSecOps engineer

Data Engineer

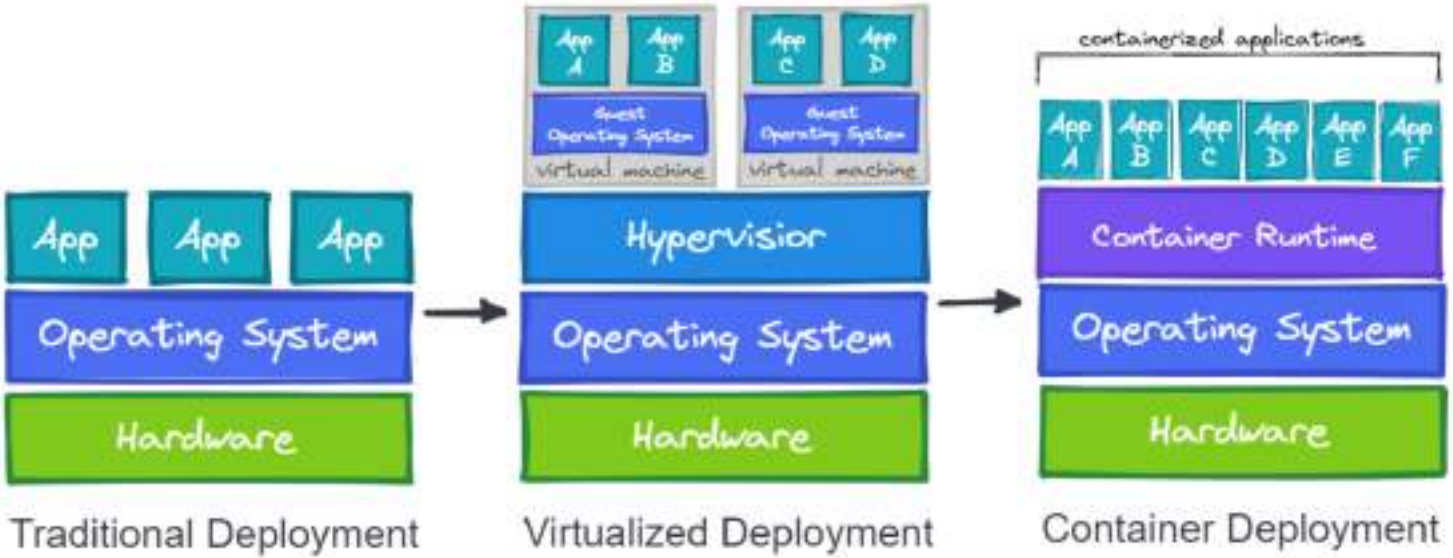
Full Stack Developer

Site Reliability Engineer (SRE)

CLOUD NATIVE
COMPUTING FOUNDATION

CONTAINER ORCHESTRATION

WHAT ARE CONTAINERS



A Docker container image is a lightweight, standalone, executable package of software that includes everything needed to run an application: code, runtime, system tools, system libraries and settings.

CONTAINER ORCHESTRATION FUNDAMENTALS

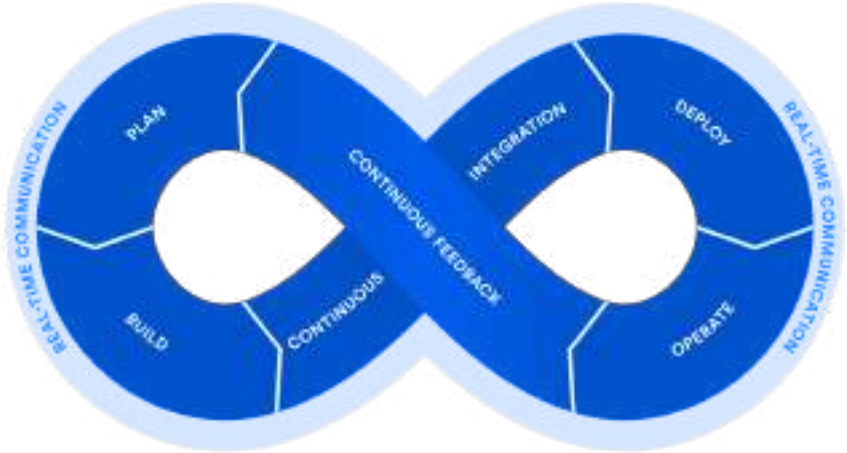
CONTAINER ORCHESTRATION FUNDAMENTALS

If you have to manage and deploy large amounts of containers, you quickly get to the point where you need a system that helps with the management of these containers.

Problems to be solved can include:

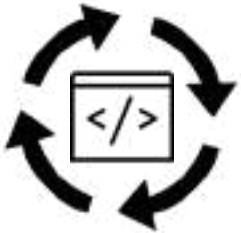
- Providing compute resources like virtual machines where containers can run on
- Schedule containers to servers in an efficient way
- Allocate resources like CPU and memory to containers
- Manage the availability of containers and replace them if they fail
- Scale containers if load increases
- Provide networking to connect containers together
- Provision storage if containers need to persist data.

CLOUD NATIVE APPLICATION DELIVERY



Cloud-Native applications are delivered following CI/CD principles

CONTINOUS INTEGRATION

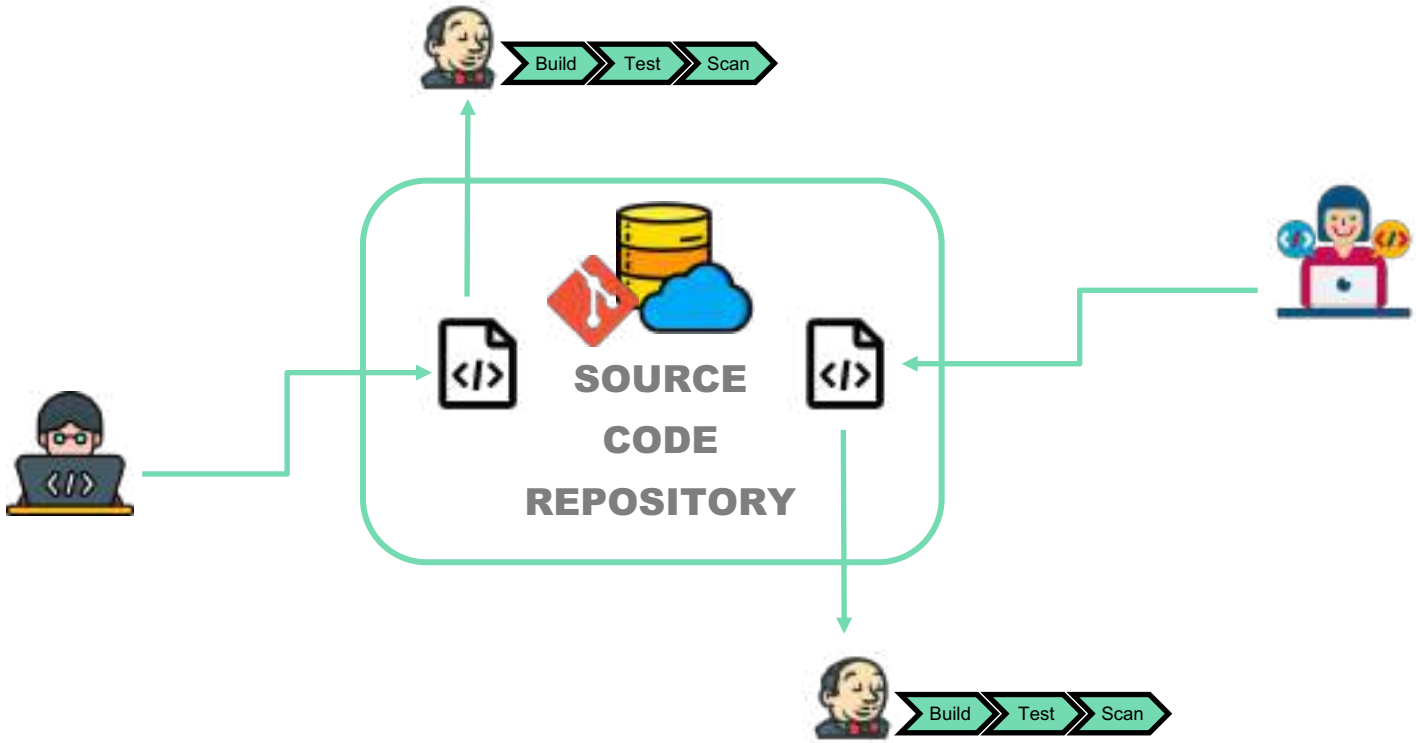


Developers integrate they work frequently

No less than one integration a day

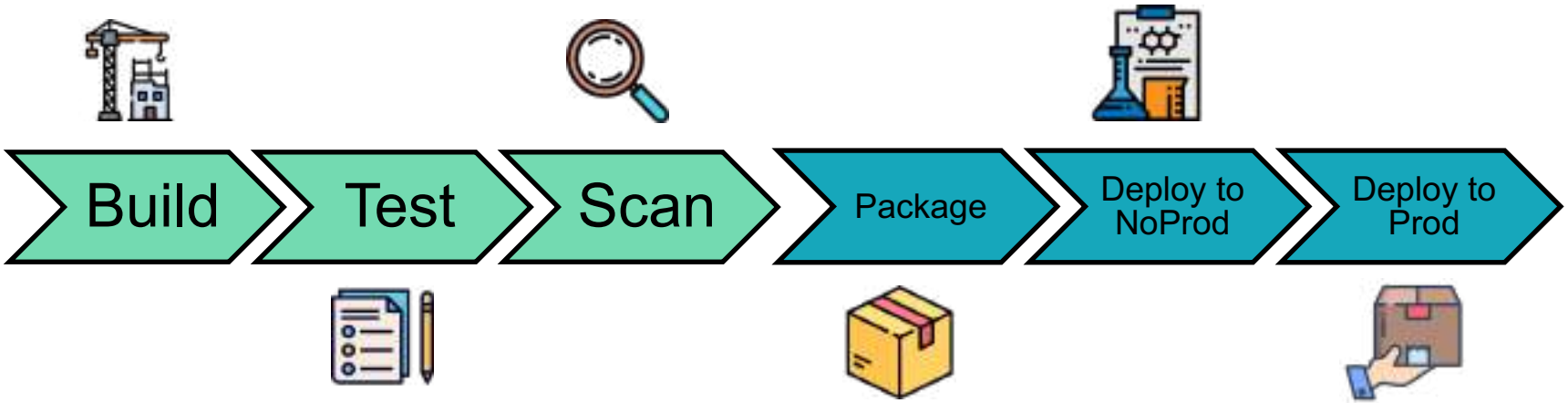
Small frequent merges better than big rare merges

CI PIPELINE



CI/CD PIPELINE

Manual: Continuous Delivery



Auto: Continuous Deployment

Software releasable at any time in production

CI/CD TOOLS

Some are based on traditional architectures

Bamboo ...

Others are cloud-native theirselves

CLOUD NATIVE OBSERVABILITY

OBSERVABILITY

Understand and measure the behavior of a cloud-native application

TELEMETRY

To achieve Observability data must be collected from applications

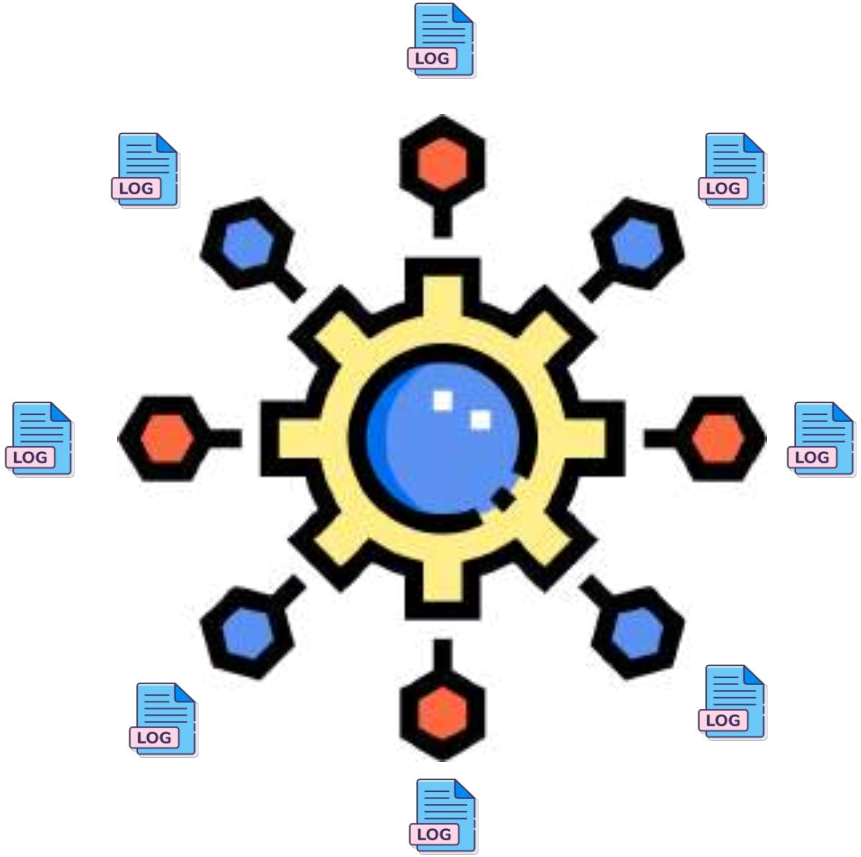
CLOUD-NATIVE TELEMETRY

Logs

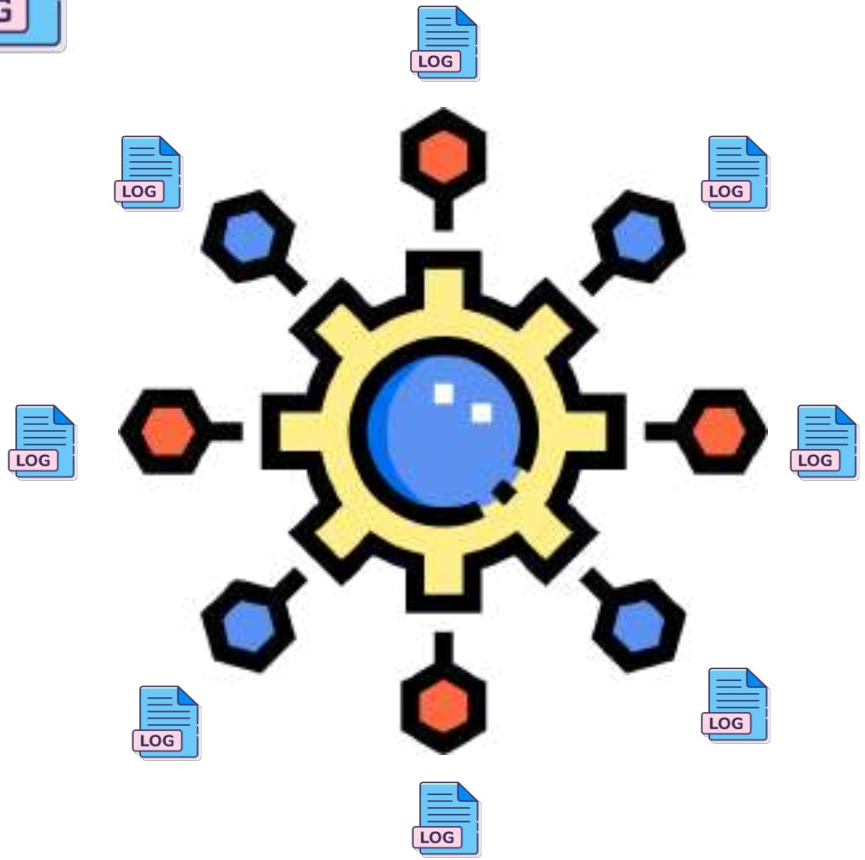
Traces

Metrics

LOGGING

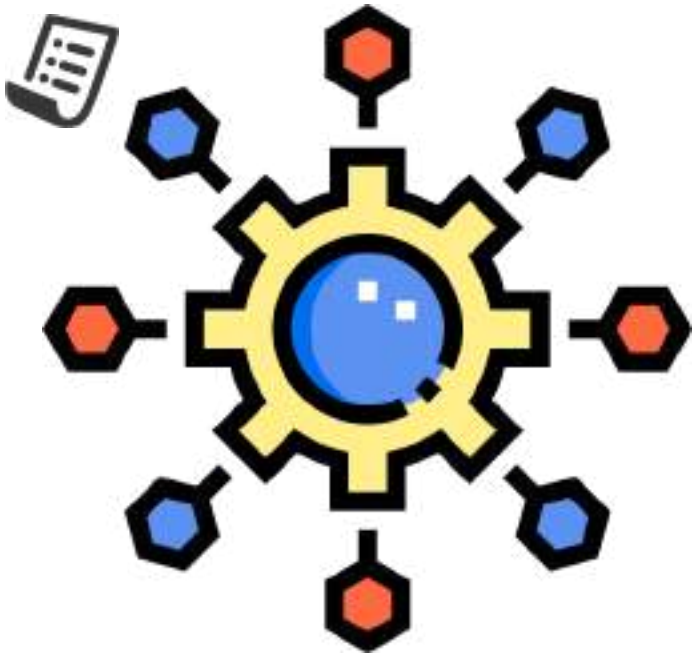


LOGGING



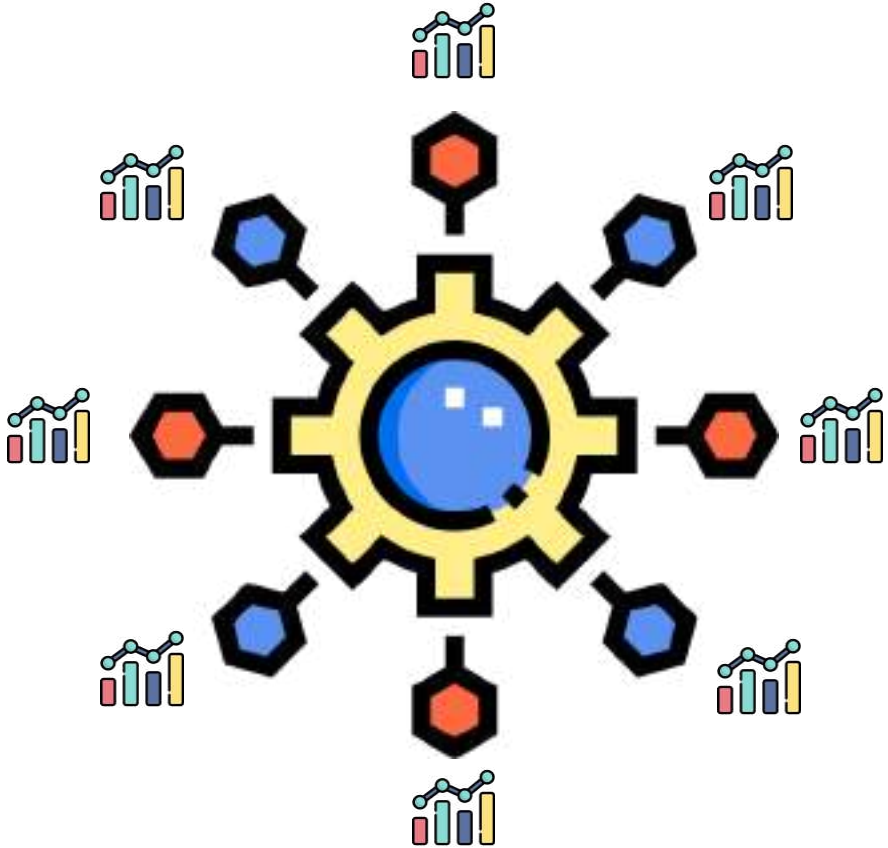
CENTRAL SYSTEM

TRACING



How to track a request across a distributed architecture?

METRICS



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Q&A

THANK YOU