AWS Lambda Function

About Us

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- 7 years of experience in Sysadmin and cloud and DevOps.
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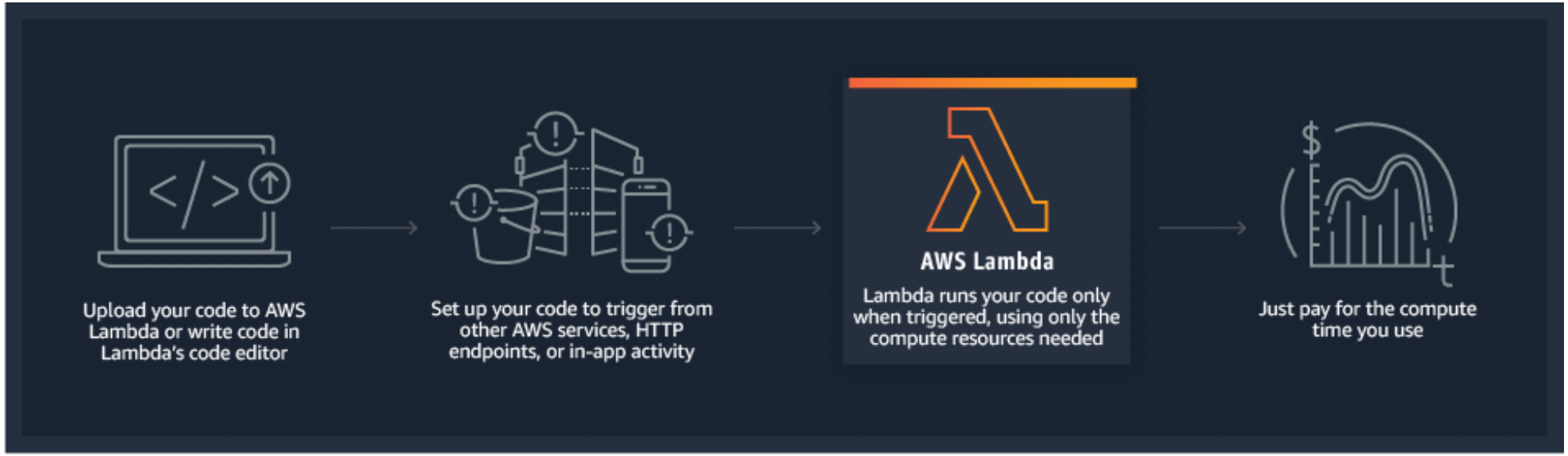
Agenda

- Fundamentals of AWS Lambda Function.
- Authoring functions and AWS Lambda Env.
- Create **Lambda functions** that stop and start your EC2 instances.
- **Step Function** for AWS Lambda.
- Questions and answers.

Serverless



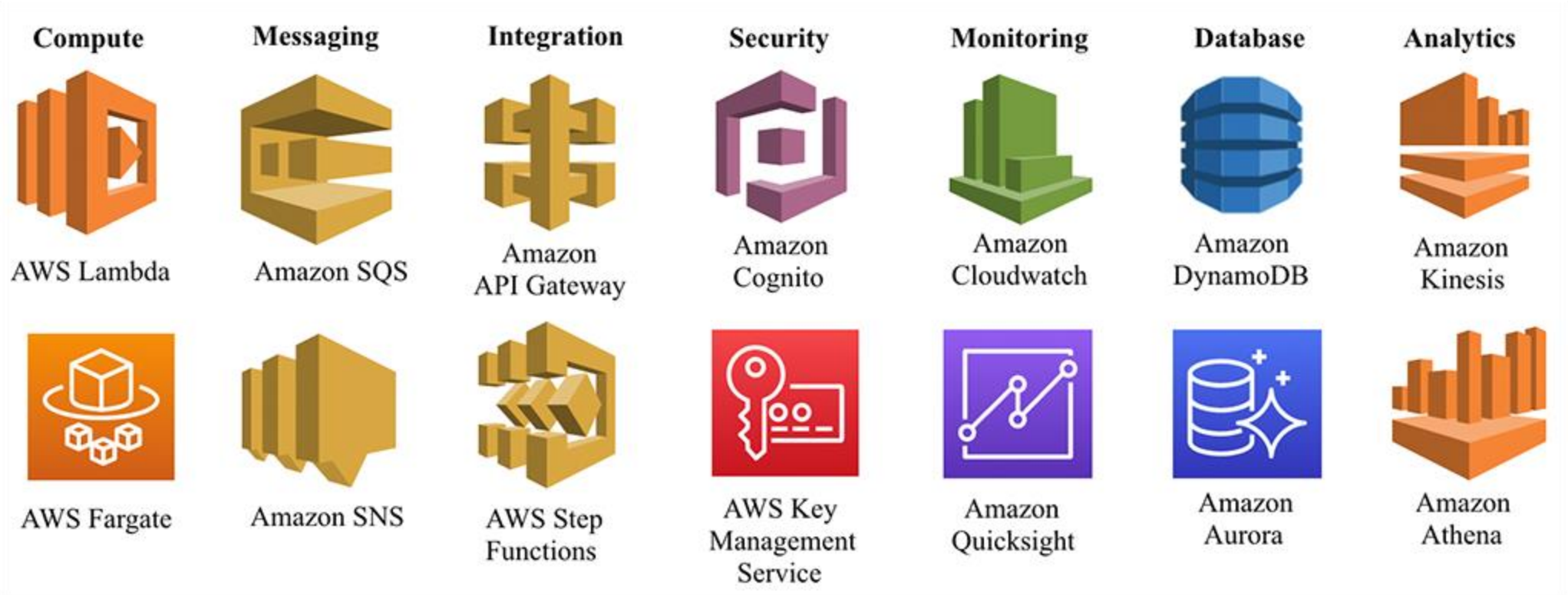
Serverless is the native architecture of the cloud that enables you to shift more of your operational responsibilities to **AWS**, increasing your agility and innovation. **Serverless** al lows you to build and run applications and services without thinking about servers.

Definition of Serverless application

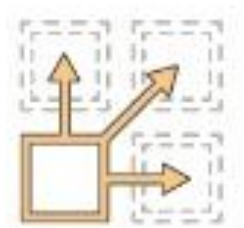
- It is the serverless application is one that provides maximum business value over its application lifecycle and that it costs you nothing to run if nobody is using it, excluding data storage costs

- when nobody's using an application, It should scale to zero. It's not just about scaling up, but it's also about scaling right down to zero. So no servers should be provisioned in the background to do whatever it is that you need to do with your application. it's more about applications being primarily event-driven in nature and on demand. And the core of serverless systems are event-based.

AWS Serverless Platform



Benefits of Serverless



Provisioning and Utilization

Low Cost

Operations and Management

Simple

Low Latency

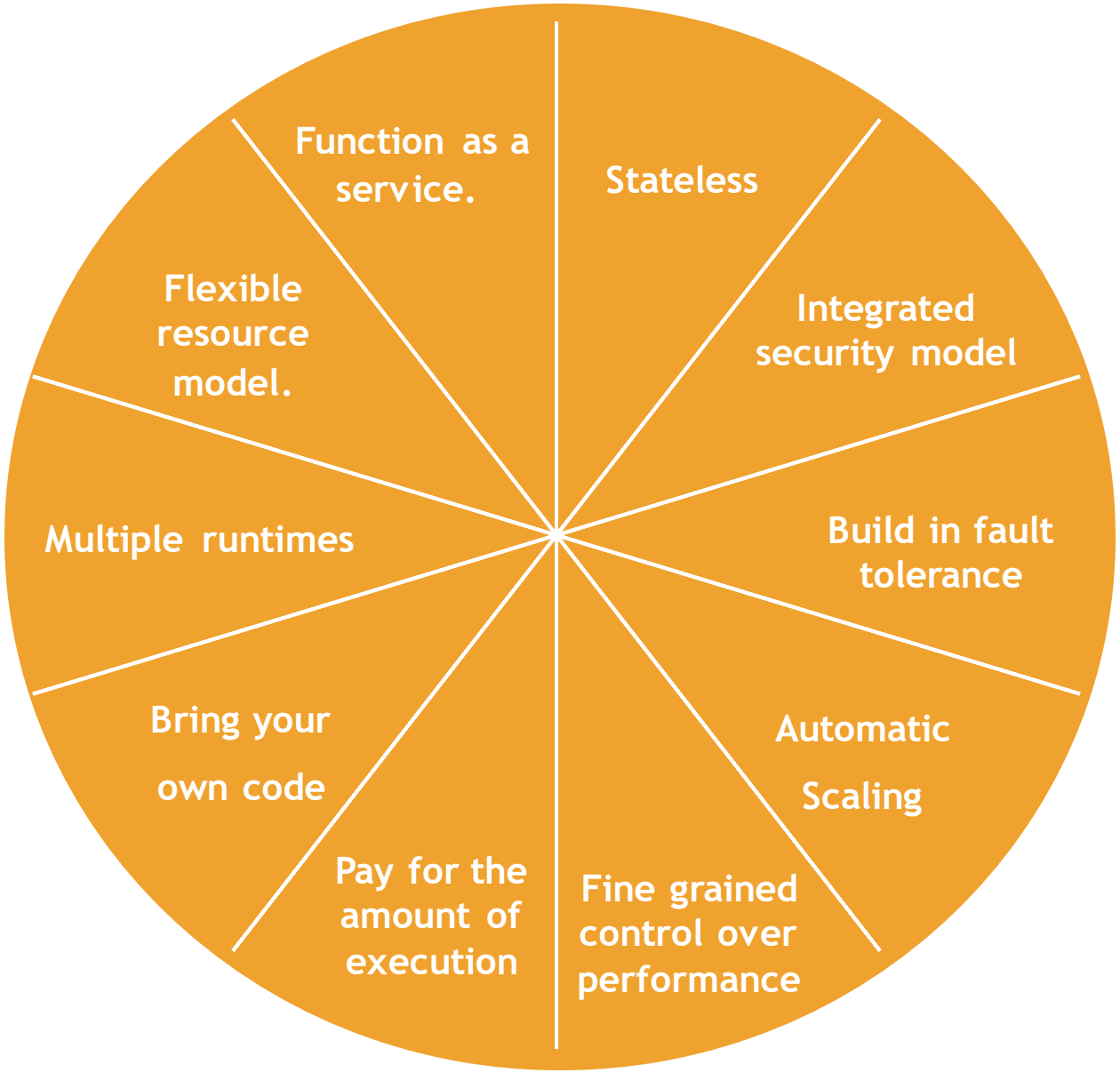
Scaling

Scalable

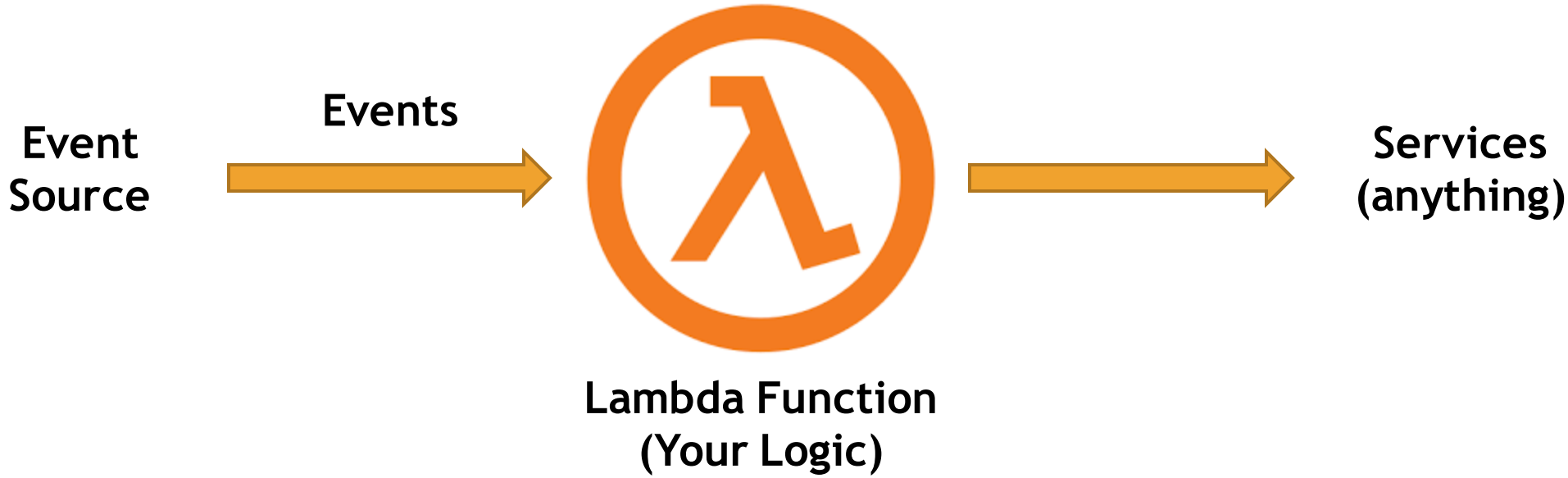
Availability and Fault Tolerance

Reliable

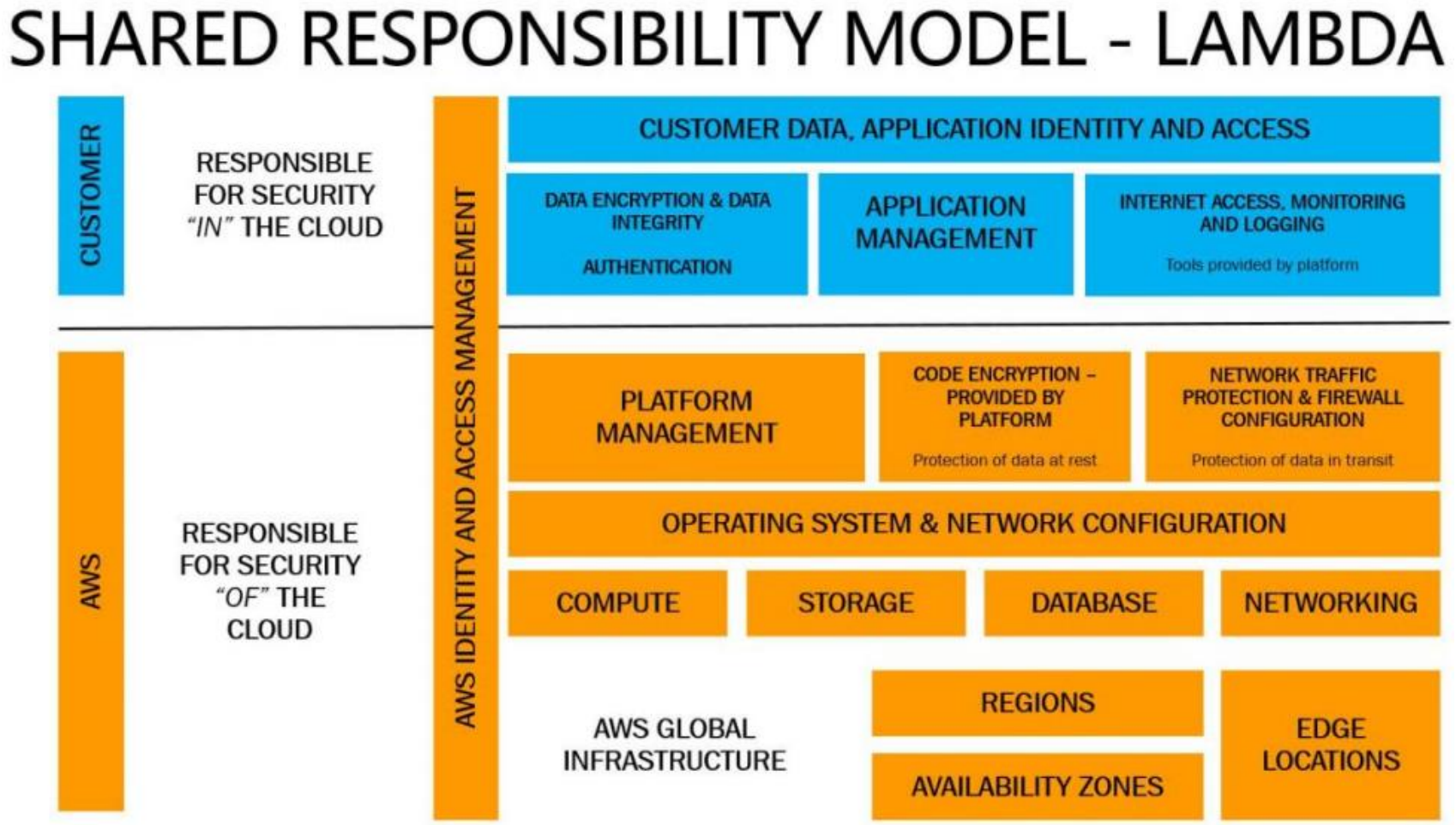
AWS Lambda features



Architecture of a running Lambda function

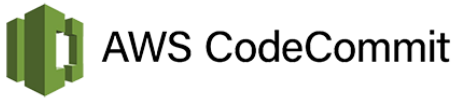


AWS Lambda


SHARED RESPONSIBILITY MODEL - LAMBDA
CUSTOMER
RESPONSIBLE FOR SECURITY "IN" THE CLOUD
AWS
RESPONSIBLE FOR SECURITY "OF" THE CLOUD
AWS IDENTITY AND ACCESS MANAGEMENT
CUSTOMER DATA, APPLICATION IDENTITY AND ACCESS
DATA ENCRYPTION & DATA INTEGRITY
AUTHENTICATION
APPLICATION MANAGEMENT
INTERNET ACCESS, MONITORING AND LOGGING
Tools provided by platform
PLATFORM MANAGEMENT
CODE ENCRYPTION – PROVIDED BY PLATFORM
Protection of data at rest
NETWORK TRAFFIC PROTECTION & FIREWALL CONFIGURATION
Protection of data in transit
OPERATING SYSTEM & NETWORK CONFIGURATION
COMPUTE
STORAGE
DATABASE
NETWORKING
AWS GLOBAL INFRASTRUCTURE
REGIONS
AVAILABILITY ZONES
EDGE LOCATIONS

Supported Language

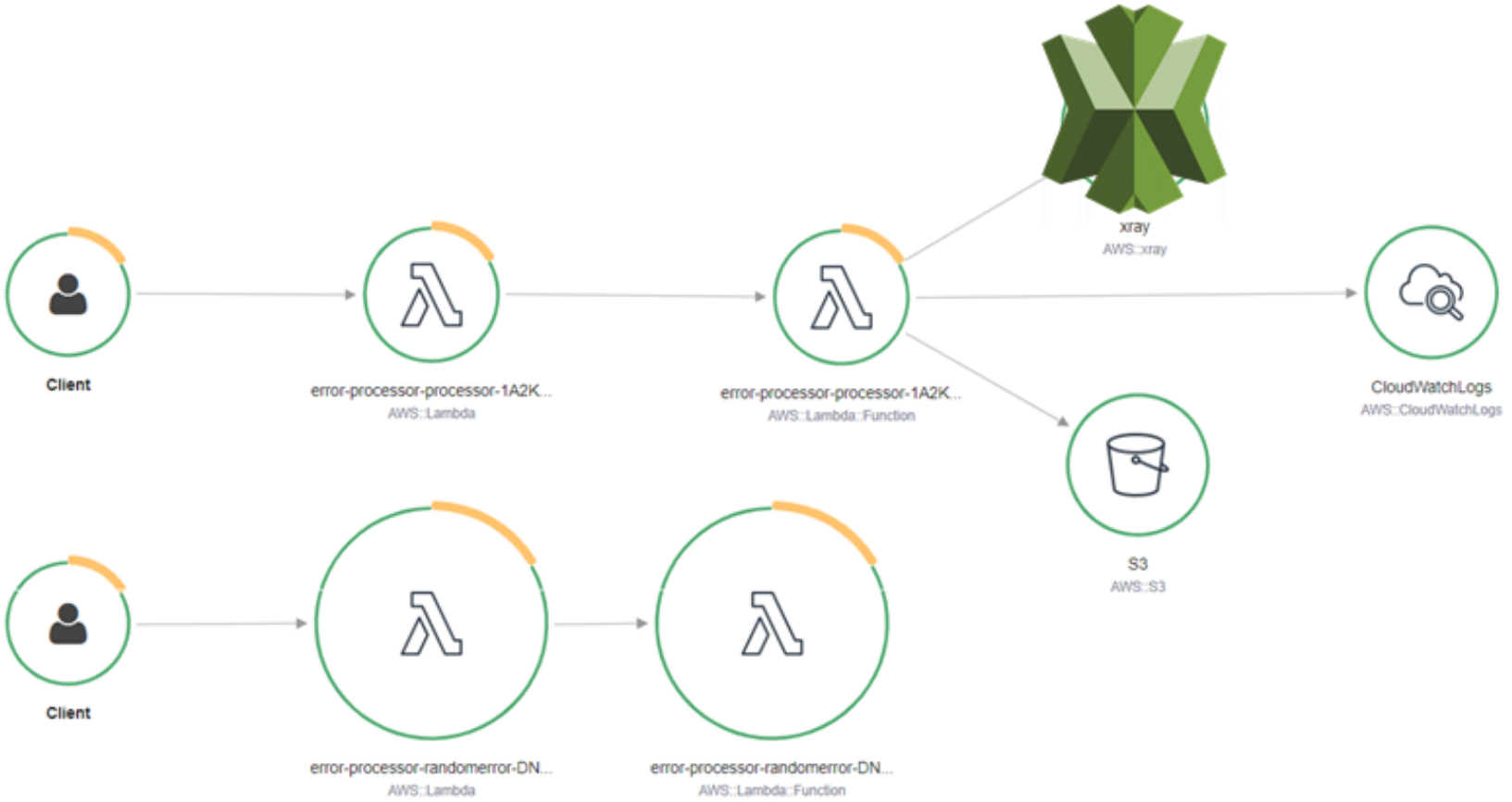
Lambda integrated with Other services.



Security

- Data protection
  - MFA, Use SSL/TLS, AWS encryption, Amazon Macie
- Identity and access management.
- Compliance validation.
- Infrastructure security
- Configuration and vulnerability analysis

Monitoring



Amazon Cloudwatch

Amazon
CloudTrail

Use Cases:

- Create Lambda functions that stop and start your EC2 instances.
- Lambda using in **Step Function**.

Short Description :

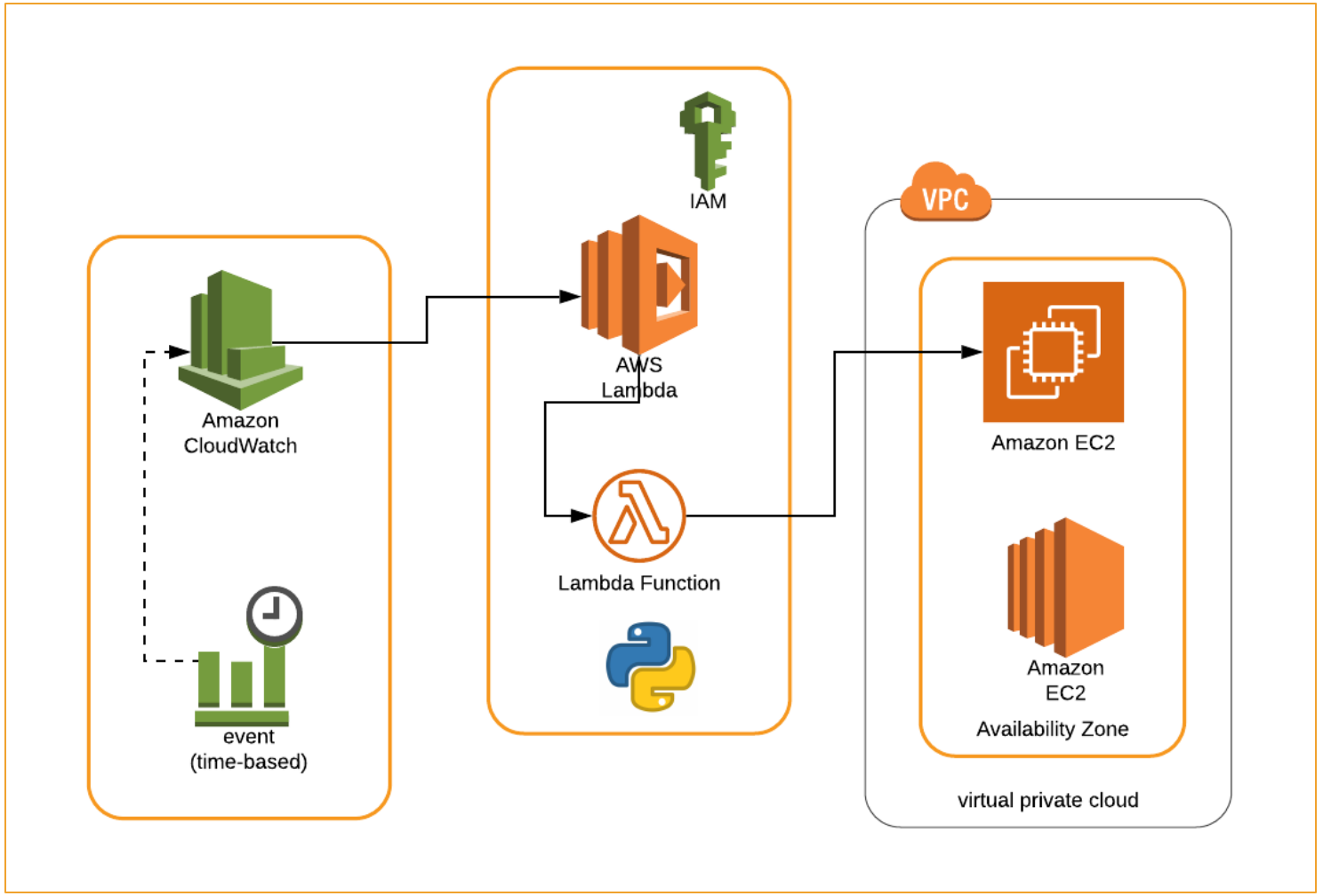
- To reduce my EC2 instance usages by stopping and starting EC2 instances automatically.

    1. Create a custom AWS Identity and Access Management (IAM) policy and execution role for your Lambda function.

    2. Create Lambda functions that stop and start your EC2 instances.

    3. Create CloudWatch Events rules that trigger your function on a schedule.

Start & Stop EC2 Instance design flow:



Thank you.