

# Using Amazon Aurora for a Serverless Solution for Lead Prospecting.

## Executive Summary

IO Progression is a company concerned with education that seeks to cover the existing spaces on topics such as the training and professionalization of people in cutting-edge technological platforms. For this reason, IO Progression needs to capture people interested in their professional training as well as identify to companies that care about the training of their staff in strategic business areas.

## The Challenge

IO progression needs a simple but flexible platform that allows it to capture the business information of decision-makers as well as the public in general interested in obtaining the services offered by IO Progression, this information is regularly obtained from events and conventions where IO Progression participates offering its services so the speed and availability of the platform is crucial and should be optimal. An extra functionality in addition to the capture of information is to have a module that allows you to take a raffle where prizes are awarded to people who entered their data, this flow is carried entirely for Lambdas functions.

In addition, operational costs should be considered, which should not exceed the allocated budget without impacting factors such as security and availability since we need to store client information like names, addresses and phone numbers for this reason durability and accessibility of the information is really important.

## Why AWS

AWS was selected for the range of services it offers, AWS Lambda being the backbone where the entire platform is supported, and business rules are executed while the **Amazon Aurora** service is in charge for storing and retrieving the information in a fast and easy way.

In addition to Lambda Functions, infrastructure provisioning is not necessary, reducing cost and paying only for what is used on the other hand the **Amazon Aurora** features a distributed, fault-tolerant, self-healing storage system that auto-scales up to 64TB per database instance. It delivers high performance and availability with up to 15 low-latency read replicas, point-in-time recovery, continuous backup to Amazon S3, and replication across three Availability Zones (AZs).

## About Customer



“Earn a role-based certification that shows you are keeping pace with today’s technical roles and requirements. Skill up, prove your expertise to employers and peers, and get the recognition and opportunities you’ve earned.”

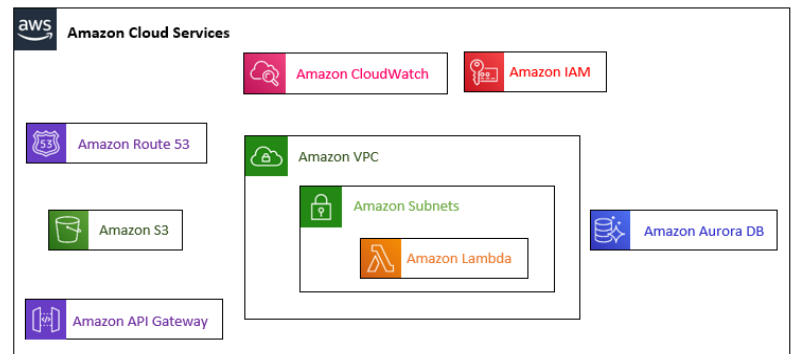
## “Serverless Solution”

- Cost Reduction by paying only for calls to the Lambda functions.
- No Infrastructure Provisioning.
- The backbone of the system are the Lambda functions.
- Amazon Aurora for storing the information.
- Amazon Aurora features a distributed, fault-tolerant, self-healing storage system that auto-scales up to 64TB per database instance.

## The Solution

A serverless approach is followed for the construction of the system, the main points being:

- The solution has about 12 Lambda functions that control the business flow
- Lambda functions interact with other AWS services such as **Amazon Aurora** and API Gateway
- There is a reduction in costs by paying only for the resources used
- Security layers are used when using services such as IAM and VPCs
- **Amazon Aurora** is designed to offer greater than 99.99% availability, replicating 6 copies of your data across 3 Availability Zones and backing up your data continuously to Amazon S3.
- Optimum performance by Lambdas functions when invoked to store or consult information from the BD.



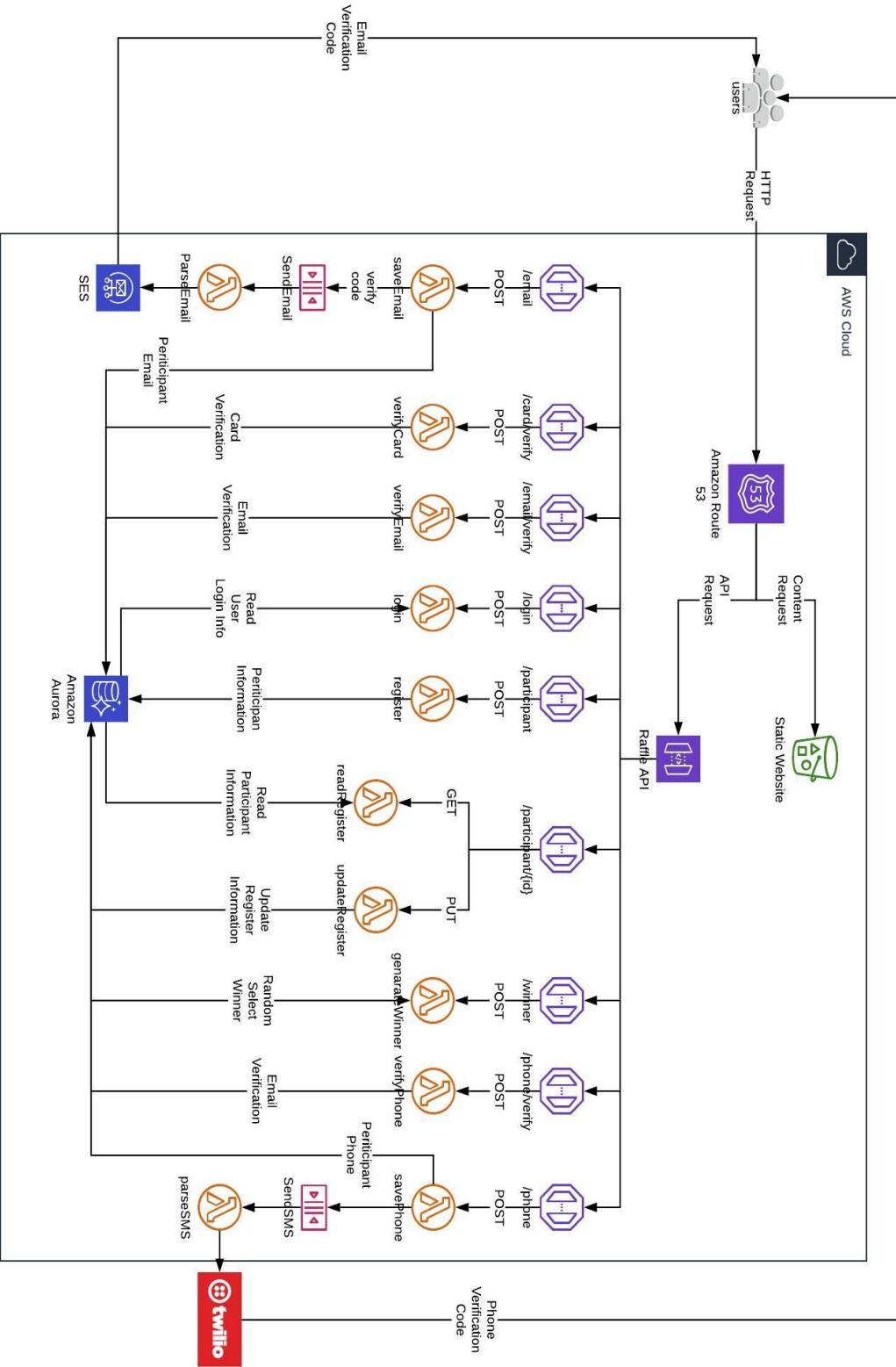
## Results and Benefits

The main benefit is that there is a serverless approach where there is no need for infrastructure provisioning, in addition to other services such as **Amazon Aurora** and API Gateway which are managed services.

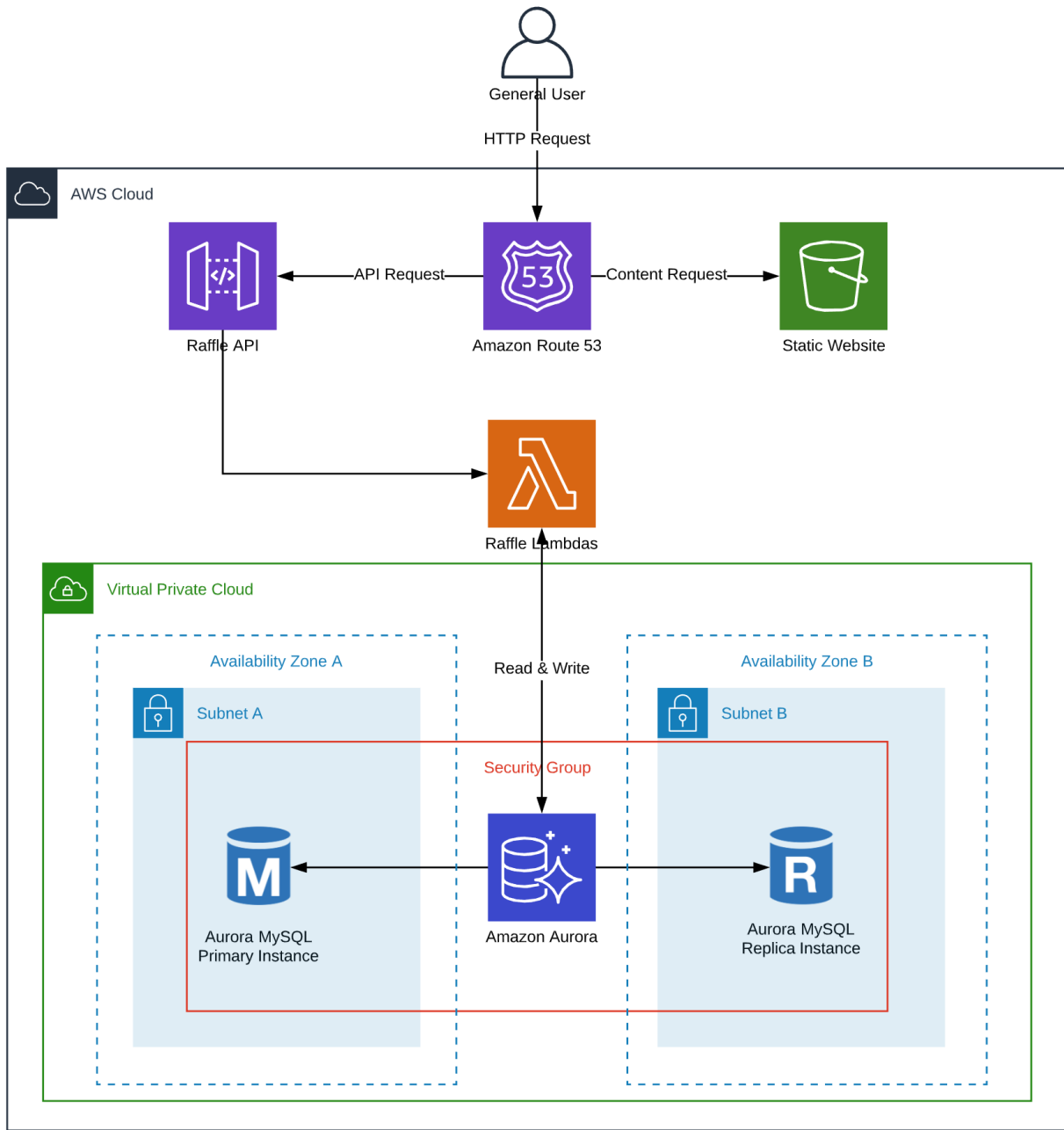
Using this approach allows us to have a robust, modern and secure system in which the entire operation resides and there is also cost reduction by paying only for what is consumed.

In addition, **Amazon Aurora** is a MySQL and PostgreSQL-compatible relational database built for the cloud, that combines the performance and availability of traditional enterprise databases with the simplicity and cost-effectiveness of open source databases besides Amazon Aurora is up to five times faster than standard MySQL databases.

# Serverless Solution Diagram



# Database Architecture



## Next Steps

The application has been used in several national and international events demonstrating the power of Lambda functions in this type of applications. The operation has been so noticeable that other organizations have even approached to ask about the solution. A next step could be to try to commercialize the application as a product.

## Benefits

### Superior Performance

Serverless infrastructure provides a fast, hyperscale, cloud native and secure way to have the environment of the application. It also delivers access to data with millisecond latency, processes thousands of requests per second, and scale to support users anywhere in the world.

### LOW TCO

Save money by replacing the physical hardware with expensive licensing fees with a serverless technology on AWS. Significantly reduce TCO with AWS serverless operational automation and free up resources to focus on your business instead of managing the infrastructure.

### Fully Managed

With fully managed resource provisioning, maintenance, and backups, you no longer must worry.

## About IO Connect Services

IO Connect Services is a company specializing in Information Technology Consultancy Services. All our team members have one thing in common: our enthusiasm for technology and our passion for customer service excellence. We provide services in all North America, LATAM and Europe. Our headquarters are in the NYC metropolitan area and we also have offices in Guadalajara, Mexico and Madrid, Spain.

