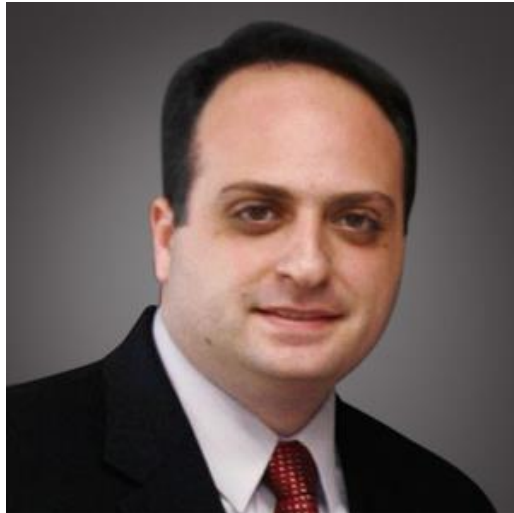


# Amazon Database Options, APIs, and Lambda



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# AWS Database Options



RDS

Non-  
RDS

In-Memory

Data  
Warehousing

Custom

Running Databases on AWS:

[http://aws.amazon.com/running\\_databases/](http://aws.amazon.com/running_databases/)

# Amazon RDS Options

MySQL

Oracle

Microsoft SQL

PostgreSQL

Aurora

# Non-RDS

SimpleDB

DynamoDB

MongoDB

Couchbase



# Amazon APIs

- Application Programming Interface
- Application-to-application communication method
- Almost every AWS service is API capable
- API Wrappers
  - Android / iOS / .NET / Java / PHP / Ruby / Node.JS / Python
- API authentication

# Amazon Lambda



- A compute service
- Event-Driven compute service
- Runs code triggered by events
- Does not require an instance
- Does not require an infrastructure
- Rapid response to events
- Thousands of functions can run
- Run only when needed

## Use Cases

- . Thumbnail images as they arrive in an S3 bucket
- . Check that every address stored in Amazon DynamoDB is well formed



# Before Lambda

- Provision a fleet of proxy machines to capture uploads
- For each upload, enqueue a job to process it
- Provision a second fleet of machines to read and process jobs
- Pick a deployment solution
- Plan capacity, accounting for FT, long-term utilization and burst capabilities
- Monitoring and patching
- Migration to new instance types over time

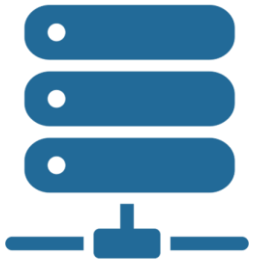


# Event-Driven Compute



- Stateless, request-driven code called Lambda functions
- Triggered by events:
  - PUT in S3
  - Write to a DynamoDB table
  - Transition in an EC2 instance
  - Message in an SQS queue or Kinesis stream
  - Any API call or resource transition
- Connective tissue for AWS services

# Event-Driven Compute



Server-free  
Backend



Data  
Triggers



IoT



Stream  
Processing



Indexing &  
Synchronization

# Amazon Lambda Pricing

\$0.20

Number of requests  
per million

0.00000021

Execution time in  
100ms

100ms at 128MB

Amount of  
memory

## Free Tier

- . 1 million requests
- . Up to 3.2 million seconds of execution

# Summary



Amazon Database Options

Amazon APIs

Amazon Lambda