

Monitoring Applications in AWS with X-Ray and CloudWatch



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X-Ray monitoring is
great for troubleshooting

Overview

A Bird's Eye View of X-Ray

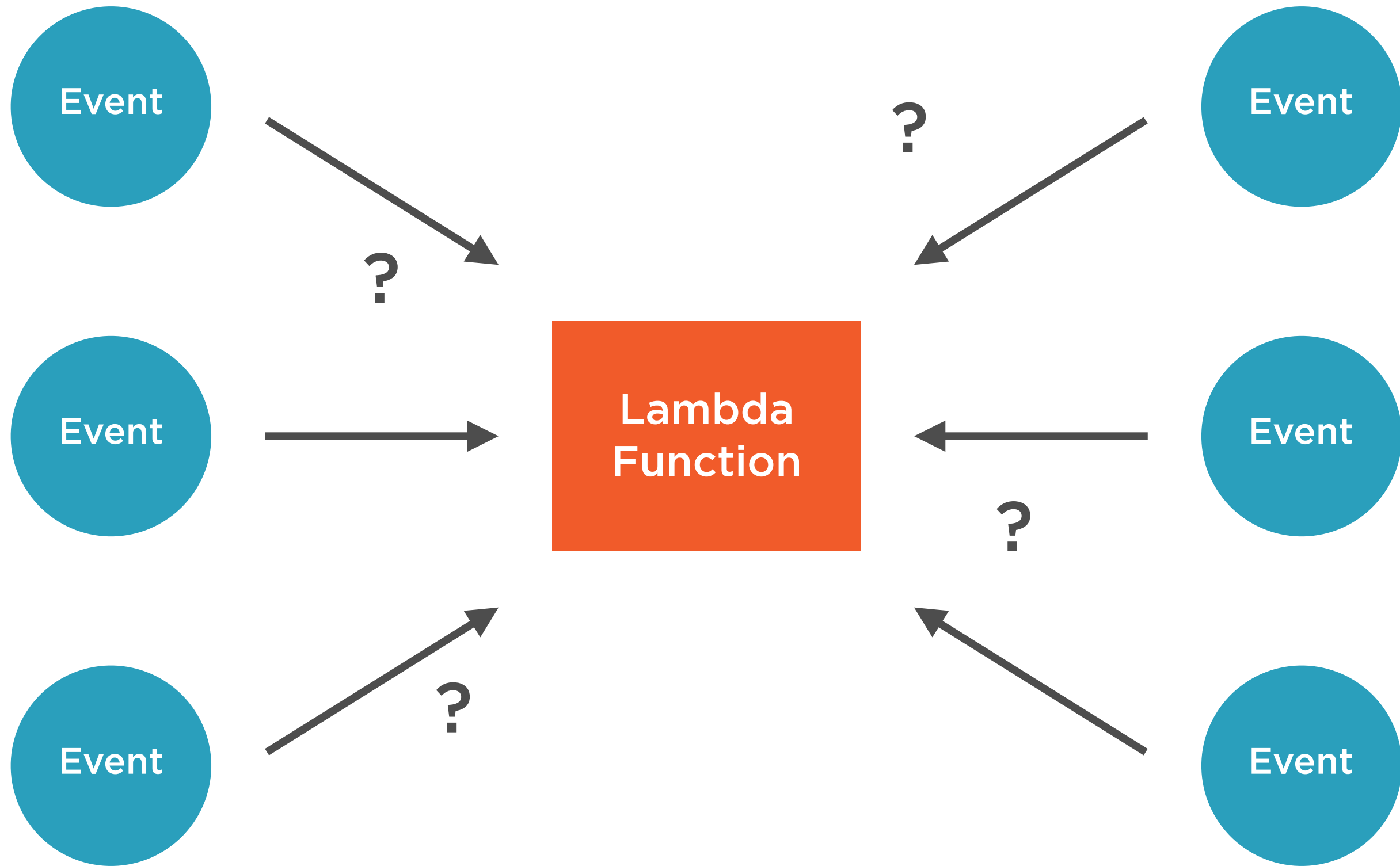
Traces Are Everywhere

X-Raying a Serverless Application

Don't Be Alarmed by CloudWatch

Clean It up and Go Home

How X-Ray Works



Ways to Improve AWS Application Insight

Aggregate logs to a common place

Use X-Ray to monitor applications

AWS X-Ray

**X-Ray
Service**

**Your
Application**

X-Ray Data Contents



Trace ID

Trace Data

AWS X-Ray

```
graph TD; X-Ray-Service[X-Ray Service] --- Lambda-Function[Lambda Function]; X-Ray-Service --- X-Ray-Daemon-Process[X-Ray Daemon Process];
```

X-Ray
Service

Lambda
Function

X-Ray
Daemon
Process

X-Ray daemon is pre-
installed for Lambda and
Elastic Beanstalk

X-Ray Sampling Default Rules

1 request / second

5% of subsequent requests

Tracing in AWS X-Ray

X-Ray Trace

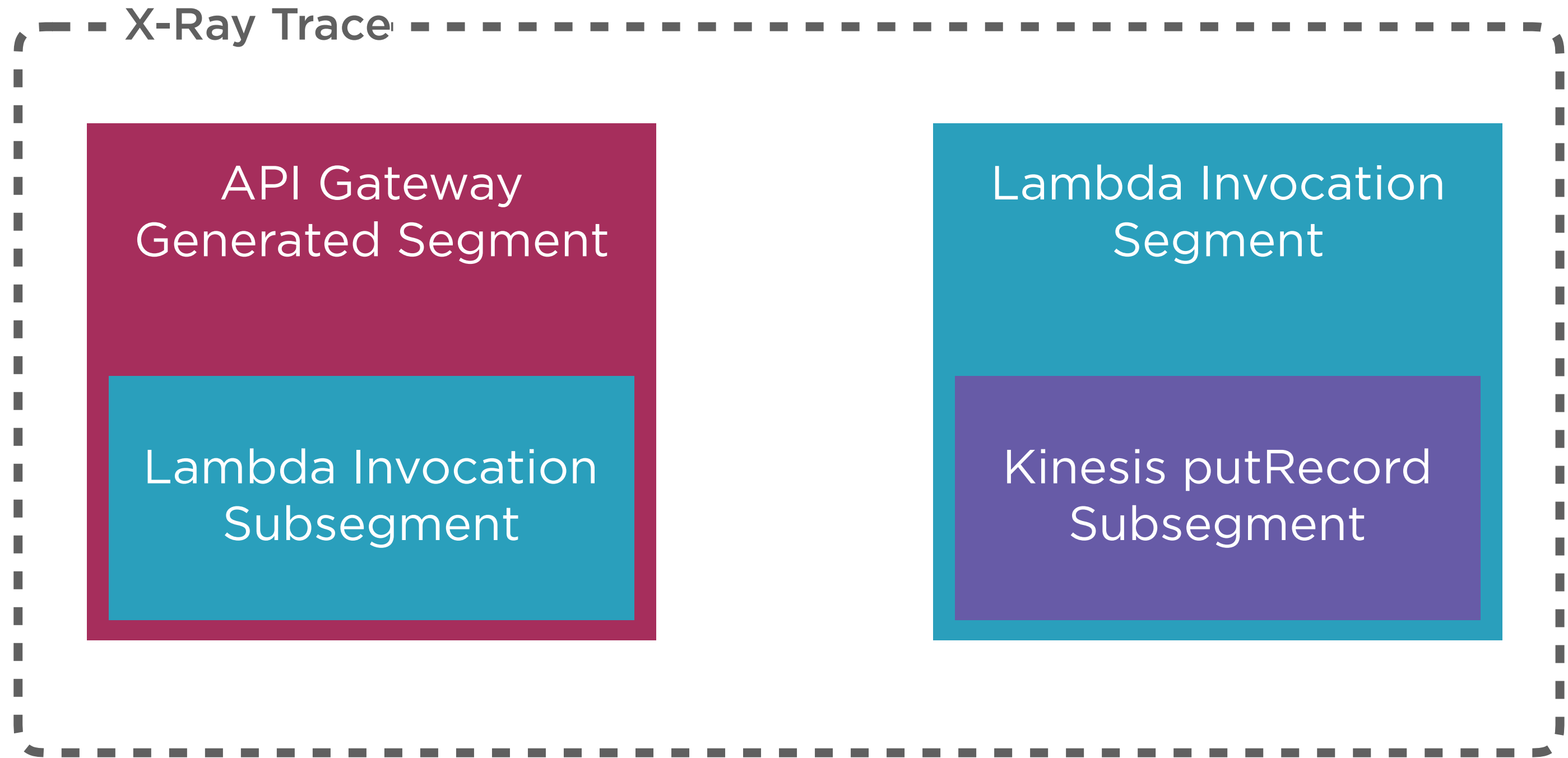
Representation of the actions taken in response to a single request to your application

The first X-Ray enabled service in your application that receives a request will generate a **Trace ID**

X-Ray Segment

A single packet of data describing an action that took place in response to a request. Contains a Trace ID.

X-Ray Segments and Subsegments



X-Ray Instrumented Code

```
const AWSXRay = require('aws-xray-sdk')

const segment = new AWSXRay.Segment('my-segment')
AWSXRay.setSegment(segment)

// complicated code

segment.addMetadata('result', codeResult)
segment.close()
```

Monitoring Serverless Applications with X-Ray

Configuring an Application for X-Ray

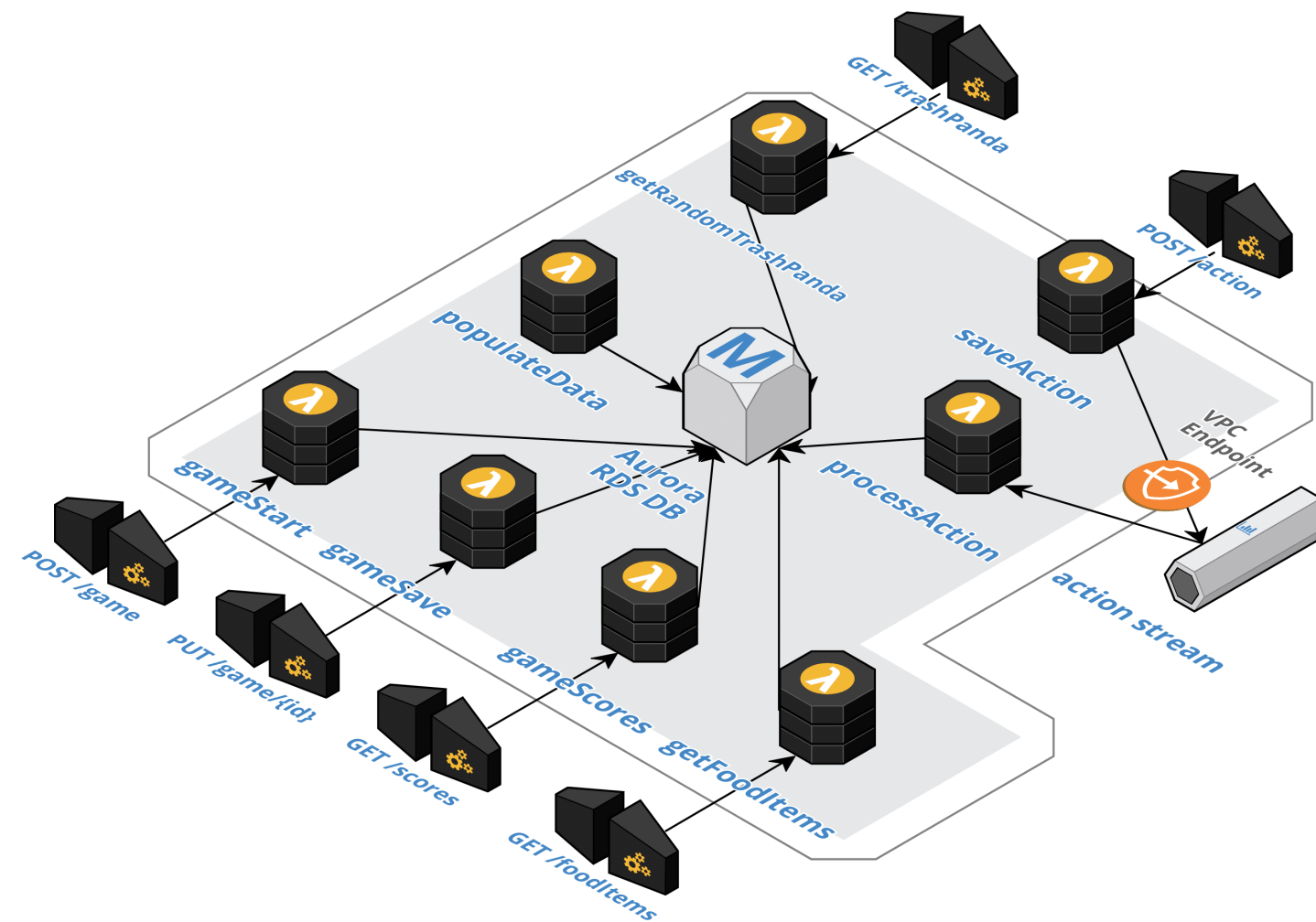
**Enabling
X-Ray Tracing
for Services**

**Instrumenting
Application
Code with
X-Ray SDK**

Monitoring Serverless Applications with CloudWatch



CloudWatch Alarms can invoke
Lambda functions when triggered



If one Lambda fails in a Serverless application, does it make a sound?

Removing Demo Application Resources

Conclusion

Summary

A Diagram for X-Ray

Tracing between API Gateway and Lambda

A Watchman for our Lambda Errors

Saved by the Serverless Removal Script

Thank you!



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