AWS
SQS & SNS

CLARUSWAY
WAY TO REINVENT YOURSELF
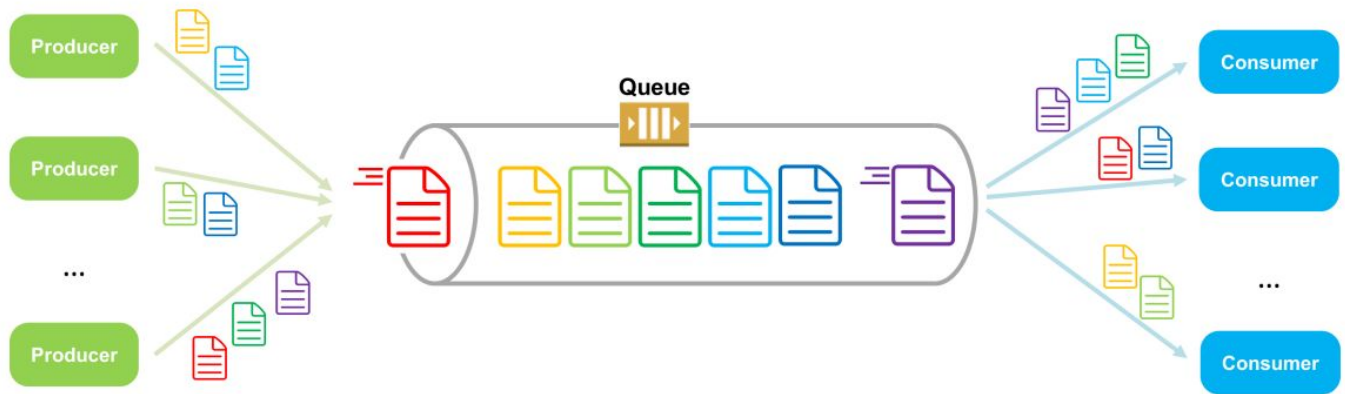
Table of Contents

▶ SQS

▶ SNS

1 SQS

SQS
What is SQS?

- Amazon **Simple Queue Service (SQS)** is a fully managed **message queuing service** that enables you to decouple and scale microservices, distributed systems, and serverless applications.
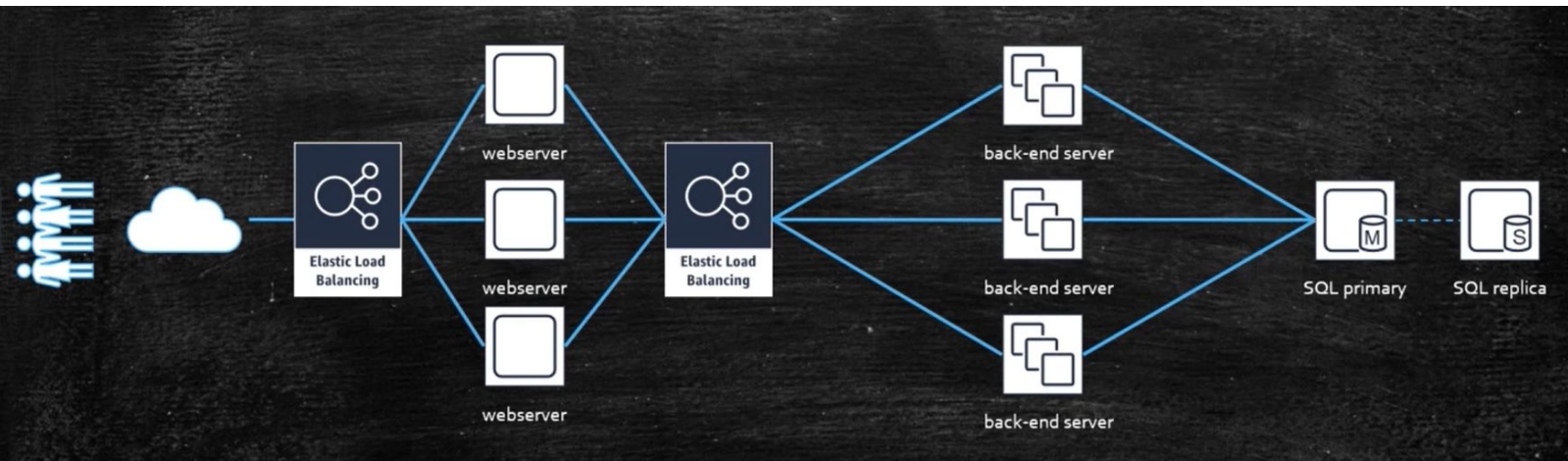
SQS
What is SQS?

SQS
What is SQS?

SQS
What is SQS?

Decoupling

SQS

webserver
webserver
webserver

Elastic Load Balancing

back-end server
back-end server
back-end server

SQL primary   SQL replica

Horizontal Scaling

Auto Scaling

AWS SQS   Queue

Amazon Cloudwatch
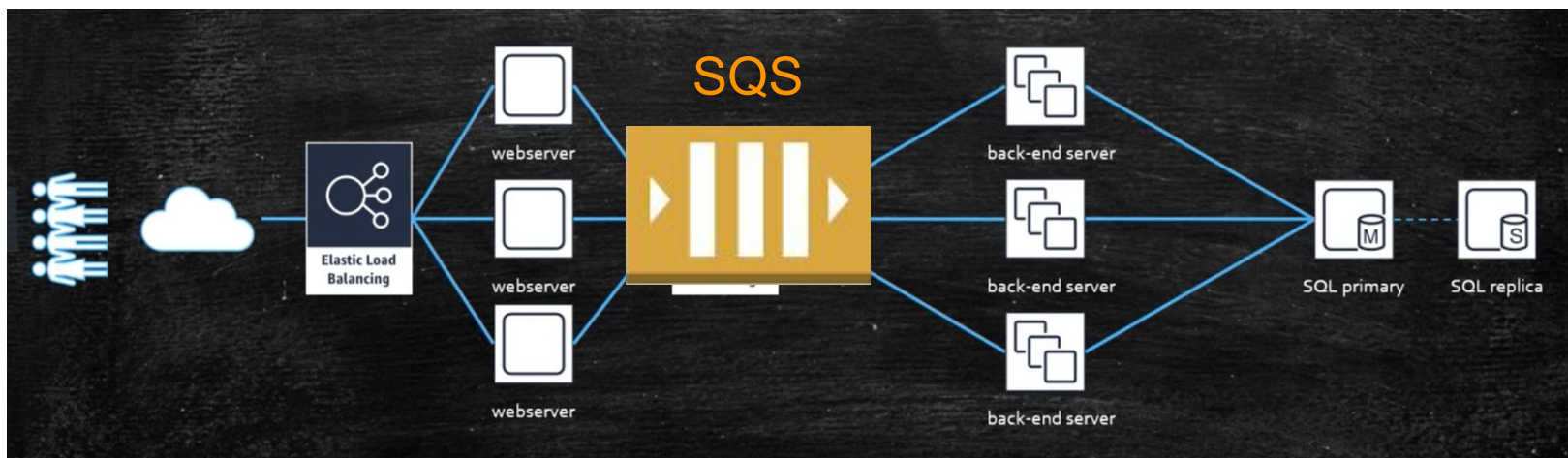
`ApproximateNumberOfMessagesVisible`
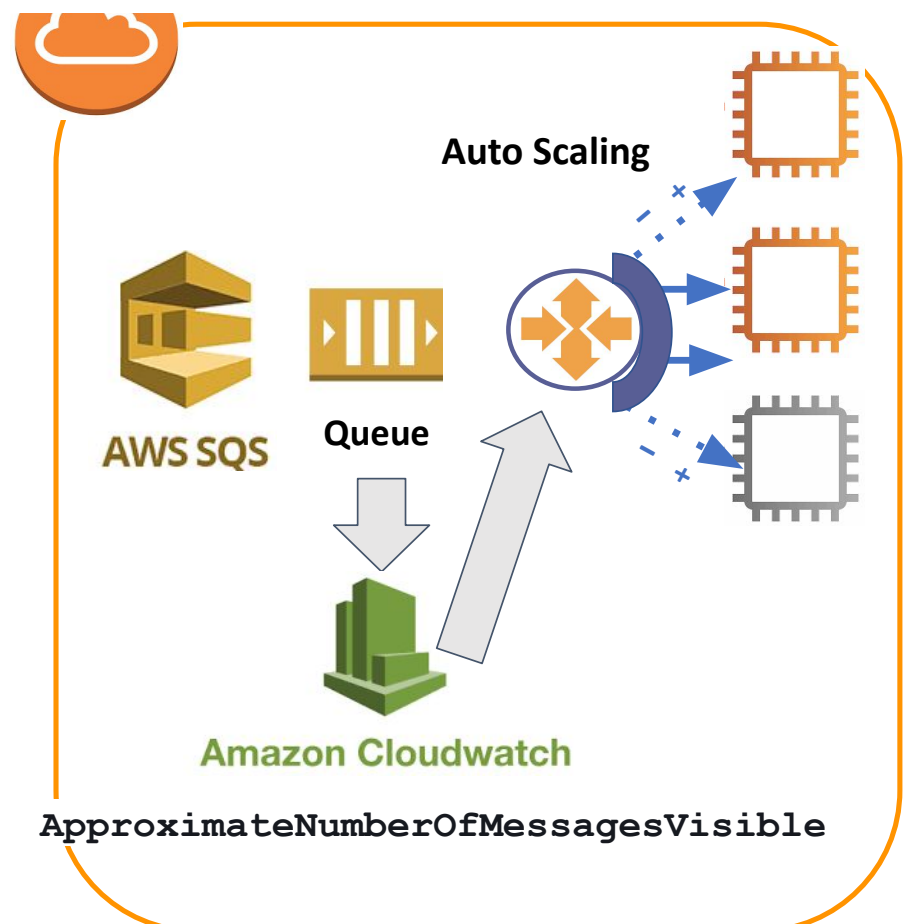
SQS

What is SQS?

CloudWatch Metric – Queue Length
ApproximateNumberOfMessages

ASG

SQS

webserver
webserver
webserver

Elastic Load Balancing

back-end server
back-end server
back-end server

SQL primary   SQL replica

---
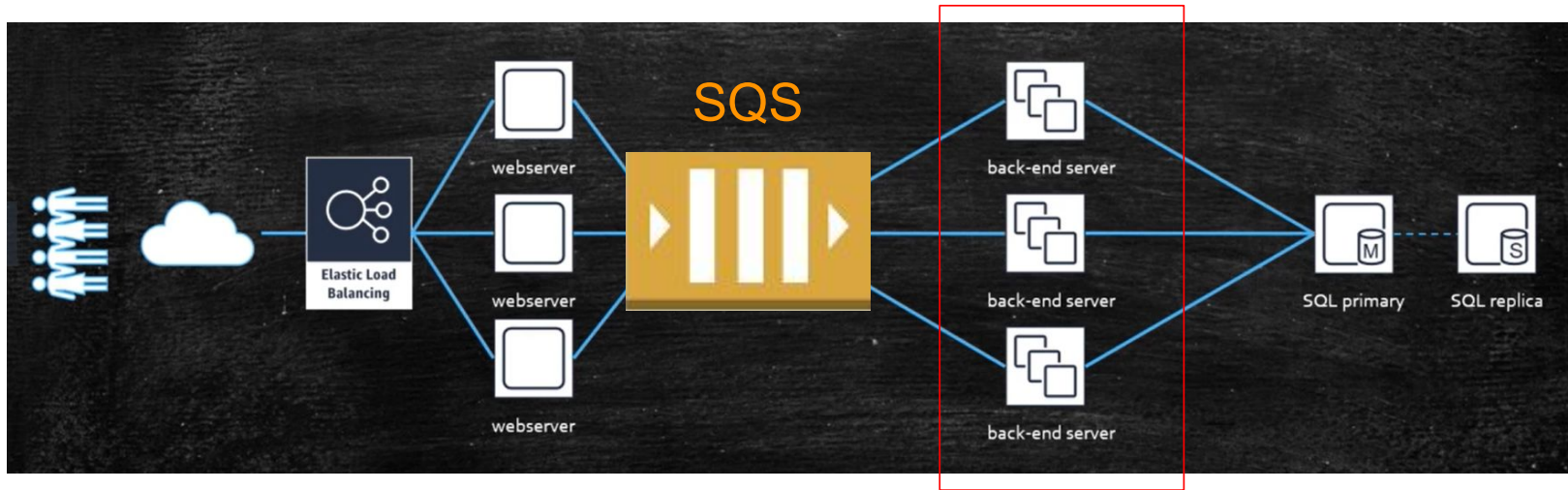
SQS

Standard Queue

FIFO Queue

High Throughput: Standard queues have nearly-unlimited transactions per second (TPS).

At-Least-Once Delivery: A message is delivered at least once, but occasionally more than one copy or a message is delivered.

Best-Effort Ordering: Occasionally, messages are delivered in an order different from which they were sent.
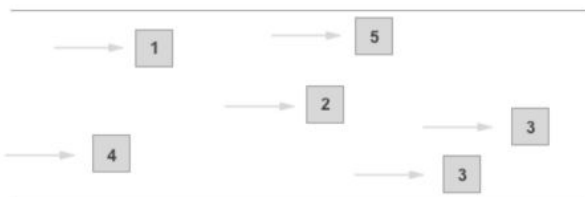
Send data between applications when the throughput is important, for example:

- Decouple live user requests from intensive background work: let users upload media while resizing or encoding it.
- Allocate tasks to multiple worker nodes: process a high number of credit card validation requests.
- Batch messages for future processing: schedule multiple entries to be added to a database.

First-In-First-out Delivery: The order in which messages are sent and received is strictly preserved.

Exactly-Once Processing: A message is guaranteed to be delivered at least once, but all duplicates of the message are removed.

**Limited Throughput:** 300 transactions per second (TPS).

Send data between applications when the order of events is important, for example:

- Ensure that user-entered commands are executed in the right order.
- Display the correct product price by sending price modifications in the right order.
- Prevent a student from enrolling in a course before registering for an account.

SQS
Dead Letter Queue (DLQ)
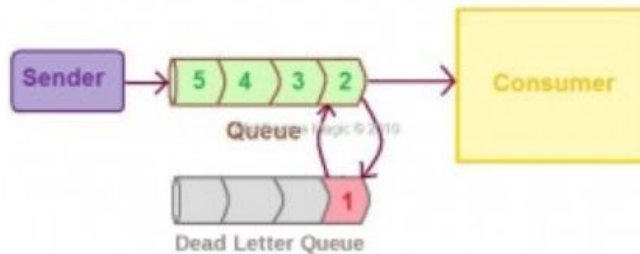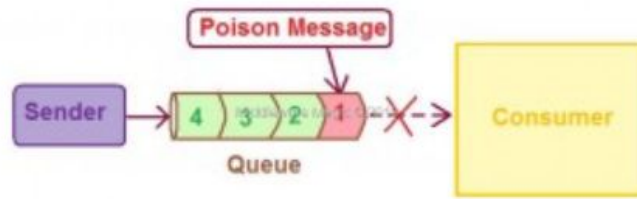
SQS
Pricing
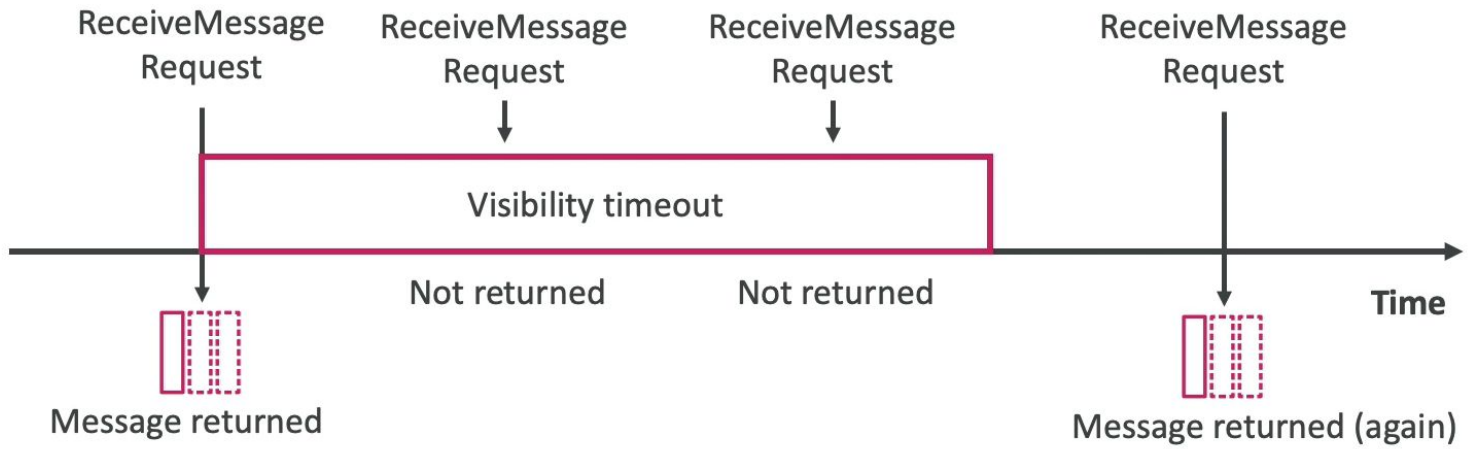
- [Pay only for what you use](#)

- AWS **Free Tier** includes **1 million requests** with Amazon Simple Queue Service (SQS).
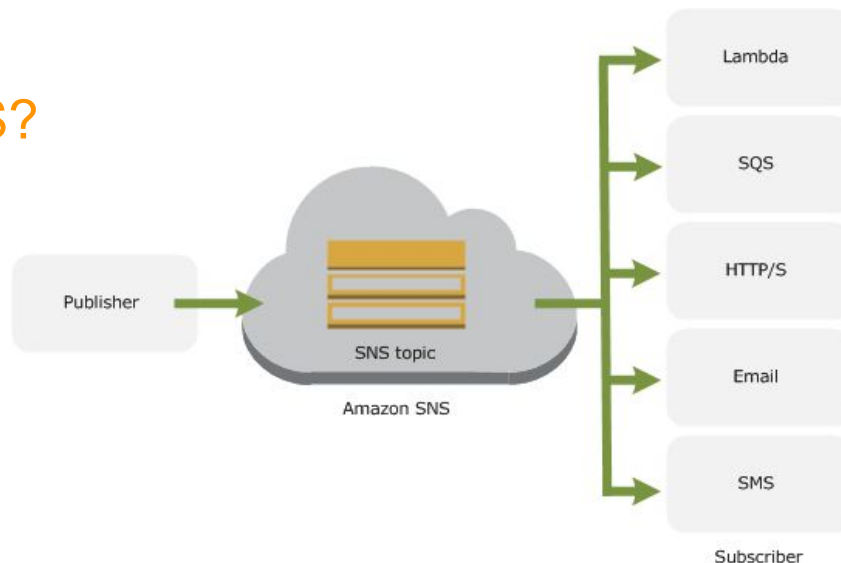
2 SNS

SNS
What is SNS?

- Amazon **Simple Notification Service** (Amazon SNS) is a managed service that provides message delivery from **publishers** to **subscribers** (also known as **producers** and **consumers**).

SNS
What is SNS?

- Clients can subscribe to the **SNS topic** and receive published messages using a supported protocol, such as Amazon SQS, AWS Lambda, HTTP, email, mobile push notifications, and mobile text messages (SMS).

SNS
What is SNS?

Application-to-Application (A2A)

SNS
What is SNS?

Application-to-Person (A2P)

SNS
What is SNS?

SNS is integrated with many AWS Services

- CloudWatch (Alarms/Events)
- S3 (Bucket Events)
- CloudFormation (State changes etc.)
- Auto Scaling Groups
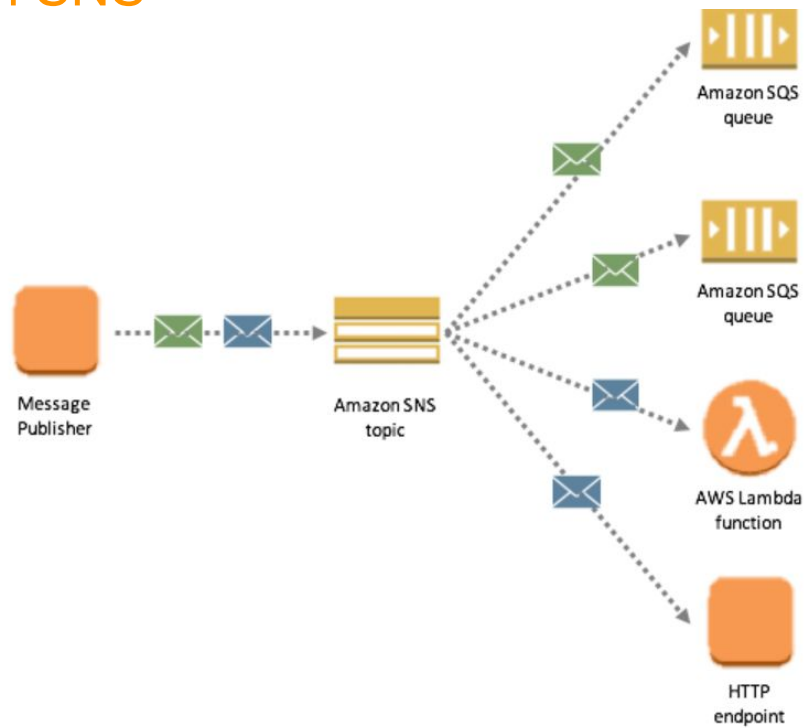- And many others **can invoke SNS.**

SNS
What is SNS?

SNS
Fan Out with SNS

SNS
Pricing

- Amazon SNS has **no upfront costs** and you can **pay as you go**. You pay based on the number of notifications you publish, the number of notifications you deliver, and any additional API calls for managing topics and subscriptions. Delivery **pricing varies by endpoint type**. You can get started for free with the SNS free tier.

- Hands-on!!!

- Let's go to the AWS Management Console

CLARUSWAY
WAY TO REINVENT YOURSELF

THANKS!

Any questions?

CLARUSWAY
WAY TO REINVENT YOURSELF