App Integration Services

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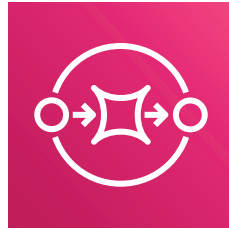
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AWS App Integration Services
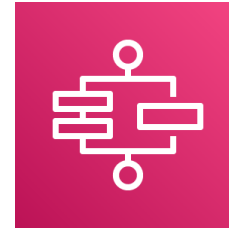
Amazon SNS

Managed pub/sub messaging service

Amazon SQS

Managed message queue service

AWS Step Functions

Serverless workflow management service

Overview

Introducing Amazon Simple Notification Service (SNS)

Introducing Amazon Simple Queue Service (SQS)

Exploring architectures leveraging SNS and SQS

Examining AWS Step Functions

Reviewing sample AWS Step Function usage

AWS Messaging Services

Amazon Simple Notification Service (SNS)

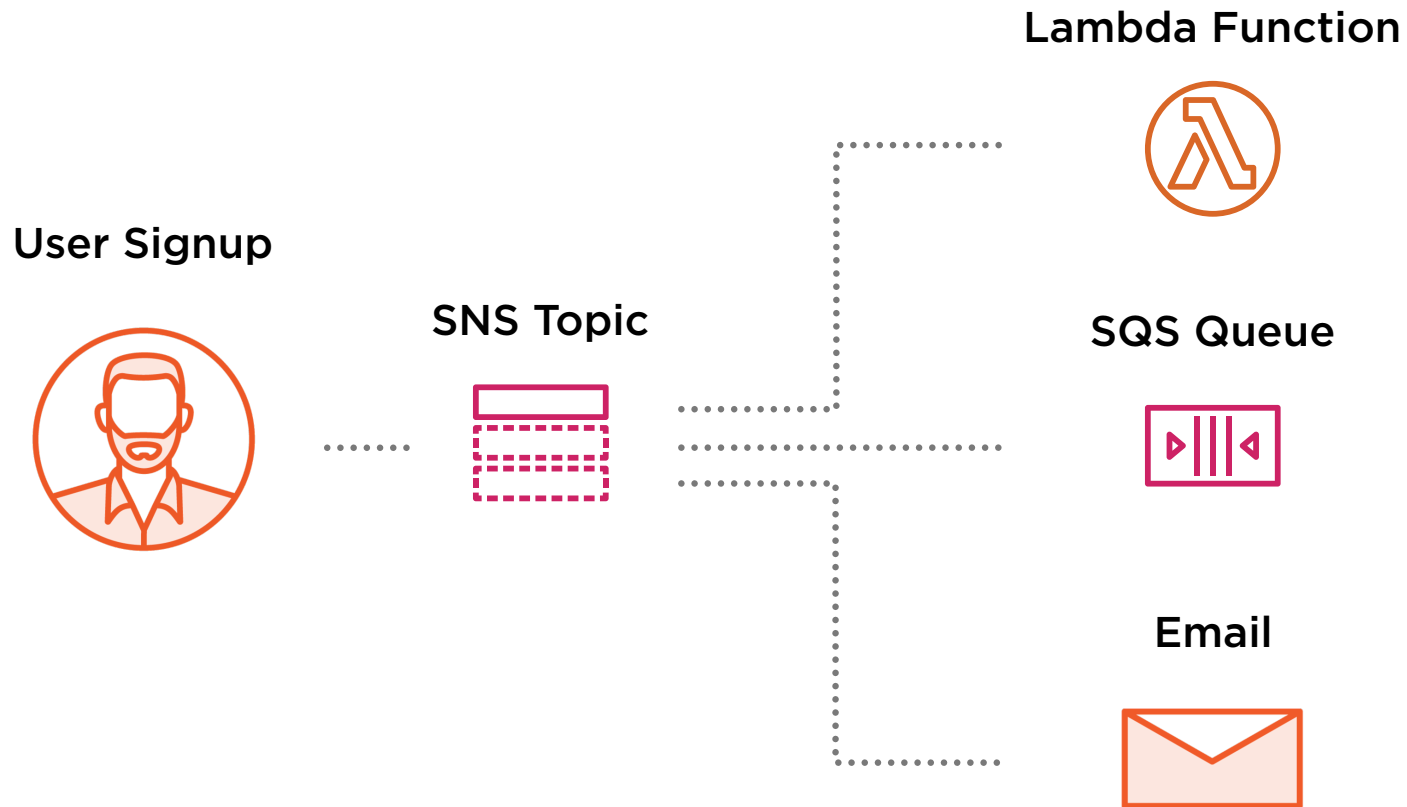Fully managed pub/sub messaging service

Enables you to create decoupled applications

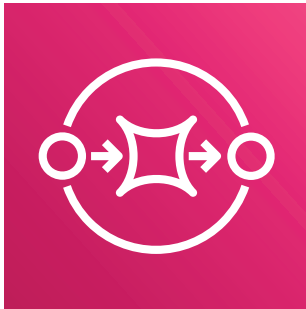Organized according to topics

Integrates with multiple AWS services

Provides end user notifications across SMS, email, and push notifications

Example Amazon SNS Architecture

Lambda Function

User Signup

SNS Topic

SQS Queue

Email

Amazon Simple Queue Service (SQS)

Fully managed message queue service

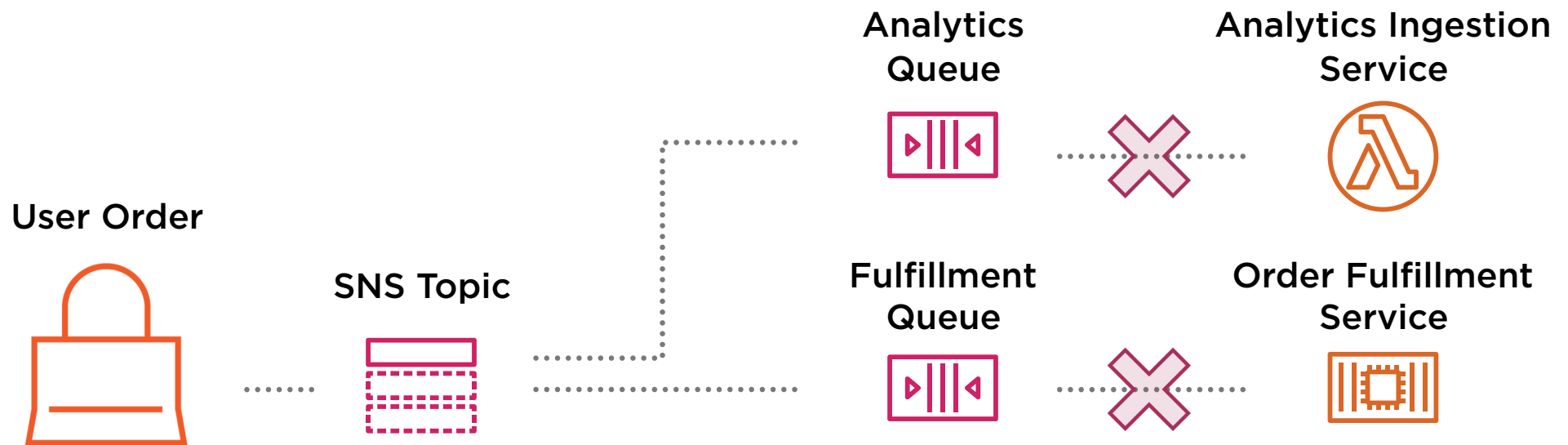**Enables you to build decoupled and fault tolerant applications**

Supports up to 256 KB data payload

Allows messages to be stored up to 14 days

Provides two types of queues

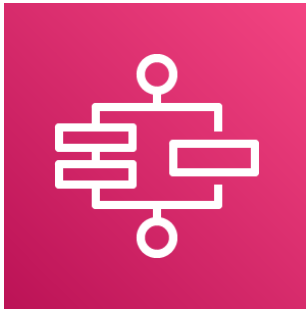- Standard queue

- FIFO queue (first in first out)

Example Amazon SNS & SQS Architecture

User Order

SNS Topic

Analytics Queue

Analytics Ingestion Service

Fulfillment Queue

Order Fulfillment Service

AWS Step Functions

AWS Step Functions

Enables orchestration of workflows through a fully managed service

Supports serverless architectures

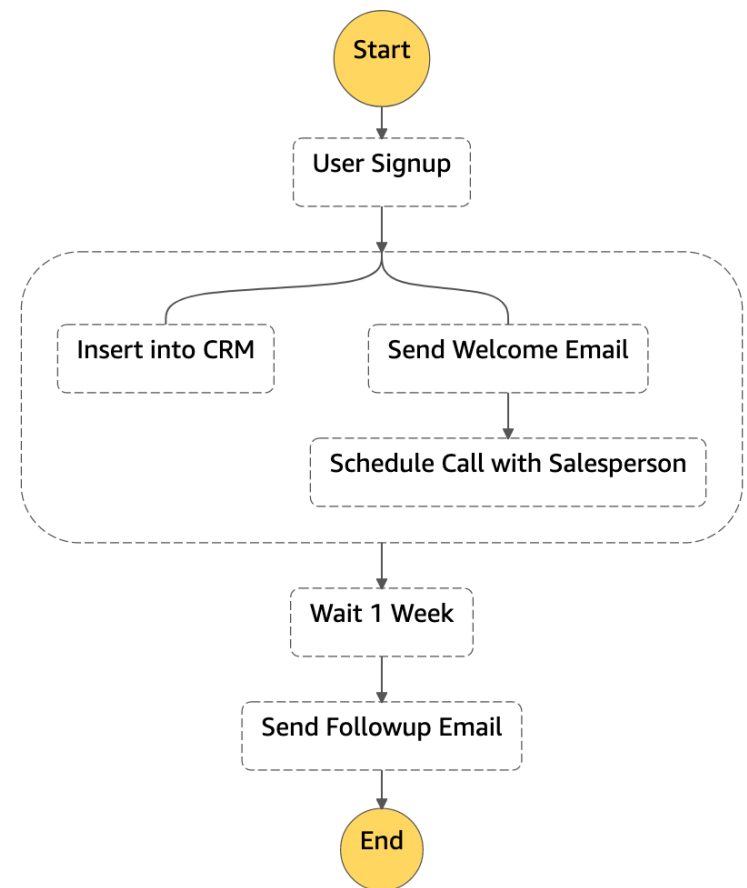Can support complex workflows including error handling

Charged per state transition along with the other AWS services leveraged

Workflows are defined using Amazon States Language

```json
{
  "Comment": "Signup workflow",
  "StartAt": "User Signup",
  "States": {
    "User Signup": {
      "Type": "Pass",
      "Next": "Parallel"
    },
    "Parallel": {
      "Type": "Parallel",
      "Next": "Wait 1 Week",
      "Branches": [
        {
          "StartAt": "Insert CRM",
          "States": …
        }
      ]
    }
  }
}
```

Compute services

Database services

Messaging services

Data processing
services

Machine learning
services

AWS Step Function
Integrations

Scenario Based Review

Scenario 1

Ruth started a non-profit that assigns volunteers to opportunities

Recently their database server went down and users were unable to signup

While the situation is better, there is still some downtime expected in the future

She wants to explore an AWS service that could prevent lost user signups

What service would you recommend to Ruth?

Scenario 2

Jessi created a list of onboarding steps for new customers for their new app

These steps detail integrations with their CRM, emails to the user, and analytics

Jessi is worried about the time it will take to build all of this from scratch

Is there an AWS service that can help with this approach?

Scenario 3

Roger's company is an eCommerce company building a custom platform

They are still adding new functionality

He wants aspects of the platform to listen for events like orders and refunds

They don't yet know all of the elements that would need to respond to events

Is there a service that would allow current and future parts of the platform to listen for these events?

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Examined AWS Step Functions

Reviewed sample AWS Step Function usage

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Solution: Simple Queue Service (SQS)

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