

# App Integration Services



**David Tucker**

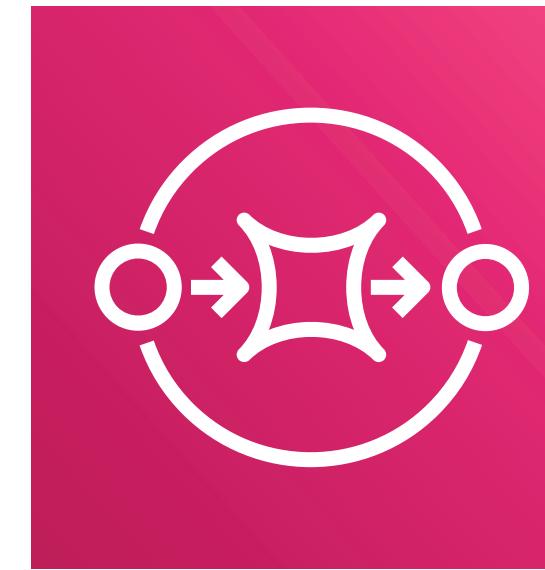
CTO Consultant

@\_davidtucker\_ | [davidtucker.net](http://davidtucker.net)

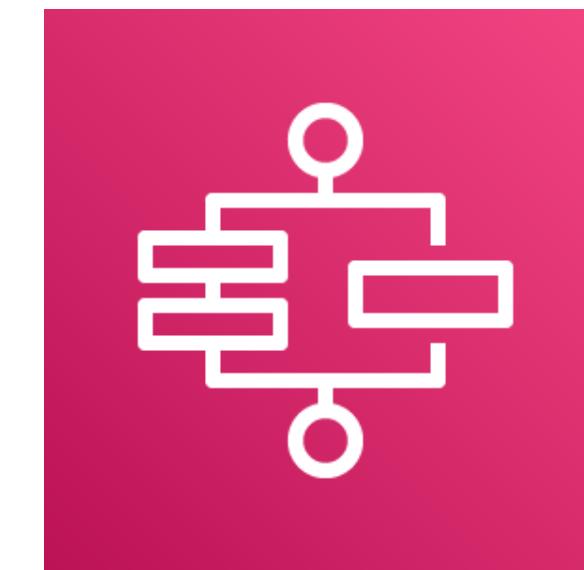
# AWS App Integration Services



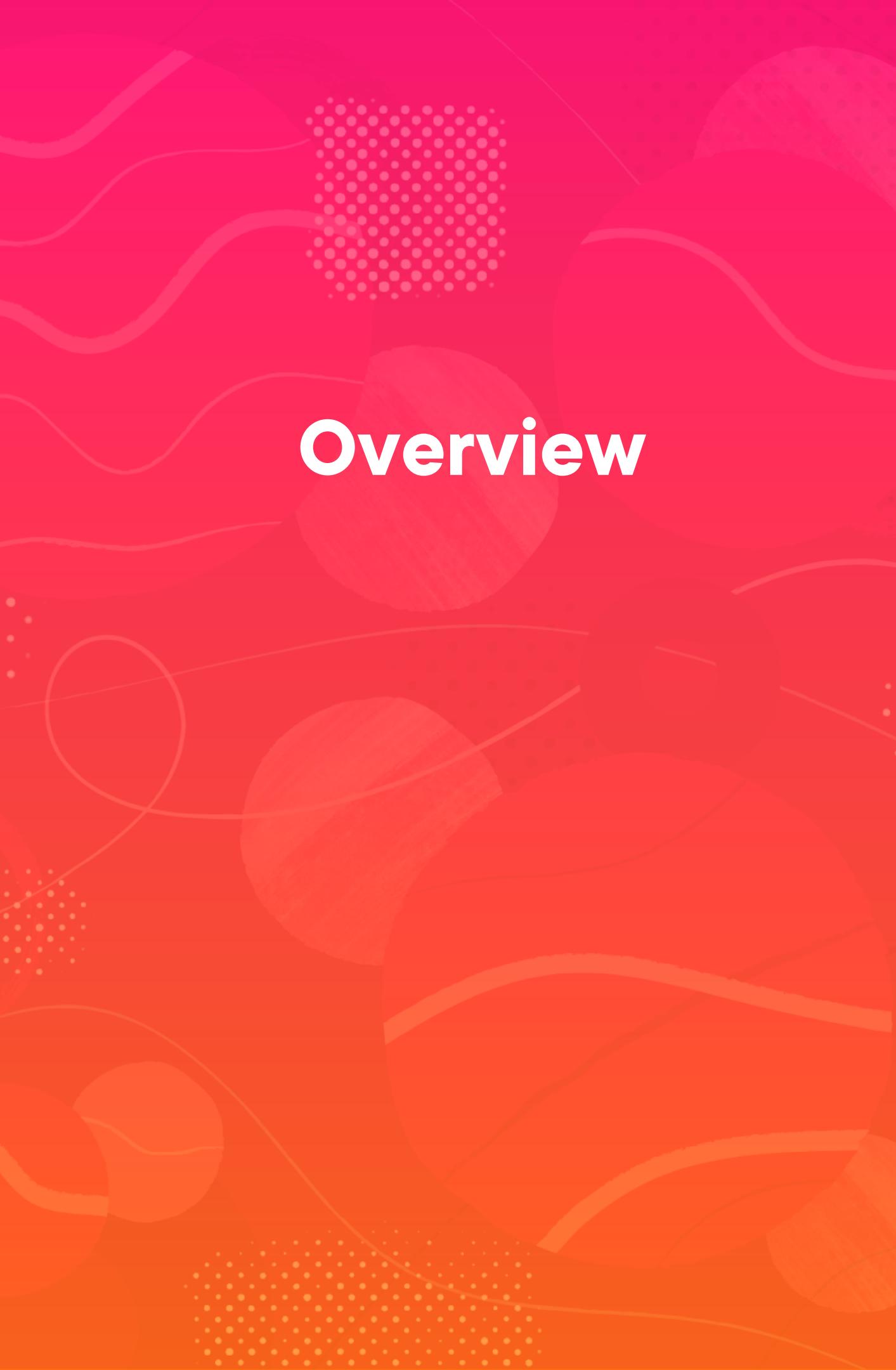
**Amazon SNS**  
Managed pub/sub  
messaging service



**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**

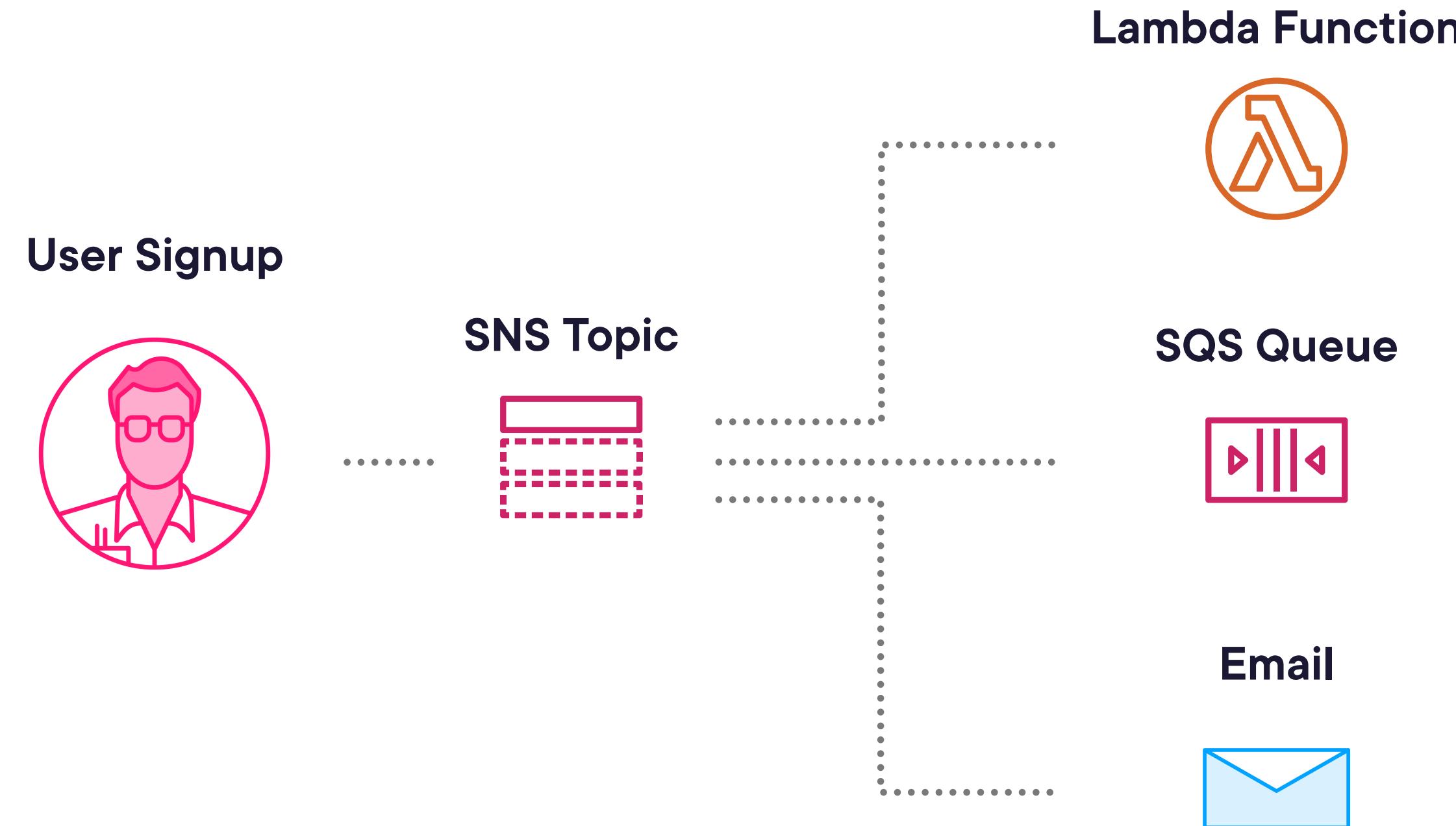
**Enables you to create decoupled applications**

**Organized according to topics**

**Integrates with multiple AWS services**

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

# Example Amazon SNS Architecture



# **Amazon Simple Queue Service (SQS)**

**Fully managed message queue service**

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

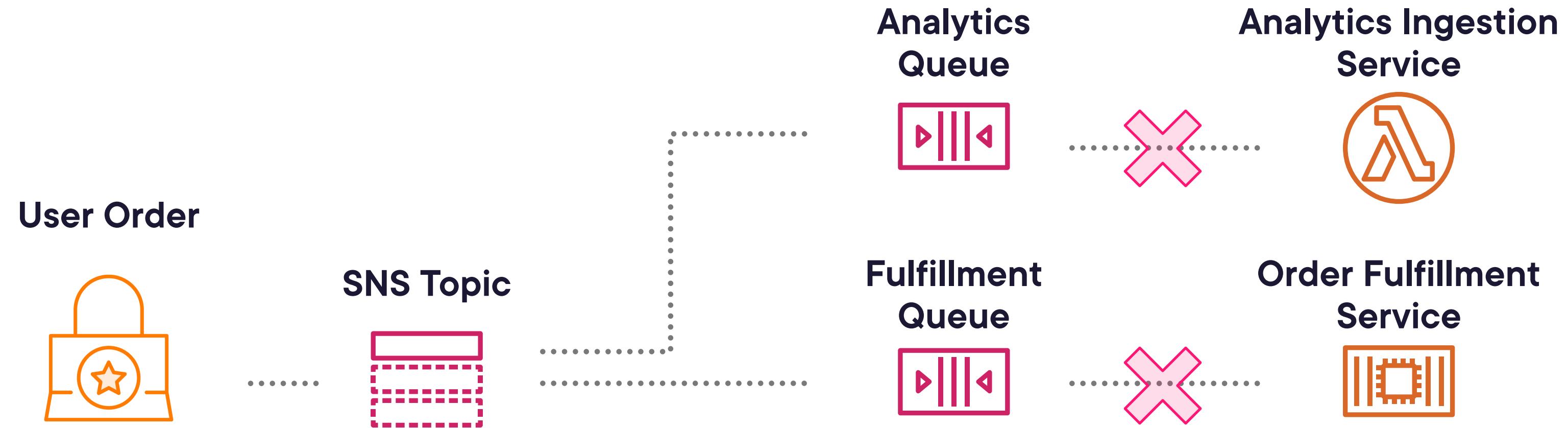
**Supports up to 256 KB data payload**

**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





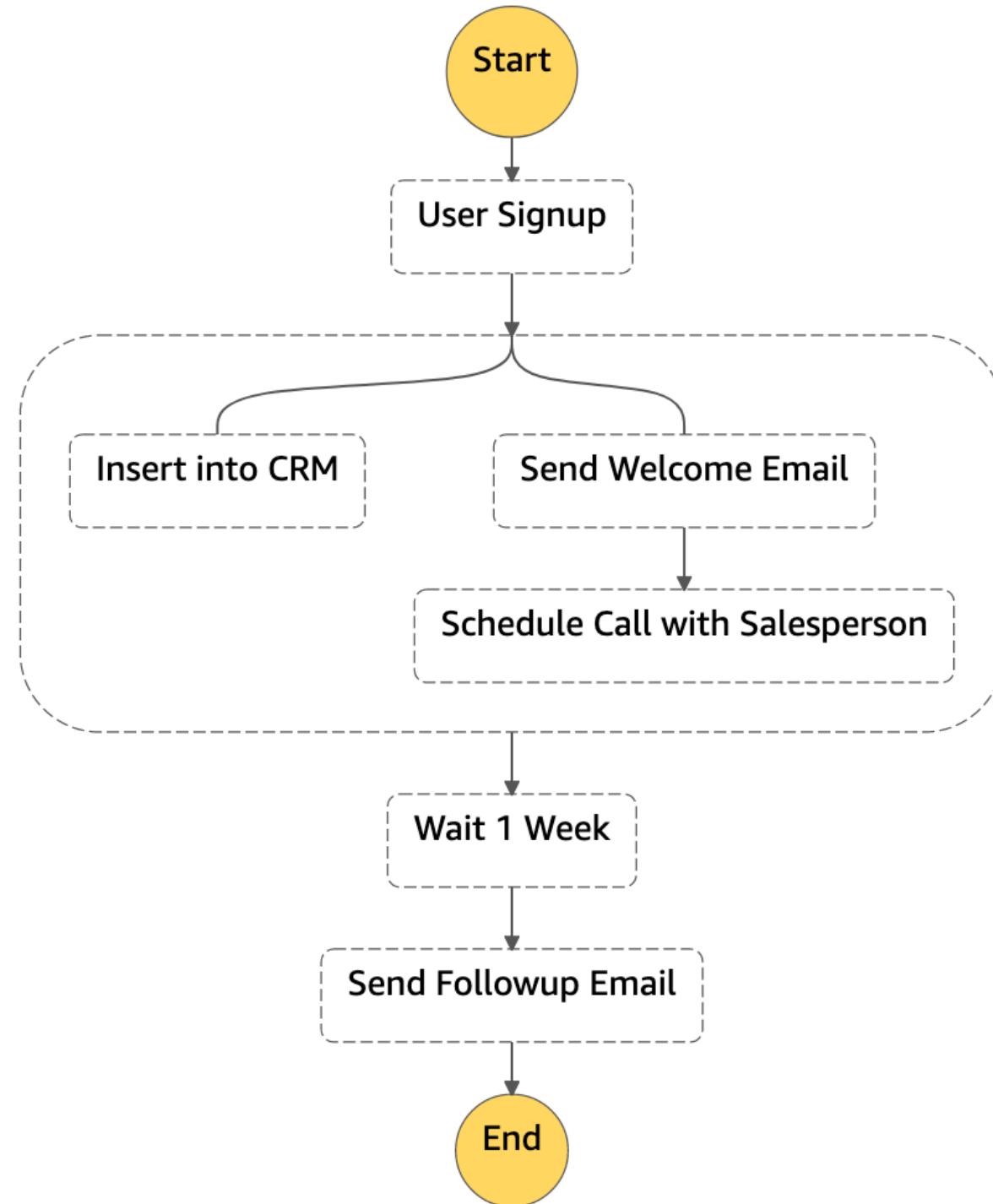
# AWS Step Functions

# 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

```
{
```

```
  "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



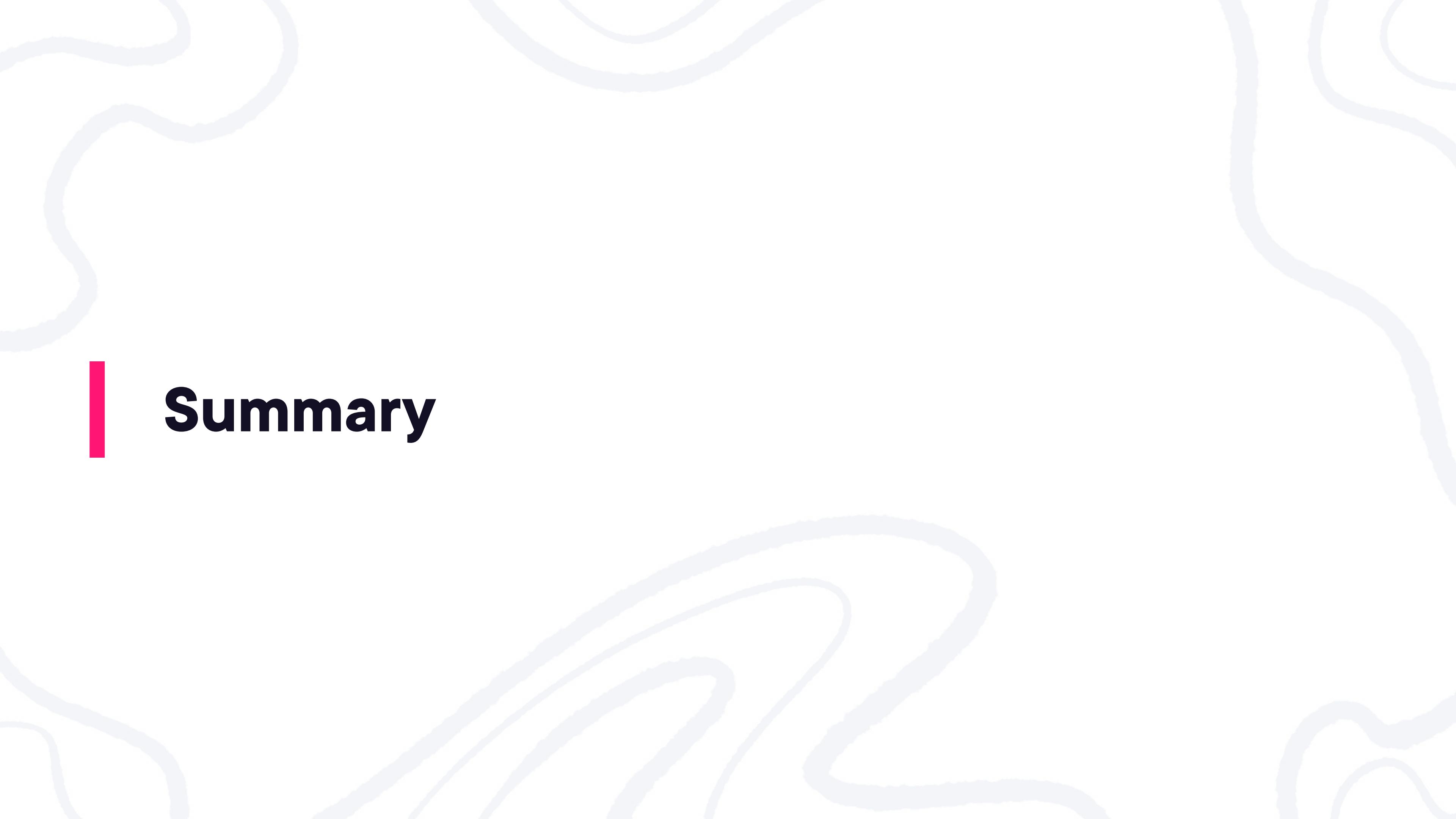
**Roger's company is an eCommerce company building a custom platform**

**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?**



# Summary

## **Summary**

**Introduced Amazon Simple Notification Service (SNS)**

**Introduced Amazon Simple Queue Service (SQS)**

**Explored architectures leveraging SNS and SQS**

**Examined AWS Step Functions**

**Reviewed sample AWS Step Function usage**

# Scenario 1



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**What service would you recommend to Ruth?**

**Solution:** Simple Queue Service (SQS)

## Scenario 2



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

**Solution:** AWS Step Functions

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**Solution:** Simple Notification Service (SNS)