AWS Columbus Learning Days

Serverless architectures - Why is everyone moving to serverless?

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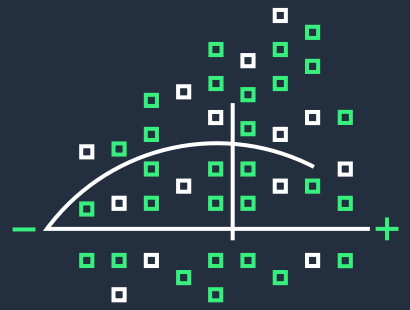
What are customers building with serverless?

IT automation



Data processing

Web applications

Machine learning

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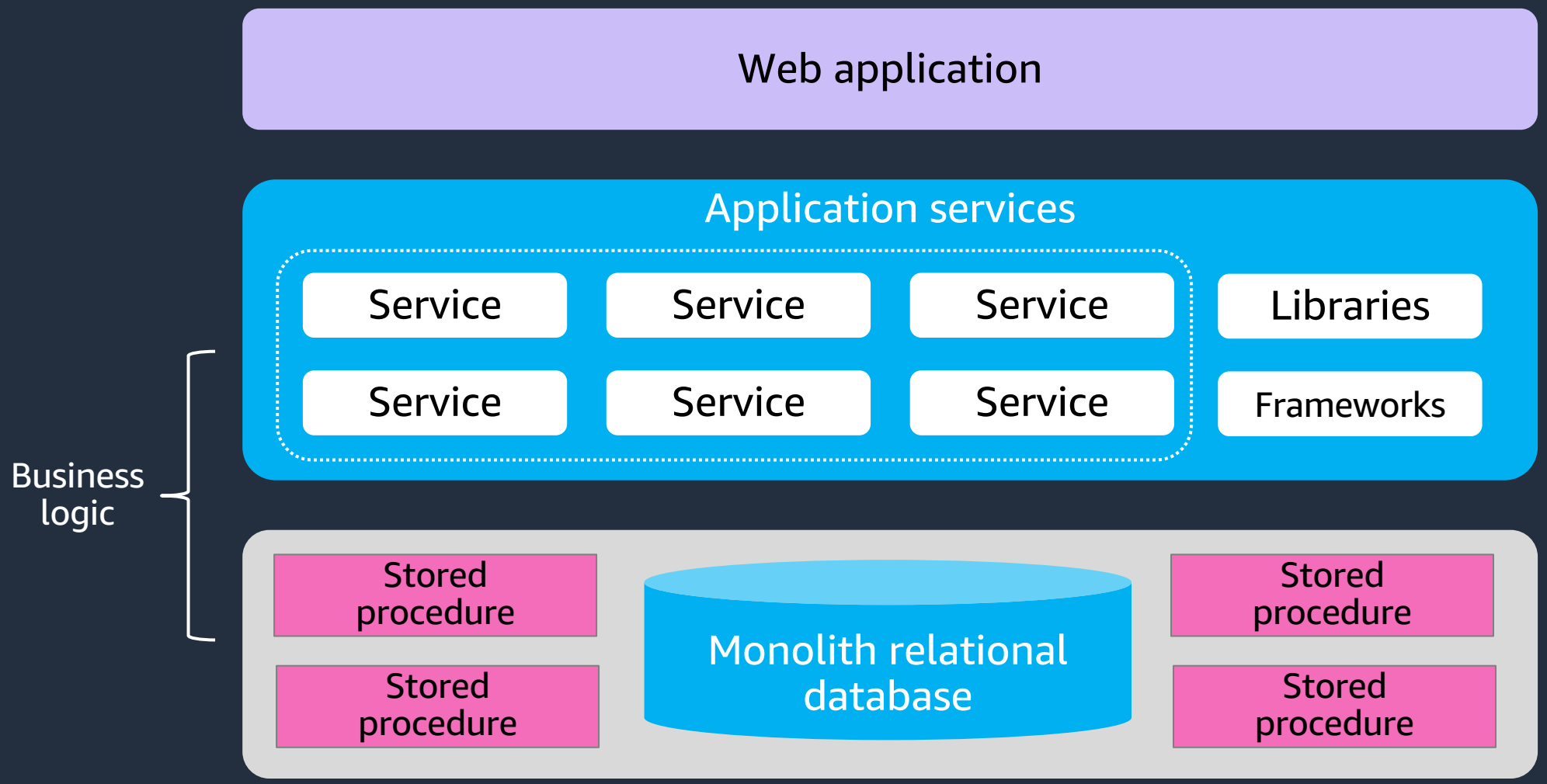
Traditional architecture



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Workload modernization

Traditional

Application
Legacy

Database
Commercial

Modern

Move to event driven serverless architecture
(AWS Lambda, AWS Step Functions, Amazon EventBridge, Amazon Kinesis)

Move to managed container orchestration services
(Amazon ECS, Amazon EKS Amazon Corretto, Karpenter)

Move to managed data platform
(Amazon Aurora, Amazon DynamoDB, Amazon Redshift)

Benefits

Reduces costs and improve time to market

Improves performance, scale, reliability and availability

Improve performance, operational efficiency, availability and security

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AWS serverless spectrum

AWS offers a wide portfolio of serverless services for running and building modern applications

From primitives to...
(Examples: compute, containers, buses)

- AWS Lambda
- AWS Fargate
- Amazon EventBridge
- AWS App Runner
- Amazon Elastic Container Service
- Amazon Simple Notification Service
- Amazon Simple Storage Service
- Amazon Elastic File System
- Amazon Simple Queue Service
- Amazon API Gateway

...peripherals
(Examples: databases, analytics, workflows)

- Amazon Aurora Serverless
- Amazon DynamoDB
- Amazon Kinesis
- AWS Step Functions
- AWS AppSync
- Amazon CloudWatch
- AWS Glue
- Amazon OpenSearch
- Amazon QuickSight

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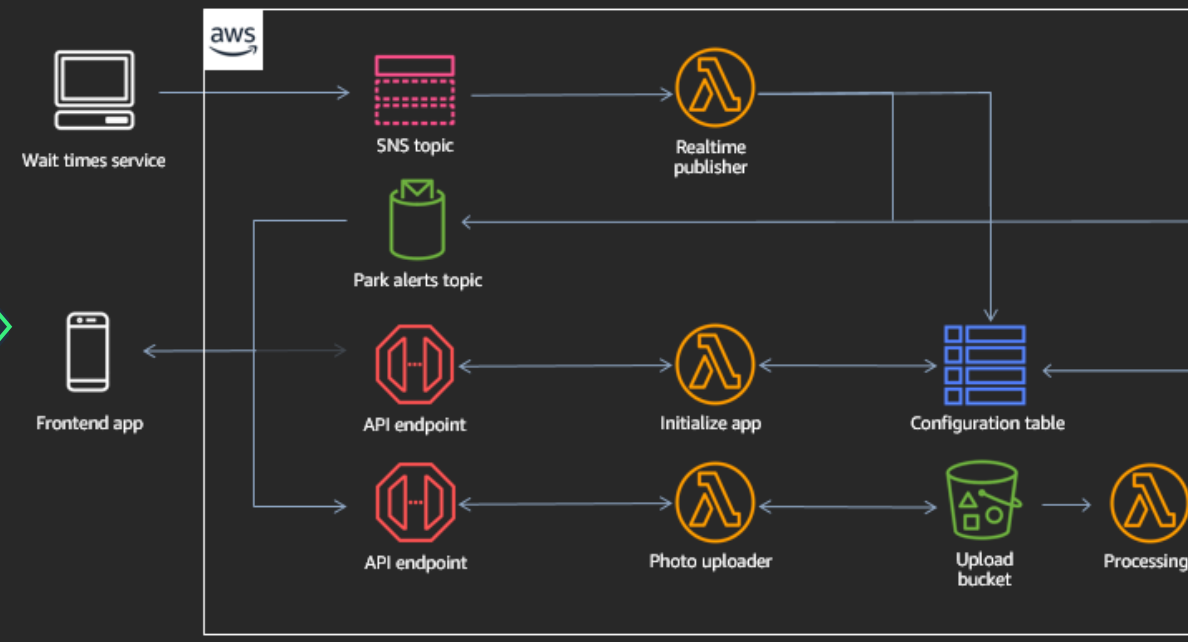
Small pieces, loosely joined



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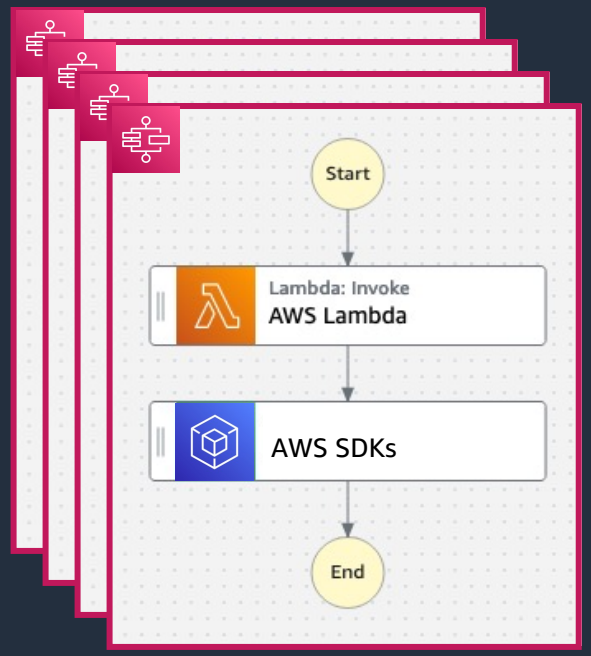
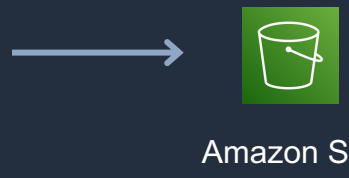
Orchestration with AWS Step Functions

AWS Step Functions distributed map

AWS Step Functions iterates over and batches the data for the sub-workflows





Summarized results can be written to S3

AWS Step Functions runs the child workflows to process each item or batch of items, in parallel.

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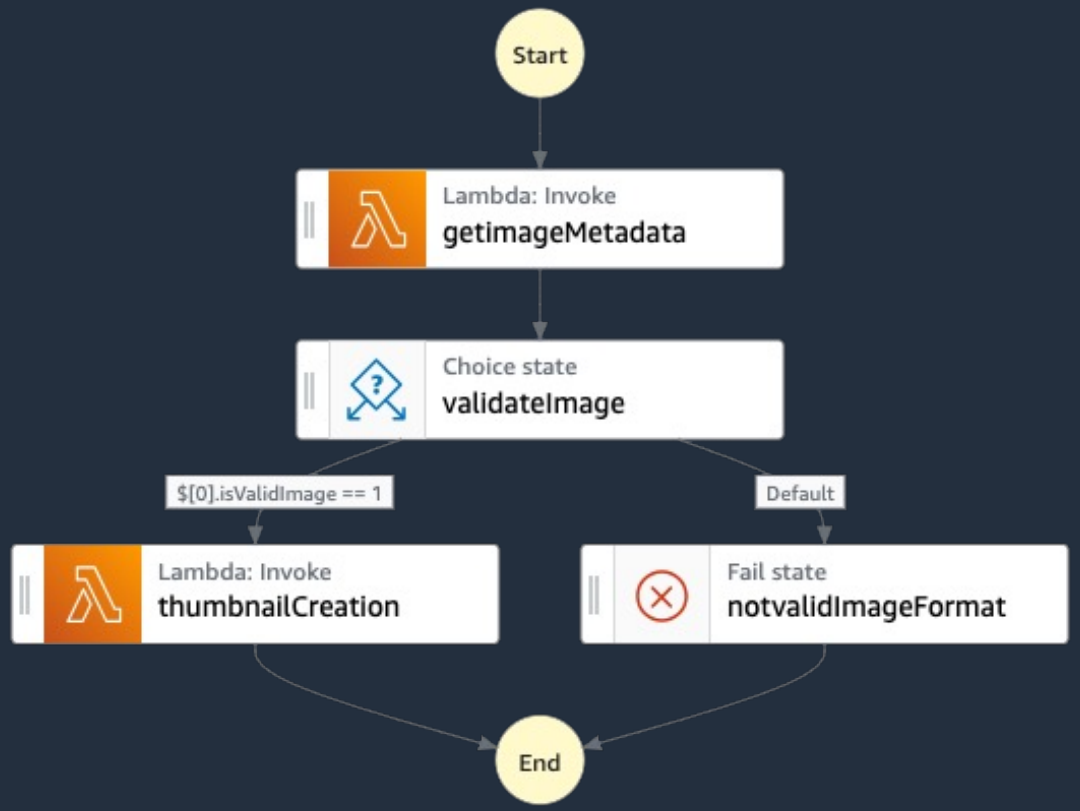

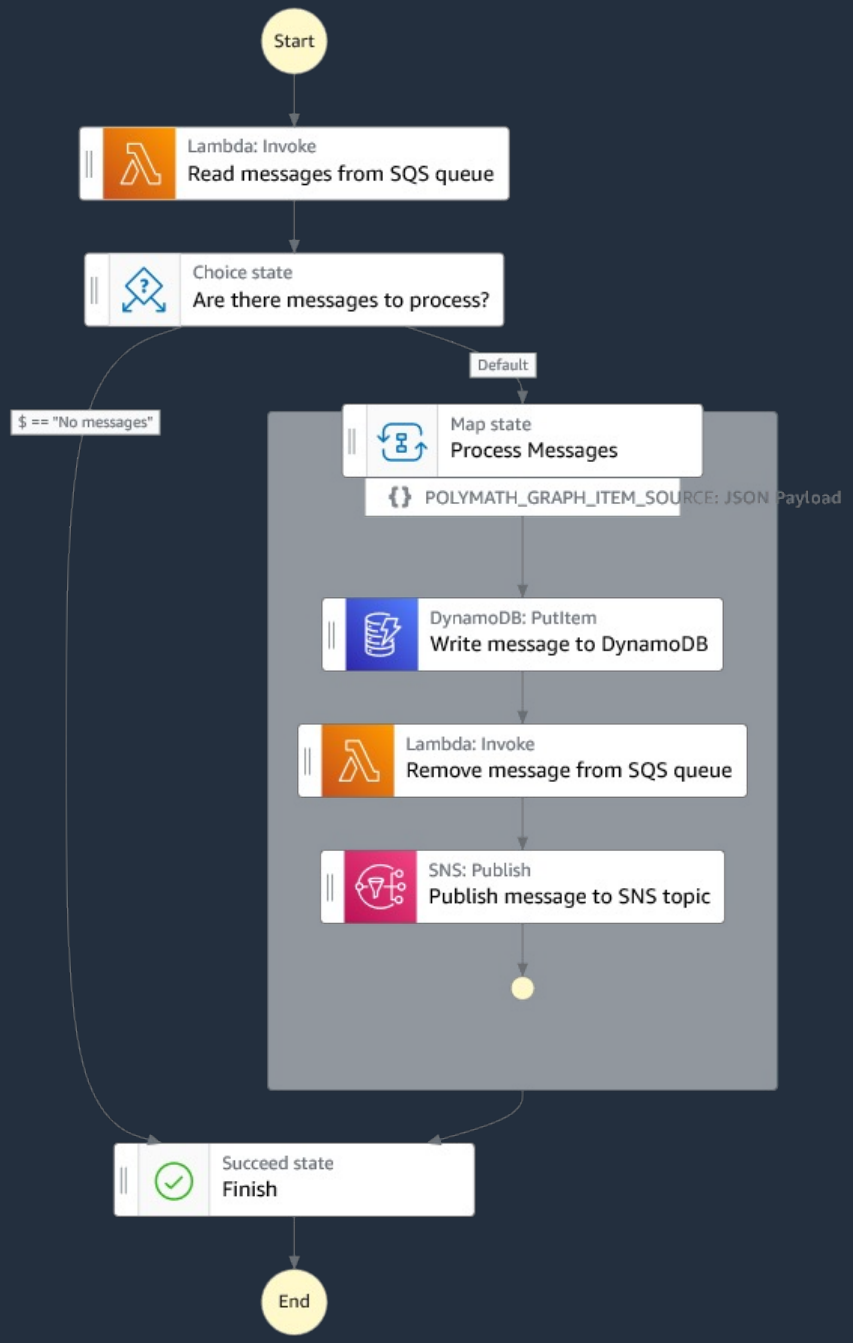

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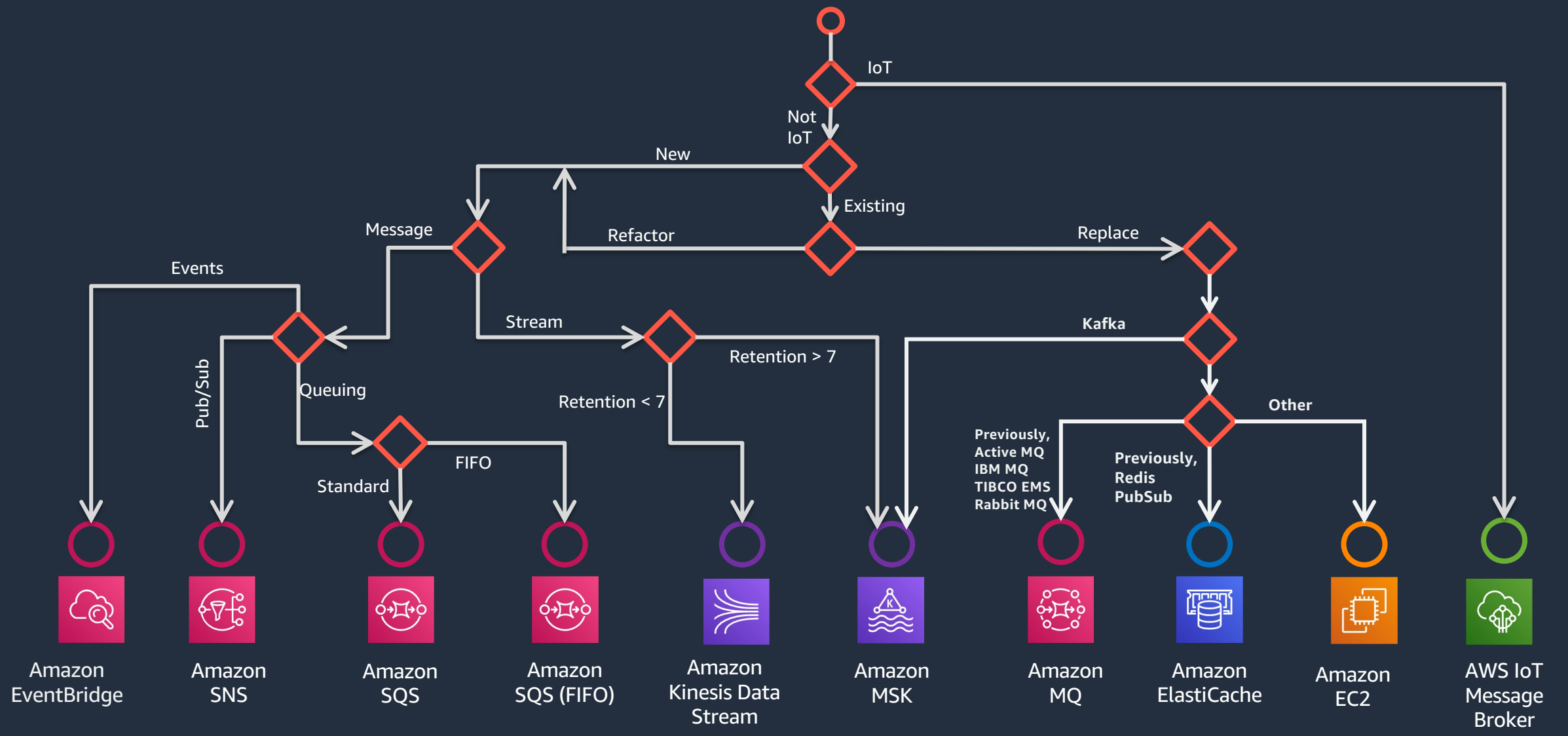
A decision tree?



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Thank you!

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Track: Application modernization and security

Session: Serverless architectures - Why is everyone moving to serverless?

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