

Other Services

Contents

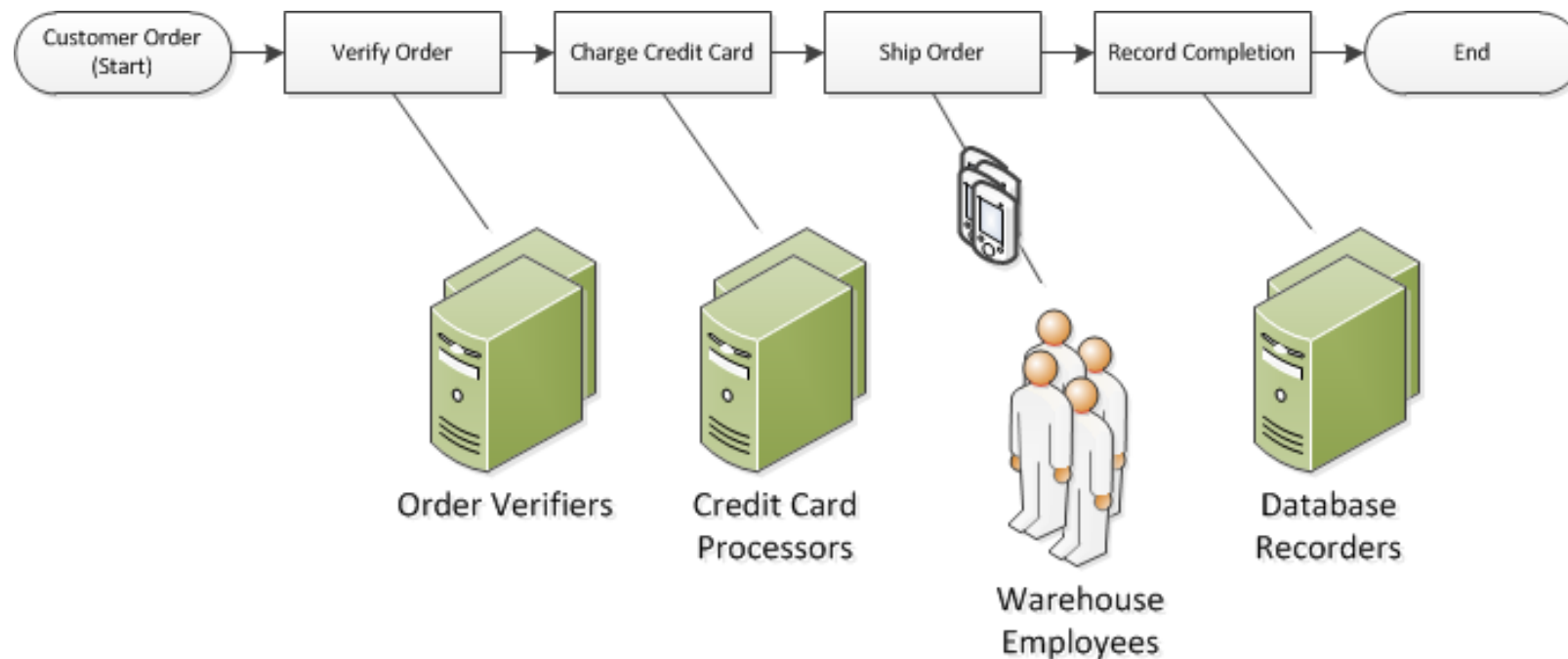
- SWF, Step Functions
- Elastic Transcoder
- Kinesis
- Cognito

SWF

SWF



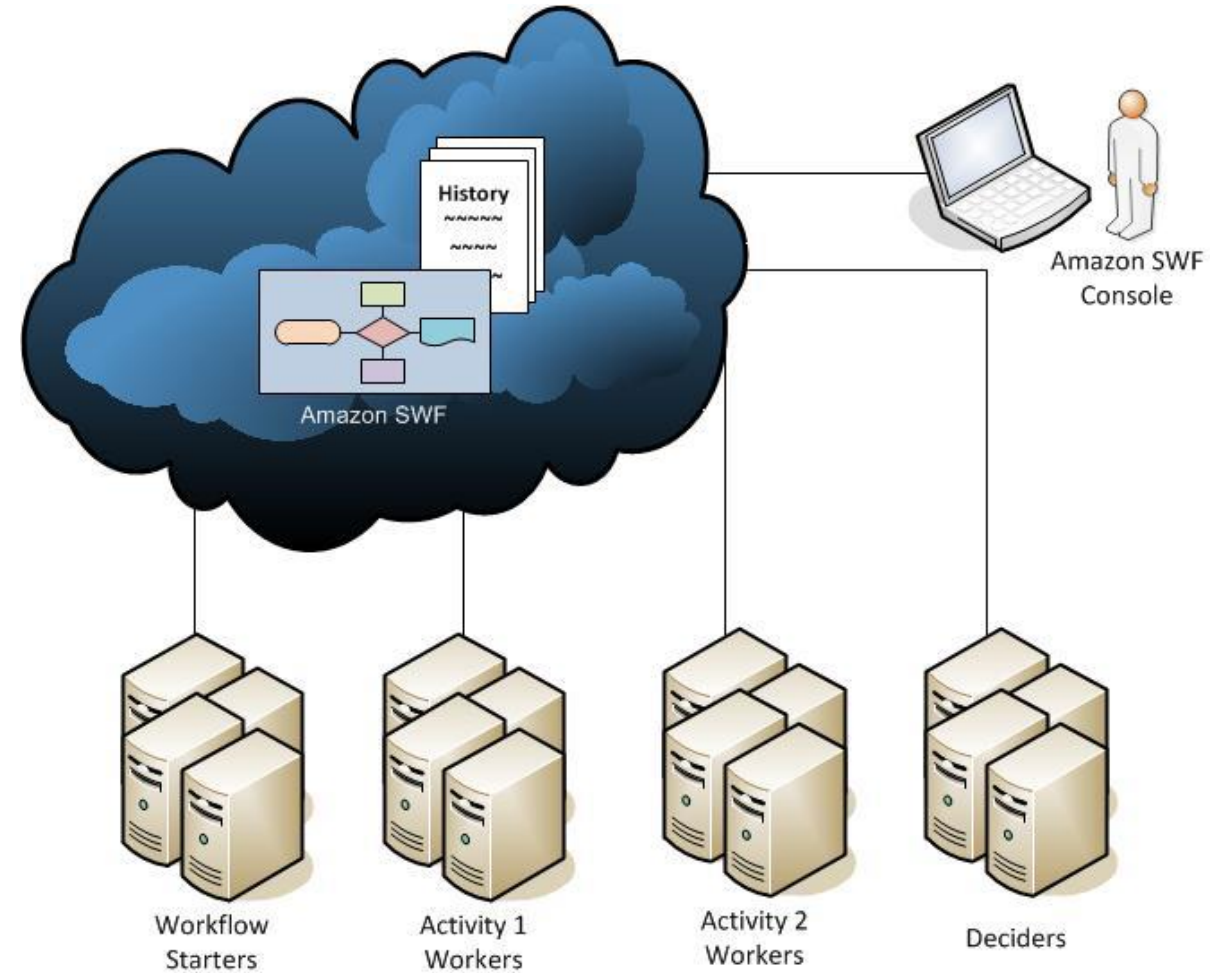
- SWF stand for Simple Workflows Service
- Coordinate work across distributed application components



SWF (cont.)

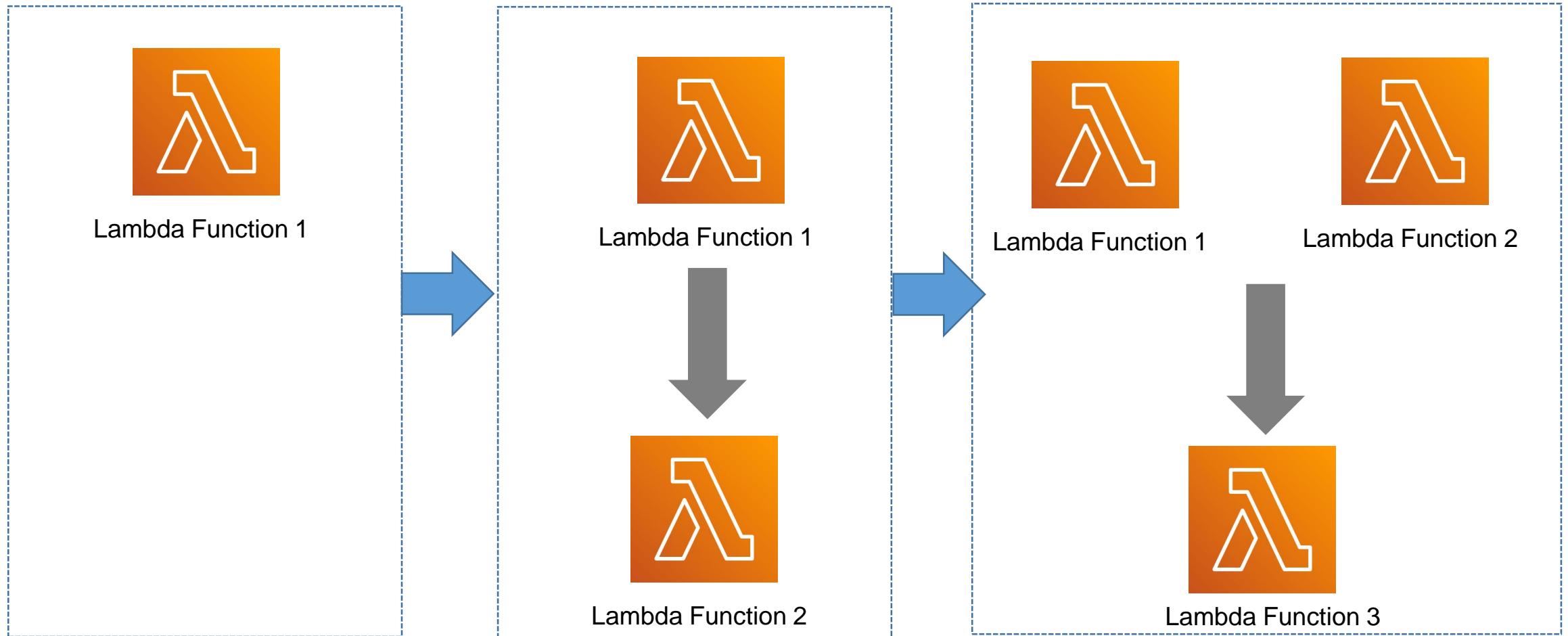
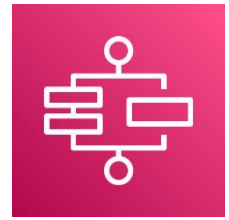


- SWF works with actors
- Actors include
 - Workflow starters
 - Deciders
 - Activity Workers

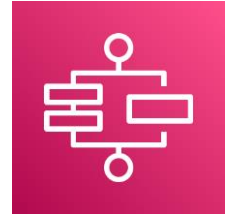


Step Functions

Step Functions

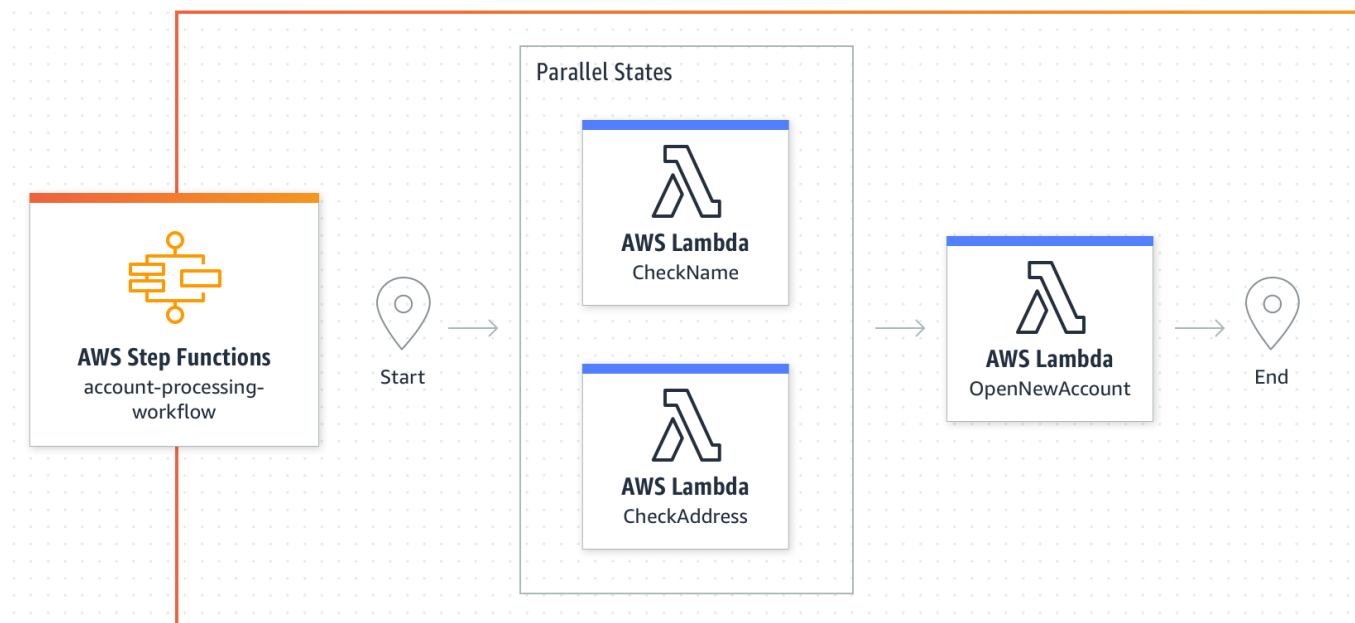
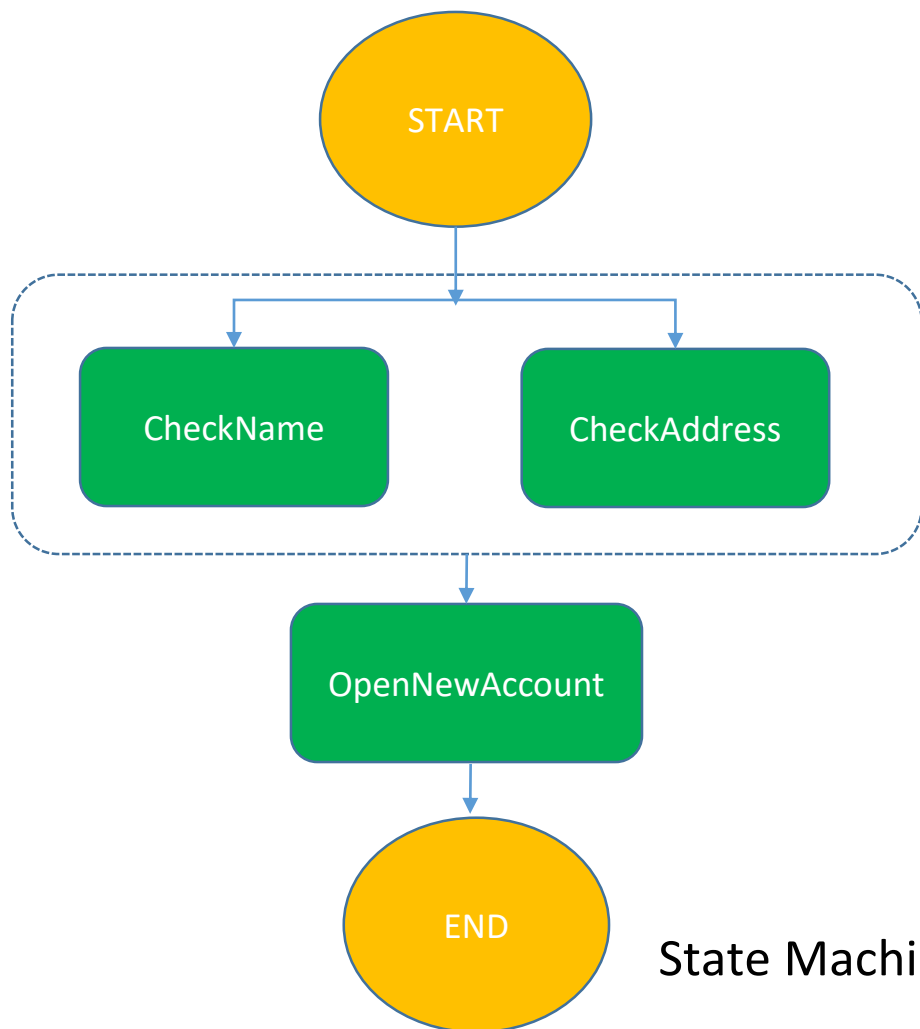
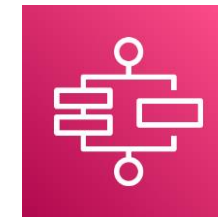


Step Functions (cont.)



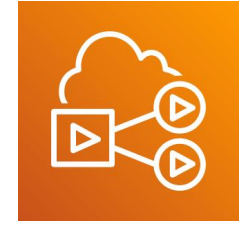
- AWS managed service
- Visual workflow to orchestrate AWS lambda functions and AWS services
- Using JSON State Machine to visualize workflow
- Maximum execution time of 1 year

Step Functions (cont.)



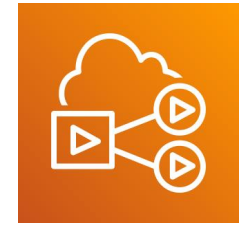
Elastic Transcoder

Elastic Transcoder



- Media Transcoder in the cloud
- Convert original media files to other formats that will play on smartphone, tablets, PCs...
- Pay for the time of transcoding + the resolution

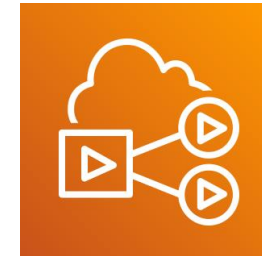
Elastic Transcoder (cont.)



S3 Bucket



Lambda
Function



Elastic
Transcoder

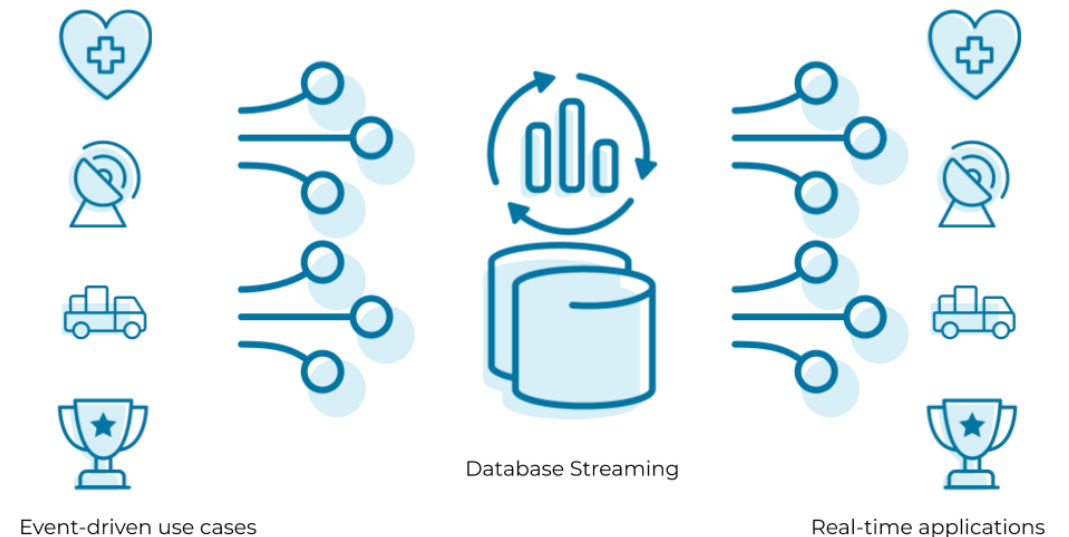


S3 Bucket

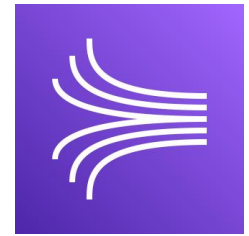
Kinesis

Streaming Data?

- Streaming data is data that is generated continuously by thousands of data sources, which typically send in the data records simultaneously, and in small sizes (order of Kilobytes)
- Use Case:
 - IoT, Sensor data
 - Social Network Data
 - Purchases
 - Game Data

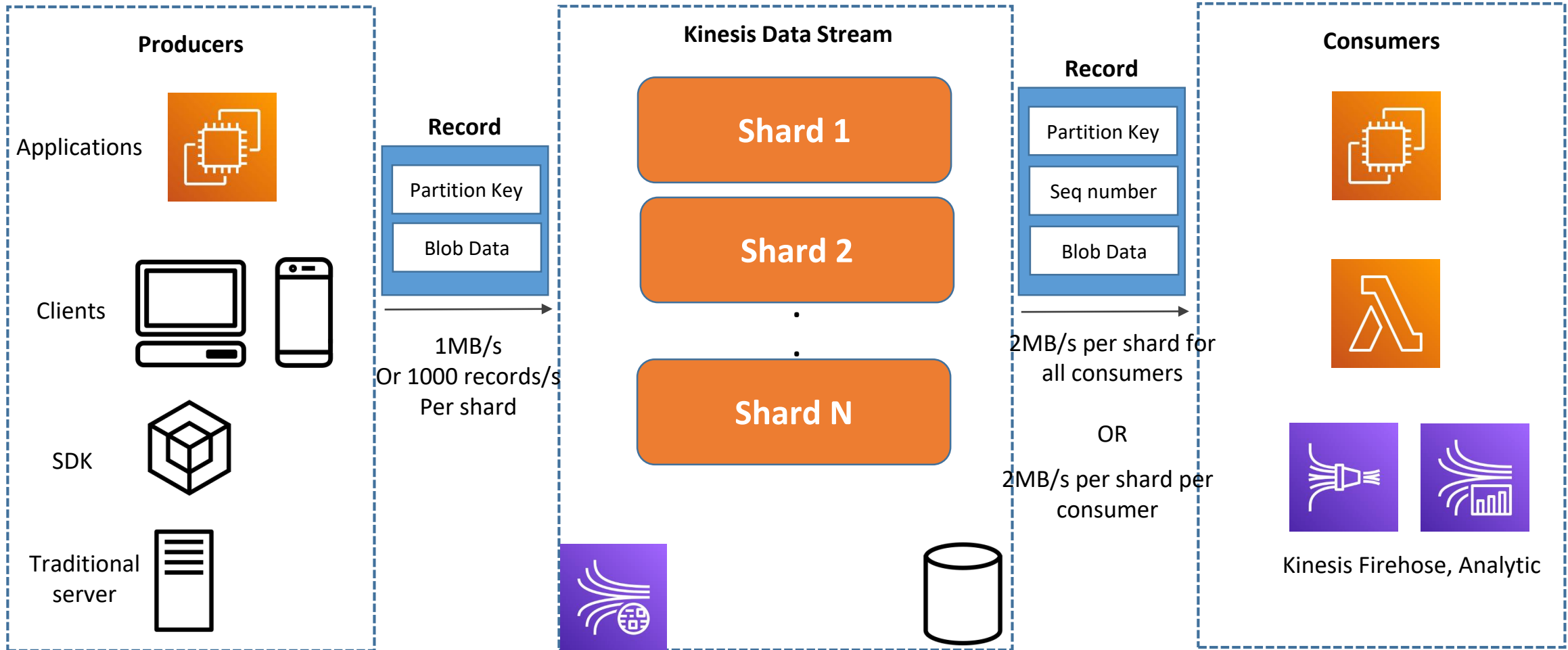


Kinesis



- Collect, process, analyze streaming data in real-time
- Easy to intergrate with your own application
- 4 difference type of Kinesis:
 - Kinesis Data Streams
 - Kinesis Video Streams
 - Kinesis Data Firehose
 - Kinesis Data Analytic

Kinesis Data Stream

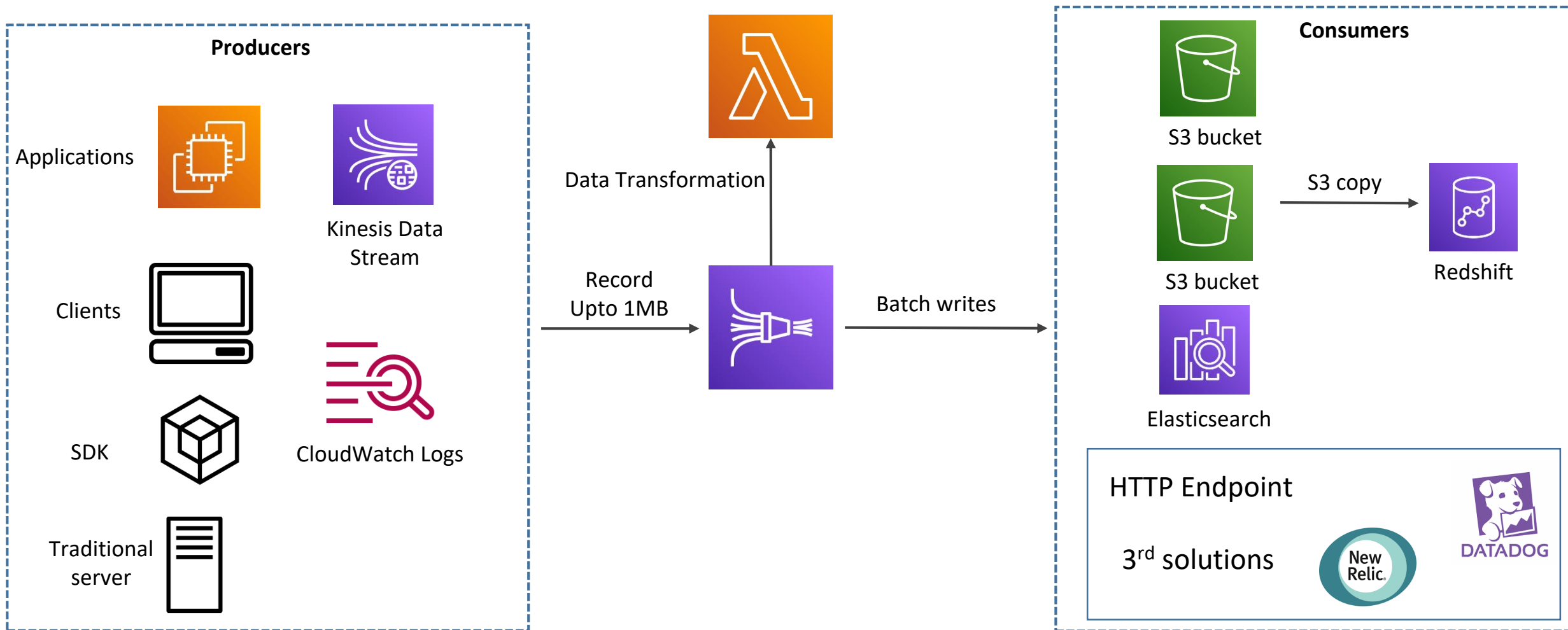
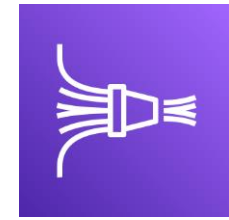


Kinesis Data Stream (cont.)

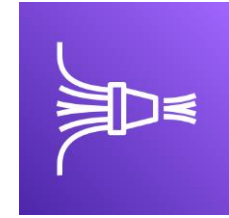


- Total capacity of stream is the sum of the capacities of its shards
- Cost is calculated based on the number of shards provisioned
- Records are stored from 24 hours by default, up to 1 year
- Data in Kinesis is immutable (cannot be deleted by application)

Kinesis Data Firehose



Kinesis Data Firehose (cont.)



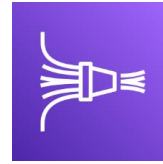
- Fully managed service, auto scaling
- Pay for the data ingestion
- Batch writes (Near real-time)
 - Batch interval: 60s
 - Batch size: minimum 32MB
- Support custom transformation using Lambda

Kinesis Data Stream vs Firehose



Kinesis Data Stream

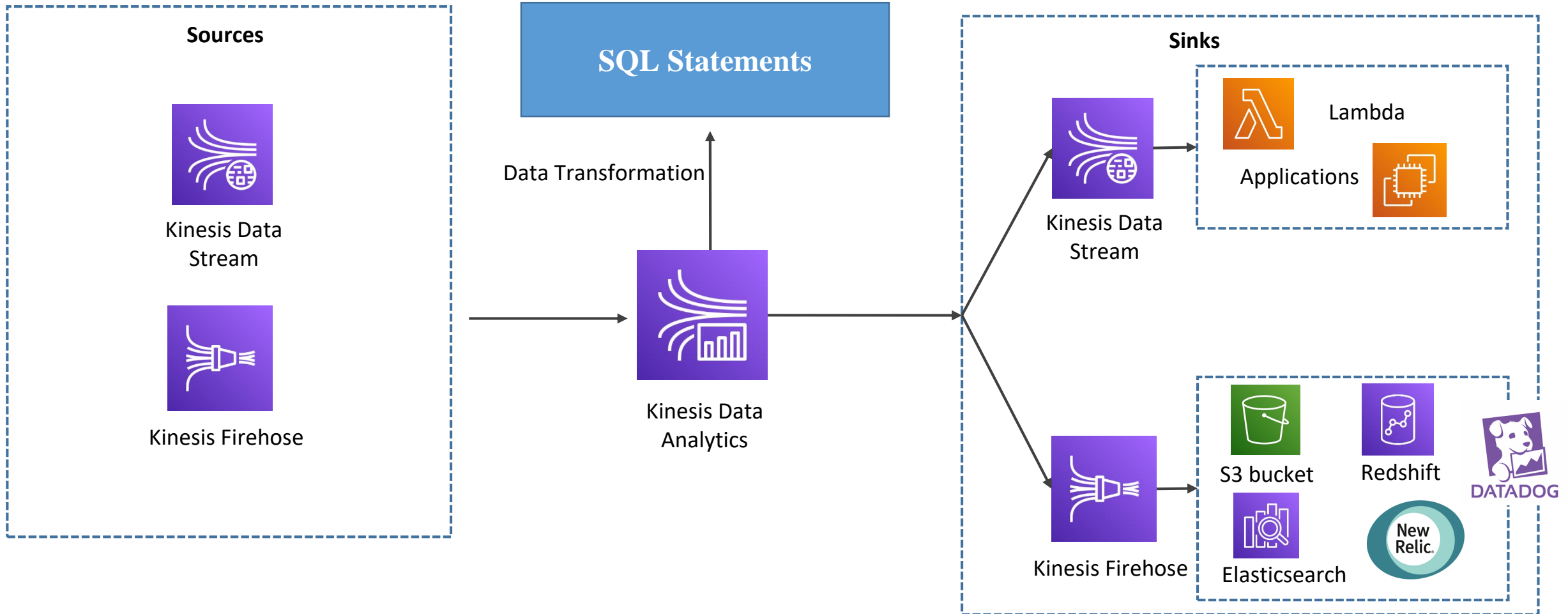
- Data ingestion at scale
- Sum of the capacities of shards
- Write custom code (producer, consumer)
- Pay for shards
- Real-time (200ms)
- Provide data storage (retention 1 ~ 365 days)



Kinesis Data Firehose

- Load streaming data to S3, Redshift...
- Auto scaling
- Fully managed
- Pay for the data ingestion
- Batch writes (Near real-time)
- No data storage

Kinesis Data Analytic (SQL application)



Kinesis Data Analytics (cont.)



- Perform realtime analytics on Data Stream using SQL
- Fully managed service, auto scaling
- Pay for the actual consumption rate (based on KPU – Kinesis Process Unit)
- Use cases:
 - Real-time metrics
 - Real-time BI dashboard

Exam Tips

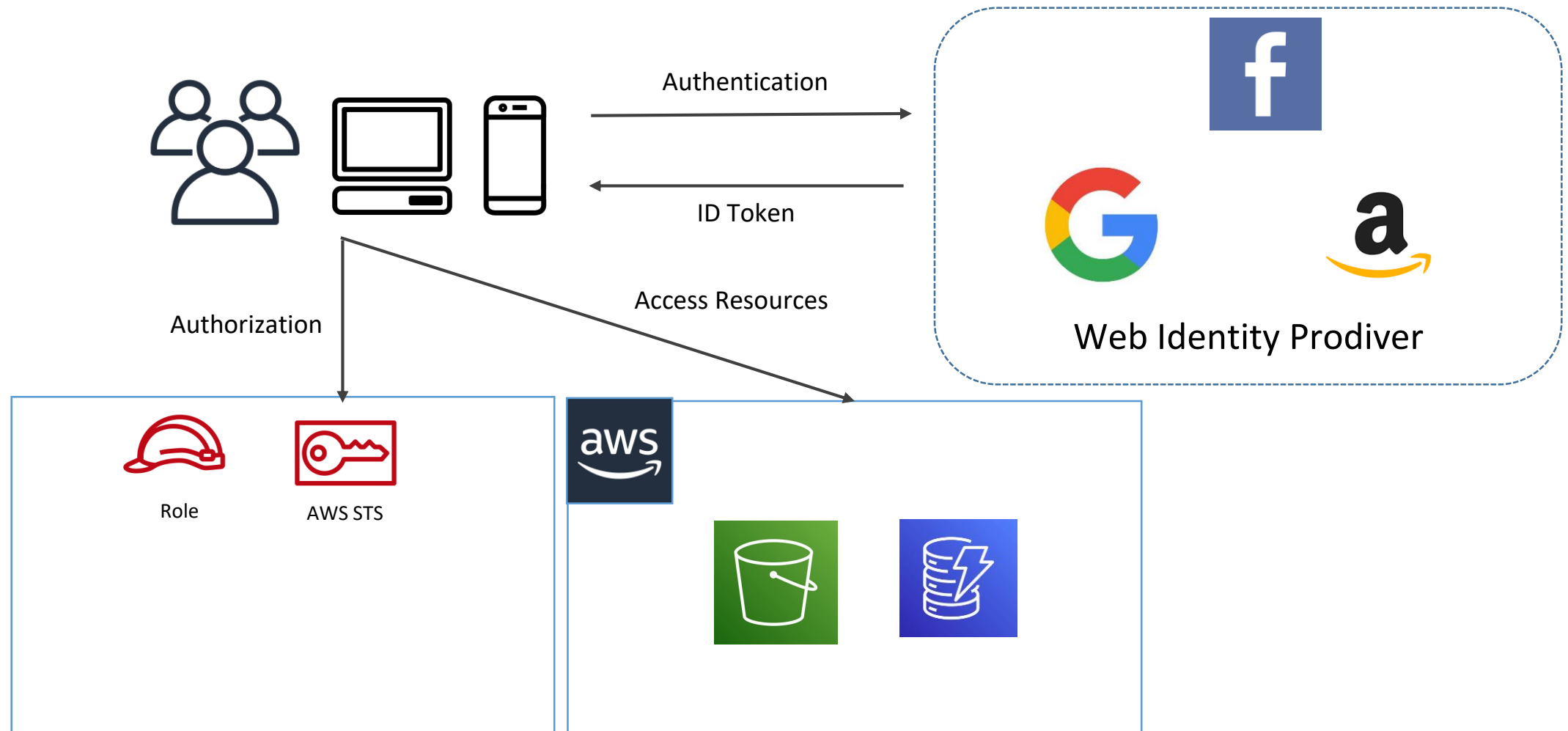
- Difference between Kinesis Data Stream and Data Firehose
- Understand What Kinesis Analytic

Cognito

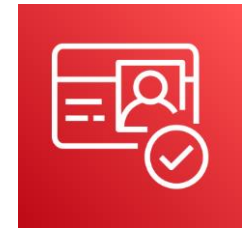
Web Identity Federation

- Web Identity Federation lets you give your users access to AWS resources after successfully authenticated with web-based identity provider like Amazon, Facebook or Google.
- User after successful authentication can assume temporary role to interactive with AWS resources

Web Identity Federation (cont.)

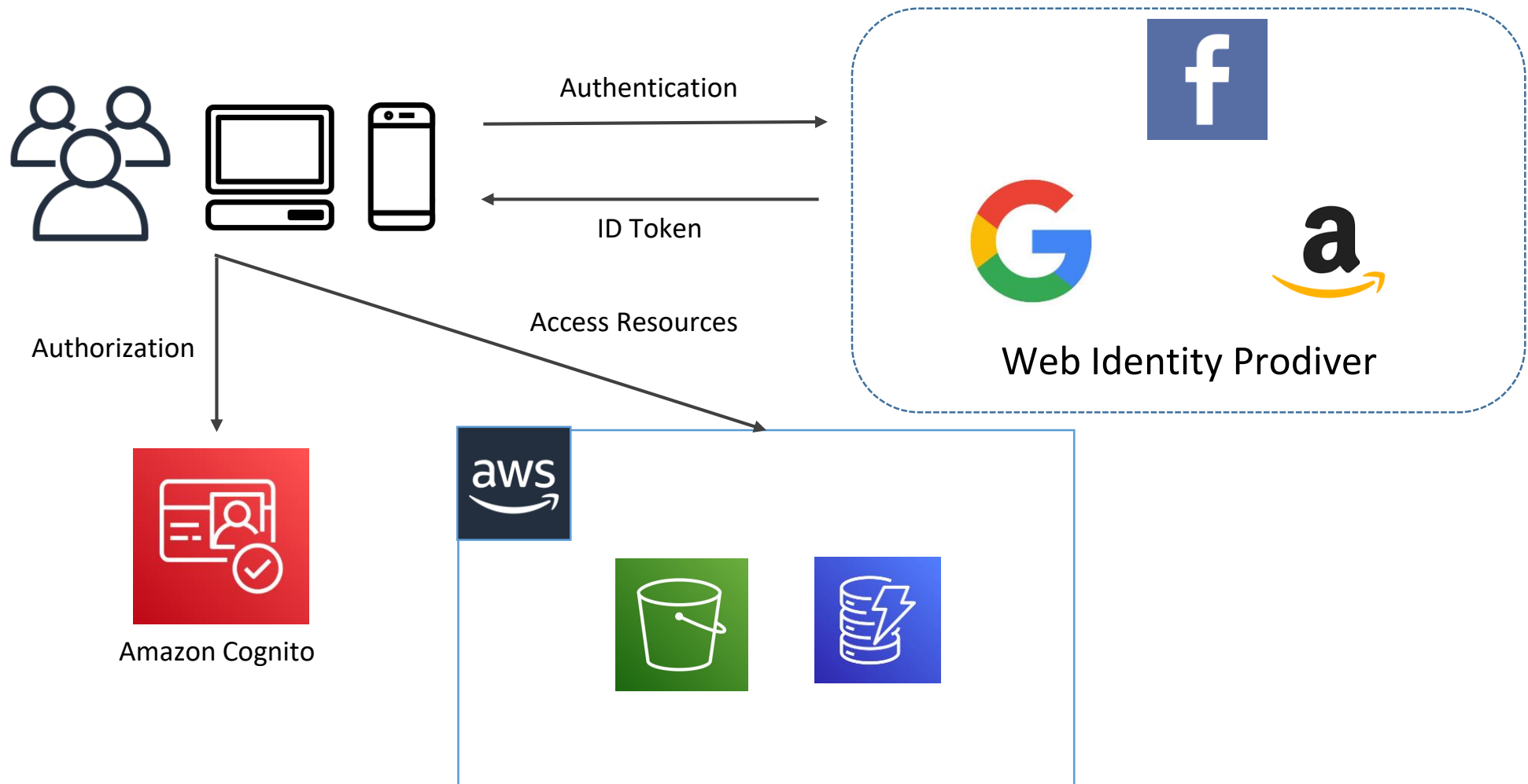
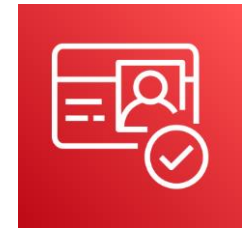


Amazon Cognito

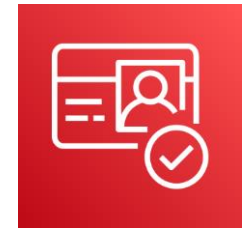


- Amazon Cognito provides Web Identity Federation
- Features:
 - Sign-up and sign-in to your apps
 - Access for guest users
 - Work as Identity Broker between Web Identity Providers (IdPs) and your app
 - Synchronizes user data for multiple devices

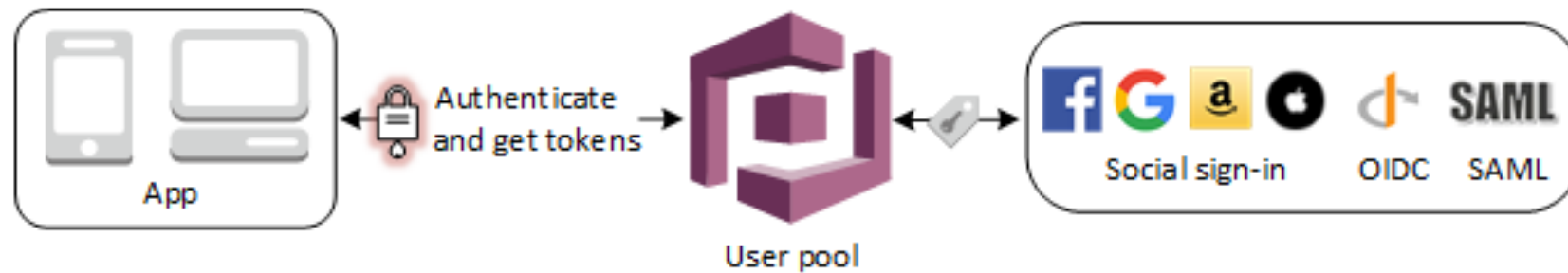
Amazon Cognito (cont.)



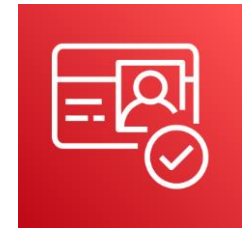
Amazon Cognito Concepts



- User Pools
 - User directories used to manage sign-up and sign-in options for mobile and web app users
 - User also can login to Web IdPs like Facebook, Amazon or Google

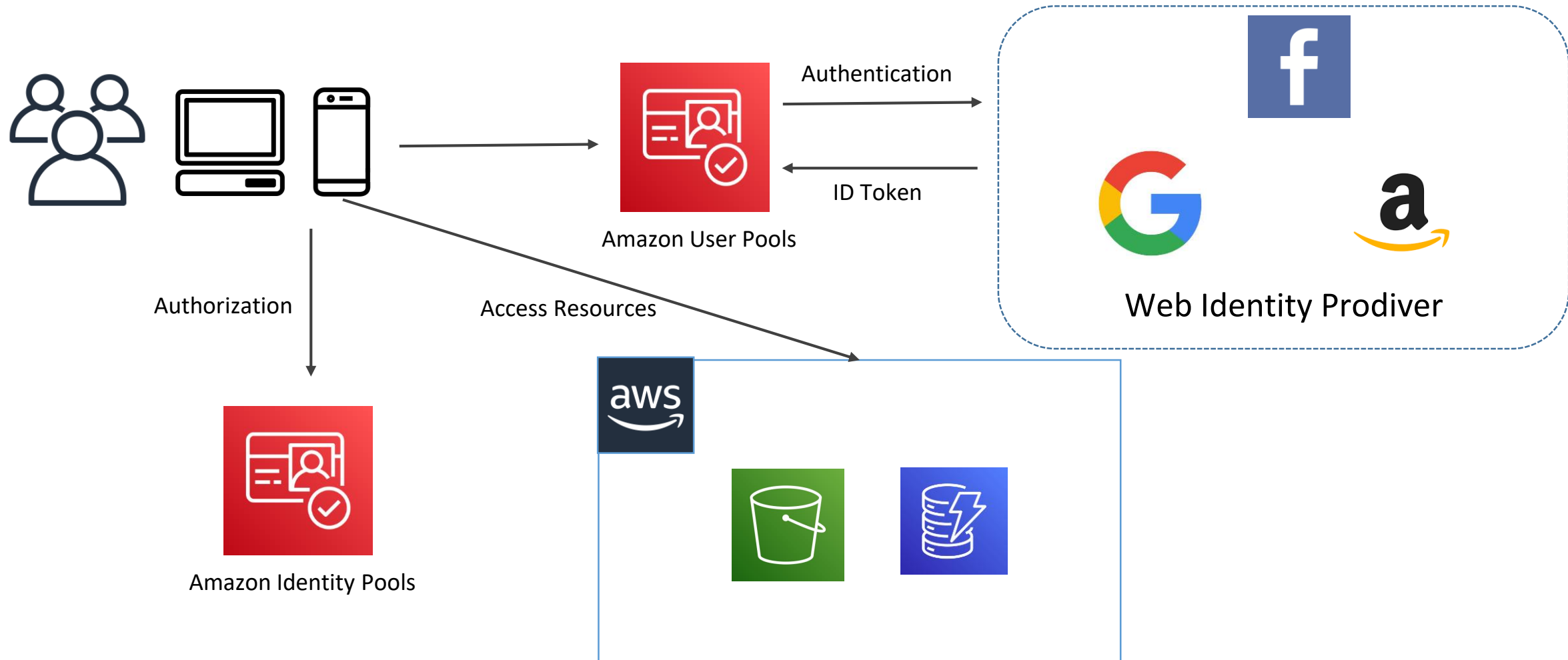
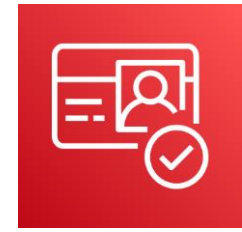


Amazon Cognito Concepts (cont.)



- Identity Pools
 - Give your users access to AWS resources.
 - Generate temporary AWS credentials for unauthenticated users.

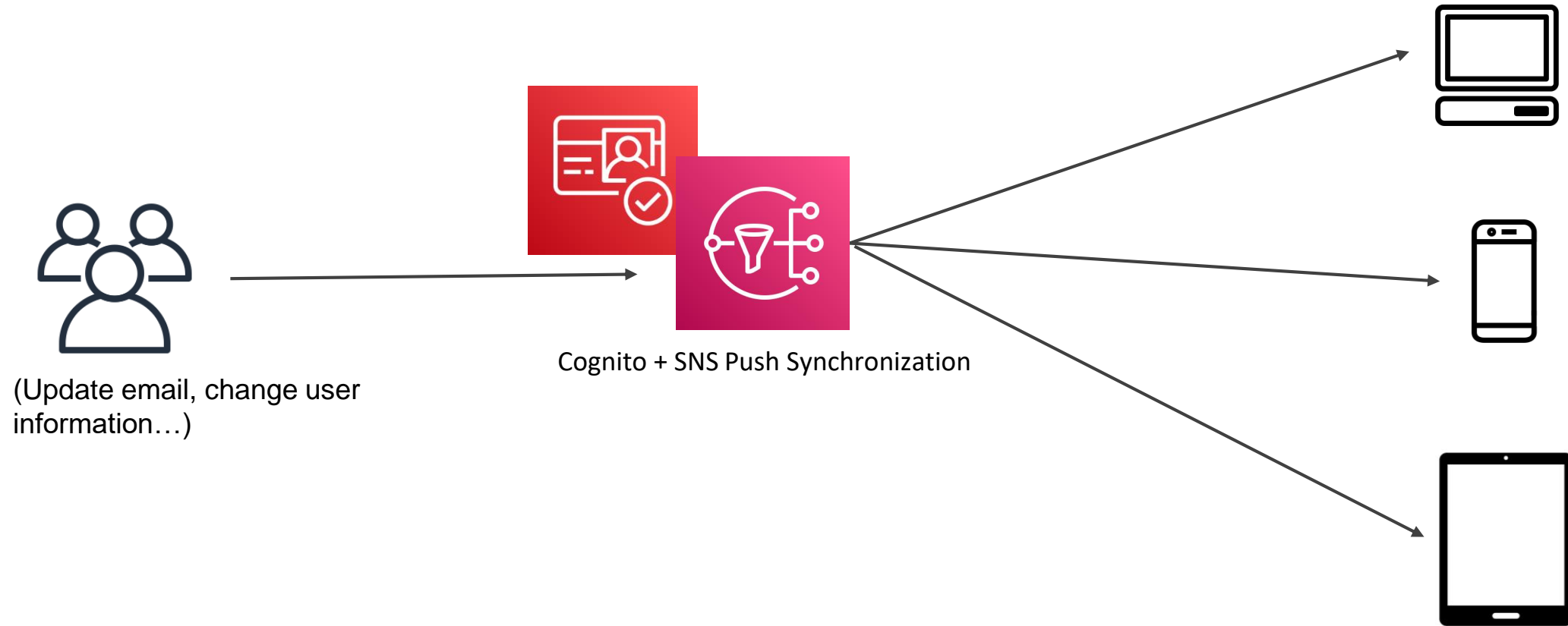
Amazon Cognito in Action



Push Synchronization

- Cognito track the association between user identity and various devices they sign-in from
- Cognito uses Push Synchronization to push updates and synchronize user data across devices

Push Synchronization (cont.)



Exam Tips

- Federation allows users to authenticate with Web Identity Provider (Amazon, Facebook, Google...)
- Cognito works as Identity Broker between Web IdPs and your apps
- **User Pools** handles things like user registration, authentication and account recovery
- **Identity Pools** authorize access to AWS resources