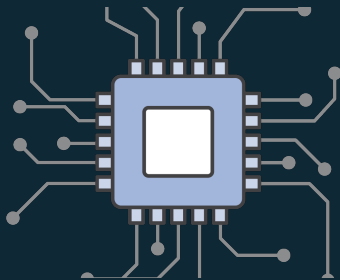




# API Gateway Overview



# Introduction to Amazon API Gateway



Create a unified  
API frontend for  
multiple micro-  
services



DDoS protection  
and throttling  
for your backend

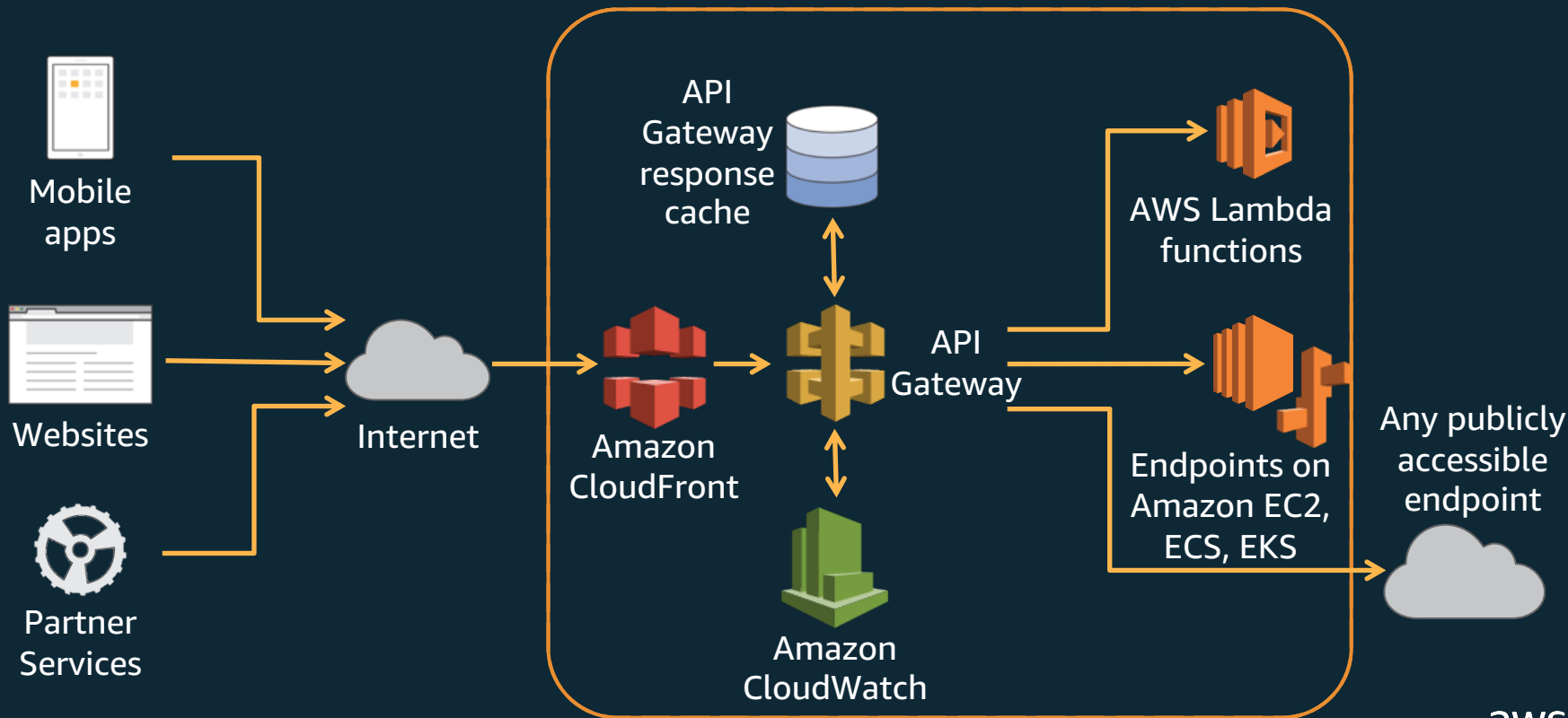


Authenticate and  
authorize  
requests to a  
backend



Throttle, meter,  
and monetize  
API usage by 3<sup>rd</sup>  
party developers

# Amazon API Gateway: Serverless APIs



# API Gateway Features

# Message Transformation and Validation

## API Gateway Model

Make changes to your model in the form below. Models are declared using [JSON schema](#).

**Model name** costCalculatorRequest

**Content type** application/json

**Model description** CostCalculator incoming request schema

**Model schema\***

```
1- {
2  "$schema": "http://json-schema.org/draft-04/schema#",
3  "title": "costCalculatorRequestModel",
4  "type": "object",
5  "properties": {
6    "price": { "type": "number" },
7    "size": { "type": "number" },
8    "unit": { "type": "string" },
9    "downPayment": { "type": "number" }
10 }
11 }
```

## Mapping and Transformation

```
1 #set($inputRoot = $input.path('$'))
2
3 {
4   "price" : "$inputRoot.price",
5   "size" : "$inputRoot.size",
6   "unit" : "$inputRoot.unit",
7   "downPaymentAmount" : "$inputRoot
8     .downPayment"
```

Cancel

Save

## Message Validation

Resources Actions • Method Execution /priceperimeter - POST - Method Request

Provide information about this method's authorization settings and the parameters it can receive.

Settings

Authorization NONE / 0

Request Validator **Validate body**

API Key Required

URL Query String Parameters

HTTP Request Headers

Request Body

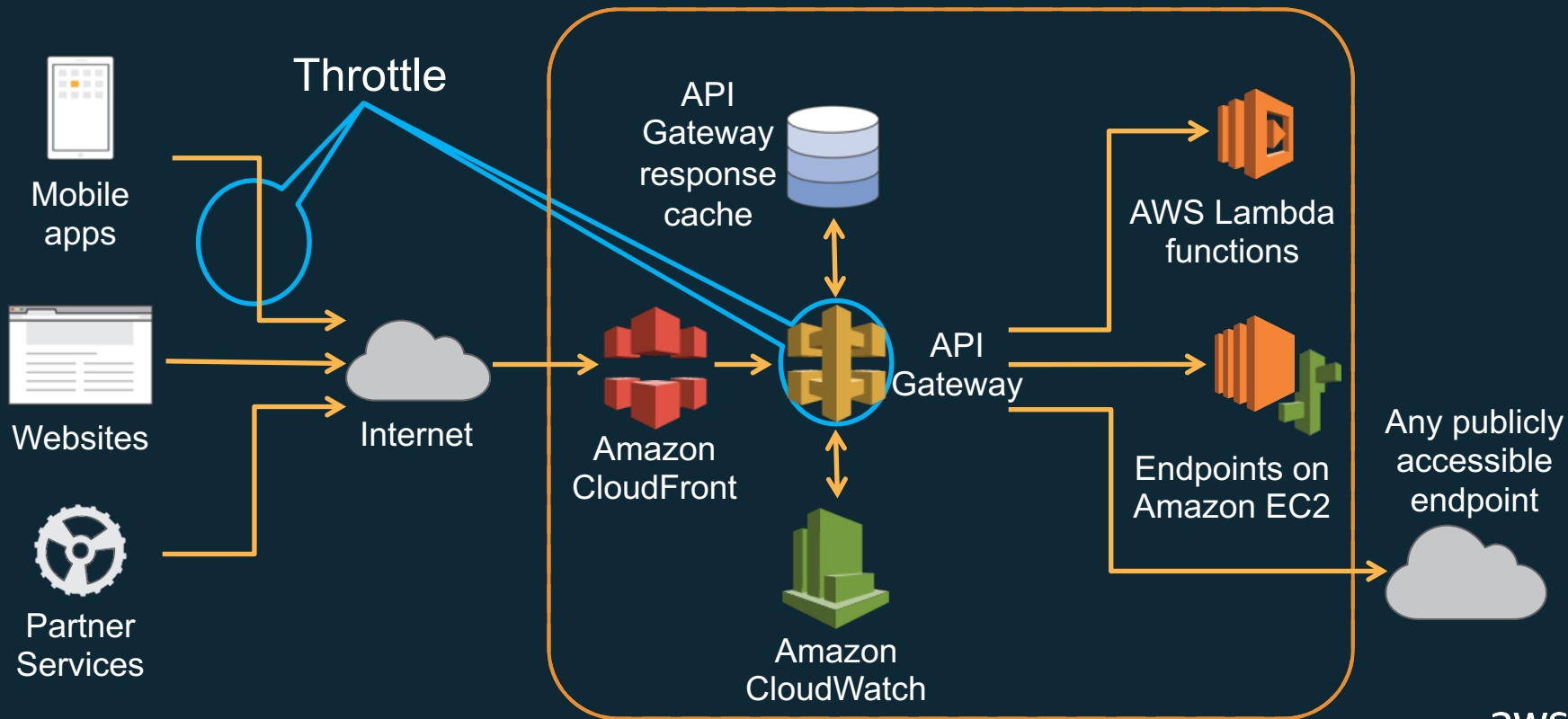
SDK Settings

*Note: The 'Request Validator' dropdown menu is open, showing options: NONE, Validate body (selected), Validate body, query string parameters, and headers, and Validate query string parameters and headers.*

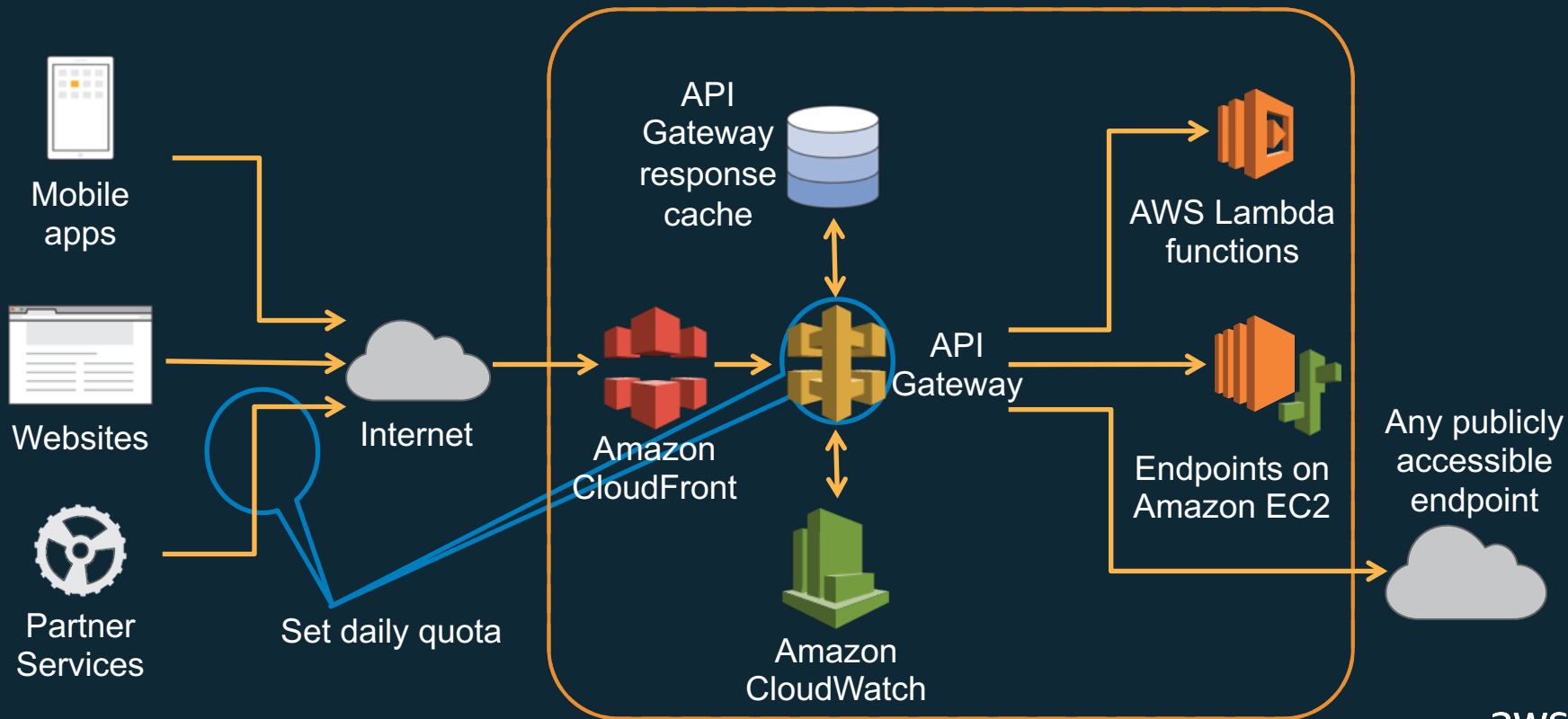
# Message Throttling and Usage Plans

- Prevents one customer from consuming all your backend system's capacity
- Let's you decide how to allocate capacity among your API consumers. Sample plan:
  - Professional plan users: 10 TPS, up to 100 calls / day
  - Premium plan users: 100 TPS, up to 1000 calls / day
  - Enterprise plan users: 500 TPS, no limit on calls / day

# Usage Plans: Throttle specific consumers



# Usage Plans: Enforce per-consumer quotas





# Securing APIs

# API Gateway: three types of authorization

**Amazon Cognito  
User Pools**



User Pools Authorizers

**Amazon Cognito  
Federated Identities**



AWS IAM authorization

**Custom Identity Providers**



Custom Authorizers

# API Gateway: three types of authorization

**Amazon Cognito  
User Pools**



**User Pools Authorizers**

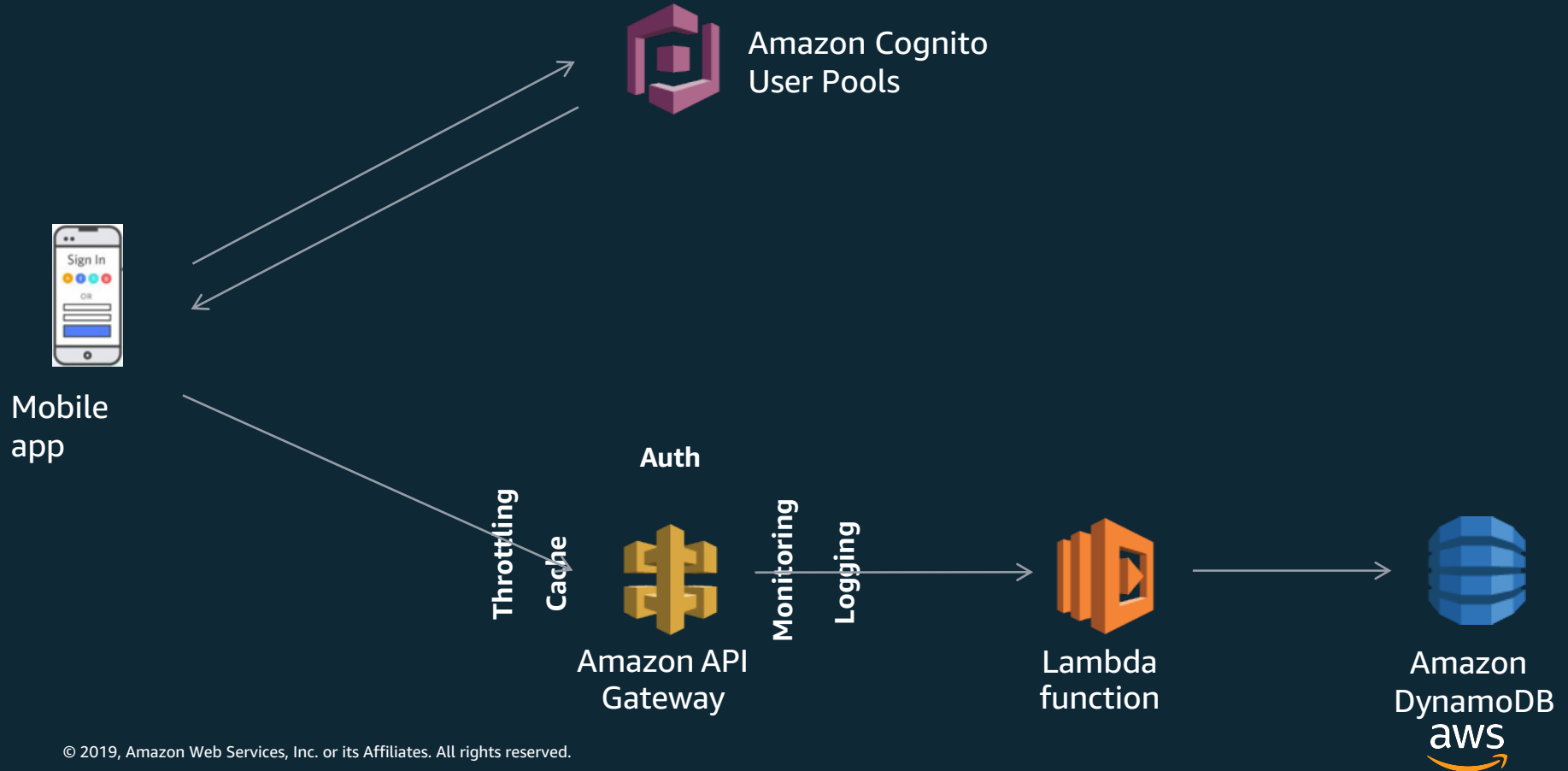
**Amazon Cognito  
Federated Identities**

**AWS IAM authorization**

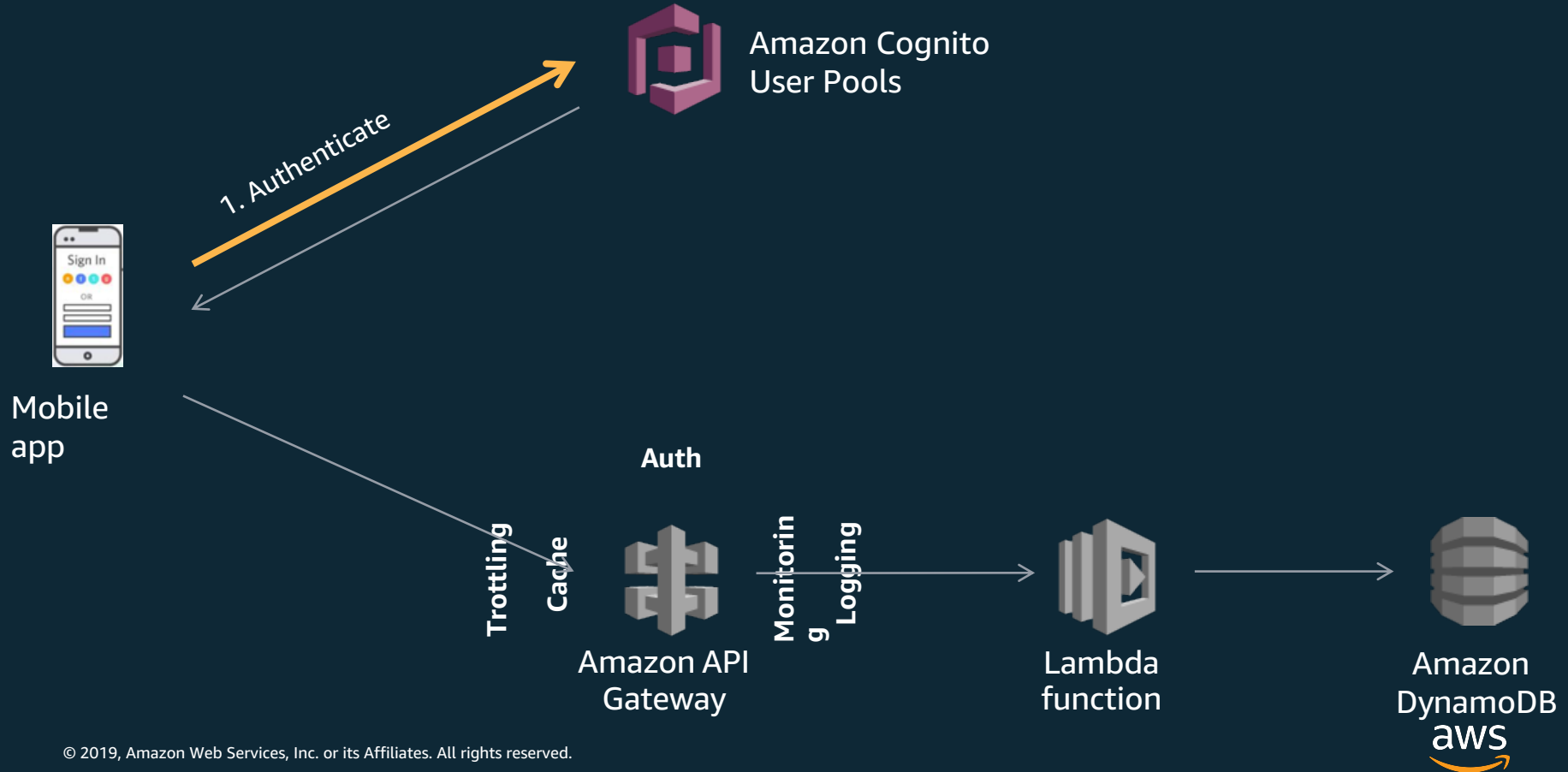
**Custom Identity Providers**

**Custom Authorizers**

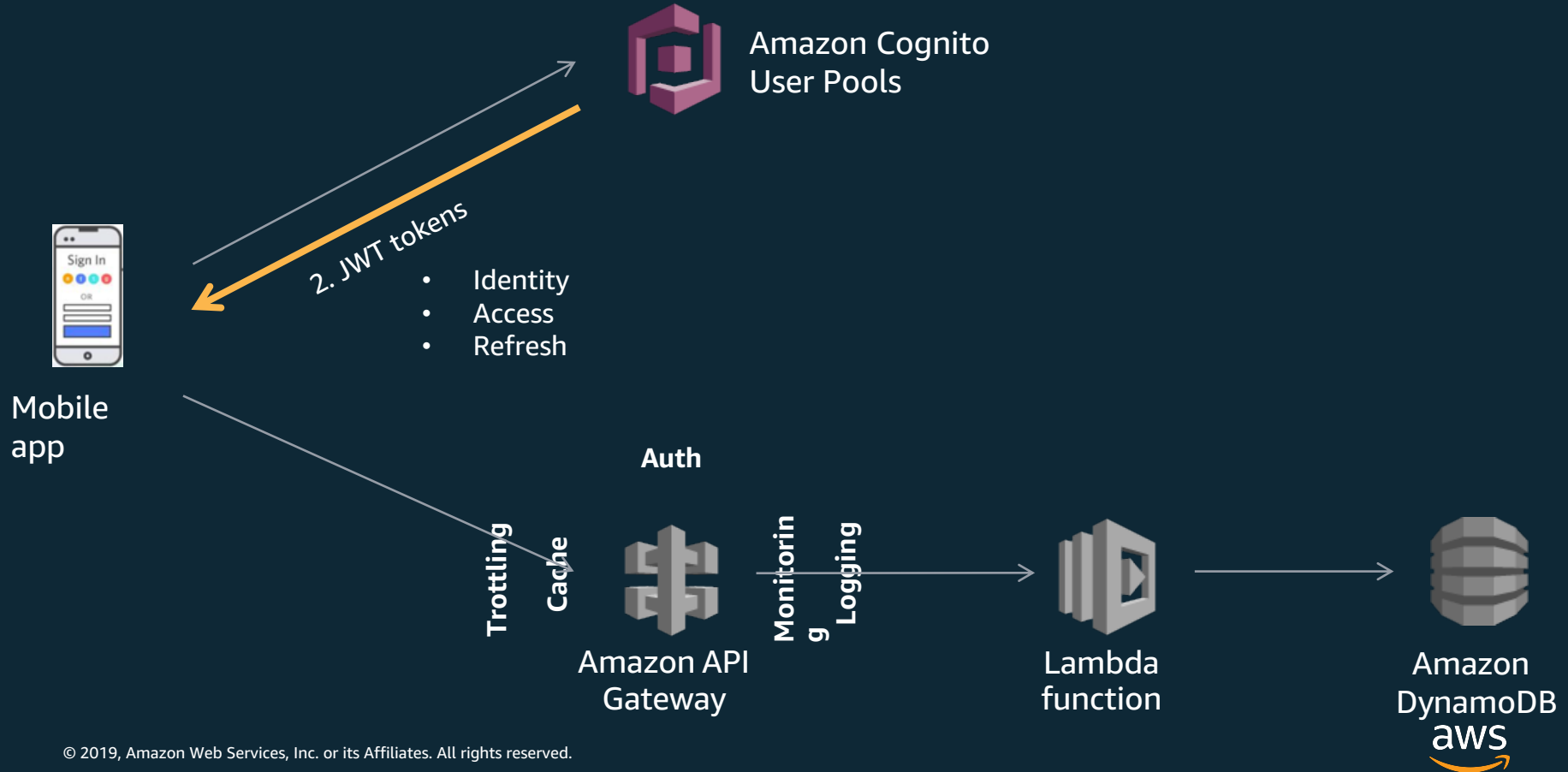
# User Pools Authorizers



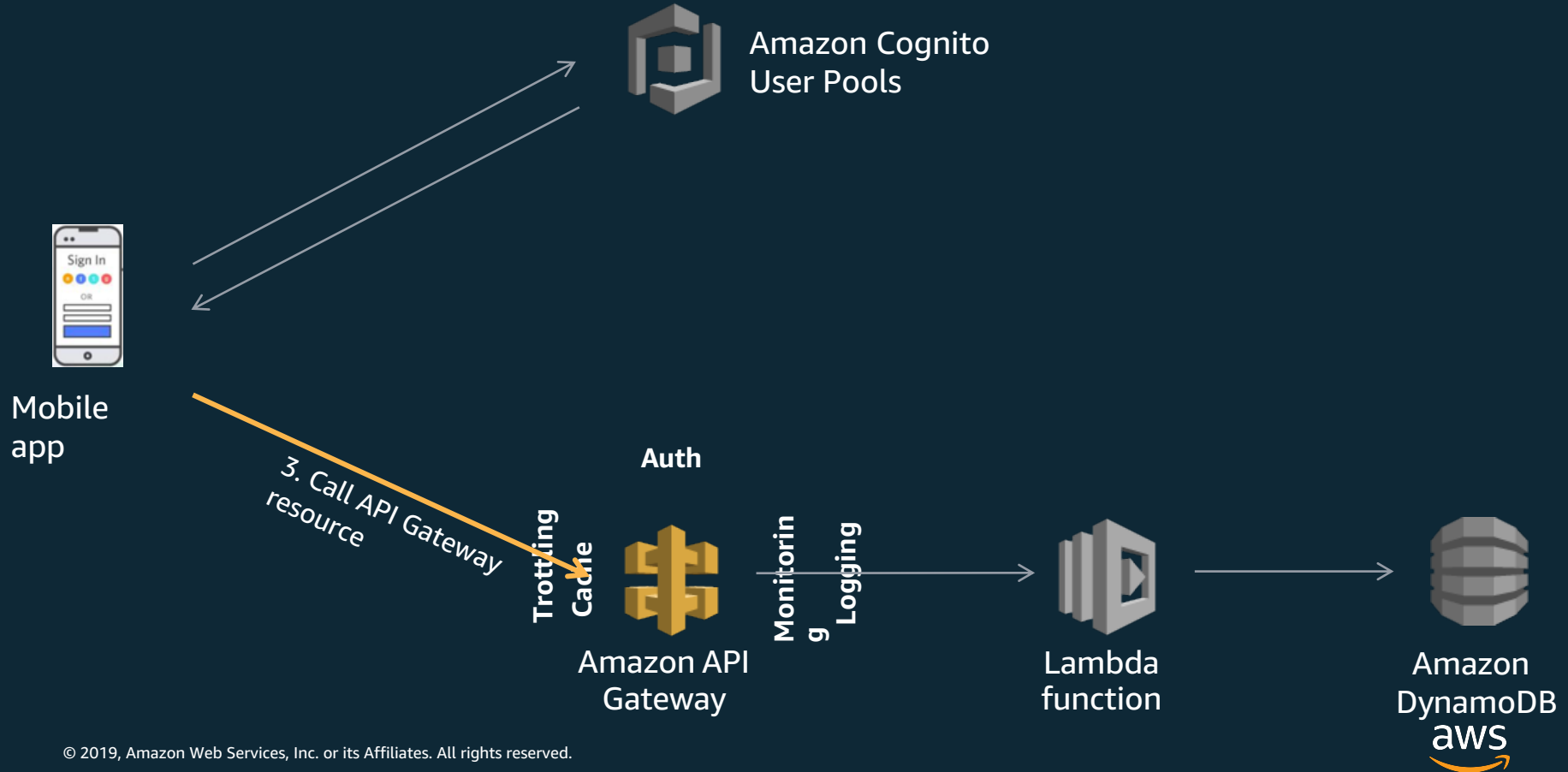
# User Pools Authorizers



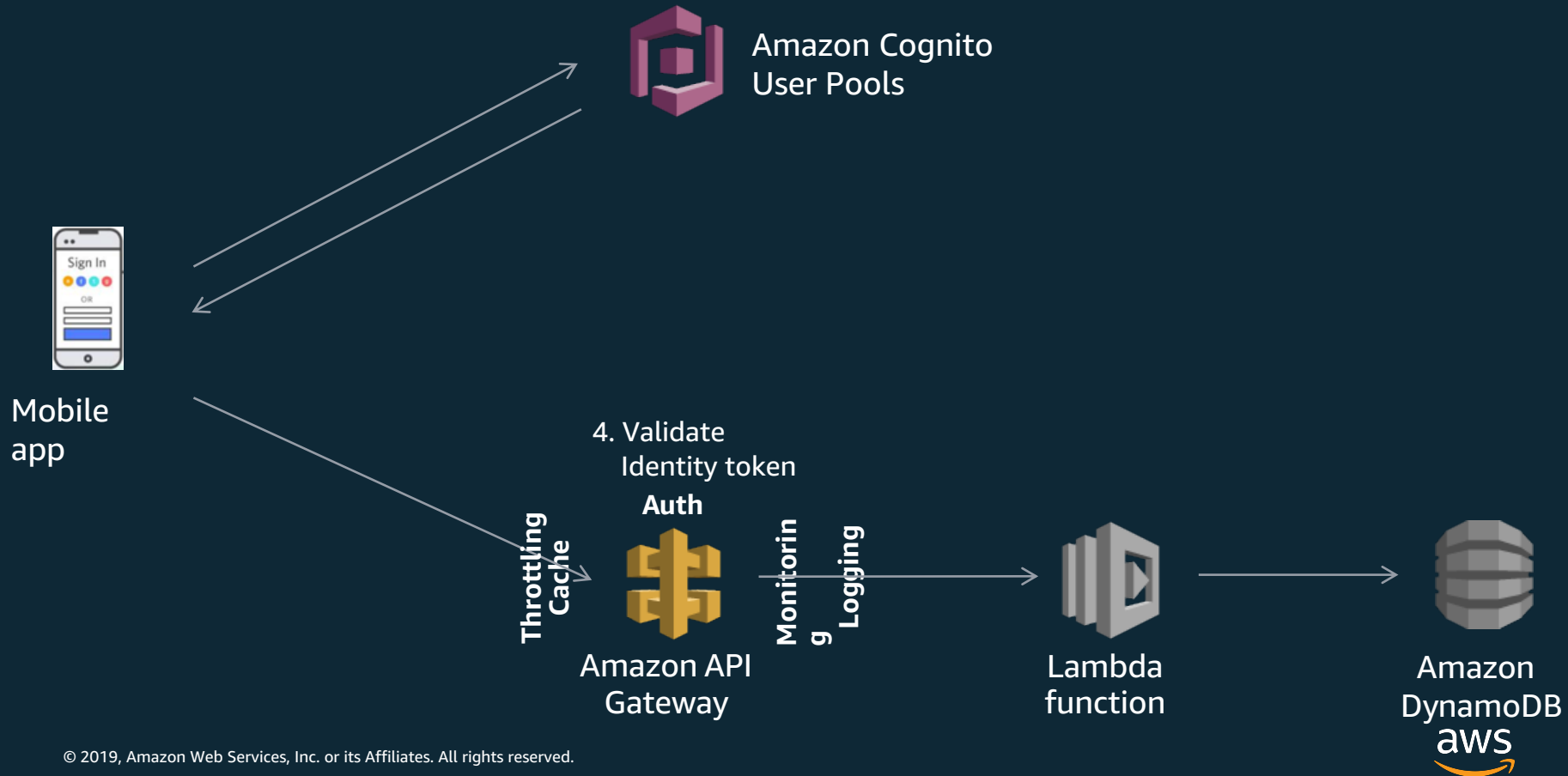
# User Pools Authorizers



# User Pools Authorizers

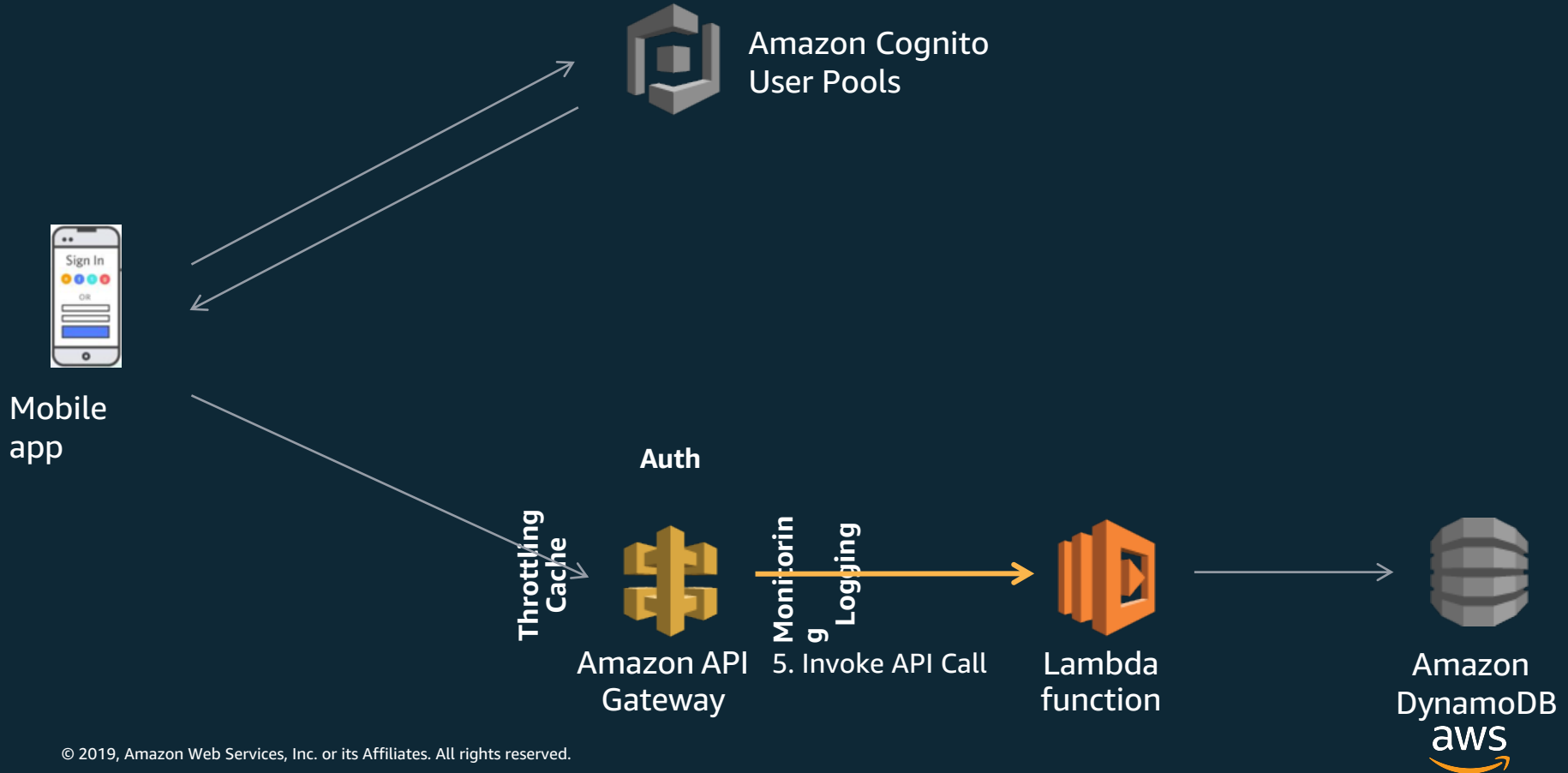


# User Pools Authorizers

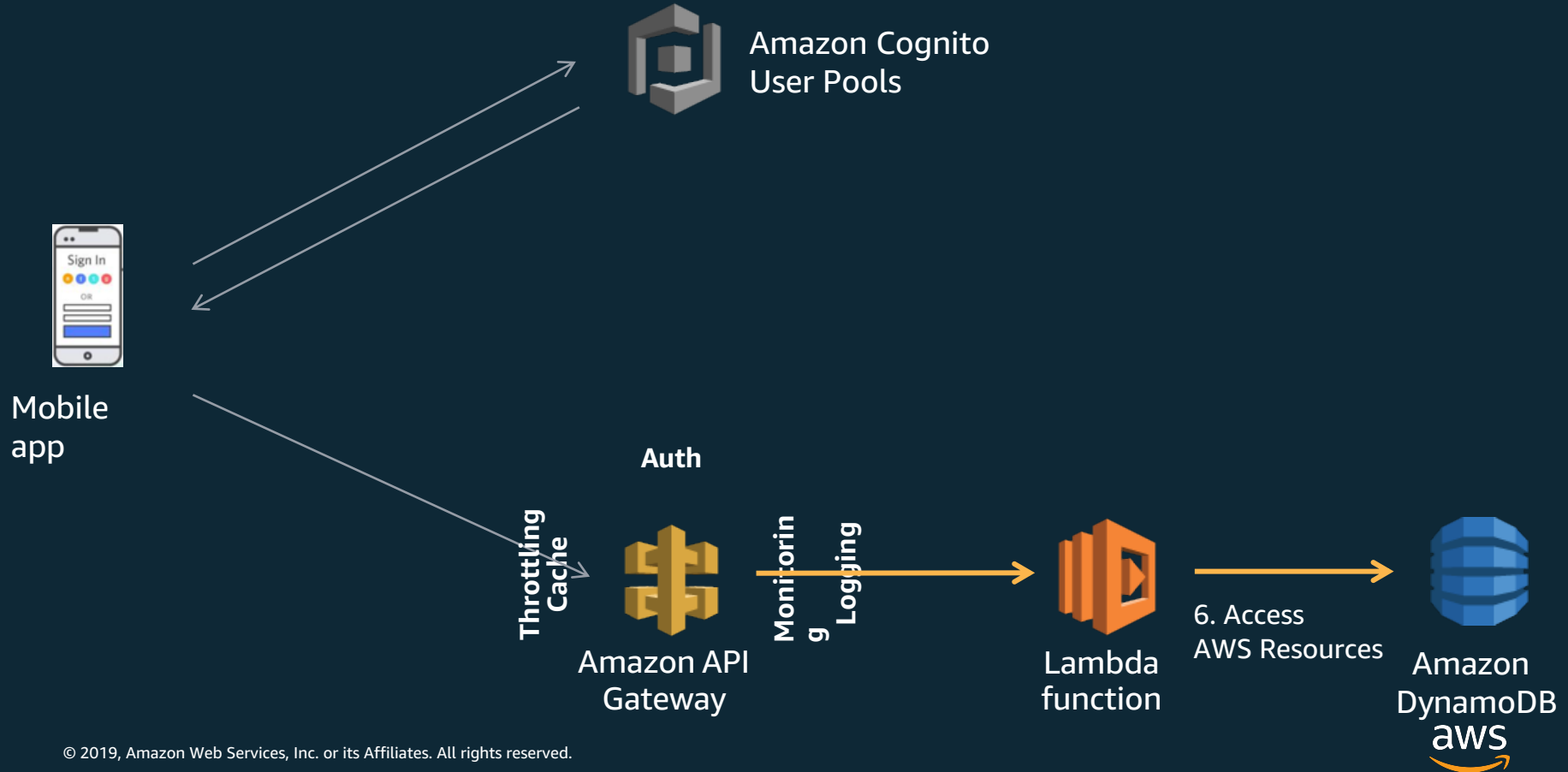




# User Pools Authorizers



# User Pools Authorizers



# API Gateway: three types of authorization

Amazon Cognito  
User Pools

User Pools Authorizers

Amazon Cognito  
Federated Identities

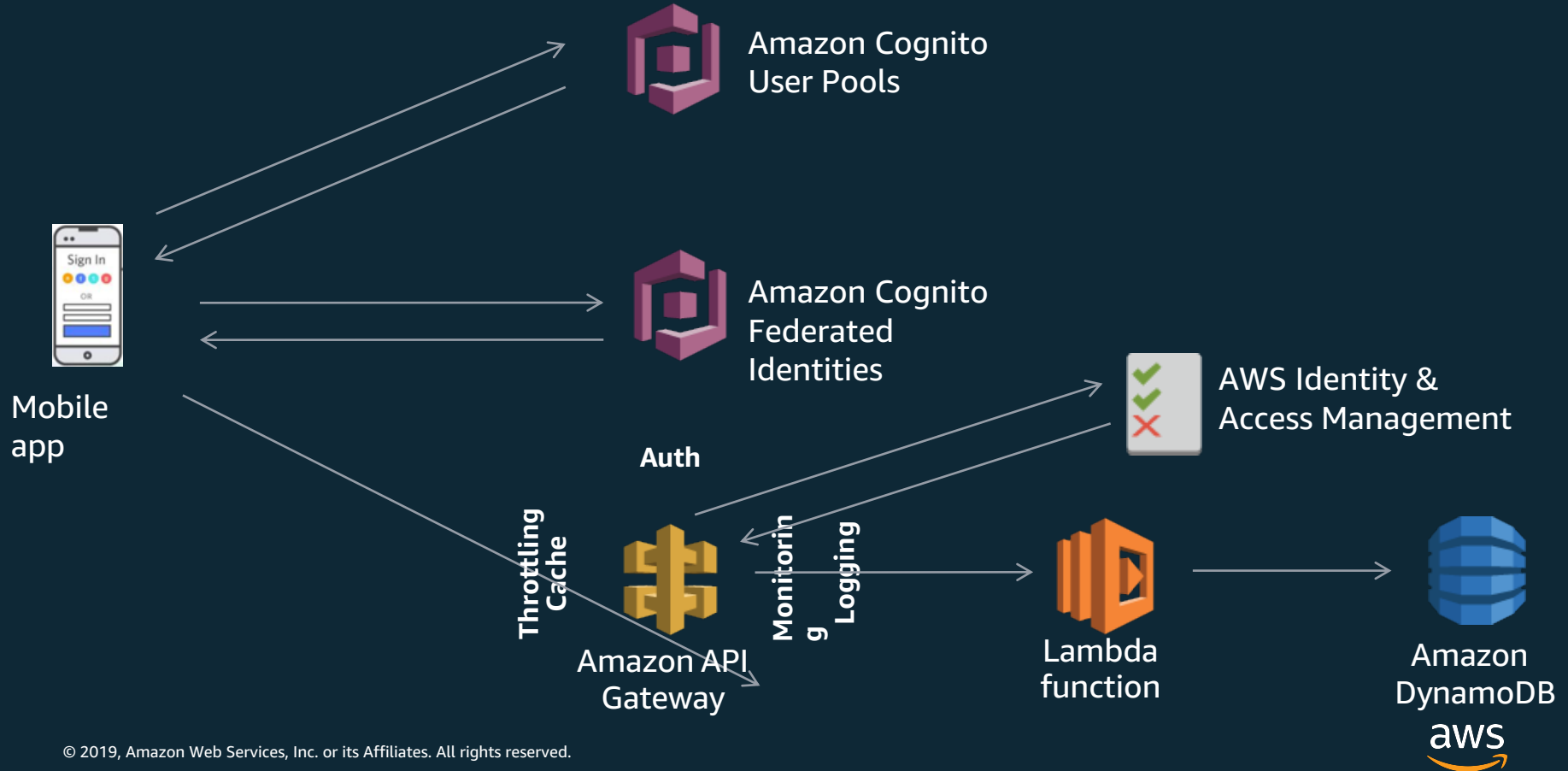


AWS IAM authorization

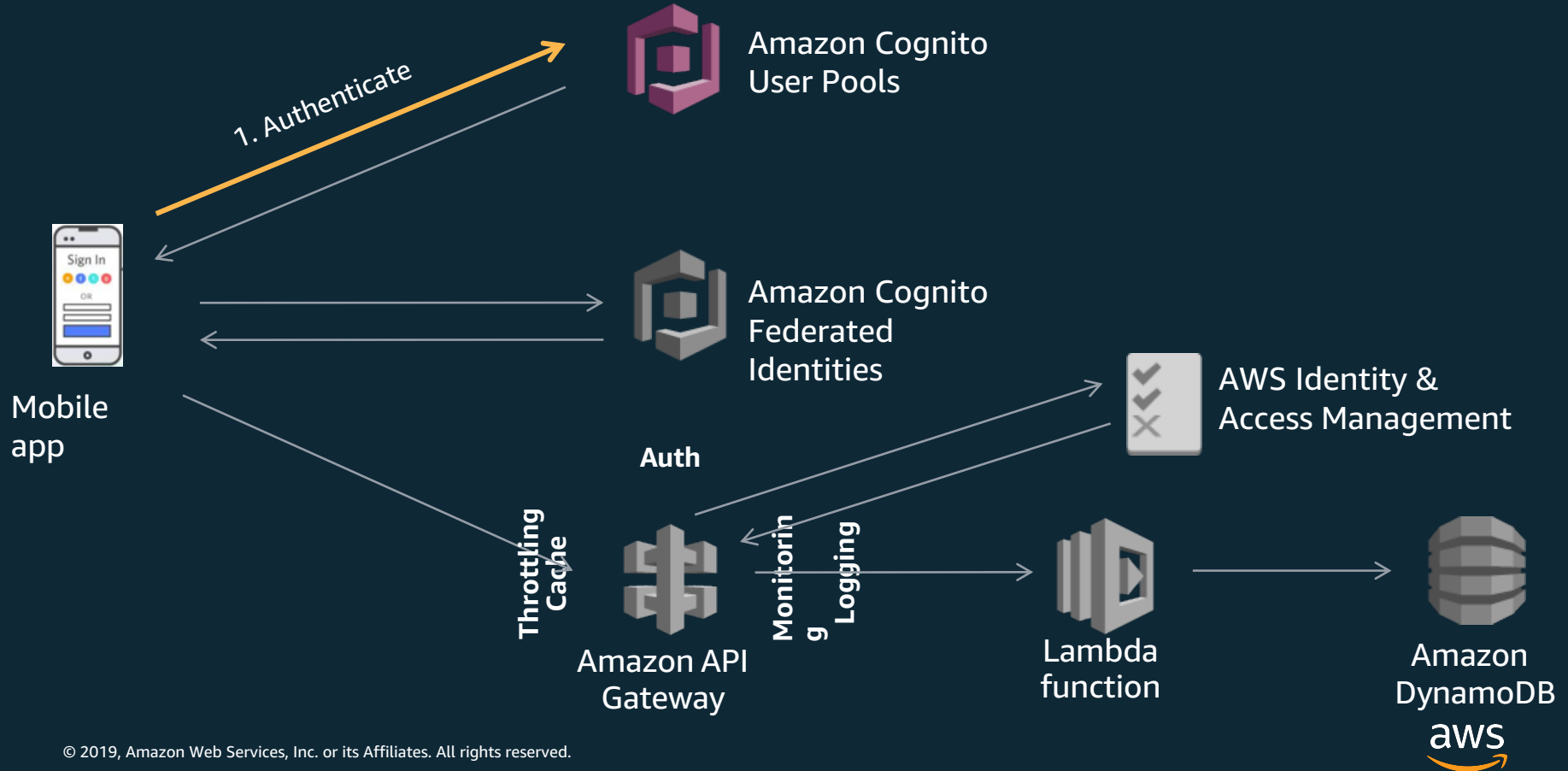
Custom Identity Providers

Custom Authorizers

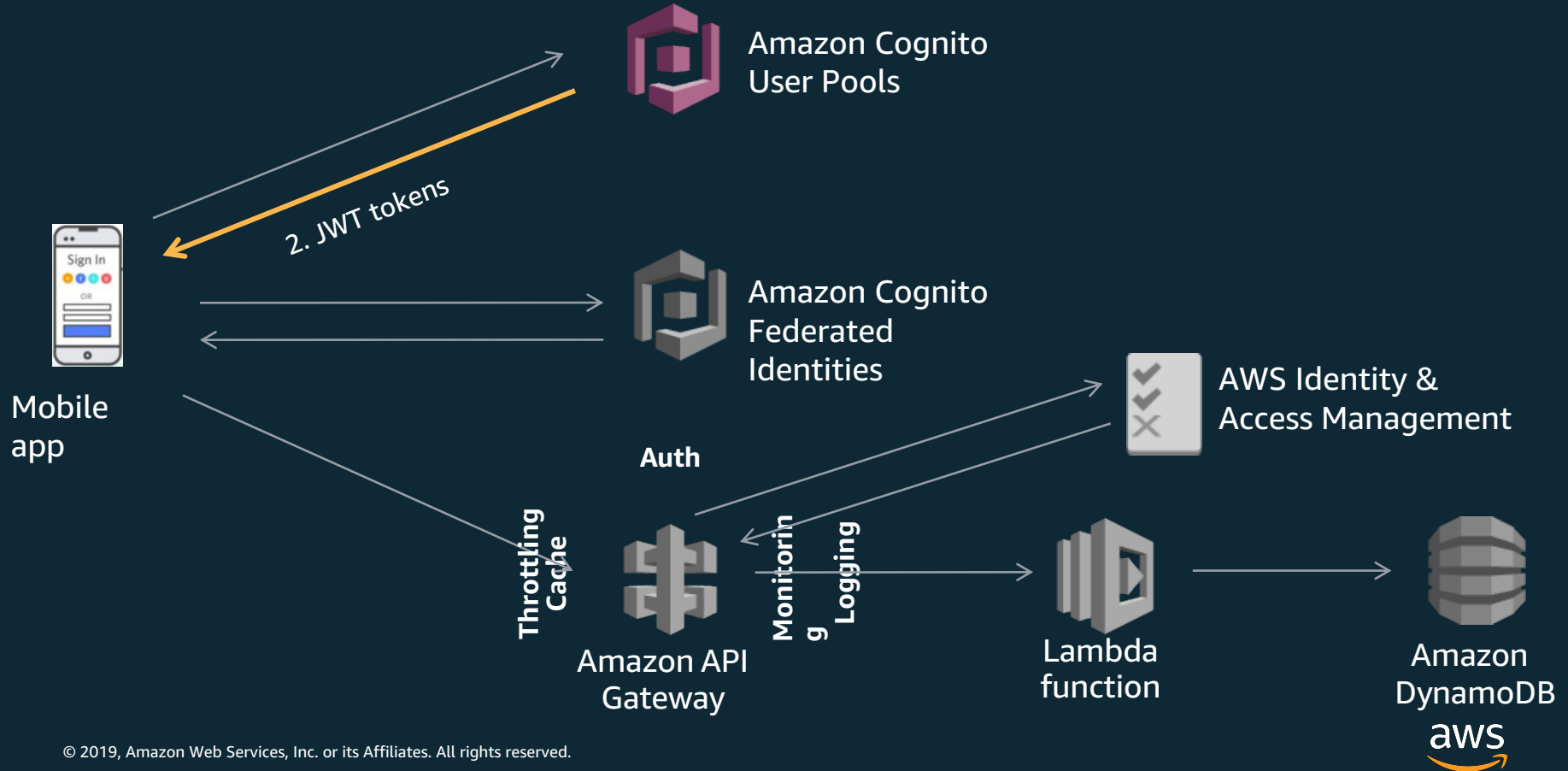
# IAM-based authorization



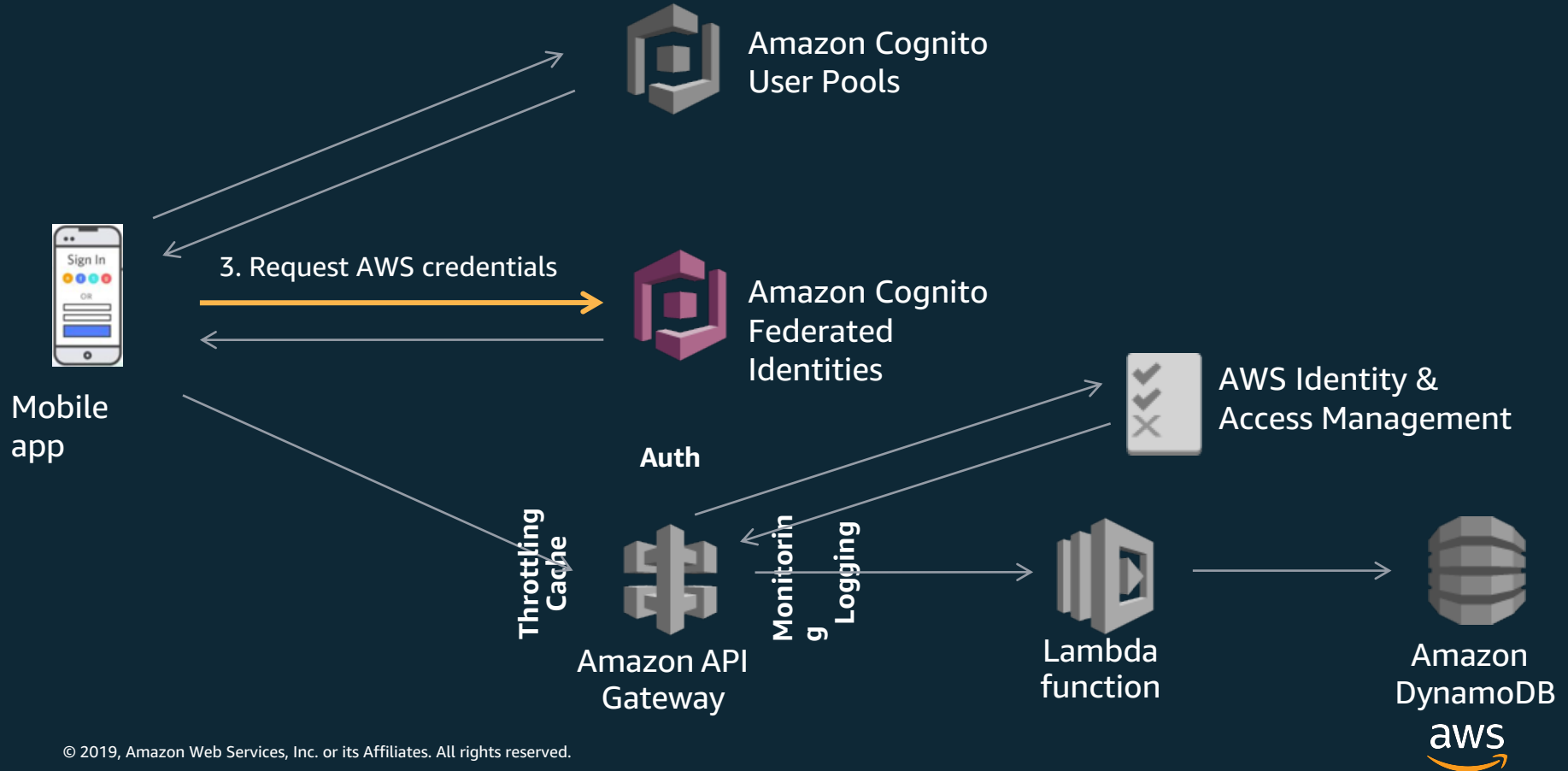
# IAM-based authorization



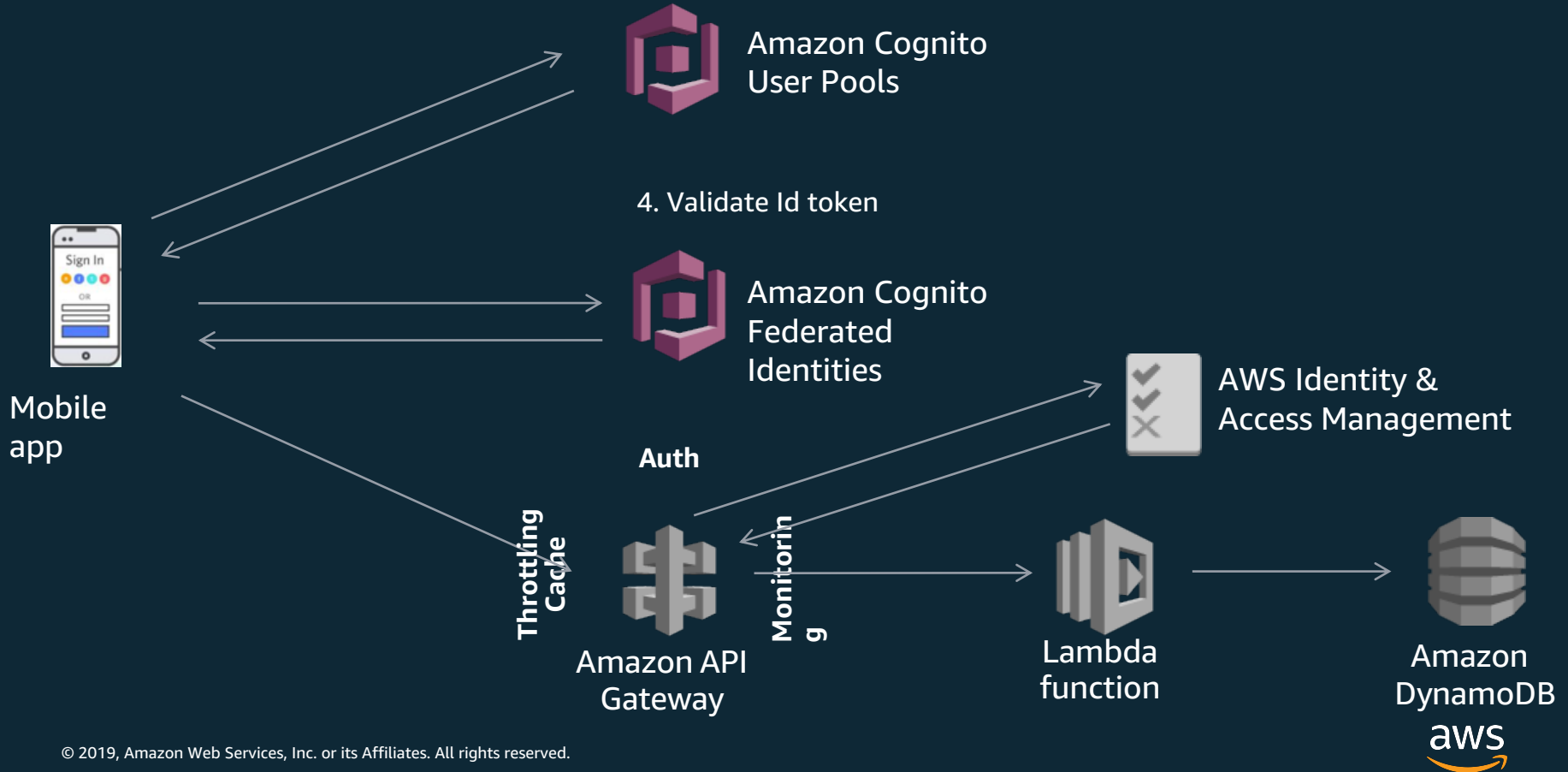
# IAM-based authorization



# IAM-based authorization

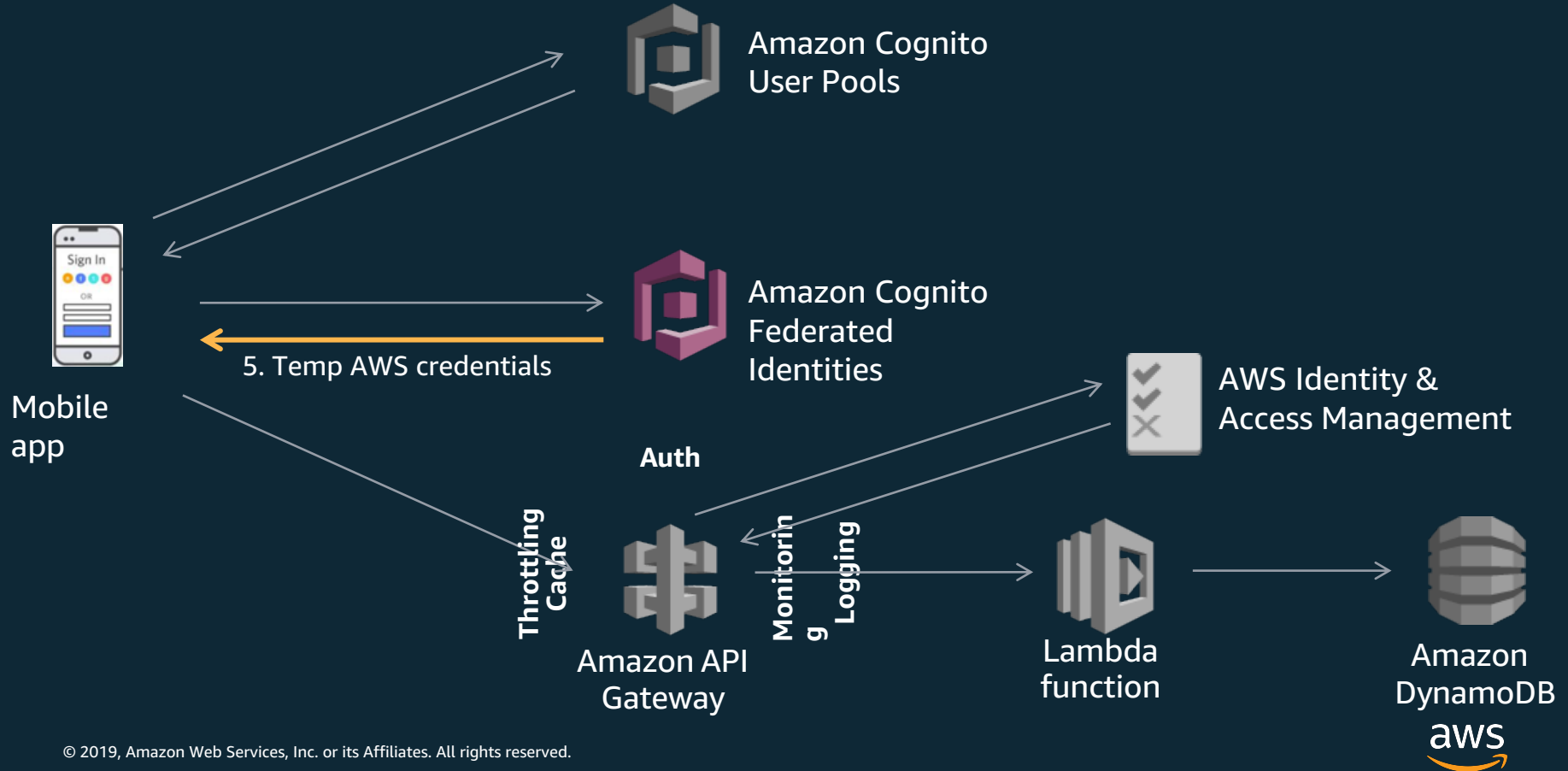


# IAM-based authorization

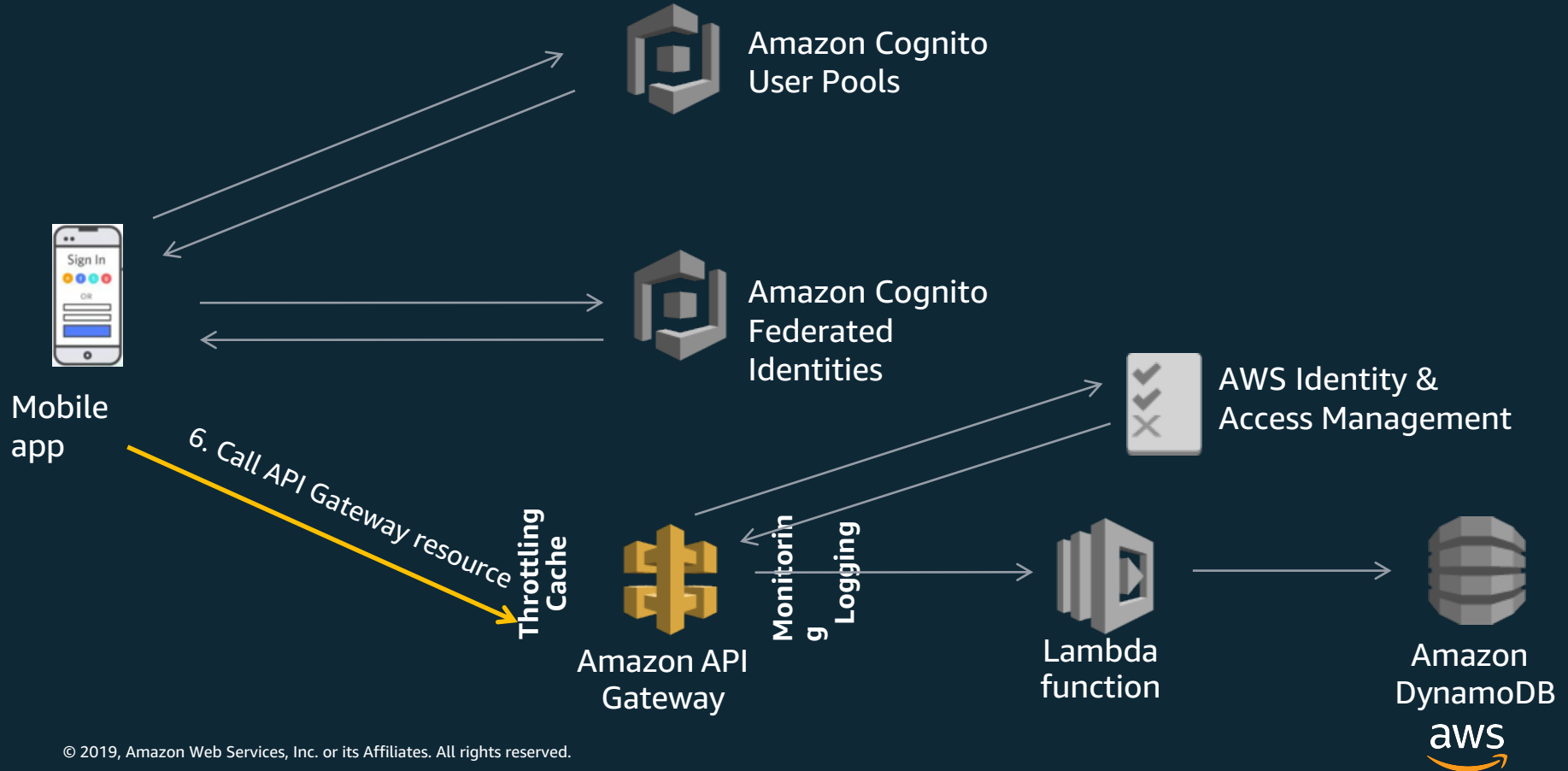




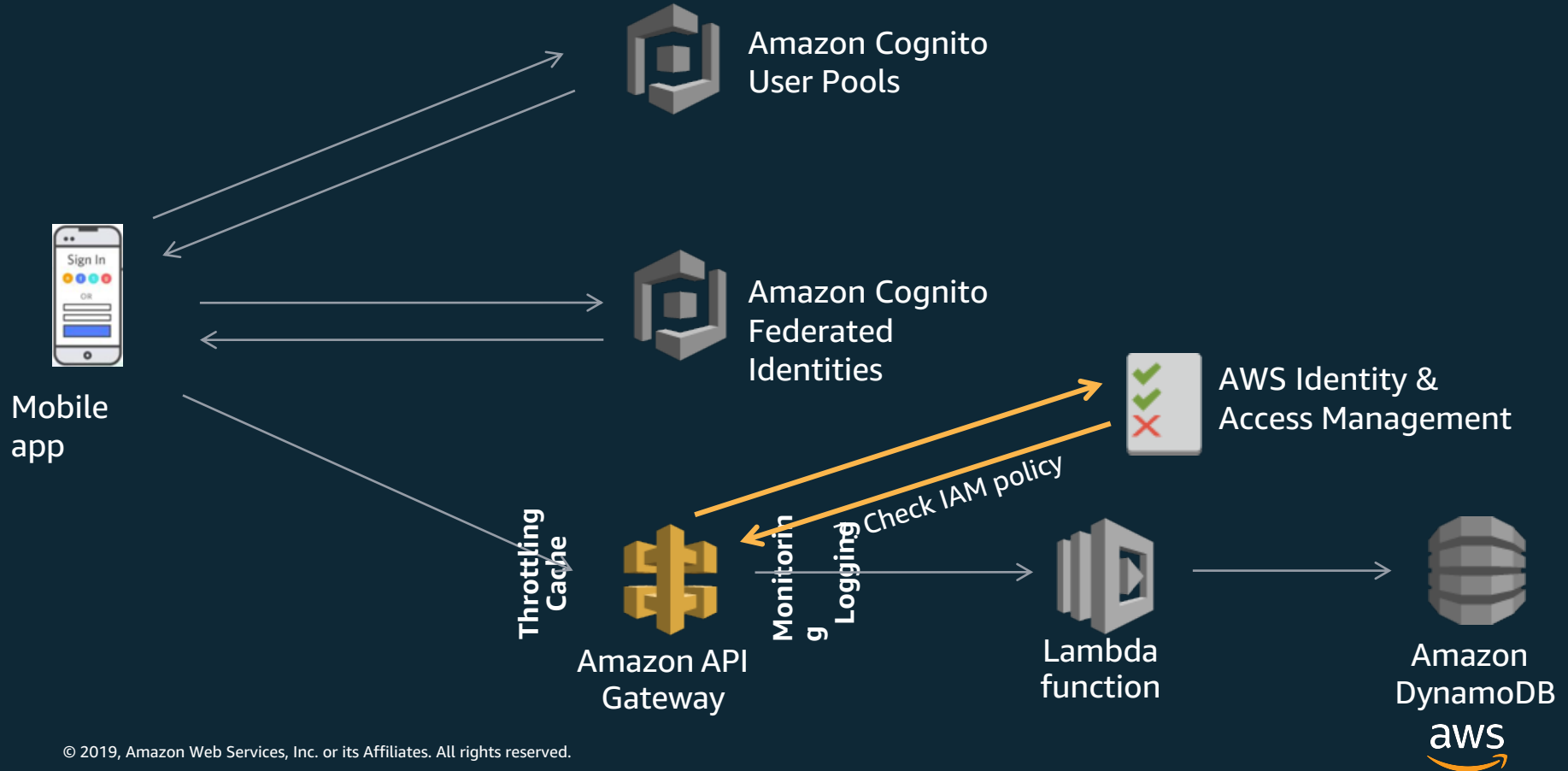
# IAM-based authorization



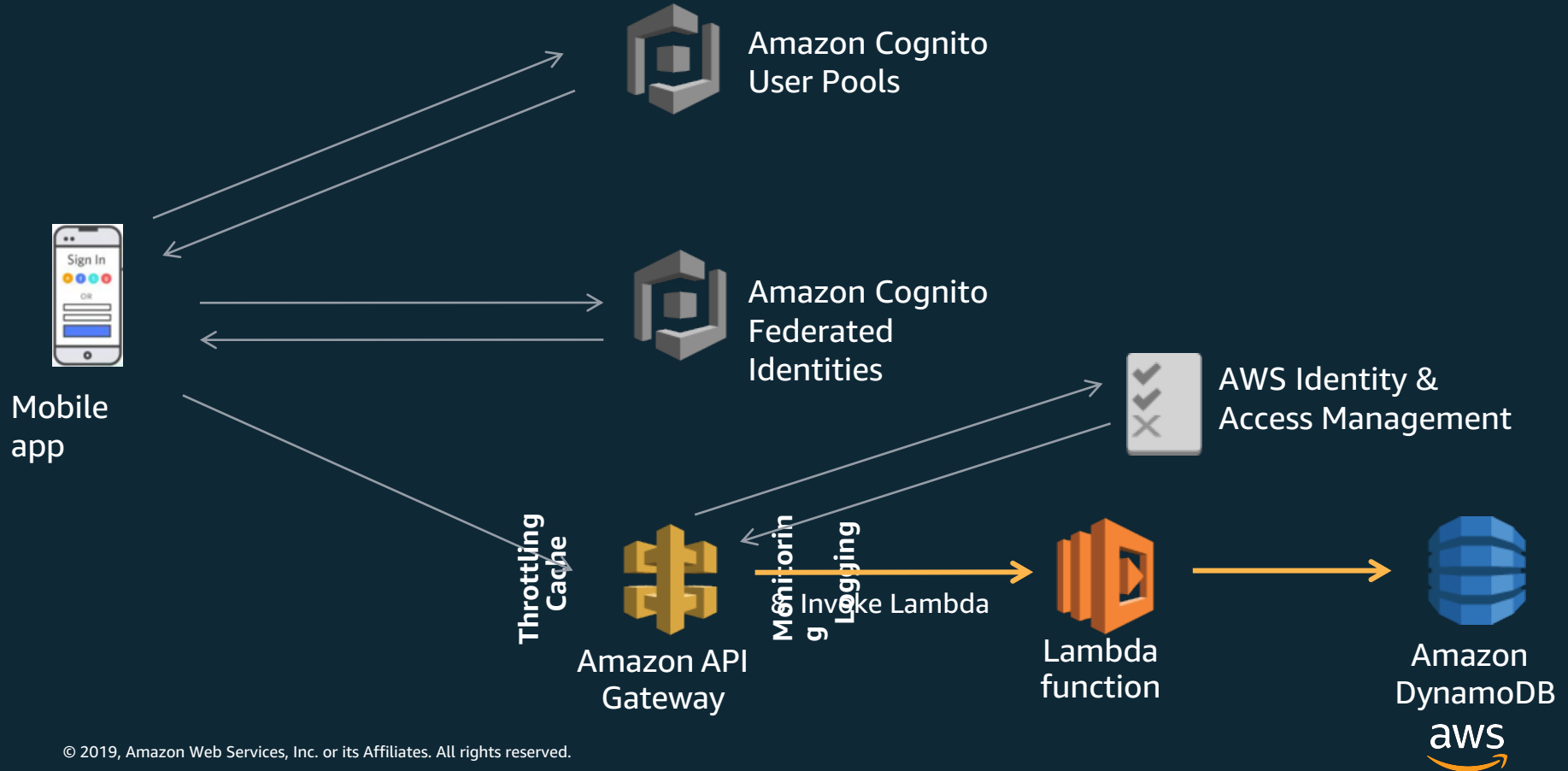
# IAM-based authorization



# IAM-based authorization



# IAM-based authorization



# API Gateway: three types of authorization

Amazon Cognito  
User Pools

User Pools Authorizers

Amazon Cognito  
Federated Identities

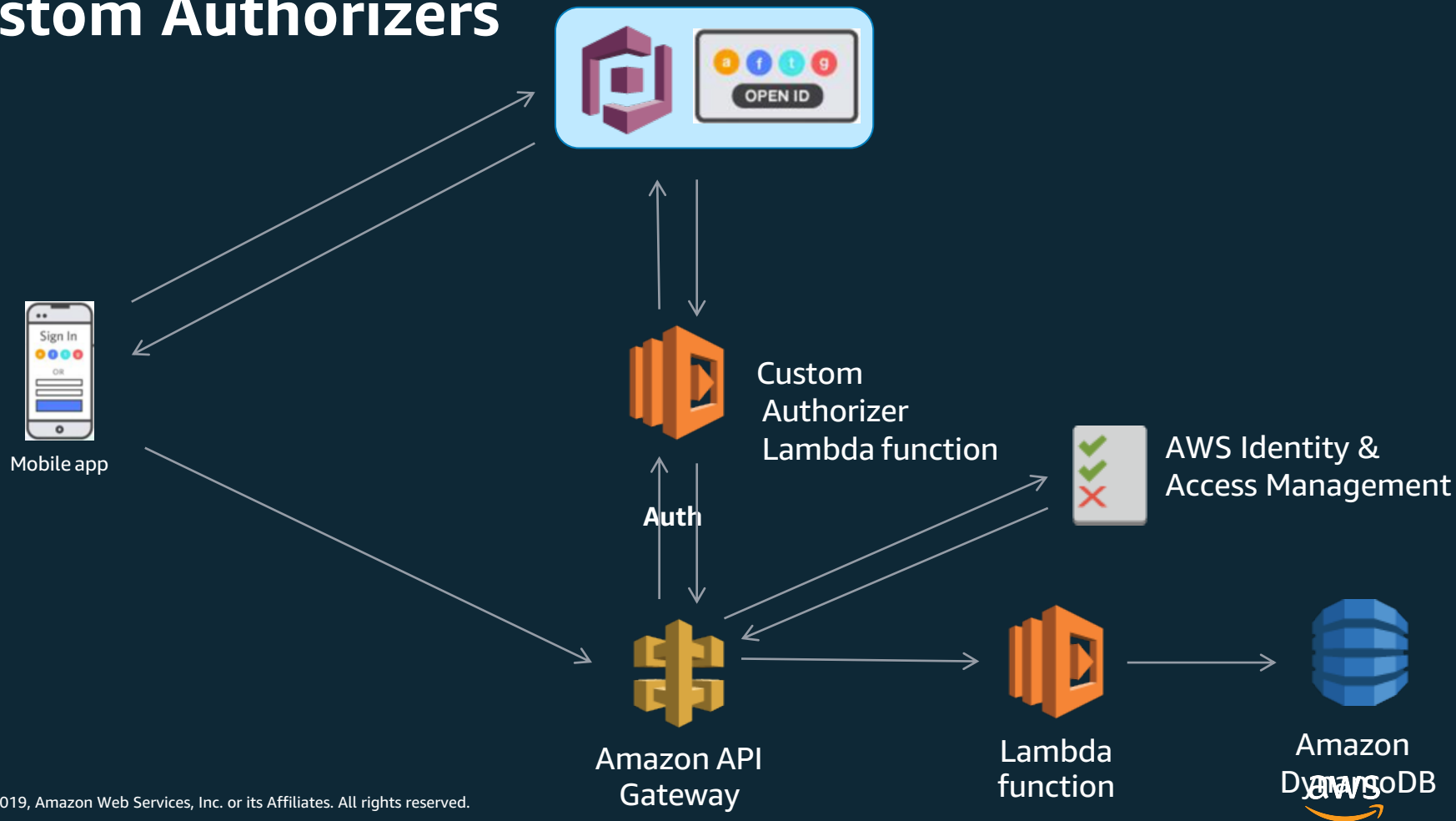
AWS IAM authorization

Custom Identity Providers

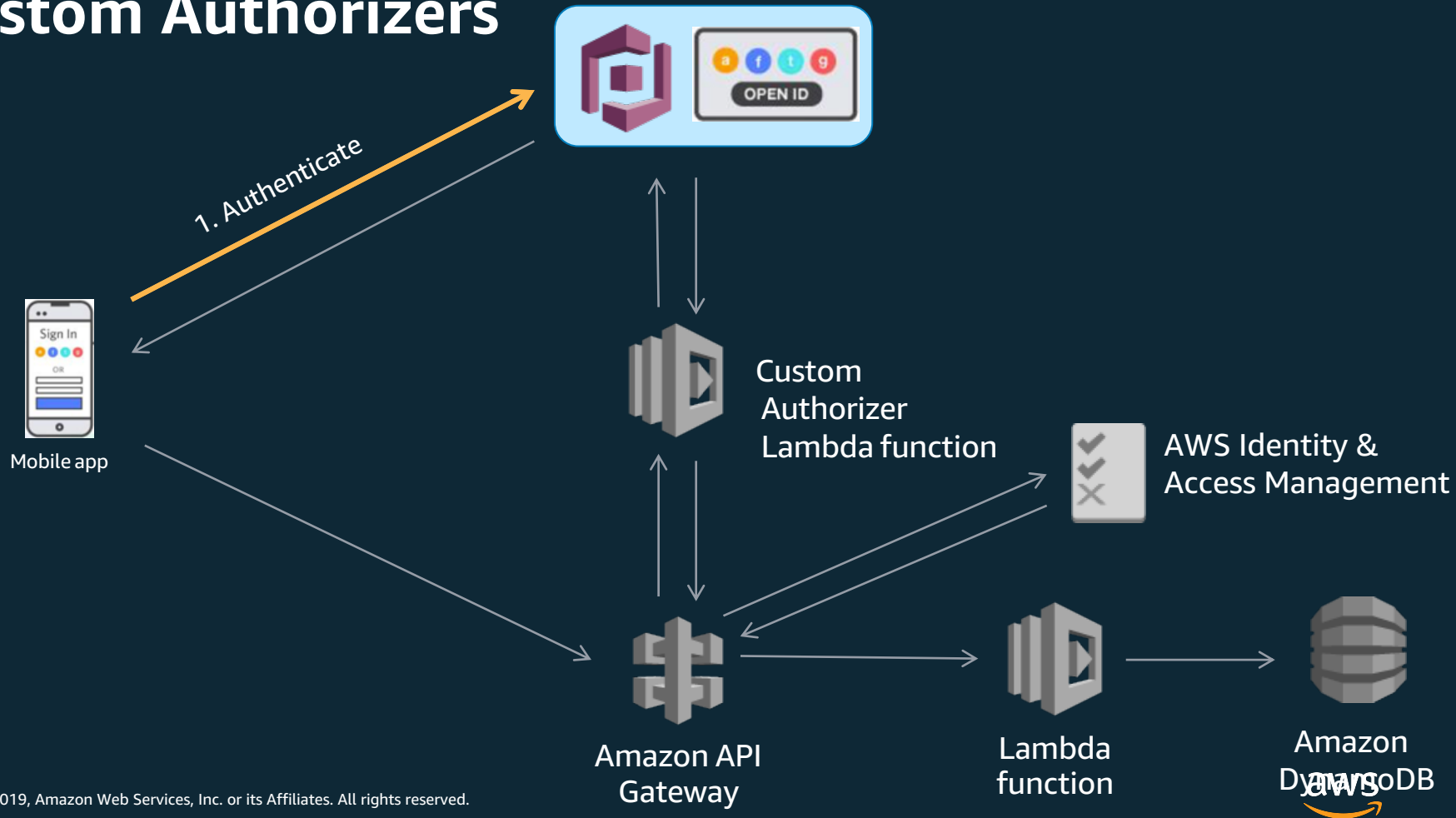


Custom Authorizers

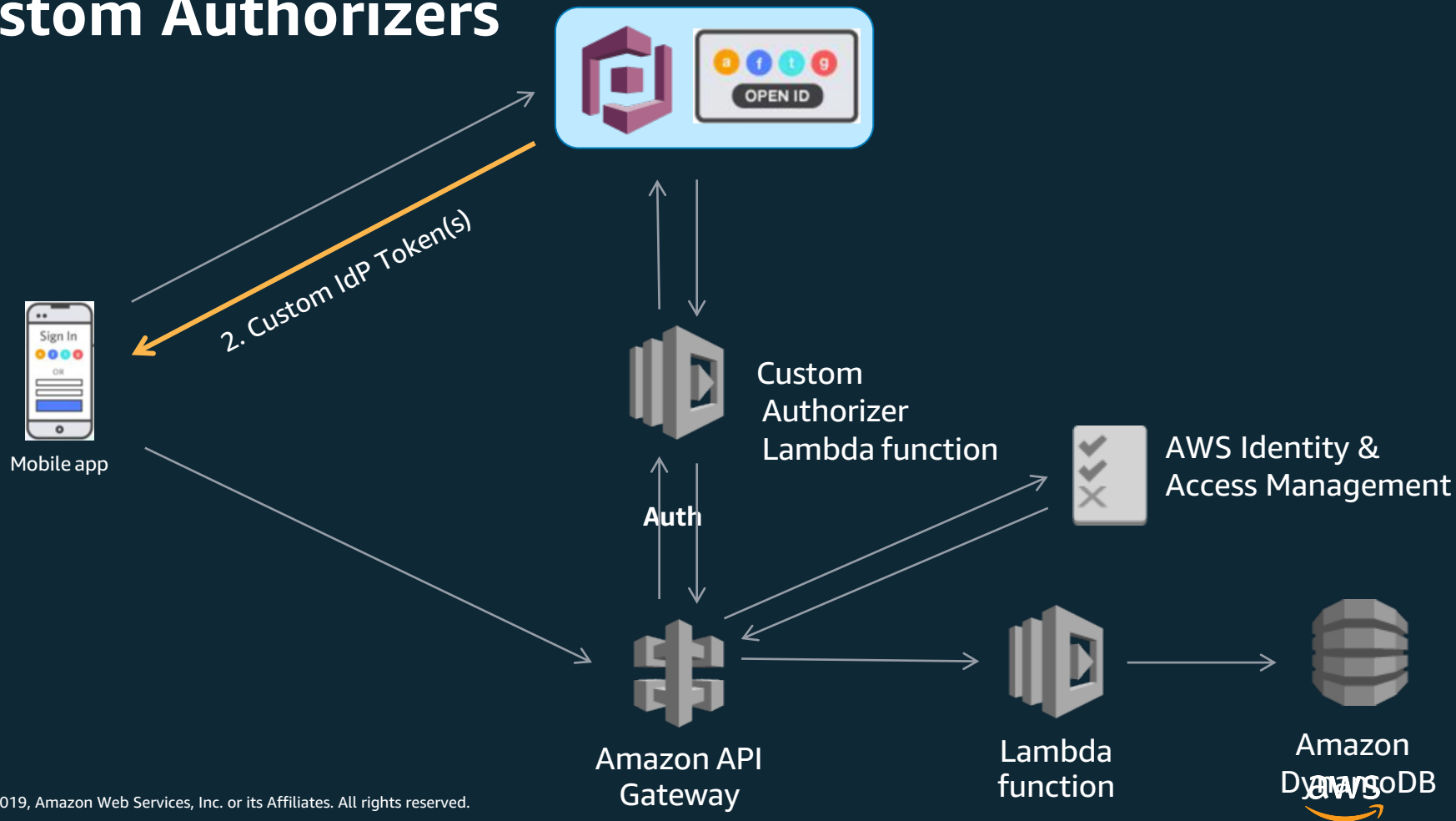
# Custom Authorizers



# Custom Authorizers

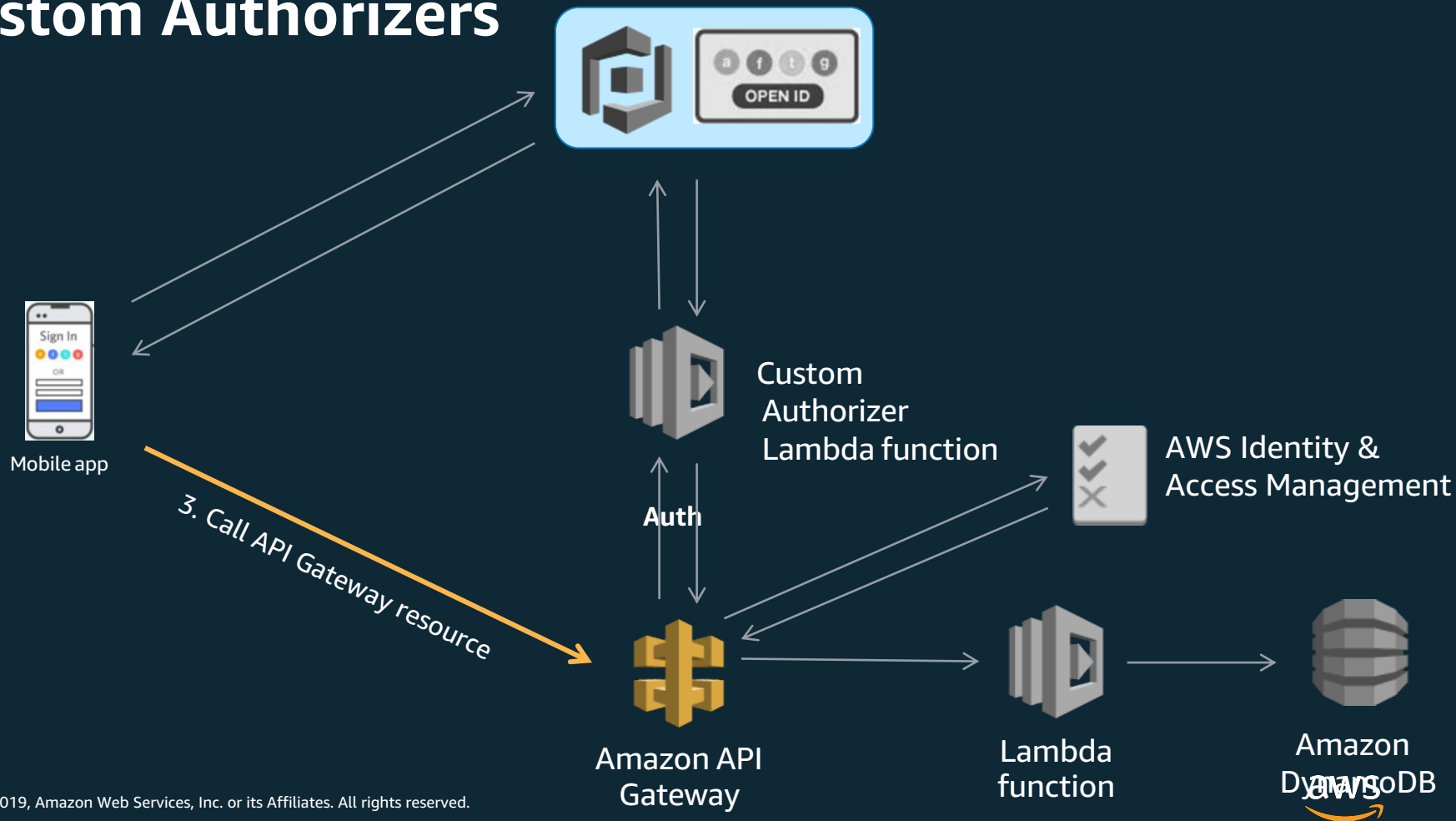


# Custom Authorizers

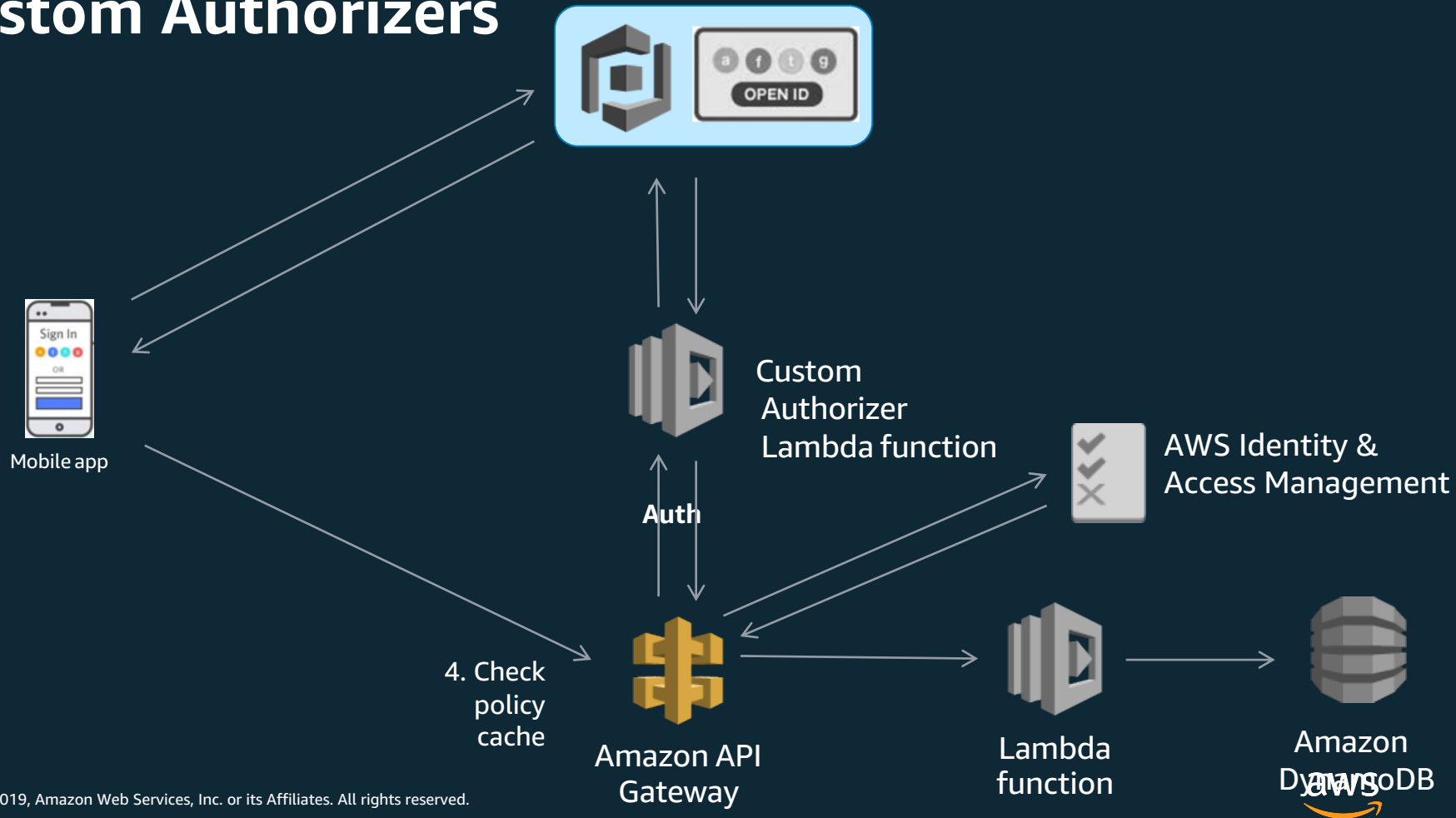




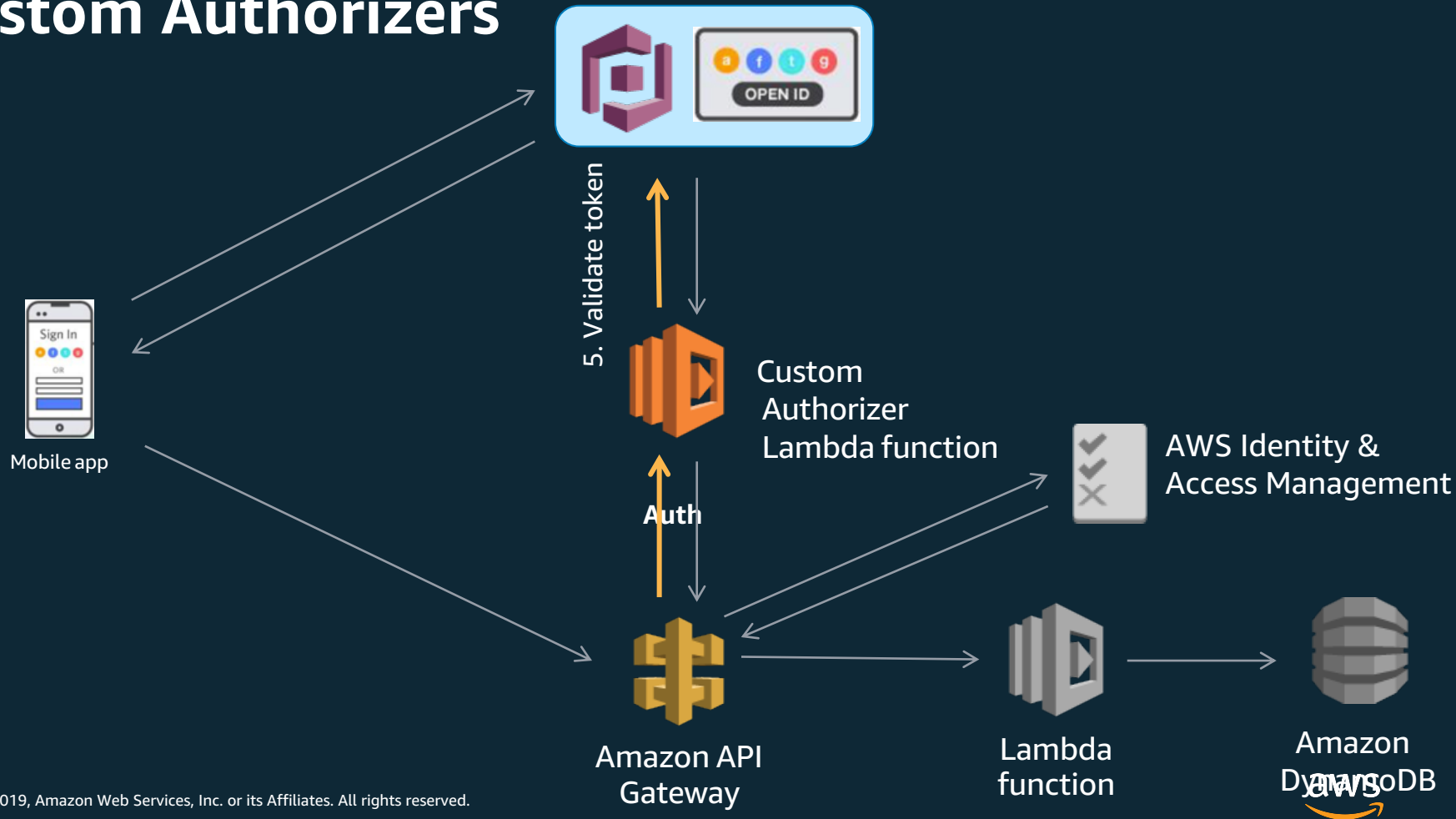
# Custom Authorizers



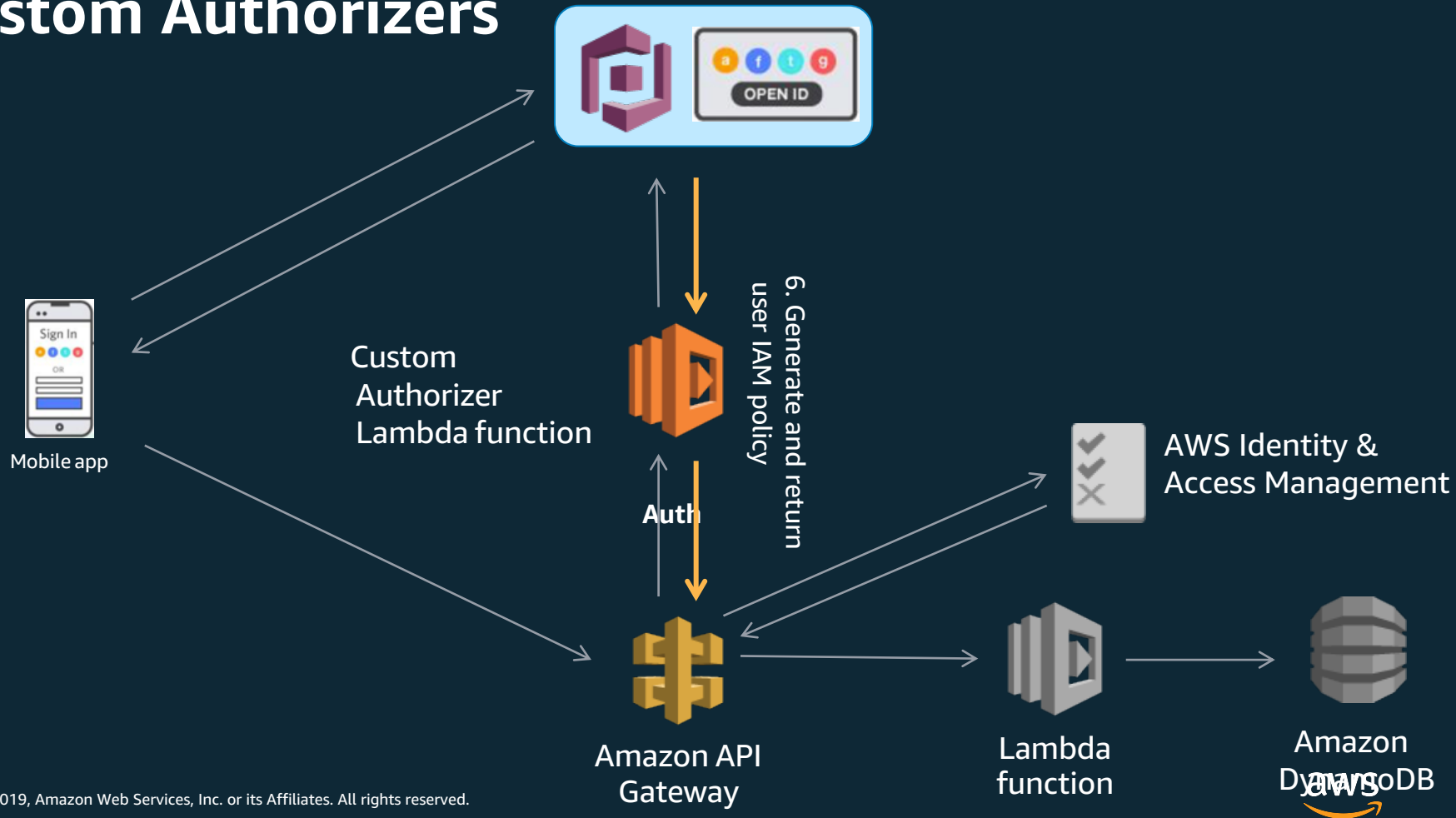
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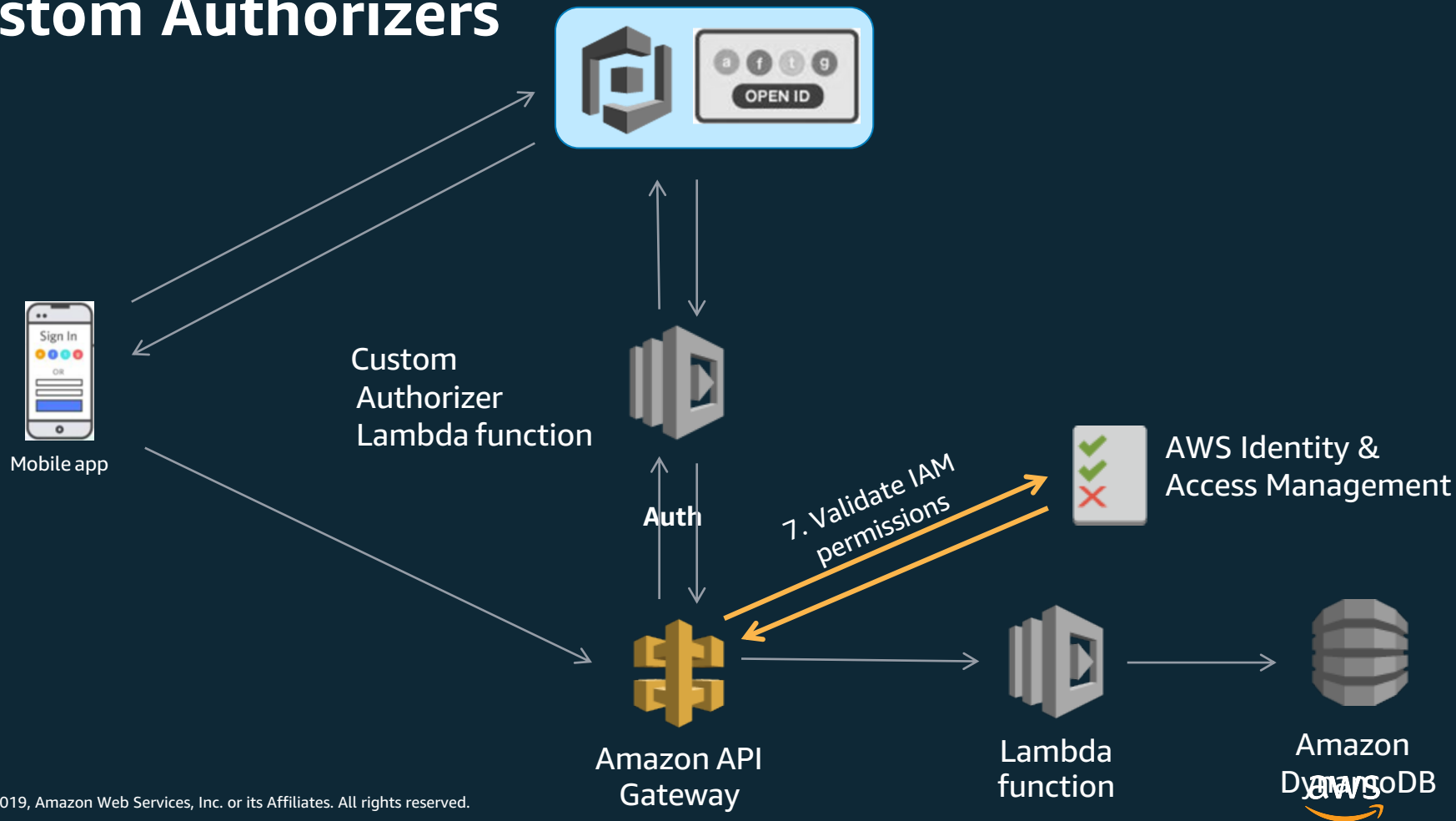
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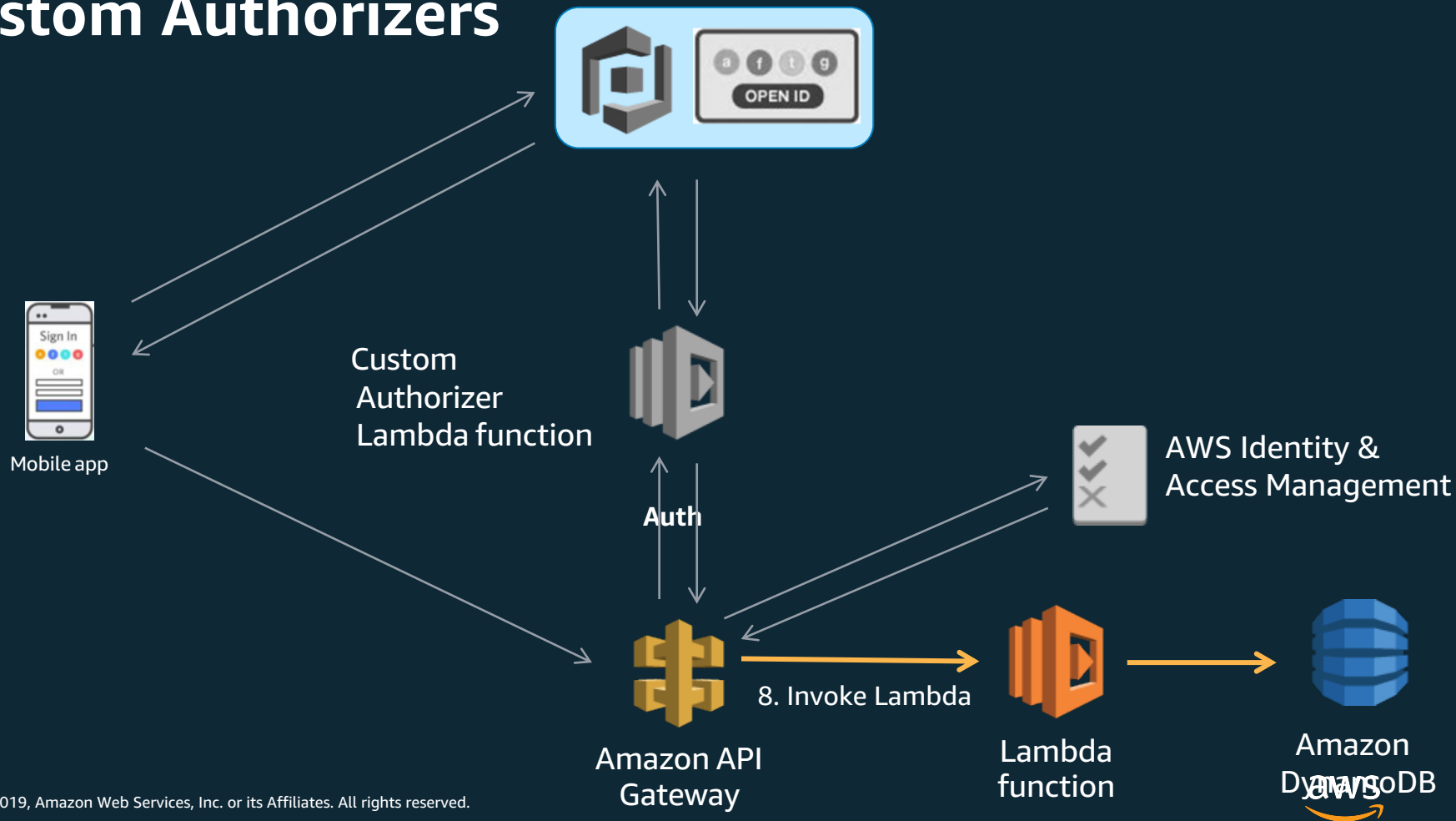
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Custom Authorizers

# Any Questions?

