# Simple Notification Service (SNS)

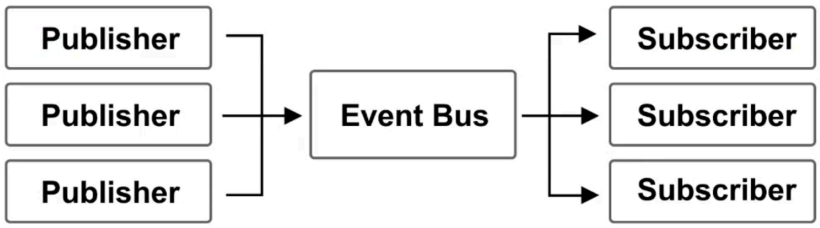
**Subscribe** and **send notifications** via
text message email, webhooks, lambdas, SQS and mobile notifications

# Introduction to SNS

**What is Pub/Sub?**

Publish–subscribe pattern commonly implemented in **messaging systems**. In a pub/sub system the sender of messages (**publishers**) do not send their messages directly to receivers. They instead send their messages to an **event bus**. The event bus categorizes their messages into groups. Then receivers of messages (**subscribers**) subscribe to these groups. Whenever new messages appear within their subscription the messages are immediately delivered to them.

- Publisher have no knowledge of who their subscribers are.
- Subscribers do **not pull** for messages.
- Messages are instead automatically and immediately **pushed** to subscribers.
- Messages and events are interchangeable terms in pub/sub

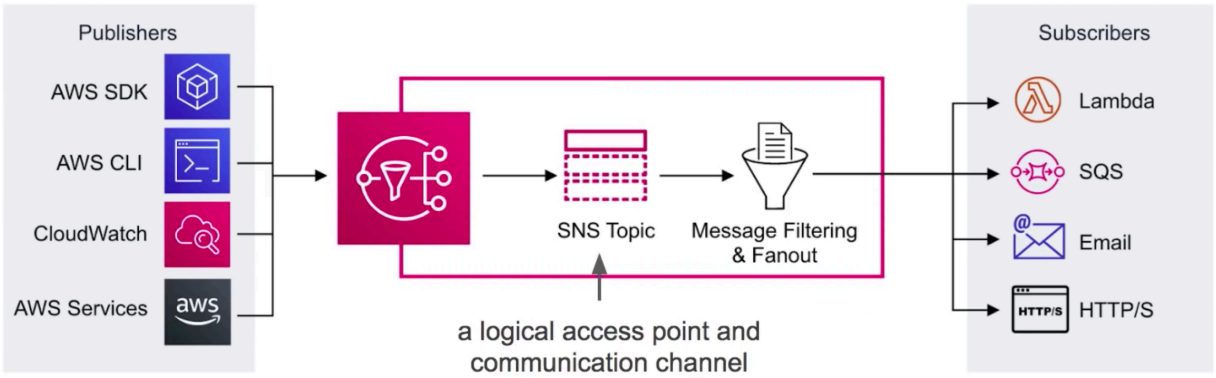


# Introduction to SNS

**Simple Notification Service (SNS)** is a highly available, durable, secure, fully managed **pub/sub messaging** service that enables you to **decouple** microservices, distributed systems, and serverless applications.

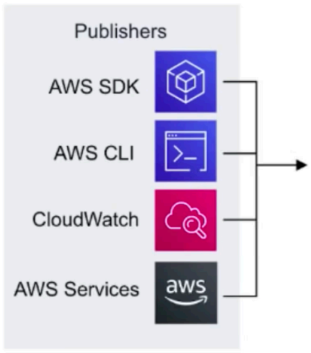
**`Application Integration!`**

- Publishers **push** events to an SNS Topic
- Subscribers subscribe to SNS Topic to have events **pushed** to them



# SNS – Topics

Publishers don't care about the subscribers protocol

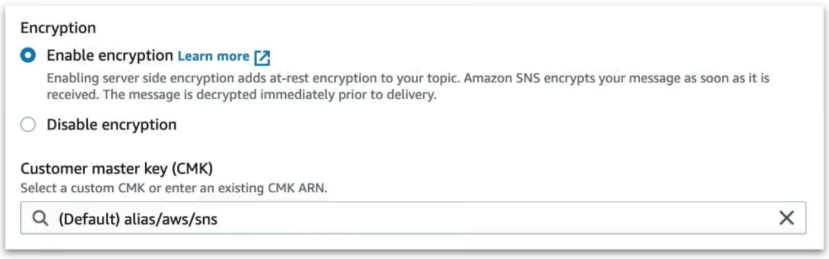



**Topics** allow you to group multiple subscriptions together.

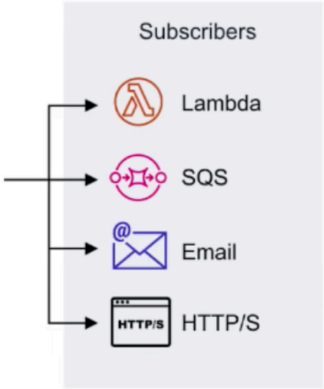
A topic is able to deliver to multiple protocols at once eg. email, text message, http/s

When topics deliver messages to subscribers it will automatically format your message according to the subscriber's chosen protocol

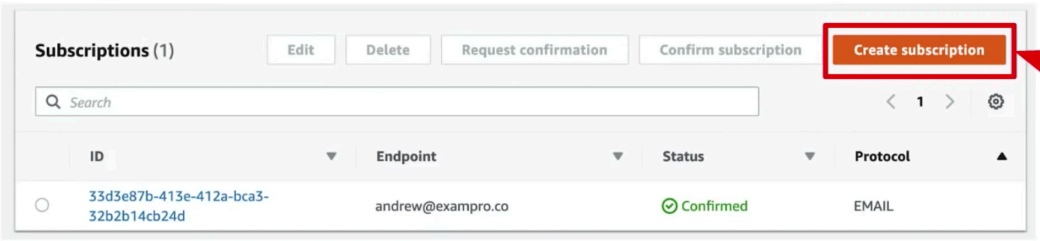
You can encrypt Topics via **KMS**




Subscribers listen for incoming messages



# SNS – Subscriptions

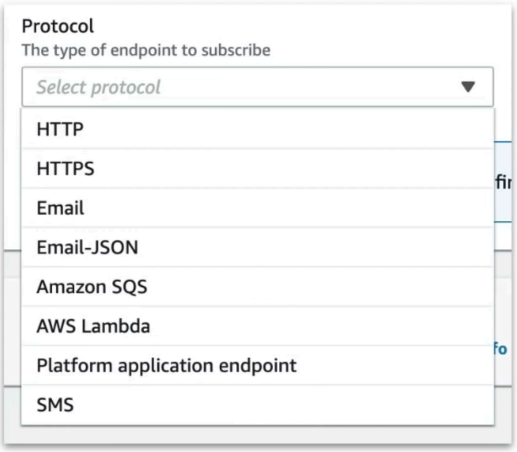



To receive messages from a topic you need to create a Subscription.

A subscription can only subscribe to one protocol and one topic.

The following protocols:

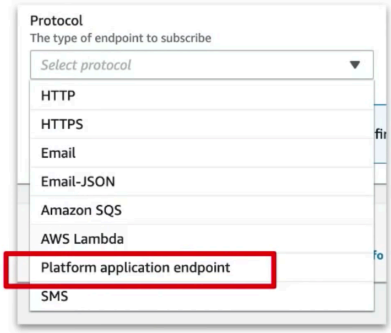
**HTTPs and HTTPs** create webhooks into your web-application
**Email** good for internal email notifications (only supports **plain text**)
**Email-JSON** sends you json via email
**Amazon SQS** place SNS message into SQS queue
**AWS Lambda** triggers a lambda function
**SMS** send a text message
**Platform application endpoints** Mobile Push

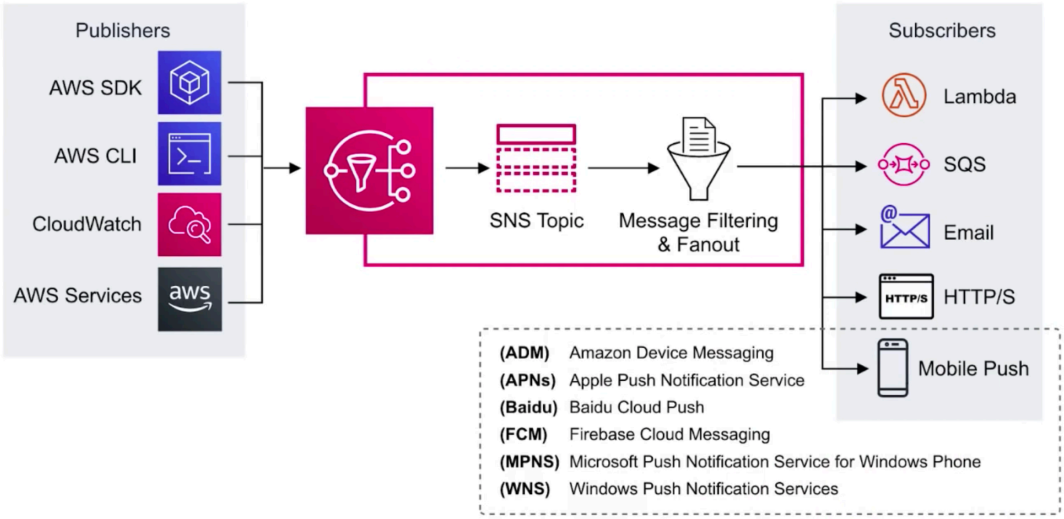


# Application As Subscriber

Send push notification messages directly to apps on **mobile devices**.

Push notification messages sent to a mobile endpoint can appear in the mobile app as message alerts, badge updates, or even sound alerts.



# SNS *CheatSheet*

- **Simple Notification Service (SNS)** is a fully managed pub/sub messaging service
- SNS is for **Application Integration**. It allows decoupled services and apps to communicate with each other
- **Topic** a logical access point and communication channel.
- A topic is able to deliver to multiple protocols
- You can encrypt topics via KMS
- **Publishers** use the AWS API via AWS CLI or SDK to push messages to a topic. Many AWS services integrate with SNS and act as publishers.
- **Subscriptions** subscribe to topics. When a topic receives a message it automatically and immediately pushes messages to subscribers.
- All messages published to SNS are stored redundantly across multiple Availability Zones (AZ)
- The following protocols:
    - **HTTPs and HTTPs** create webhooks into your web-application
    - **Email** good for internal email notifications (only supports **plain text**)
    - **Email-JSON** sends you json via email
    - **Amazon SQS** place SNS message into SQS queue
    - **AWS Lambda** triggers a lambda function
    - **SMS** send a text message
    - **Platform application endpoints** Mobile Push eg. Apple, Google, Microsoft Baidu notification systems