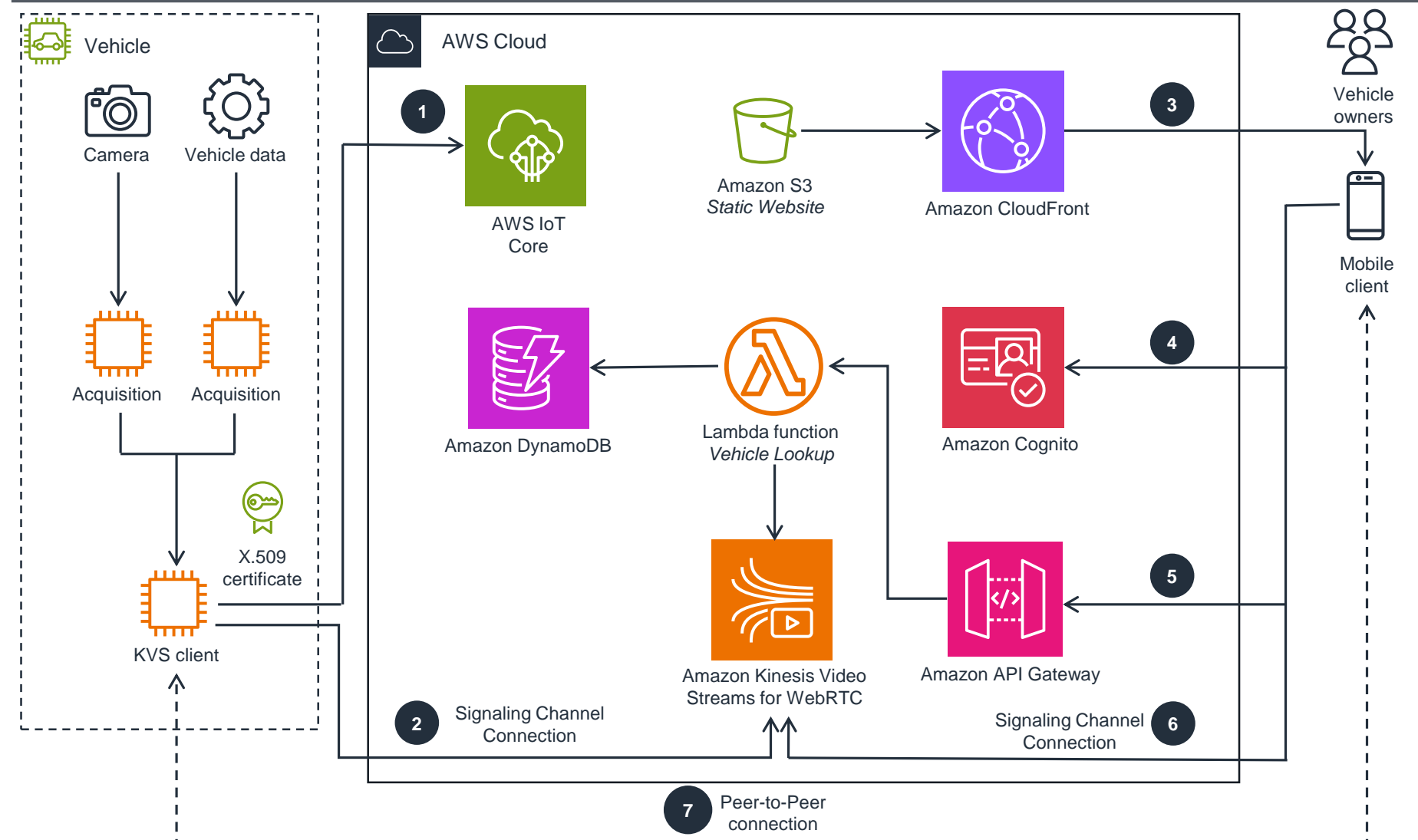


Guidance for Streaming Video from Vehicles to the Cloud on AWS

This architecture diagram shows how to stream video from vehicles with AWS IoT Core serving as the vehicle registry. AWS IoT Core provides ephemeral credentials and negotiates WebRTC signaling channels.



- 1 The vehicle authenticates to **AWS IoT Core** using the credentials provider service.
- 2 The **Amazon Kinesis Video Streams** client connects to the signaling channel, awaiting viewer requests.
- 3 **Amazon CloudFront** is the content delivery network (CDN) for the static single-page application (SPA) hosted in **Amazon Simple Storage Service (Amazon S3)**.
- 4 The vehicle owner logs into the mobile client. **Amazon Cognito** and **Amazon API Gateway** manage user access for the mobile client.
- 5 The mobile client calls an API to look up the vehicles that belong to the owner. The owner then selects a specific vehicle to initiate real-time video streaming.
- 6 The mobile client initiates a connection to the **Kinesis Video Streams** signaling channel, a websocket connection that the vehicle is listening to for viewer connection requests. The viewer and the vehicle negotiate connection details by sending messages to each other over the signaling channel.
- 7 The mobile client and the vehicle establish a peer-to-peer connection. The **Kinesis Video Streams** client streams video data through the WebRTC peer connection, and the vehicle owner views the video stream in the mobile client. Optionally, the WebRTC data channel can be utilized for bi-directional command and control messages.

If a direct, peer-to-peer connection cannot be established, video data can be relayed through the **Kinesis Video Streams** Traversal Using Relays around NAT (TURN) server.