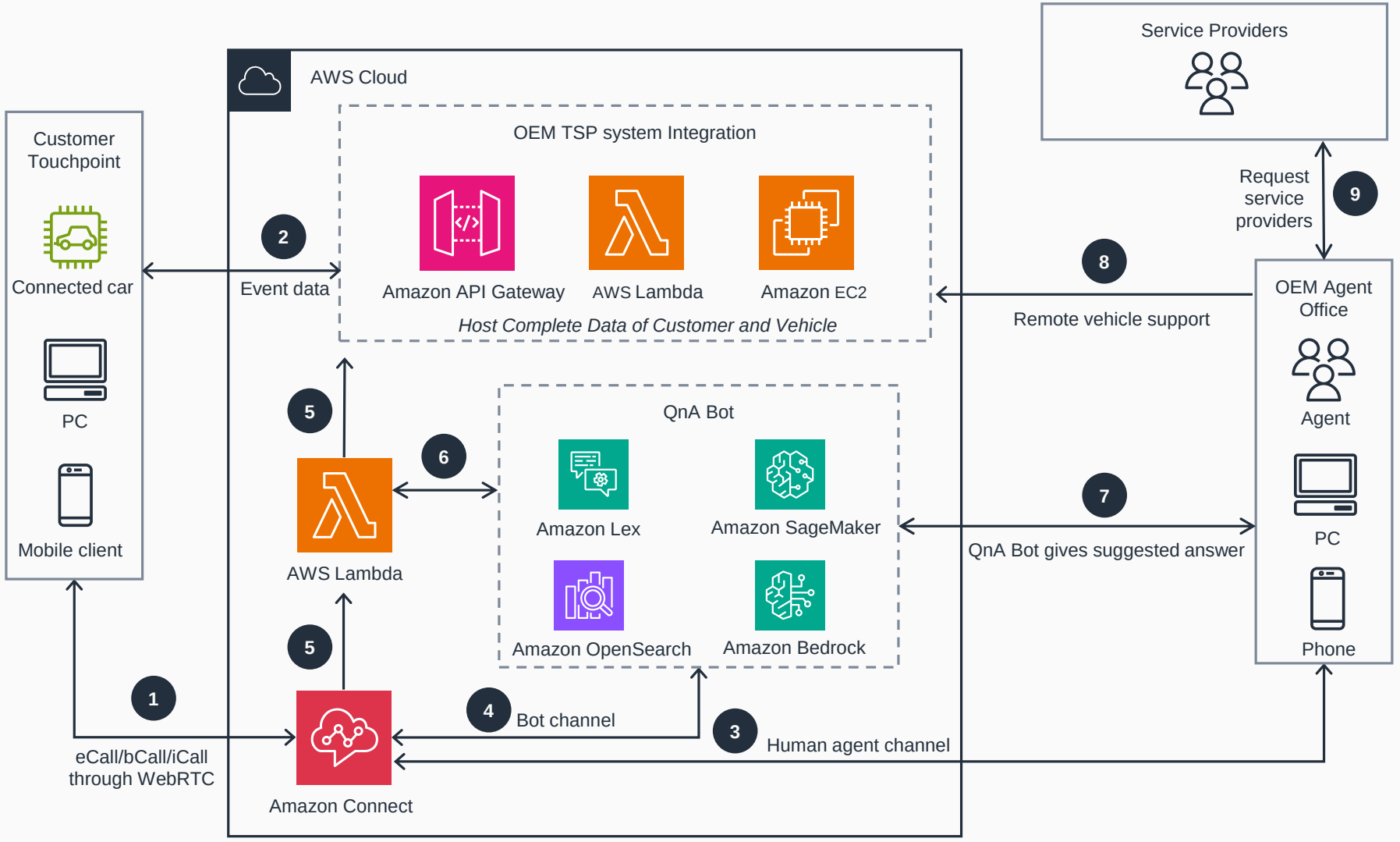
Guidance for Automotive Call Service on AWS

This architecture diagram shows how you can enhance your contact center experience to support inbound and outbound calls in addition to sales and marketing activities.



1. The caller dials the Original Equipment Manufacture (OEM) contact center built on **Amazon Connect** through vehicle 4G/5G phone network. The call streams to a call center through Web Real-Time Communications (WebRTC).

2. Edge-side event data related to the caller's vehicle (such as the vehicle number, GPS position, and more) transmits into the relevant OEM system (a Telematics Service Provider [TSP]) hosted on **Amazon API Gateway**, **AWS Lambda**, and **Amazon Elastic Compute Cloud (Amazon EC2).**

3. The human agent channel gets connected, and a human agent can pick up the call to ask specific customer questions.

4. In parallel with data being sent to a human agent channel, a bot channel opens and synchronizes with conversational content from the call. This channel uses **QnA Bot on AWS**, which is built on **Amazon Lex** and powered by **Amazon SageMaker** or **Amazon Bedrock**. **Amazon OpenSearch Service** stores the OEM knowledge base.

5. **Lambda** requests contact data from **Amazon Connect** and then sends contact data to the OEM TSP system, retrieving the specific data of the customer and vehicle.

6. OEM TSP data serves as prior knowledge. Customer conversation serves as input tokens for a large language model (LLM) hosted on **SageMaker** or **Amazon Bedrock,** which offers a choice of high-performing foundation models (FMs) from leading AI companies.

7. **QnA Bot on AWS** gives suggested answers to the human agent.

8. The human agent can reach out to the OEM system for remote vehicle support (for example, controlling the door locks, blinker, or horn) as requested by the caller.

9. The human agent can also request services (such as towing, emergency services, or concierge) from service providers.

AWS Reference Architecture