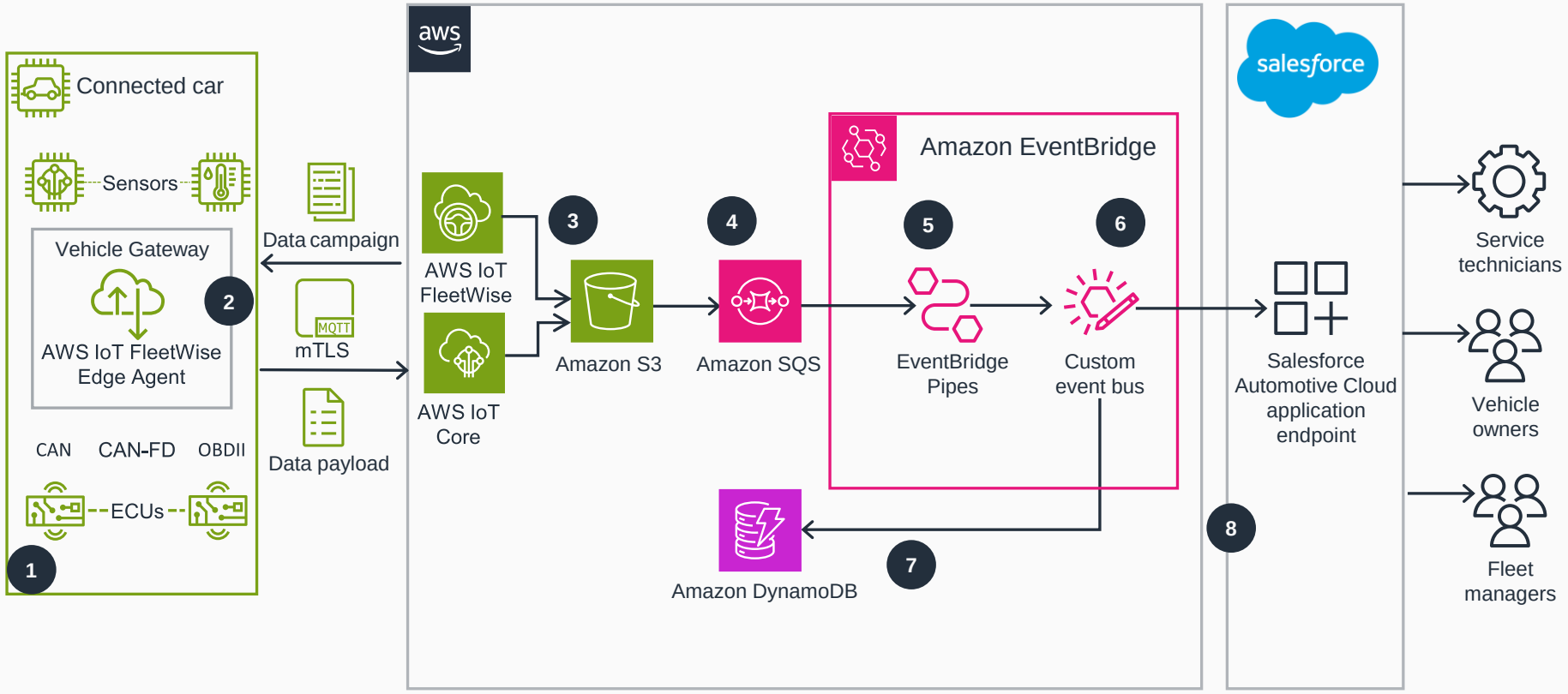
Guidance for Integration with Salesforce Automotive Cloud on AWS

This architecture diagrams shows how to gather, process, analyze, and act on connected vehicle data using Salesforce Automotive Cloud with AWS.



1. A connected vehicle has numerous sensors monitoring various data points, such as tire pressure, which need to be collected, analyzed, and acted upon. **AWS IoT Core** can serve as a communication mechanism to facilitate the transfer of data from the edge to the cloud, supporting protocols like a controller area network (CAN), CAN-FD, an extension of the CAN protocol that allows for faster data rates, and on-board diagnostics (OBDII). Data from various electronic control units (ECUs) can also be collected and analyzed using **AWS IoT Core**.

2. The **AWS IoT FleetWise Edge Agent** communicates with the vehicle's network, decodes signals and sends data payloads through **AWS IoT Core. AWS IoT FleetWise** campaigns define how the data is selected, collected, and transferred**.**

3. **AWS IoT Core** functions as a secure communication mechanism, facilitating the transfer of data from the edge devices to the cloud infrastructure. **AWS IoT Core** collaborates with **AWS IoT FleetWise** to transmit vehicle signal data, such as low tire pressure indications, directly from the vehicle to an **Amazon Simple Storage Service** (Amazon S3) event bucket.

4. When an event, originating from either the **AWS IoT Core** rules engine or an **AWS IoT FleetWise c**ampaign, is detected in the specified event bucket, it is automatically ingested into an **Amazon Simple Queue Service** (Amazon SQS) queue.

5. Implement an **Amazon EventBridge Pipe** to source events from the **Amazon SQS** queue, transform, and potentially enrich the event payload. Next, forward it to a custom event bus target.

6. The custom event bus is configured with rules to dispatch each incoming event to multiple targets, including a designated application endpoint within the Salesforce Automotive Cloud, which initiates the downstream processing of the event for service technicians.

7. Select **Amazon DynamoDB** as a secondary target from the custom event bus, and record all events to display in the fleet management platform.

8. Salesforce Automotive Cloud then uses internal routing mechanisms to send the event notification to one or more downstream personas.

Reviewed for technical accuracy February 20, 2025

AWS Reference Architecture