



Architecture Diagrams

Automotive Call Center Architecture



Automotive Call Center Architecture: Architecture Diagrams

Copyright © 2024 Amazon Web Services, Inc. and/or its affiliates. All rights reserved.

Amazon's trademarks and trade dress may not be used in connection with any product or service that is not Amazon's, in any manner that is likely to cause confusion among customers, or in any manner that disparages or discredits Amazon. All other trademarks not owned by Amazon are the property of their respective owners, who may or may not be affiliated with, connected to, or sponsored by Amazon.

Table of Contents

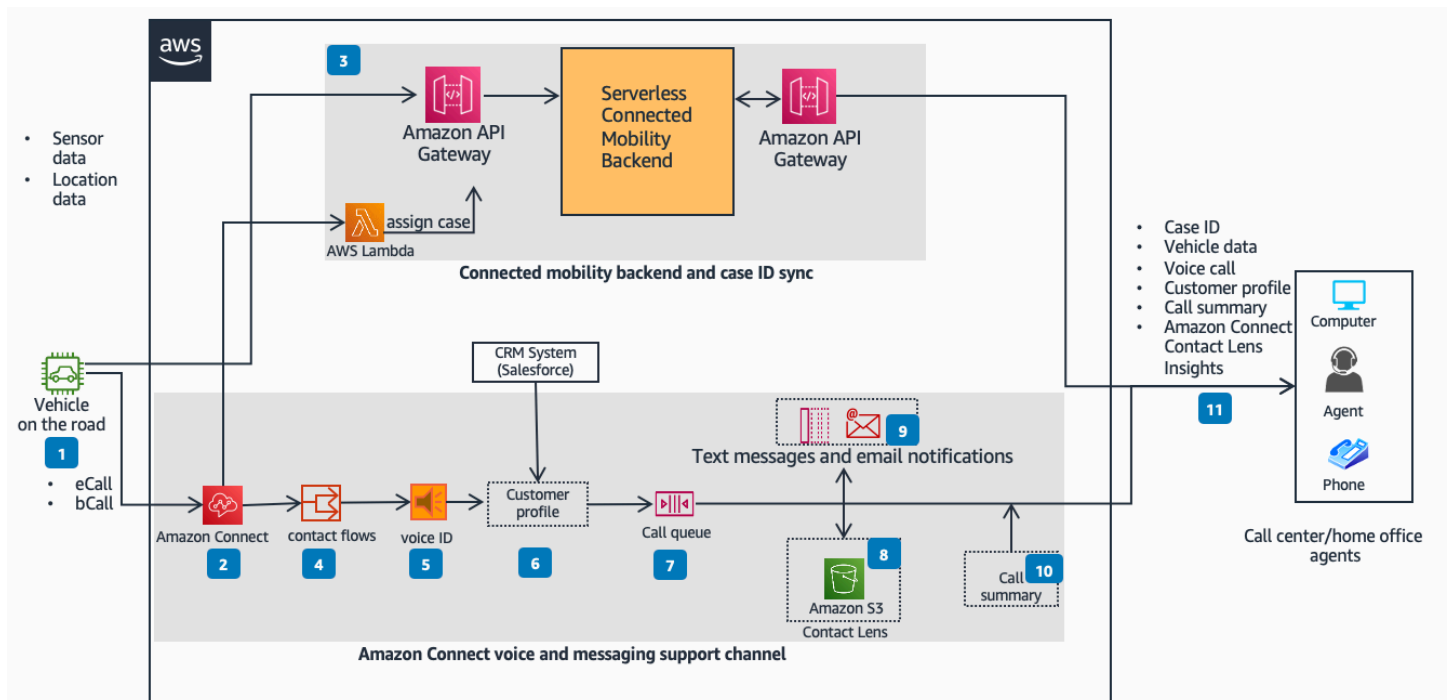
Home	i
Automotive Call Center Architecture Diagram	1
Enhanced Automotive Call Center Architecture Diagram	2
Download editable diagram	3
Create a free AWS account	3
Further reading	3
Diagram history	4

Automotive Call Center Architecture

Publication date: February 28, 2022 ([Diagram history](#))

This architecture enables you to build an automotive call center solution as part of connected vehicle platform to enhance customer safety with emergency (eCall) and breakdown (bCall) call services using Amazon Connect.

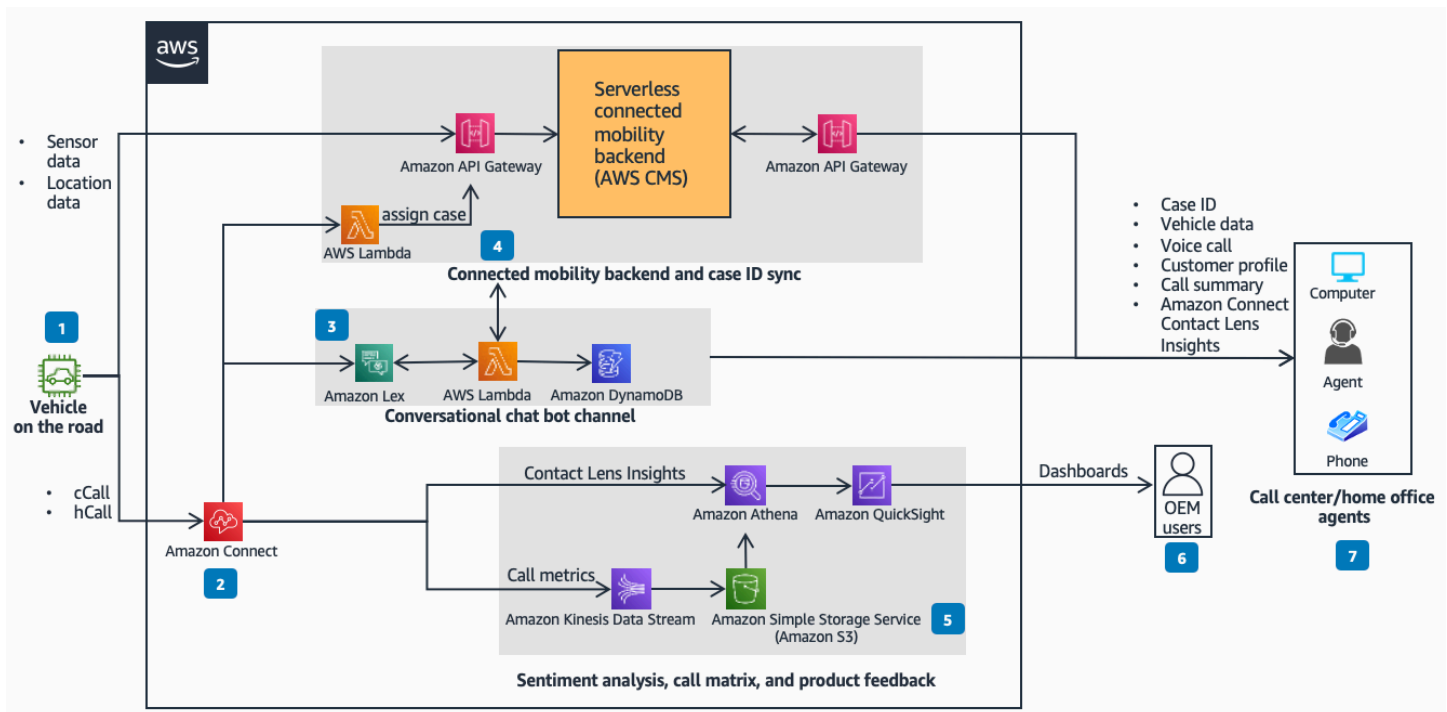
Automotive Call Center Architecture Diagram



1. Vehicle triggers an eCall or bCall in case of an accident or breakdown to **Amazon Connect**, and sends a snapshot of sensor and location data to the connected vehicle backend with **Amazon API Gateway**.
2. **Amazon Connect** triggers an **AWS Lambda** function that assigns a case ID to the call and data received from the vehicle by **Amazon Connect**.
3. connected vehicle backend (such as [Connected Mobility Solution \(CMS\) on AWS](#)), snapshot of current vehicle data and location with case ID using call metadata information. This will be pulled by the call center client via an API call.
4. Use contact flows in **Amazon Connect** to automate the entire customer experience by dragging and dropping contact blocks onto a canvas.

5. Authenticate real-time callers with the voice ID capability within **Amazon Connect**.
6. Integrate **Amazon Connect** with Customer Relationship Management (CRM) to provide unified customer profile to call center agents across multiple sources.
7. Put call in a queue to be picked up by next available call center agent at home office or on-site.
8. Analyze conversations between customer and agents by using speech transcription, natural language processing, and intelligent search capabilities with the Contact Lens for **Amazon Connect** feature. It performs sentiment analysis, detects issues, and enables you to automatically categorize contacts. It provides both real-time and post-call analytics of conversations.
9. Notify customers about reminders, vehicle issues, recommendations by emails and text with **Amazon Connect**.
- 10 Identify key parts of the customer conversation, assign a label, and display a summary that can be expanded to view the full transcript of the call with the *Call Summary* feature.
- 11 Provide call center agent case ID, vehicle, and location data, customer profile, **Amazon Connect** Contact Lens insights, and call summary along with the call to ensure a personalised experience to customers. Improve customer experience with Contact Lens real time analysis to give guidelines to agents in live calls.

Enhanced Automotive Call Center Architecture Diagram



1. Trigger hCall and cCall from vehicle with touch button or voice enabled interface (such as **Amazon Alexa**).
2. Use **Amazon Connect** to identify hCall and cCall callers from the vehicle owner's associated phone number. Route these calls to the **Amazon Lex** chat bot channel. Push call metrics insights to **Amazon S3** bucket with **Amazon Kinesis Data Streams**.
3. Identify customer intent and provide conversational service with **Amazon Lex**. Integrate **Amazon Lex** with **Amazon DynamoDB** and **AWS Lambda** to formulate reply for identified intent.
4. Call connected mobility backend to collect data with **AWS Lambda** to formulate intent reply if required for hCall and cCall. Automate conversations which do not need an agent.
5. Query **Amazon S3** sentiment analysis, call matrix, and product feedback data with **Amazon Athena**. Visualize dashboards that shows business metrics, monitoring of key performance indicators using **Amazon QuickSight** to convert data into insights.
6. Monitor customer and product feedback, customer sentiments, and market trends from call center data. Feedback insights go into development and production processes, product roadmap of an original equipment manufacturer (OEM).
7. Forward hCall and cCall to call center agent if customer wants to talk to a human agent. Present case ID, vehicle data, customer profile, **Amazon Connect** Contact Lens insights, and call summary, along with voice call to the agent to ensure the best customer experience.

Download editable diagram

To customize this reference architecture diagram based on your business needs, [download the ZIP file](#) which contains an editable PowerPoint.

Create a free AWS account

[Sign up now](#)

Sign up for an AWS account. New accounts include 12 months of [AWS Free Tier](#) access, including the use of Amazon EC2, Amazon S3, and Amazon DynamoDB.

Further reading

For additional information, refer to

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)

Diagram history

To be notified about updates to this reference architecture diagram, subscribe to the RSS feed.

Change	Description	Date
Initial publication	Reference architecture diagram first published.	February 28, 2022

Note

To subscribe to RSS updates, you must have an RSS plugin enabled for the browser you are using.