



Architecture Diagrams

# Powering Multiple Contact Centers with GenAI Using Amazon Bedrock



# Powering Multiple Contact Centers with GenAI Using Amazon Bedrock: Architecture Diagrams

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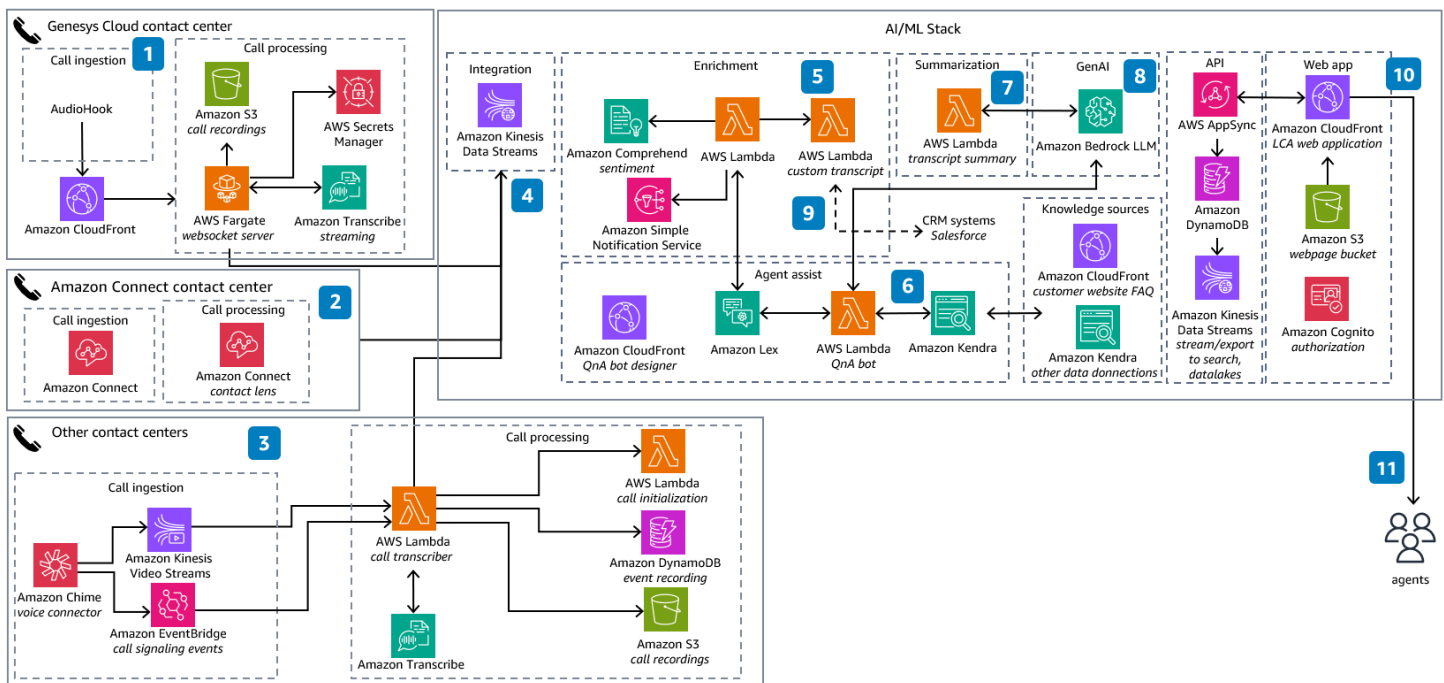
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# Powering Multiple Contact Centers with GenAI Using Amazon Bedrock

Publication date: **October 4, 2023** ([Diagram history](#))

Many contact center operators have a hybrid setup of using multiple vendors, where each contact center has its own artificial intelligence and machine learning (AI/ML) support. This architecture is designed to consolidate this support to a single AI/ML stack for multiple contact center instances, powering multiple contact centers by a single large language model (LLM) using Amazon Bedrock, thus reducing cost and improving efficiency.

## Powering Multiple Contact Centers with GenAI Using Amazon Bedrock Diagram



1. Call ingestion from a Genesys cloud contact center is achieved using an AudioHook websocket; call processing is handled using **Amazon Transcribe**.
2. **Amazon Connect** is an end-to-end cloud based contact center solution with built-in AI/ML capabilities. Call processing is done by using **Amazon Connect** Contact Lens.
3. Any other contact center based on session recording protocol (SIPREC) ingestion can be done by using **Amazon Chime** Voice Connector, with call processing by **Amazon Transcribe**.

4. **Amazon Kinesis Data Streams** streams all call transcripts simultaneously from all contact center instances.
5. **AWS Lambda** is used to initiate **Amazon Comprehend** sentiment analysis, which determines agent and caller sentiment. **Lambda** also initiates agent assist and transcript summarization.
6. Agent assist is based on **Amazon Lex** and **Amazon Kendra**. **Amazon Lex** is the conversational interface and uses **Lambda** to activate **Amazon Kendra** to provide intelligent search.
7. The event call processor **Lambda** function invokes the transcript summarization **Lambda** function when the call ends to generate a summary of the call from full transcript.
8. The LLM hosted in **Amazon Bedrock** leverages retrieval-augmented generation (RAG) with **Amazon Kendra** to securely ingest enterprise data into LLMs and fine tune it.
9. The post call summary **Lambda** hook that the LCA call event/transcript processor will invoke after the call summary is processed. This updates the call summary to a CRM system like Salesforce.
10. The web application establishes a secure GraphQL connection to the **AWS AppSync** API and subscribes to receive real-time events, such as new calls and call status changes for the calls list page, and new or updated transcription segments and computed analytics for the call details page.
11. **Amazon CloudFront** hosts a custom dashboard application for agents.

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## Further reading

For additional information, refer to

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)
- [Amazon Bedrock](#)
- [AWS Contact Center Intelligence \(CCI\) Solutions](#)
- [Live call analytics and agent assist for your contact center with Amazon language AI services](#)
- [Amazon Transcribe Live Call Analytics \(LCA\) Sample Solution \(GitHub repo\)](#)
- [Salesforce Integration](#)
- [Agent Assist with Amazon Connect](#)
- [Agent Assist with Genesys Cloud CX](#)
- [Agent Assist using Chime SDK](#)

## Contributors

Contributors to this reference architecture diagram include:

- Ninad Joshi, AI/ML Partner Solutions Architect, Amazon Web Services

## Diagram history

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Change	Description	Date
<a href="#">Initial publication</a>	Reference architecture diagram first published.	October 4, 2023

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