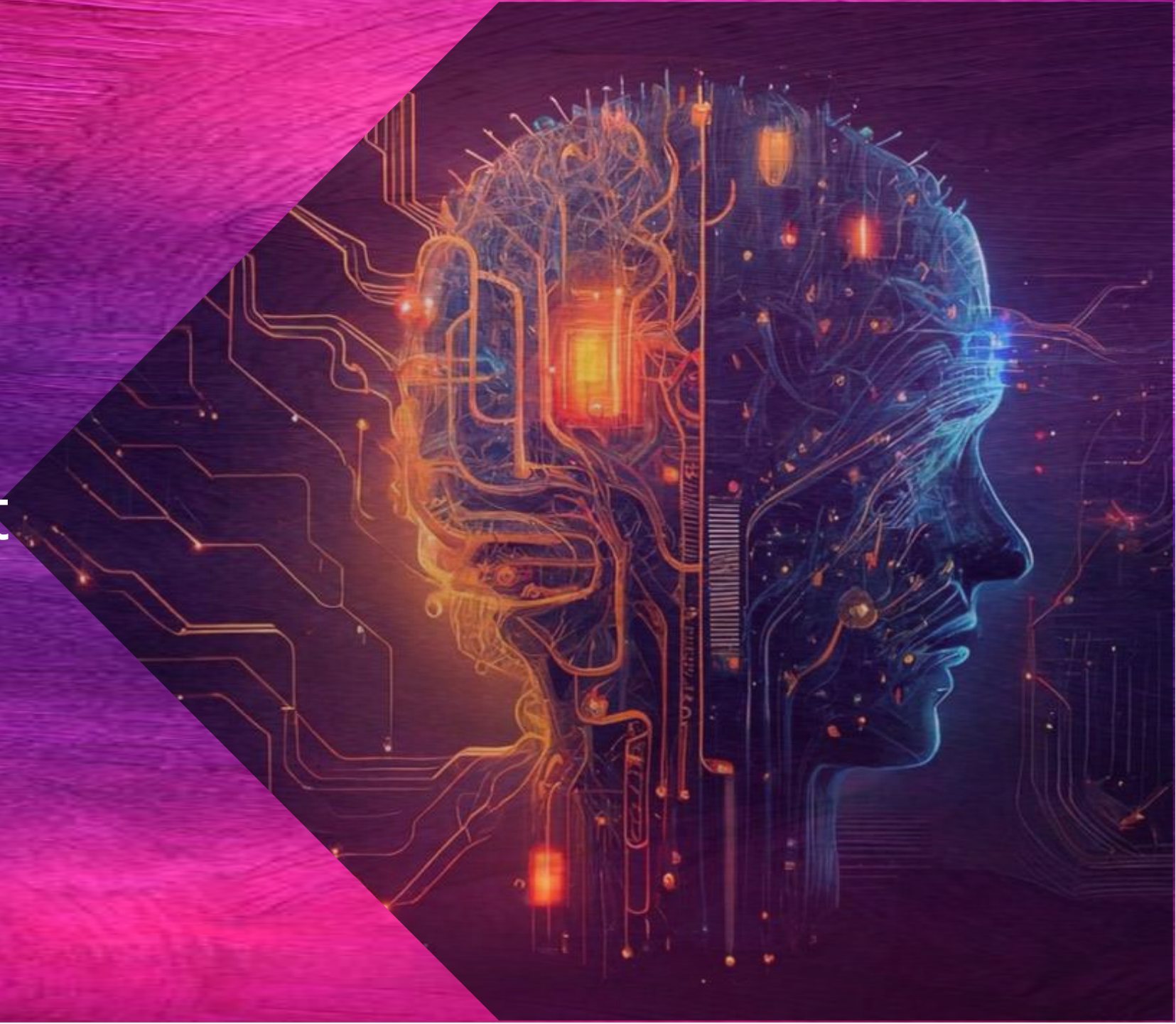


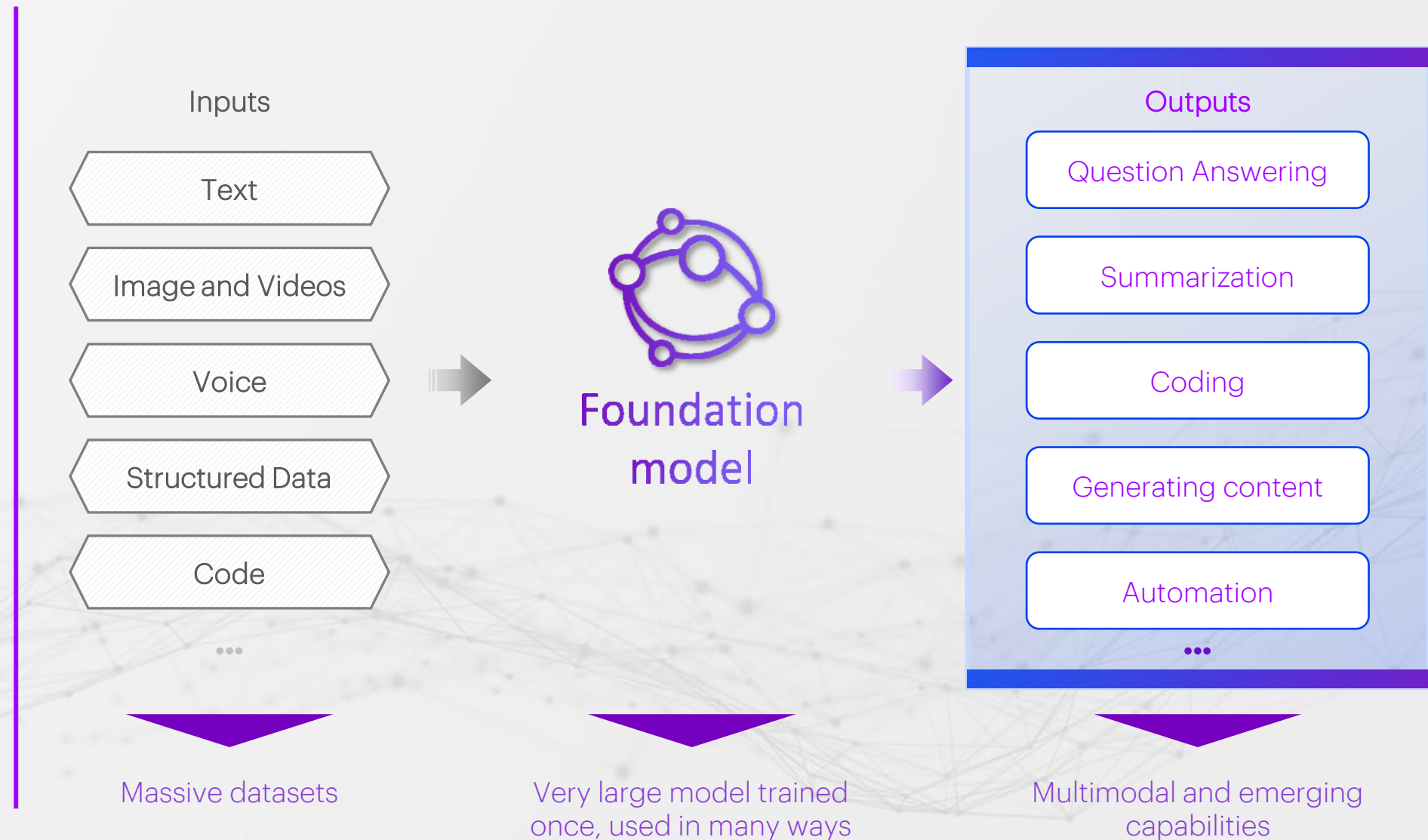
Generative AI for Amazon Connect Contact Center

 **accenture**  Song

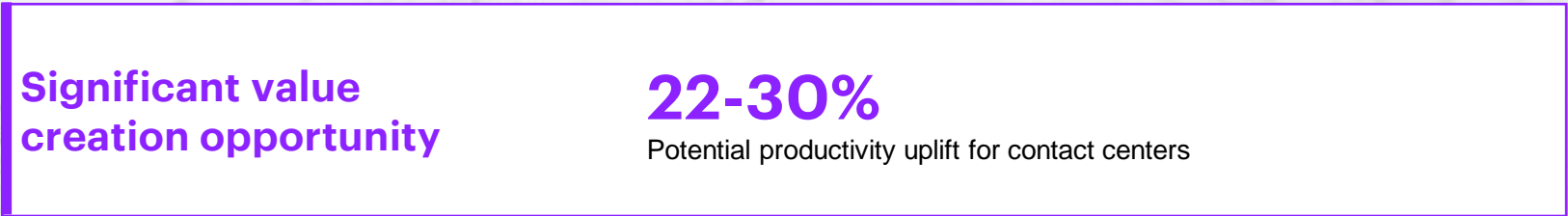
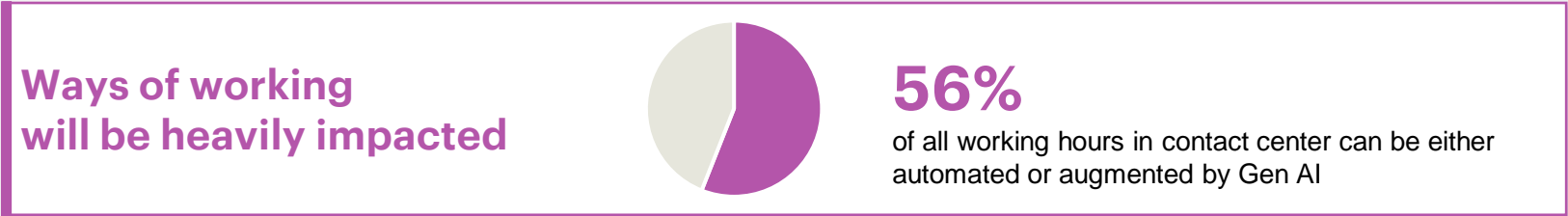
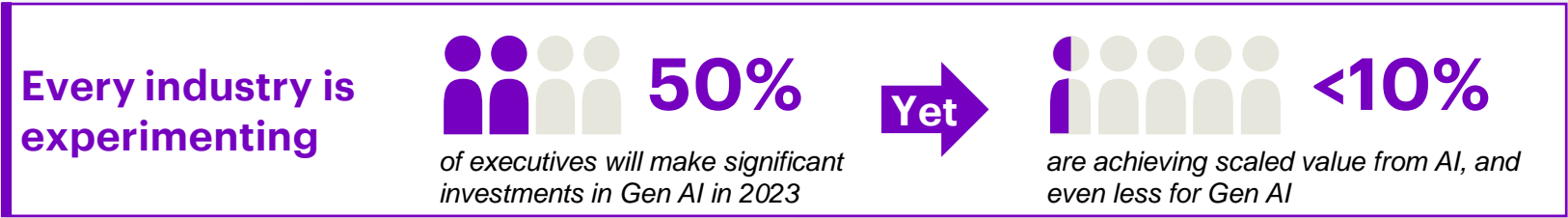


What is Generative AI

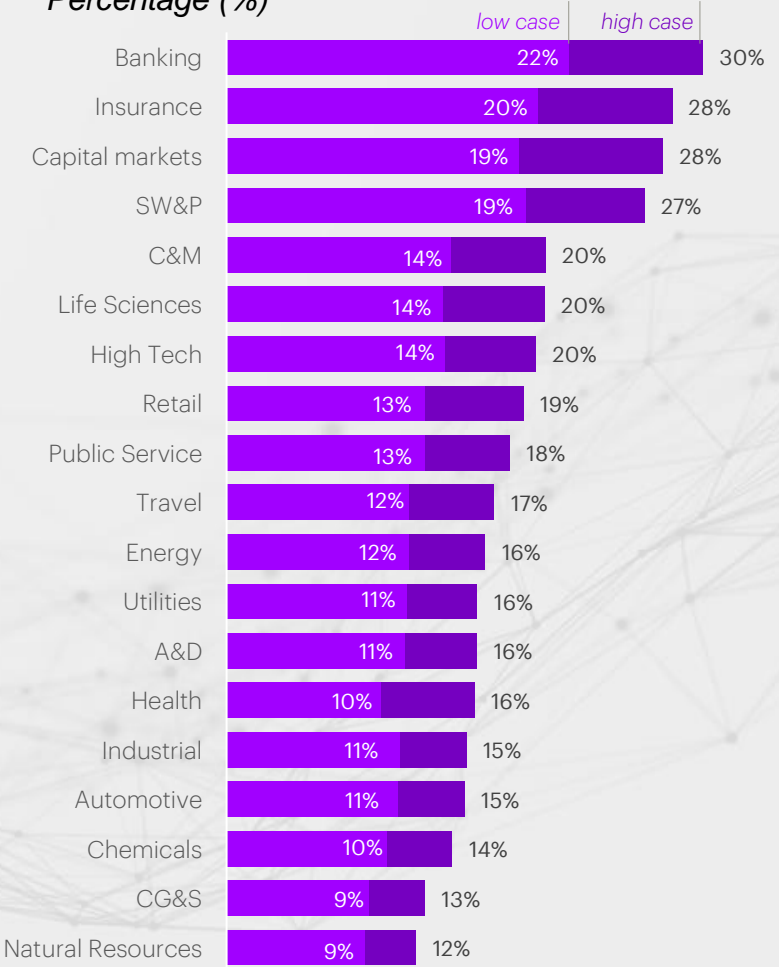
Generative AI is a type of artificial intelligence that can **create new content** based on patterns it has learned (e.g., text, images, audio)



Generative AI is booming and will soon become table-stakes every industry is experimenting



Productivity gains* in terms of US wage bill
Percentage (%)



Generative AI on AWS

Overview

AWS innovates with generative artificial intelligence (AI) With enterprise-grade security and privacy, access to industry-leading foundation models, and generative AI-powered applications. AWS makes easy to build and scale generative AI application which can be built own data, own use cases and own customers.



Amazon Bedrock



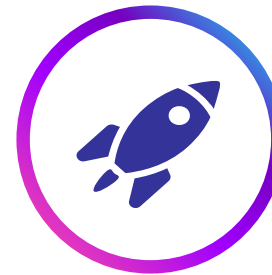
Amazon SageMaker



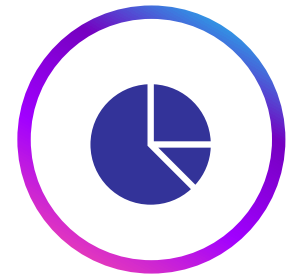
Gen AI apps with
security and Privacy
built in



High Performance and
Low Cost



Gen AI Apps to
enhance productivity



Data as asset for Gen
AI

Generative AI for Contact Centers

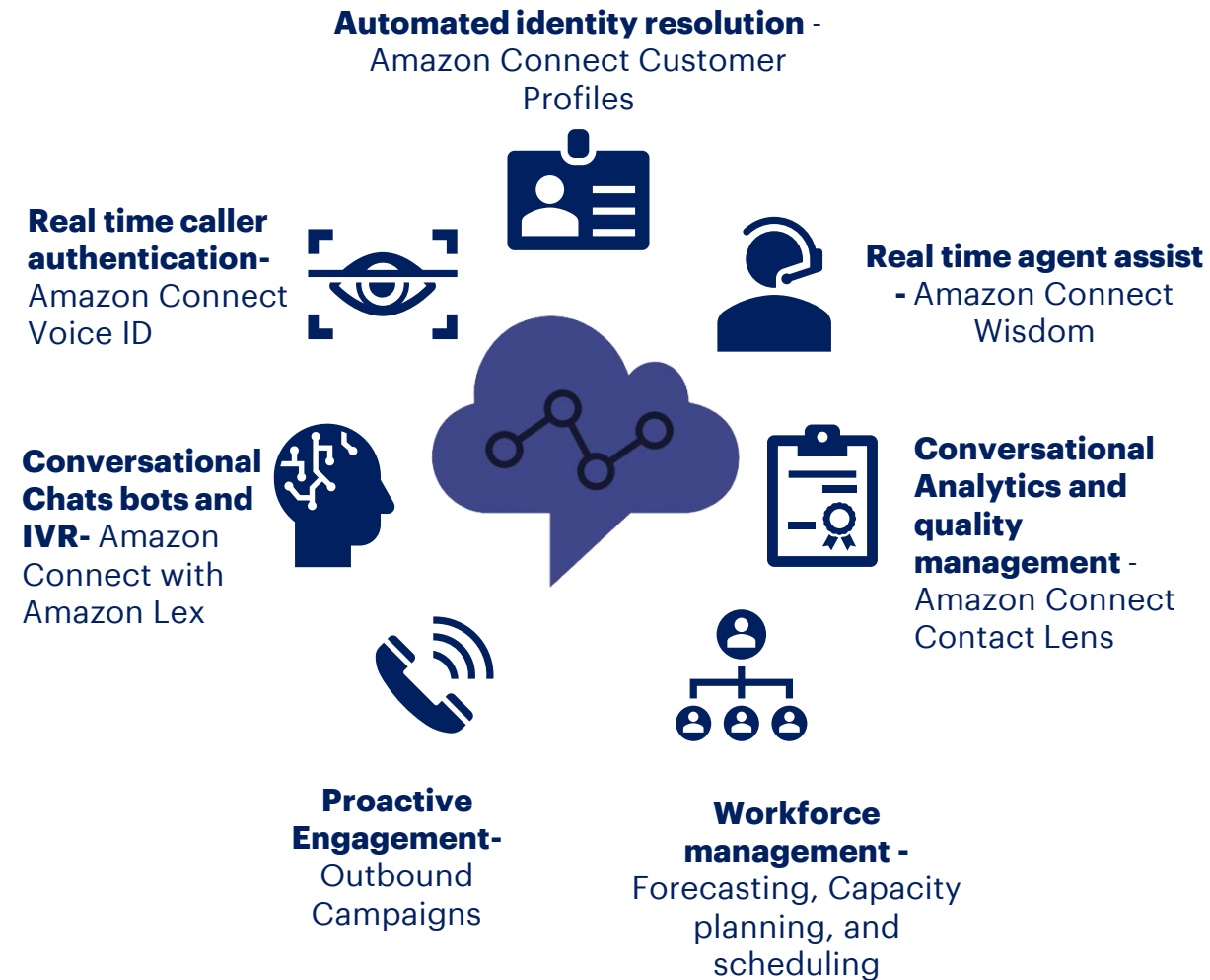
The Power of AI is focused to solve for business challenges, especially for customer service in a contact centers

Large Language Models (LLM)s bring an exciting potential to CX use cases because they can help improve how contact centers manage and process large amounts of data, and provide real-time CX enhancements

LLMs will also improve the natural language processing of voice- and chat-bot conversations, which are fundamental to success of automation in contact centers

Customer experience (CX) is one of the top use cases for generative AI.

30-45% Estimated productivity cost improvement, from applying generative AI to customer care functions.



Generative AI Capabilities for Amazon Connect

Self Service

Existing capabilities

- Automate bot design with transcripts
- Deliver accurate answers
- Automate simple transactions
- Classify issues to accurately route to the right agent

Gen AI (1P/3 PLLMs)

- Automate bot development with natural language prompts
- Accurately answer & summarize answers based on RAG, execute Bedrock agents
- Produce needed code to complete transactions
- Zero shot intent classification

Benefits

- Contextually aware IVR/ chatbots
- Personalized, human-like responses
- Boost containment rates and reduce agent queues
- Reduce number of transfers
- Improves query resolution time

Agent Assist

- Turn-by turn transcripts & summaries
- Automatically identify and redact PII
- Accelerate agent assist bot building with transcripts
- Unlock post call insights such as sentiment, call issues, categories

- Generate abstractive summaries of interactions
- Prescriptive prompts to improve agent performance
- Deeper contextual understanding to extract interaction insights

- Concise contact summarization
- Identify agent coaching opportunities
- Faster time to market
- Better actionable insights

Conversational AI

- Automate live transcripts, PII redaction, and translation
- Deliver accurate answers from a single source
- Next best action recommendations
- Unlock real-time insights such as sentiment, call issue, categories

- Generate abstractive summaries of interactions
- Produce summarized answers from trusted source
- Real-time suggested responses and actions using NLP
- Deeper contextual understanding to interaction insights

- Boost agent productivity
- Improve C-SAT
- Escalation Prediction
- Compliance Assistance

Amazon Bedrock

Scale and Build Gen AI Application with Foundational Models



Amazon Bedrock

Amazon Bedrock FMs access available through the AWS Management Console, AWS SDKs, and open-source frameworks such as LangChain.



All data inputs and customizations remain private to your AWS account. The data is never shared with third-party model providers.



Customize FMs privately with own data using techniques such as fine-tuning and retrieval-augmented generation (RAG), and create managed agents that perform complex business tasks



Integrates with IAM to manage permissions. permissions include access to specific models, playground, or features within Amazon Bedrock.



Amazon Bedrock offers two pricing models, on-demand and provisioned throughput. Models are billed per processed token or image



Amazon Bedrock

Choices of high-performing Foundation Models (FMs)



Amazon Titan - FM for text generation and classification, question answering, and information extraction and a text embeddings model for personalization and search.



Jurassic - Instruction-following FMs for any language task, including question answering, summarization, text generation, and more



Claude - FM for thoughtful dialogue, content creation, complex reasoning, creativity, and coding, based on Constitutional AI and harmlessness training.



Command - Text generation model that can generate text-based responses optimized for business use cases based on prompts.

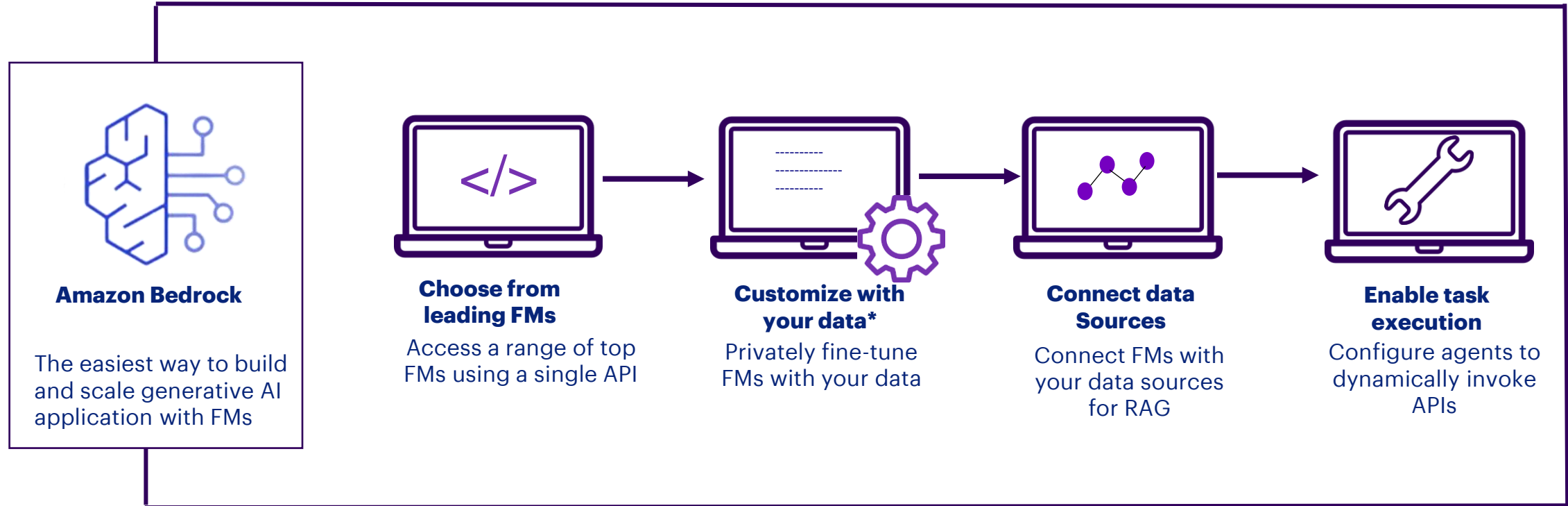


Llama 2 - Fine-tuned models ideal for dialogue use cases



Stable Diffusion - Image generation model produces unique, realistic, and high-quality visuals, art, logos, and designs.

Amazon Bedrock – How does it work ?



*** Your data is not used for service improvement and will not be shared with third party model provider**

Amazon Sagemaker

Build and train machine learning models with fully managed infrastructure and workflows



Amazon Sagemaker

Automatically extract, process, and analyze documents for more accurate investigation and faster decision making



Automate detection of suspicious transactions faster and alert your customers to reduce potential financial loss.



Predict likelihood of customer churn and improve retention by honing in on likely abandoners and taking remedial actions such as promotional offers



Deliver customized, unique experiences to customers to improve customer satisfaction and grow your business rapidly.



Amazon Sagemaker

Publicly available Foundational Model

AI21labs **Jurassic-2 Ultra, Mid, Contextual answers, Summarize, Paraphrase, Grammatical error, correction** - Text generation, Long-form, generation, Summarization, Paraphrasing, Chat, Information, extraction

 **Llama 2 7B, 13B, 70B** - Question answering, Chat, Summarization, Paraphrasing, Sentiment analysis, Text generation

 **Cohere Command XL** - Text generation, Information extraction, Question answering, Summarization

 **Falcon-7B, 40B Open LLaMA RedPajama MPT-7B BloomZ 176B Flan T-5 models (8 variants) DistilGPT2 GPT NeoXT Bloom models (3 variants)** - Machine translation, Question answering, Summarization.

S. **Stable Diffusion XL 1.0 2.1 base Upscaling Inpainting** - Fine-tuning on Stable, Diffusion 2.1 base model

Light **Lyra-Fr 10B, Mini** - Text generation, Keyword extraction, Information extraction, Question answering, Summarization, Sentiment analysis, Classification

 **Dolly** - Question answering, Chat, Summarization, Paraphrasing, Sentiment analysis, Text generation

 **AlexaTM 20B** - Machine translation, Question answering, Summarization, Annotation, Data generation

Use Cases



Self-Service Virtual Agents with Gen AI

Problem statement

Sally has relocated to a new city due to a job transfer. In this scenario, she faces the task of seamlessly transitioning her telecom services to her new location while minimizing service disruptions and ensuring a hassle-free move. She could use some assistance in narrowing down the options to find the ideal broadband plan that suits her work-from-home requirements. She is tech savvy and prefers to use self-service options.



Accenture Song



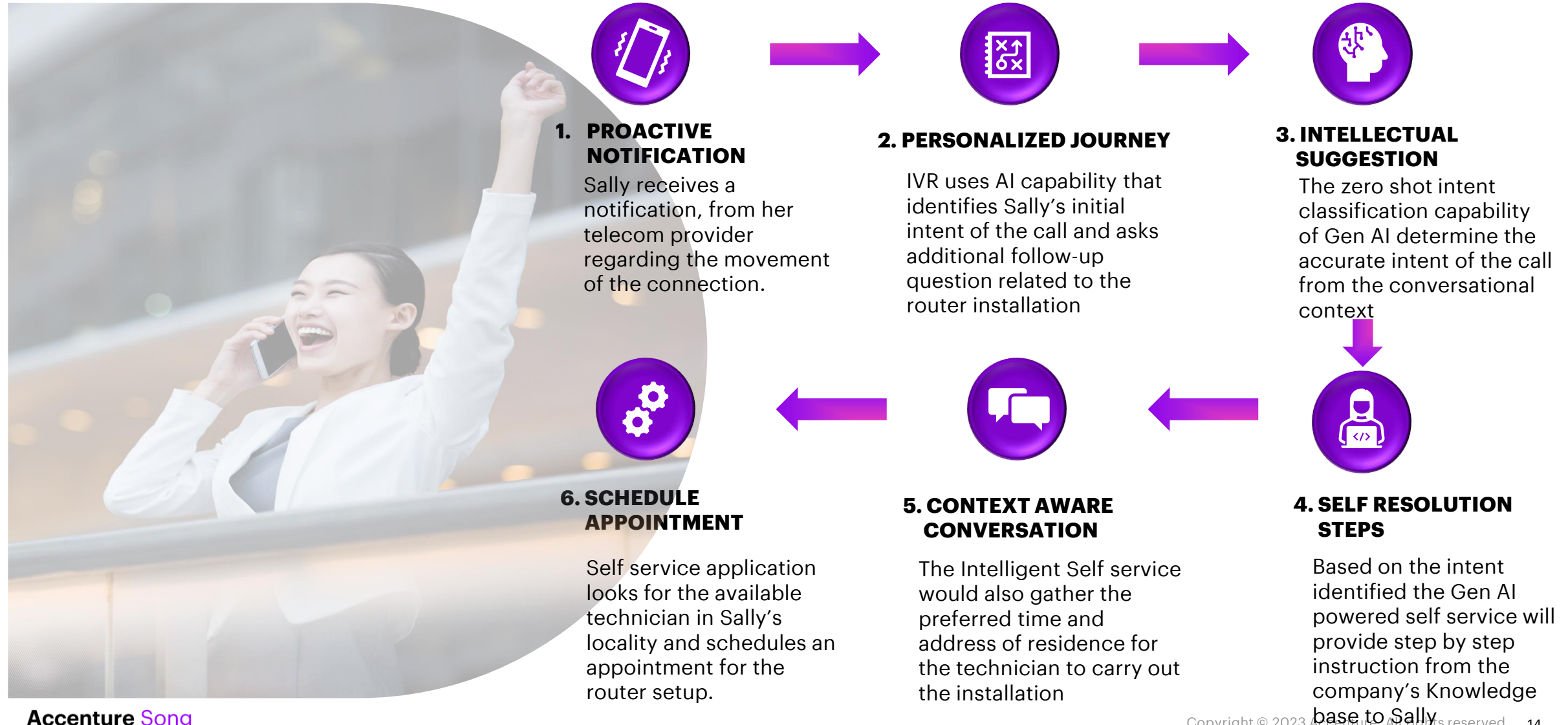
How can we resolve Sally's issue by providing a solution to handle the current situation ?

Sally needs...

- Gen AI powered self service will accurately answer & resolve sally's query by leveraging the built-in capability of zero shot intent classification

Self-Service Virtual Agents with Gen AI

Resolves customer queries with automated responses



Agent Assist with Gen AI

Problem statement

John is a privileged customer of XYZ Telco services – one of the top telecom player in the US region. John randomly finds out that he has been charged additional \$ 30 in his phone bill amount for the current month, so he wanted to find out the reason for this sudden change. He calls the customer service helpline and gets him identified with calling from his registered number, navigates to the bill enquiry option and gets connected with **Marco** who is trainee agent of XYZ Telco.

John starts yelling at Marco asking the reason for sudden change on the bill amount and Marco on the other end is struggling to handle the current situation.



How can we resolve Marco's issue while providing a solution to handle the current situation ?

Marco needs...

- A Gen AI solution that would provide real-time suggested responses using NLP to improve his performance based on customer sentiment
- Provide deeper contextual understanding by extracting interaction insights and provide knowledge articles based on the customers intent for the call

Agent Assist with Gen AI

Resolves queries with automated responses with FCR and Customer Experience



Conversational Analytics with Gen AI

Problem statement

Mark is a privileged customer of ABC Telco services who had a lengthy conversation with **James**, a trainee agent in ABC Telco regarding his billing issue. **Mark** had requested **James** to summarize the conversation over email for his future reference.

Additionally, **Phil (Manager)** needs to analyze, summarize and evaluate the whole conversation between **Mark & James** which is a bigger challenge as it was a lengthy conversation.



How can we resolve this issue while providing a solution to handle his situation ?

James needs...

- A Gen AI solution to generate abstractive summaries of interactions which can sent over an email

Phil needs...

- A Gen AI solution to Analyze, Summarize and Evaluate the complete conversation from a trusted source

Conversational Analytics with Gen AI

Post Call Analysis assists the business to better understand the customer needs



1. INBOUND JOURNEY

Mark calls from his registered phone and gets routed to James post problem identification to address the problem.



2. AGENT FOLLOW-UP ACTION

The Gen AI, analyses the transcript of the entire conversation to educate James on his follow up actions



3. CALL RECAP EMAIL

The conversational Gen AI, Generates abstractive summaries of the interactions and facilitated to send the same as an email template. James can use this email template and send a mail to Mark.



Mark



James

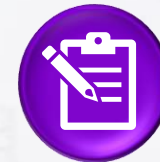


Phil



1. POST CALL SENTIMENT ANALYSIS

Phil runs a post call analytics on AWS to understand the sentiment variations of Mark from call initiation stage to call closure.



2. POST CALL SUMMARY

The Gen AI, analyses the transcript of entire conversation between Mark and James, and Produce summarized answers for him



3. CALL EVALUATION

As a final step, Phil evaluate to understand if query from Mark has been resolved

Key Considerations



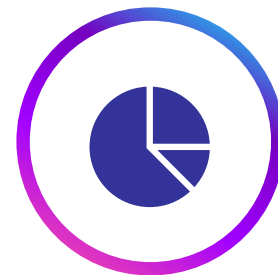
Maintaining Security and Compliance

Controlling the privacy, security, bias and data trustworthiness



Cost Control and resource Utilization

Choosing the most accurate Large Language models (LLM)s based on the contact center use cases



Leverage and Intellectual property

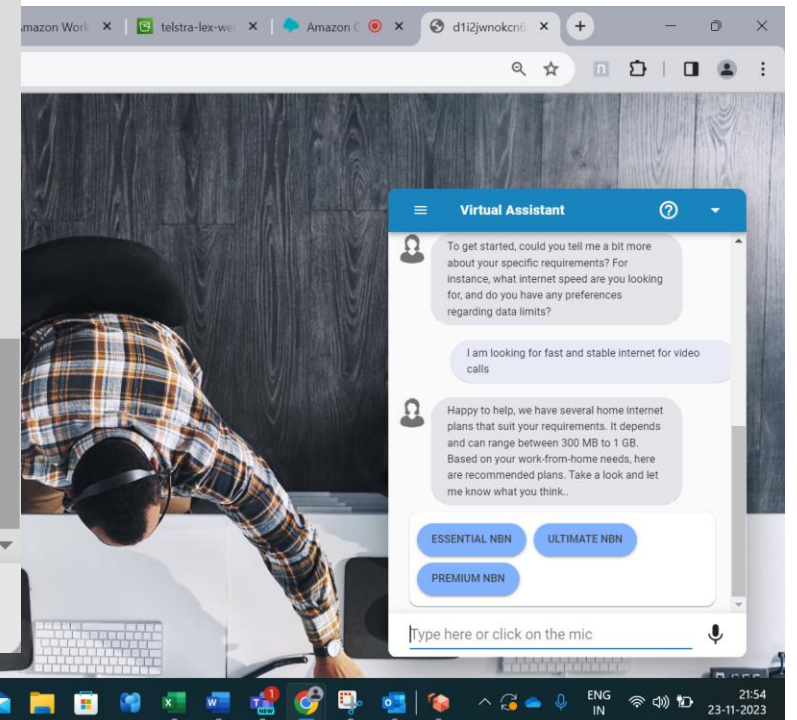
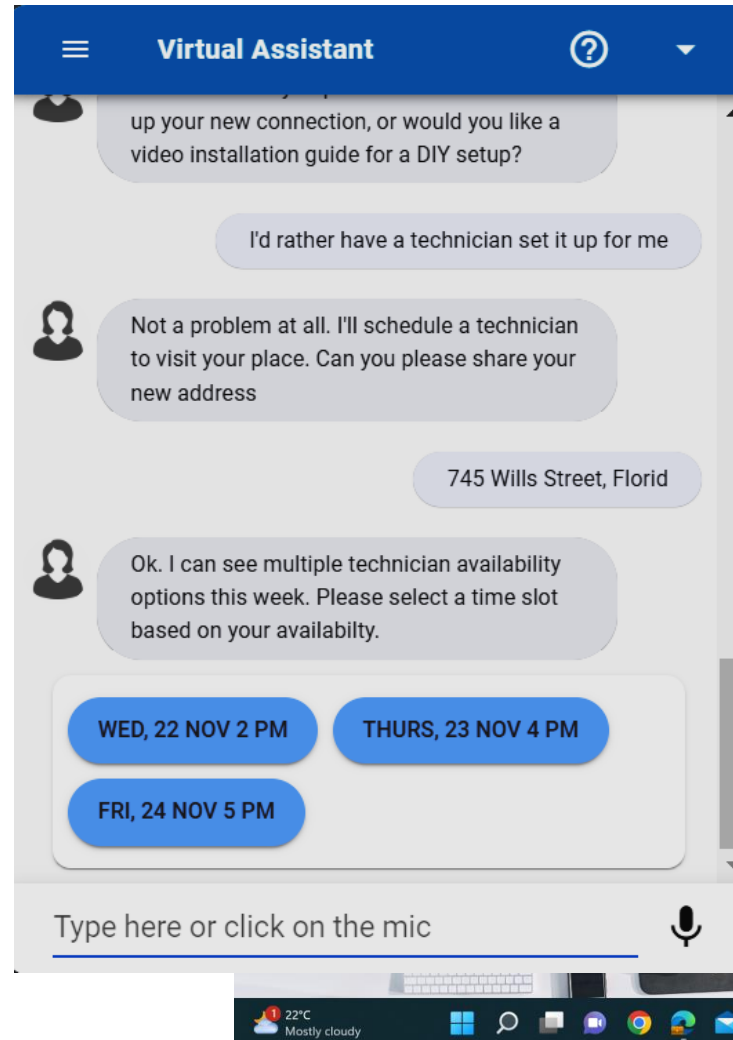
Fine tuning the Models with proper proprietary enterprise data

Generative AI with Amazon Connect Demo snippets

Gen AI for Virtual Agents Capabilities

Enhanced Self-Service

- Gen AI enhances intent identification
- Multi Intent Identification
- Empathetic & Personalized conversational style
- Accurately answer & summarize answers based on RAG, execute Bedrock agents
- Response card format helps customer to choose input quickly



For live demo please reach out to the team...

Gen AI for Agent Assist Capabilities

Agent Assist during the Call

- Prescriptive prompts to improve agent performance
- Agent also can ask the suggestion to the Agent Assist
- Live Translation to another language
- Automatically identify and redact PII
- Caller Intent identification
- Live suggestion to articles / content from knowledge base
- Generate abstractive summaries of interactions
- Deeper contextual understanding to extract interaction insights

The screenshot displays the 'Live Call Analytics with Agent Assist' interface. The central panel shows a call transcript with the following exchanges:

- AGENT 00:04.4 - 00:13.7**: Thank you Bet. Thank you. My name is Joe. I see you're experiencing a billing issue. You found us for the higher than expected telecom bed. Is that correct?
- CALLER 00:21.3 - 00:25.5**: Yes, it's much higher than important, using some sort of
- AGENT 00:21.0 - 00:26.6**: Yes, it's much higher than what this is some sort of energy. Engine.
- AGENT 01:22.5 - 01:28.8**: I completely understand why this is worrying back. Please give me a moment while I check your purchase history.
- AGENT 02:14.2 - 02:20.0**: Best. We've identified a recent addition of the Netflix plan, which

The right sidebar features the 'Agent Assist Bot' section with a message: 'LCA Agent Assistant is ready. Ask knowledge base questions or request a summary of the current call.' Below this are buttons for 'SUMMARIZE CURRENT CALL', 'IDENTIFY CURRENT TOPIC', and 'GENERATE EMAIL'. The search results panel on the far right lists several documents: 'Netflix subscription.pdf', 'Netflix subscription.docx', 'Bills.html', 'High Bills.docx', 'TestResults.html', and 'Symptoms.html'. Each document has a brief description of its content.

For live demo please reach out to the team...

Gen AI for Conversational Analytics Capabilities

The screenshot displays the 'Live Call Analytics with Agent Assist' interface. The top navigation bar includes 'Customer Profile', 'Cases', and 'CallAnalytics'. The main content area is titled 'Live Call Analytics with Agent Assist' and shows a 'System Phone Number' of +18005551111 with a status of 'Done'. Below this, there are sections for 'Call Summary Info', 'Transcript Summary', and 'Call Categories Info'. The 'Transcript Summary' section is highlighted with an orange border and contains the following text:

Summary
The caller had a higher than expected telecom bill due to subscribing to Netflix's premium plan. The agent cancelled the Netflix plan and recommended switching to a bundle pack that includes several streaming services for a lower monthly cost. The caller agreed to the bundle pack and the agent initiated the activation.

Topic
billing issue

Follow-Up Actions
They said they would initiate activation of the caller's new bundle plan right away.

Issues

On the left sidebar, there is a 'Welcome Pajaniraja' message and a 'Quick connects' button. At the bottom, there are buttons for 'Quick connects', 'Number pad', and 'Create task'.

After Call Analytics

- Generate abstractive summaries of interactions
- Enhanced Intent identification
- Follow up action extract from the transcription
- Email content generation from the transcription

The screenshot displays the 'Live Call Analytics with Agent Assist' interface, showing a 'Call Transcript Analysis' section. The top navigation bar includes 'Customer Profile', 'Cases', and 'CallAnalytics'. The main content area is titled 'Live Call Analytics with Agent Assist' and shows a 'Call Transcript Analysis' section. The transcript is displayed in a table with columns for 'Caller', 'Agent', and 'Transcript'. The transcript shows a conversation between a caller and an agent. The agent's response is highlighted with an orange border and contains the following text:

AGENT 01:18.9 - 01:31.5
That's cancelled, but I recommend you subscribe to a super saver pack. Which includes Telstra, Broadband and Perch, Ultimate bag. And includes me just subscriptions like Netflix, Hulu Amazon Prime YouTube, etcetera.

AGENT 01:31.8 - 01:38.0
It can provide better value for your needs for just an additional of \$10 per month. Would you be interested?

CALLER 01:39.5 - 01:42.4
That sounds wonderful. Yeah. Please tell me, please.

On the right sidebar, there is a 'Welcome Pajaniraja' message and a 'Quick connects' button. At the bottom, there are buttons for 'Quick connects', 'Number pad', and 'Create task'.

For live demo please reach out to the team...

Talk to us



Santhosh Natarajan

GN Song –Service Lead



Arjun Balaraman

*Amazon Connect –
Gen AI POC Lead*



Sanmuganand Selvaraj

*Amazon Connect –
Gen AI POC Lead*



Pajaniraja

*Amazon Connect –
Gen AI POC Lead*

Contributors



Venkatasanthosh

Management Consultant



Kamatachi Ramasamy

MC Delivery Specialist



Harini Chamarathy

*Management Consulting
Analyst*



Bulbul Hoque

*Management Consulting
Analyst*

Thank You

 **accenture** Song