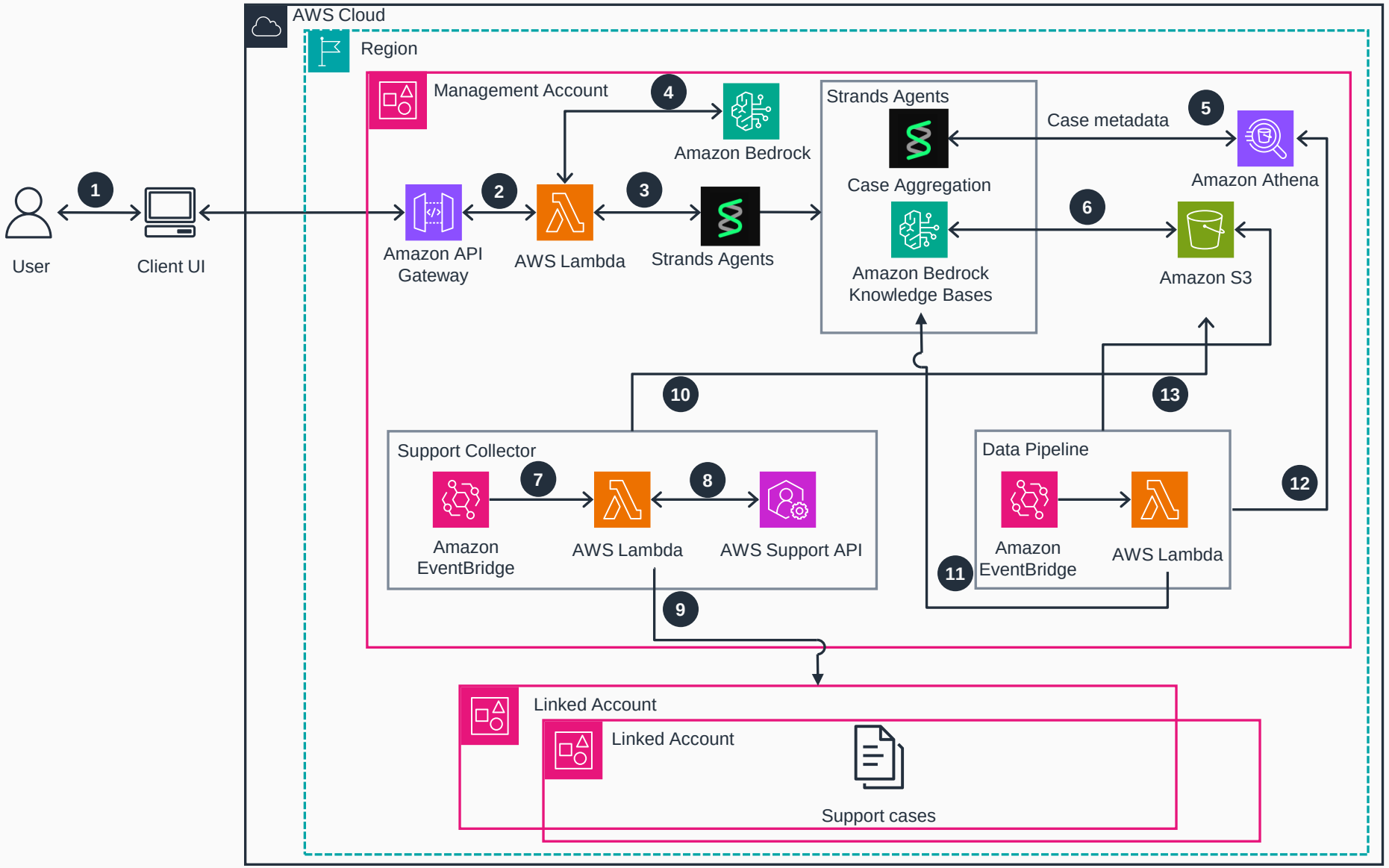
Guidance for Generating Support Case Insights Using GenAI Services on AWS

This architecture diagram shows AWS GenAI services extracting insights from AWS Support cases. Support case data flows into Amazon S3, gets enriched with metadata, and organized into Amazon Bedrock Knowledge Bases delivering actionable insights.



1. Submit a query through the client UI to explore insights from their **AWS Support** cases.
2. **Amazon API Gateway** authenticates the request and forwards it to an **AWS Lambda** function for processing.
3. The **AWS Lambda** function implements AI agents using the Strands Agents SDK (an open-source framework for building autonomous AI agents), case-aggregation workflows, and the **Amazon Bedrock Knowledge Bases** to retrieve and interpret information related to the submitted query.
4. **Amazon Bedrock**, a fully managed service, provides secure LLM inference with built-in privacy controls and responsible AI features to generate final responses based on support case data.
5. **Strands Agents** Case Aggregation tool query **Amazon Athena** to get the case metadata.
6. **Strands Agents** Knowledge Base tool query Amazon Bedrock Knowledge Base and return response. **Amazon Bedrock Knowledge Bases** provides fully managed Retrieval Augmented Generation (RAG) capabilities, automatically retrieving relevant support case information to enhance the accuracy and relevance of AI-generated responses without requiring custom integrations or data flow management.
7. **Amazon EventBridge** triggers a Lambda function on a scheduled interval to collect the latest support cases from AWS accounts.

Reviewed for technical accuracy March 11, 2026

AWS Reference Architecture

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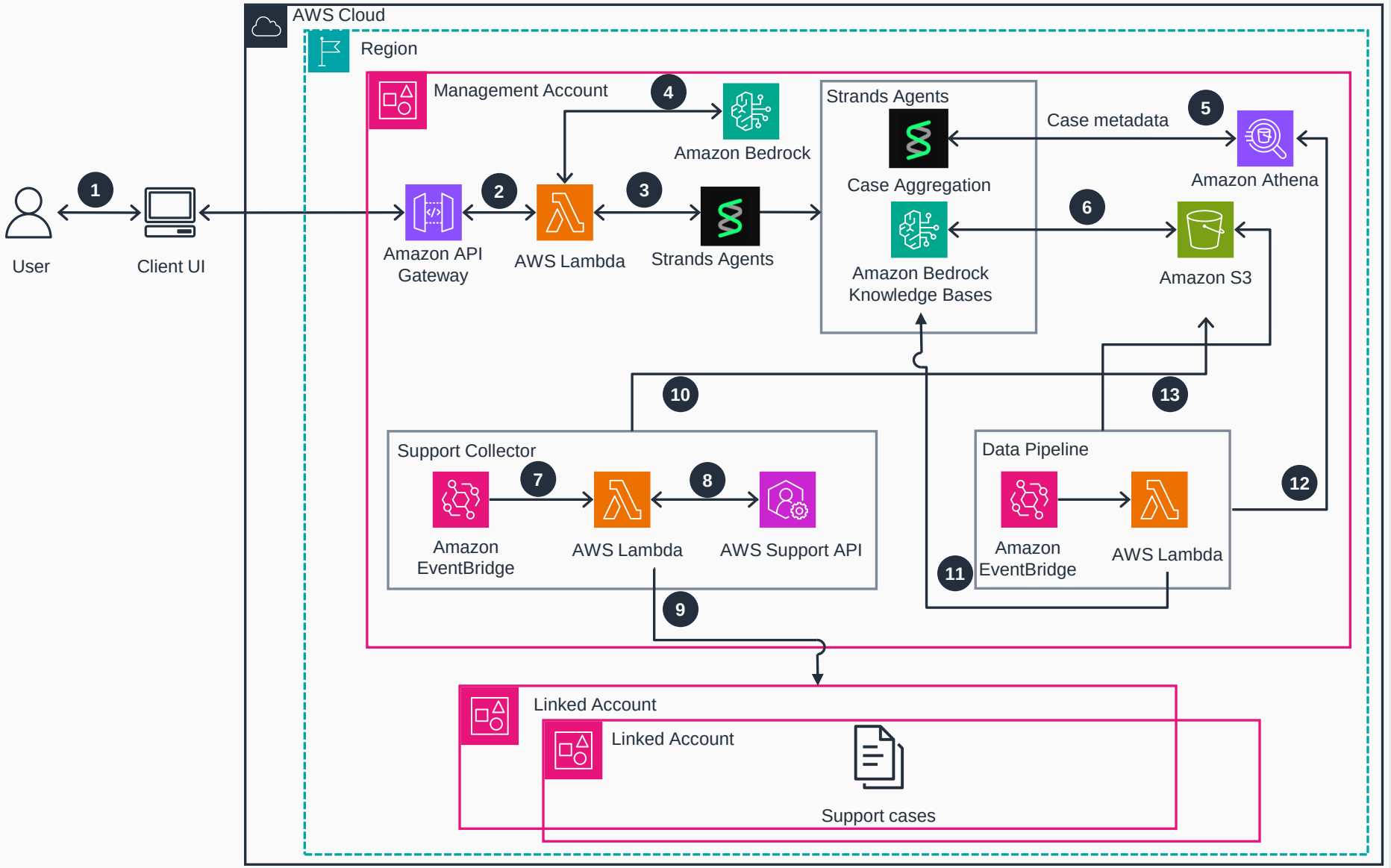

8. **AWS Lambda** function trigger **AWS Support API**.
9. **AWS Support API** collect support cases from the linked AWS accounts.
10. **AWS Lambda** function store the retrieved support cases data in **Amazon S3**.
11. The data pipeline Lambda function processes new support case data in Amazon S3, converts it into vector embeddings, and refreshes the **Amazon Bedrock Knowledge Bases** on a scheduled cadence or when triggered by **Amazon S3** events to ensure up-to-date information retrieval.
12. The data pipeline updates the support case metadata on a scheduled cadence or when triggered by **Amazon S3 events**.
13. The support cases and metadata source to refresh the knowledge base and metadata are stored in **Amazone S3** bucket

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