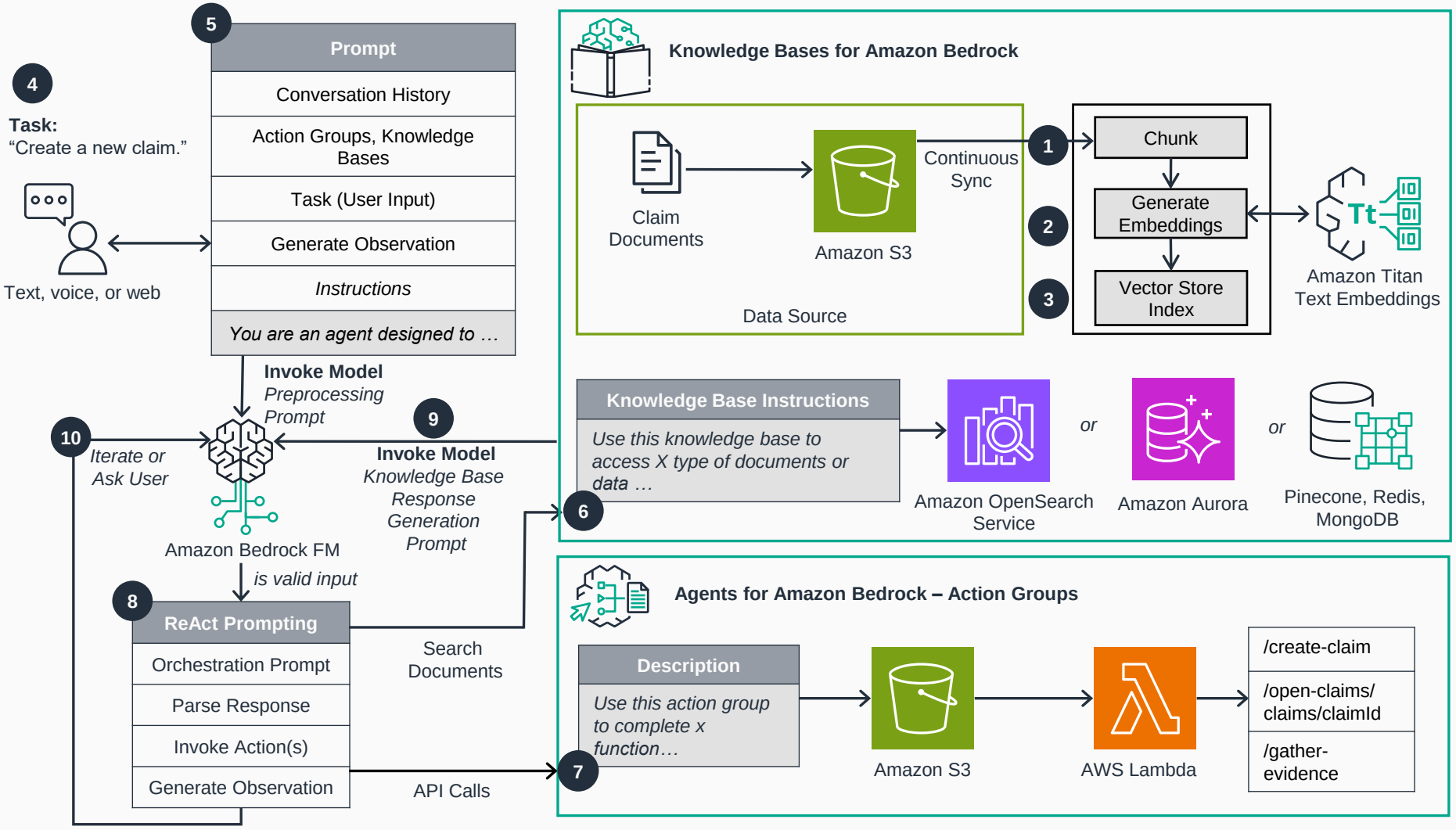
Guidance for Automating Tasks Using Agents for Amazon Bedrock

This architecture diagram demonstrates how to use Agents and Knowledge Bases for Amazon Bedrock to build on existing enterprise resources and automate tasks, such as filing a new insurance claim. This slide details Steps 1-8.



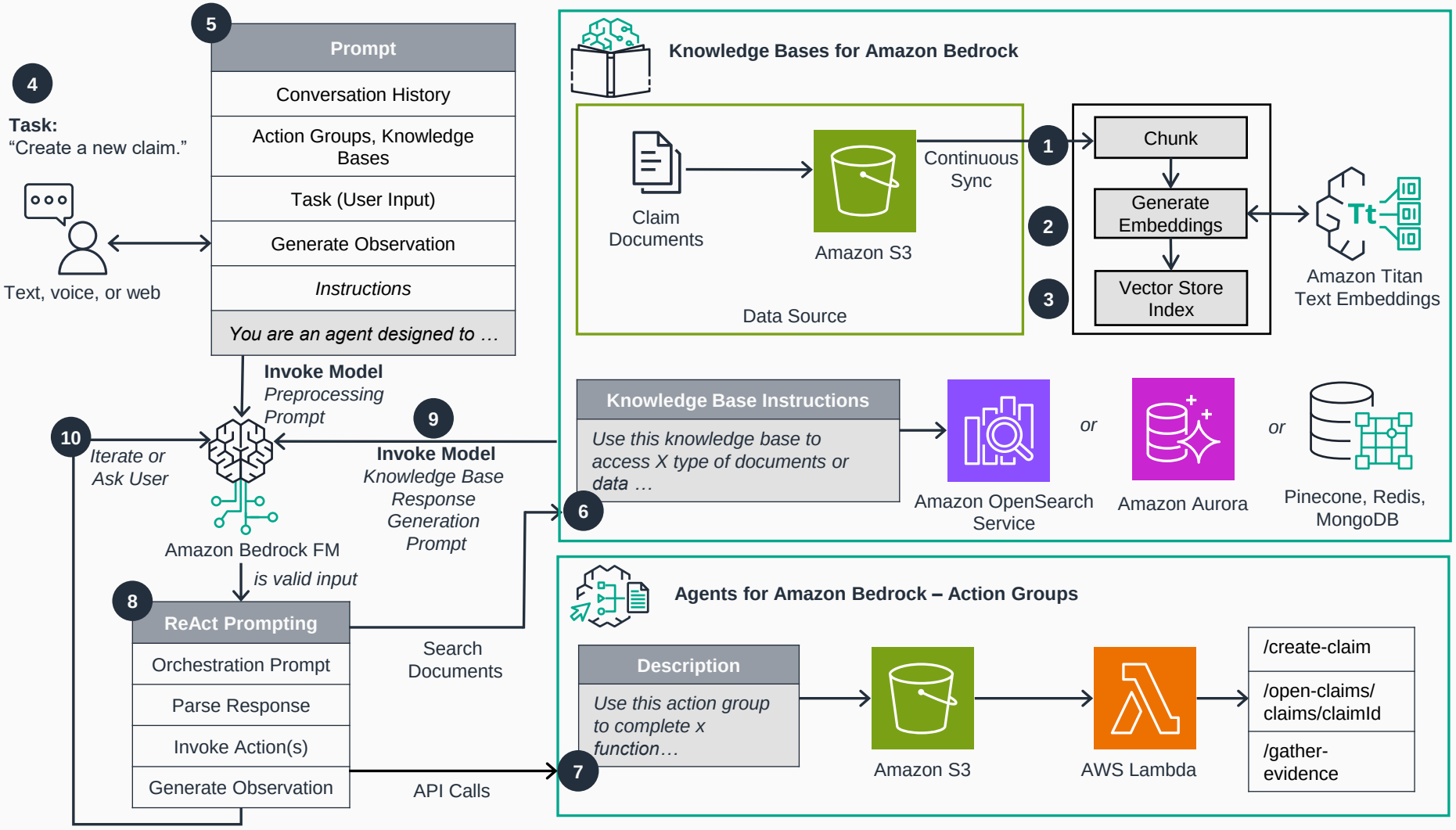
1. During pre-processing, **Knowledge Bases for Amazon Bedrock** segments customer source documents into manageable chunks for efficient processing.
2. These chunks are converted into embeddings using an **Amazon Bedrock** embedding model, facilitating semantic analysis.
3. The embeddings power a vector store index, such as **Amazon OpenSearch Service** or **Amazon Aurora**, enabling semantic similarity comparisons between user queries and customer data source text.
4. A user provides natural language queries, which are transformed into vectors using an **Amazon Bedrock** embedding model.
5. **Agents for Amazon Bedrock** uses the preprocessing template to validate, contextualize, and categorize user input. The user input (or task) is interpreted by **Agents for Amazon Bedrock** using conversation history, agent instructions and configuration, and the underlying **Amazon Bedrock** foundation model (FM).
6. **Knowledge Bases for Amazon Bedrock** offers fully managed retrieval augmented generation (RAG) for **Agents for Amazon Bedrock** access to customer data. They are configured by specifying usage instructions and linking to a customer **Amazon Simple Storage Service (Amazon S3)** data source.
7. Action groups are a set of APIs and corresponding business logic, whose OpenAPI schema is defined as JSON files stored in **Amazon S3**.
8. During orchestration, **Agents for Amazon Bedrock** utilizes ReAct prompting with the orchestration prompt template to run an optimal set of actions to complete the user's task, incorporating action group API invocations and knowledge base queries to generate observations. These observations enhance the base prompt for the **Amazon Bedrock** FM, guiding the **Agents for Amazon Bedrock** decision-making process. Optionally, advanced prompts can be configured to boost **Agents for Amazon Bedrock** precision by employing more detailed configurations and offering manually-selected examples for few-shot prompting.

Reviewed for technical accuracy July 8, 2024

AWS Reference Architecture

Guidance for Automating Tasks Using Agents for Amazon Bedrock

This architecture diagram demonstrates how to use Agents and Knowledge Bases for Amazon Bedrock to build on existing enterprise resources and automate tasks, such as filing a new insurance claim. This slide details Steps 9-10.



9 Using the knowledge base response generation prompt template, **Agents for Amazon Bedrock** conducts semantic similarity searches on the knowledge base to retrieve text, which is then used to augment the base prompt with additional context.

10 The **Agents for Amazon Bedrock** reasoning process continues until **Agents for Amazon Bedrock** provides a final response or prompts the user for further information, ensuring accurate and contextual interactions.

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