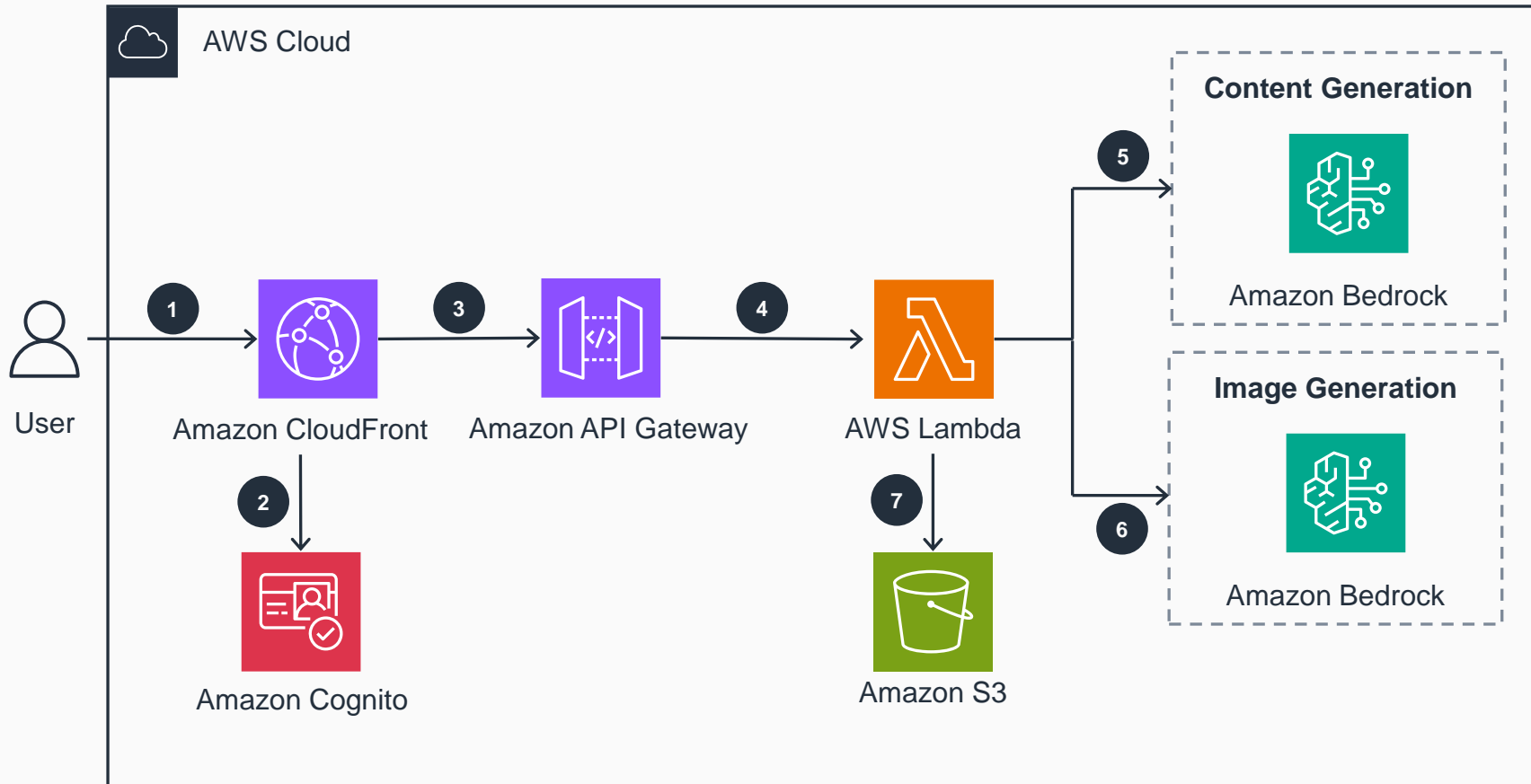


Guidance for Generating Food concepts using Amazon Bedrock on AWS

This architecture diagram illustrates how Amazon Bedrock accelerates food concept generation from months to hours. Multiple foundation models transform target audience insights into complete product concepts including recipes, bill-of-materials, pricing strategies, marketing plans, and packaging mockups, reducing costs and eliminating the need for multiple specialized experts.



- 1 The user accesses the application through their browser via **Amazon CloudFront**, which serves the React-based UI.
- 2 The user authenticates using **Amazon Cognito**, returning signed JWT tokens to the client.
- 3 Authenticated requests for food concept ideations are forwarded to **Amazon API Gateway**, which provides a managed HTTPS endpoint.
- 4 The application runs as a docker container on a single **AWS Lambda** function.
- 5 For text generation tasks, the application invokes **Amazon Bedrock**, via **AWS Lambda** using Claude Sonnet 4.5 from Anthropic, a foundation model with strong reasoning capabilities, for text generation tasks.
- 6 For image generation tasks, the application invokes **Amazon Bedrock** using Stable Diffusion 3.5 Large from Stability AI, a foundation model for high-quality image generation, for creating packaging mockups. The text and image generation tasks run in parallel.
- 7 Generated artifacts, including images, BOMs, recipes, labels and export bundles are stored in an **Amazon S3** bucket for retrieval via the application.

