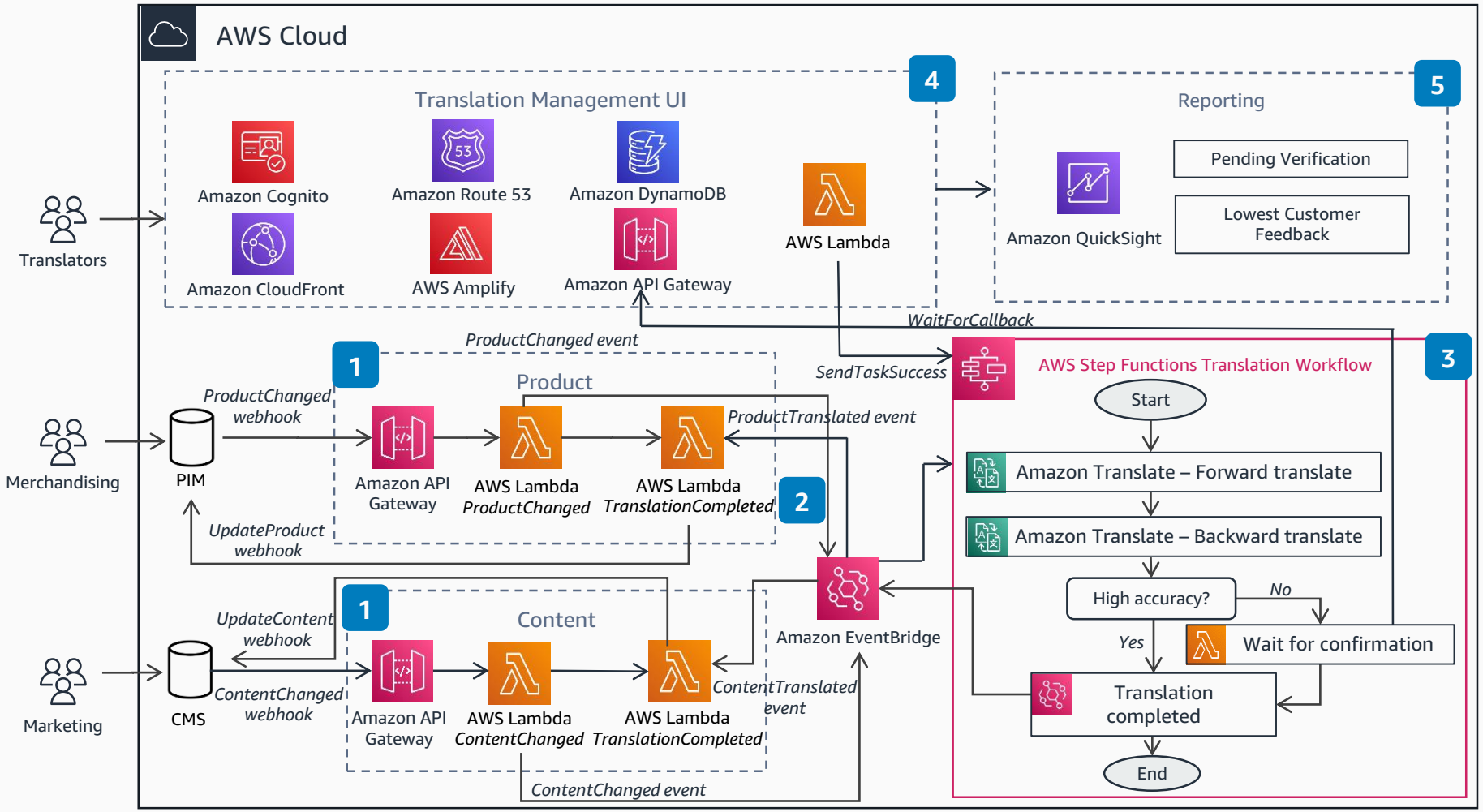
Guidance for Automated Language Translations on AWS

This architecture initiates an automated translation in near real time when products or content are updated. This process includes an added human verification of the translation and a customer feedback loop to maintain content quality.



1 This architecture relies on external data sources and covers two common systems: Production Information Management (PIM) and Content Management Systems (CMS). The architecture assumes a webhook integration, where the destination API is built using **Amazon API Gateway**. The *ProductChanged* **AWS Lambda** function dissects the incoming payload and transforms it into a consistent message format.

2 **Amazon EventBridge** is the central event bus that decouples domains and systems. **EventBridge** will pass events between systems. For example, the *ProductChanged* event will be pushed into **EventBridge**. The translation workflow built with **AWS Step Functions** can be a target with a specific filter.

3 Using **Step Functions**, the translation workflow will kick off the process of automated translation with **Amazon Translate**, a neural machine translation service. Forward and backward translations provide a mechanism to compare and generate an accuracy score for the translation. Based on this score, the translation event can then be sent for further human review.

4 The translation management user interface (UI) is a web application for translators to conduct administrative activities. It allows translators to override translations that are deemed low quality or to confirm quality of content so it can be published automatically. **Amazon Cognito** provides authentication to the application. **Amazon CloudFront** provides a content distribution network to give your global translator workforce quick and secure access to the interface. **AWS Amplify** provides the tooling to help build and ship changes to this application. **API Gateway** allows an endpoint to interact with dynamic data. **Lambda** helps with powering the user interface and kicks off the continuation of the **Step Functions** workflow.

5 Translators that help verify and improve content quality come from a globally distributed workforce. A scalable reporting suite using **Amazon QuickSight** provides insights to translators around the world. The suite also helps the review team confirm that the content pipeline is in good condition and the backlog is manageable. The reporting suite provides an opportunity to collect customer feedback on the translation quality of the content in addition to product information for further quality review.

Reviewed for technical accuracy February 20, 2023

AWS Reference Architecture