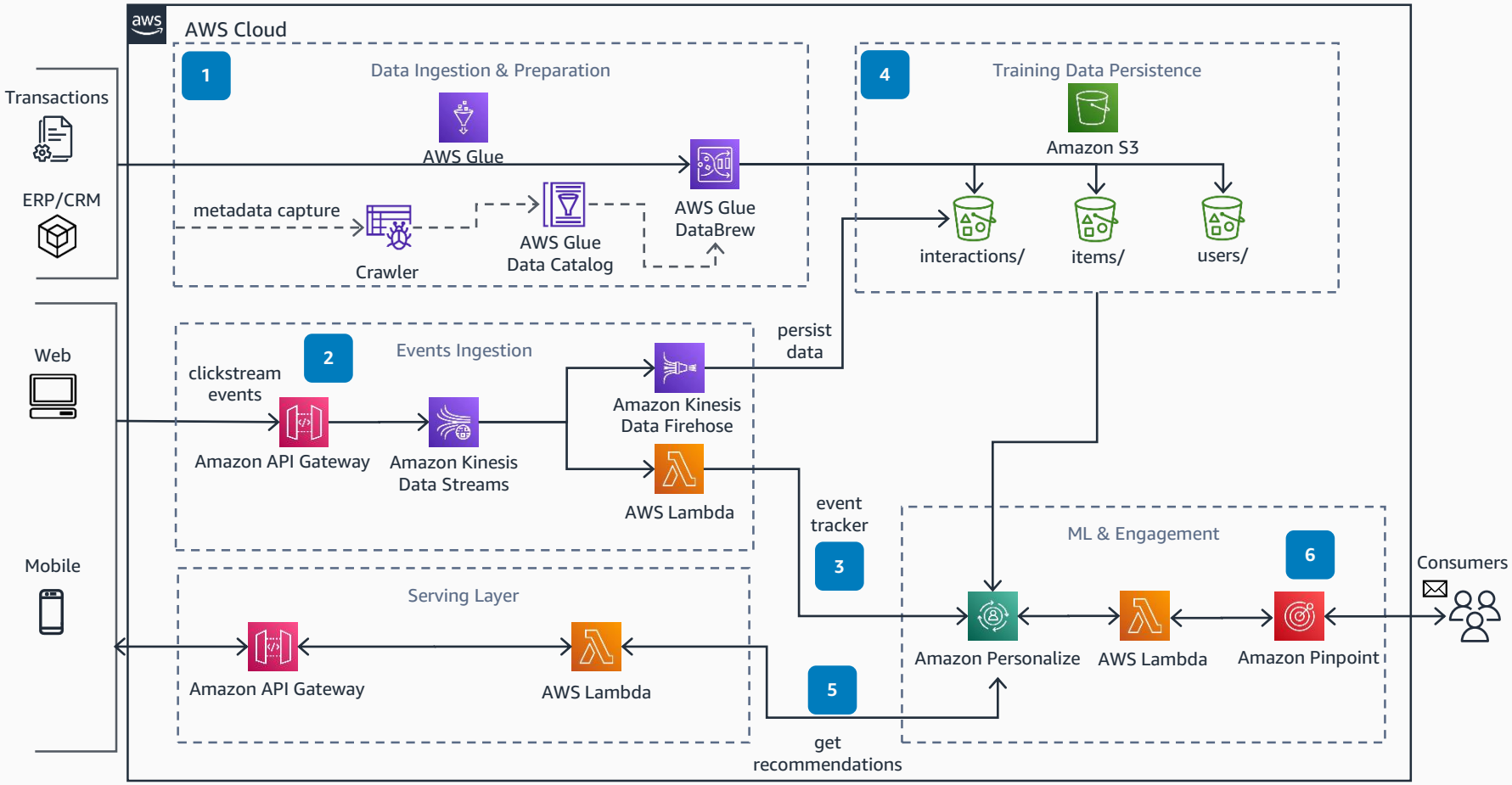
Personalization and Predictive Consumer Engagement for CPG

Consumer expectations are evolving and behaviors are changing fast. The modern consumer packaged goods (CPG) industry has a wide array of channels to communicate with their consumers; however, sending the right message to the right consumer on the right channel at the right time remains the preeminent challenge. Today's consumers quickly lose patience with brands that can't seamlessly support transitioning experiences between mobile, web, email, SMS, and in-person engagements. We propose this approach to deliver personalized experiences that surprise and delight your consumers.



1. Data is ingested into AWS using batch processing and **AWS Glue DataBrew** is used for data preparation. This makes it easy for data analysts and data scientists to clean and normalize data, preparing it for analytics and machine learning applications.
2. **Amazon Kinesis Data Streams** are used to capture real-time event data. **Amazon Kinesis Data Firehose** delivery stream loads event data into the Amazon Simple Storage Service (Amazon S3) bucket for potential re-train and future use.
3. **Amazon Personalize event tracker** captures real-time event data, which is added to the Interactions dataset within Personalize. This enables updating the model with data from consumers' most recent activity.
4. Three types of input data are stored: **interactions** (user activity stream or event data, such as click/buy/watch/add-to-shopping cart), **items** (description of your items, namely category, genre, and availability), and **users** (age, gender, or loyalty membership).
5. Product recommendations are retrieved from **Amazon Personalize** through a serving layer, to be displayed on the web or mobile.
6. Personalized notifications/messages are sent to consumers for campaigns through **Amazon Pinpoint**, leveraging the predictive recommendations from **Amazon Personalize**.

Reviewed for technical accuracy July 8, 2021

AWS Reference Architecture