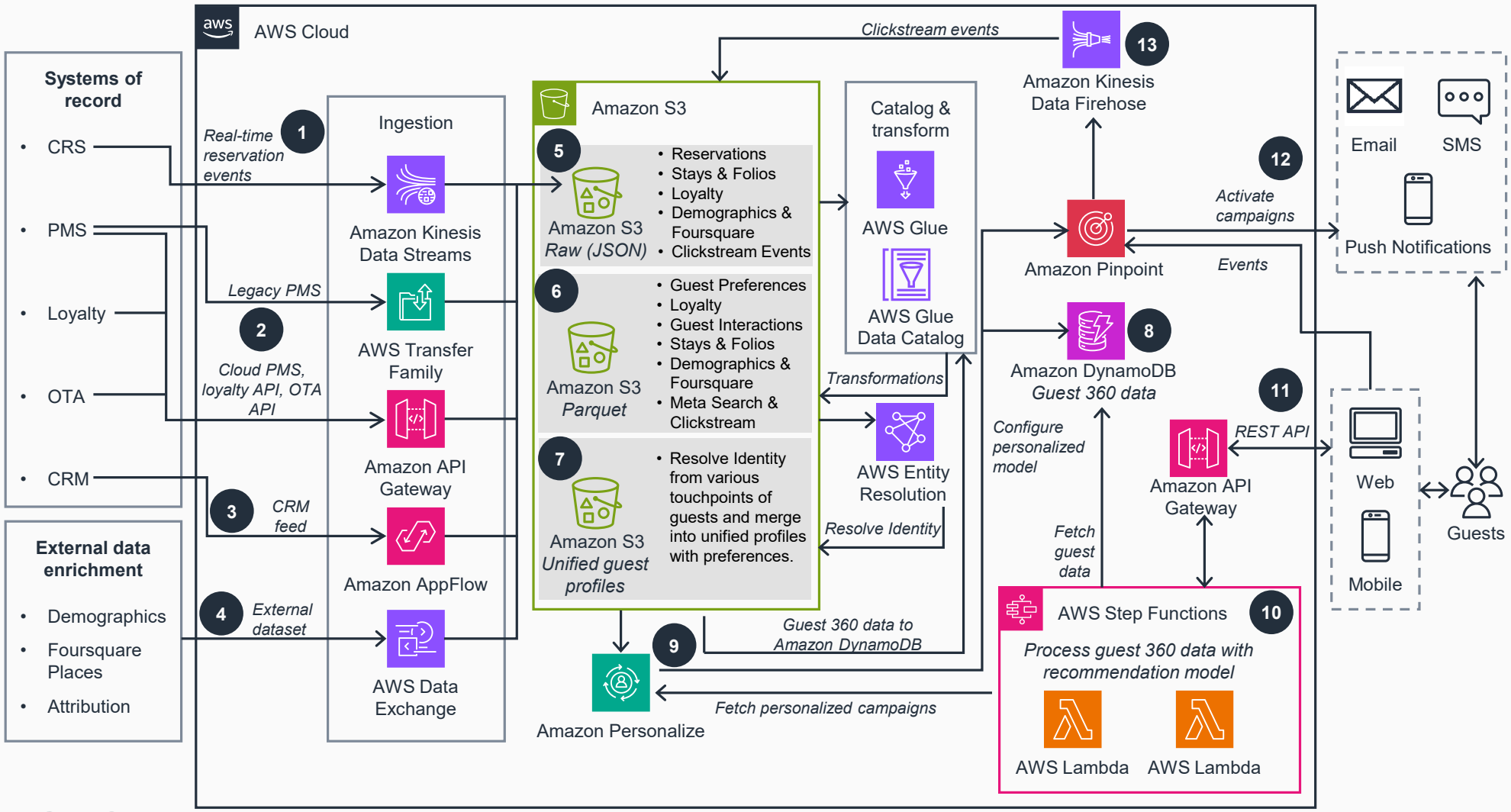
Guidance for Enhancing Guest Experience Using Personalization for Lodging on AWS

This architecture diagram shows how you can use data to deliver personalized experiences for your lodging guests. This slide gives an overview for steps 1–8. For more on steps 9-13, go to the next slide.



1. Use **Amazon Kinesis Data Streams** to ingest real-time reservation events (new, modified, and canceled) from the central reservation system (CRS) to AWS.
2. Integrate your property management system (PMS), which must support FTP or Secure FTP, using **AWS Transfer Family**. Use **Amazon API Gateway** to integrate your cloud-based PMS or other systems, such as loyalty programs or an online travel agency (OTA) through REST APIs.
3. Ingest your customer relationship management (CRM) data to AWS using **Amazon AppFlow**.
4. Optionally, enrich your guest data with demographics, Foursquare Places, and attribution data from third-party data marketplaces using **AWS Data Exchange**.
5. Store all raw ingested JSON data (reservation, stay and folio, loyalty, demographics, Foursquare Places, and clickstream event data) on **Amazon Simple Storage Service (Amazon S3)**.
6. Catalog the data in **AWS Glue Data Catalog**, and use **AWS Glue** to clean, transform, or aggregate the data. Store guest preference, loyalty, guest interaction, folio, demographics, Foursquare Places, metasearch, and clickstream data back on **Amazon S3** in parquet format.
7. Use **AWS Entity Resolution** to resolve a guest's identity across all interactions, and merge this data into a unified profile with their preferences.
8. Load the complete 360 degree view of guest data to **Amazon DynamoDB** using **AWS Glue**.

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AWS Reference Architecture

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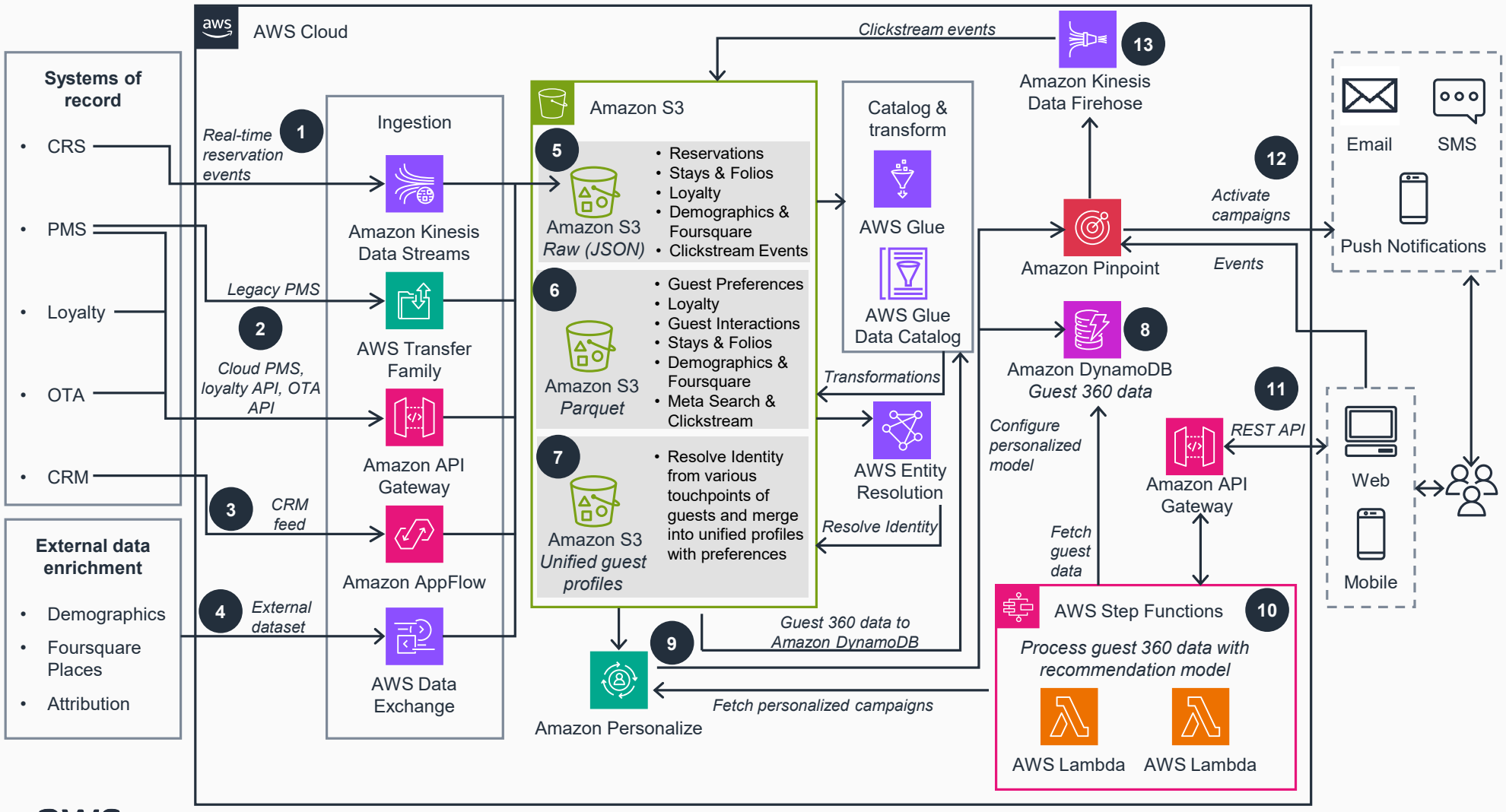
This slide includes steps 9–13.



9 Create a preference recommendation model, based on the complete 360 degree view of guest data, using **Amazon Personalize**.

10 Use **AWS Step Functions** to orchestrate **AWS Lambda** to process and aggregate the complete, 360 degree view of guest data from the **DynamoDB** table, along with the machine learning recommendation model from **Amazon Personalize**.

11 Recommend amenities, dining, and activities to guests on your website and mobile app based on their preferences by using **API Gateway**.

12 Activate campaigns on **Amazon Pinpoint** by configuring a personalized campaign from **Amazon Personalize** based on guest preferences, then send tailored emails, SMS, and push notifications.

13 Use event streaming on **Amazon Pinpoint** to track guest activity on your website and mobile app. Store clickstream data on **Amazon S3** using **Amazon Kinesis Data Firehose**.

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