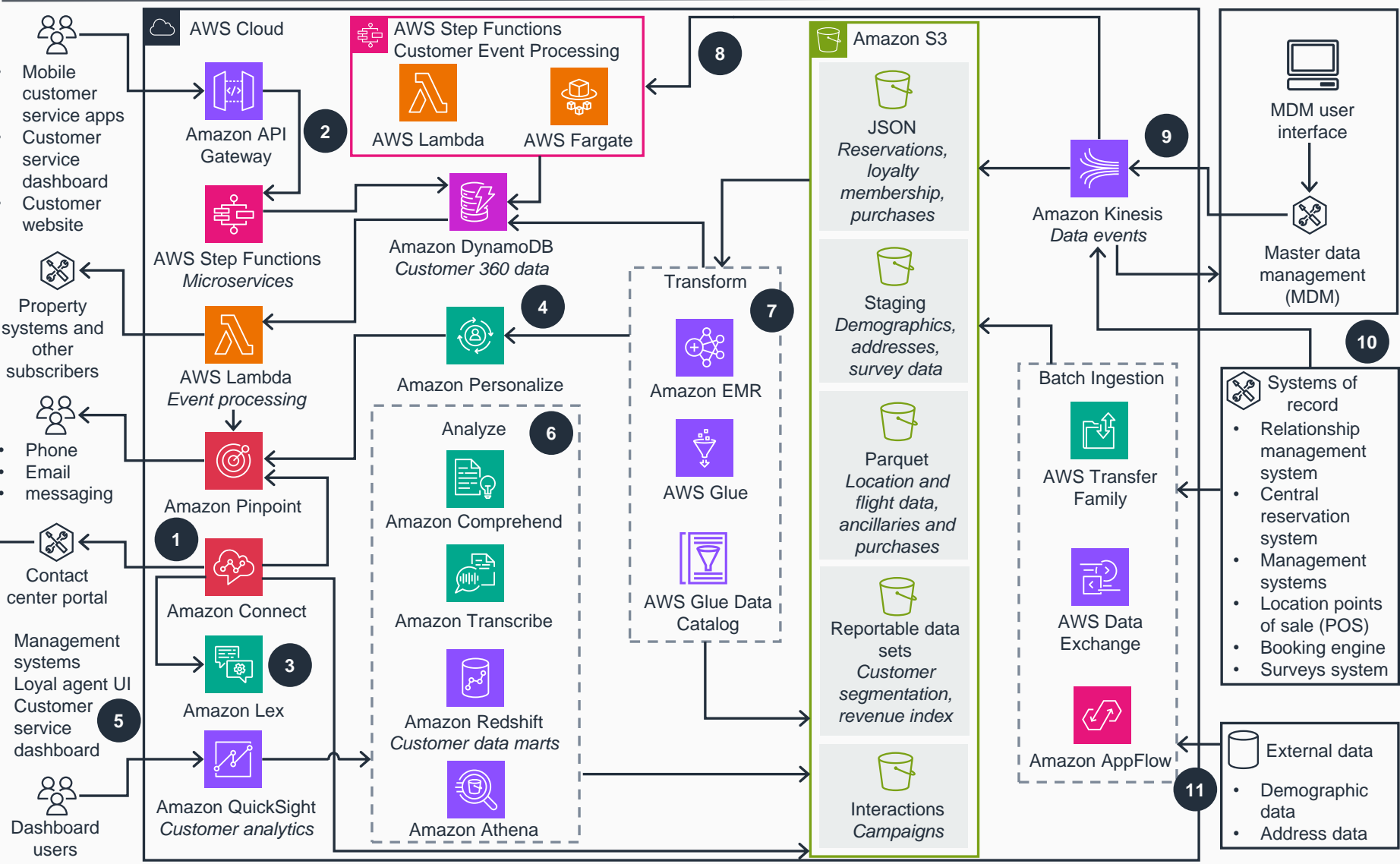


# Guidance for Enhancing Customer Engagement in Travel & Hospitality (T&H) Using AWS AI/ML

This architecture diagram demonstrates how T&H companies can use personalized experiences to improve the customer experience and brand loyalty.

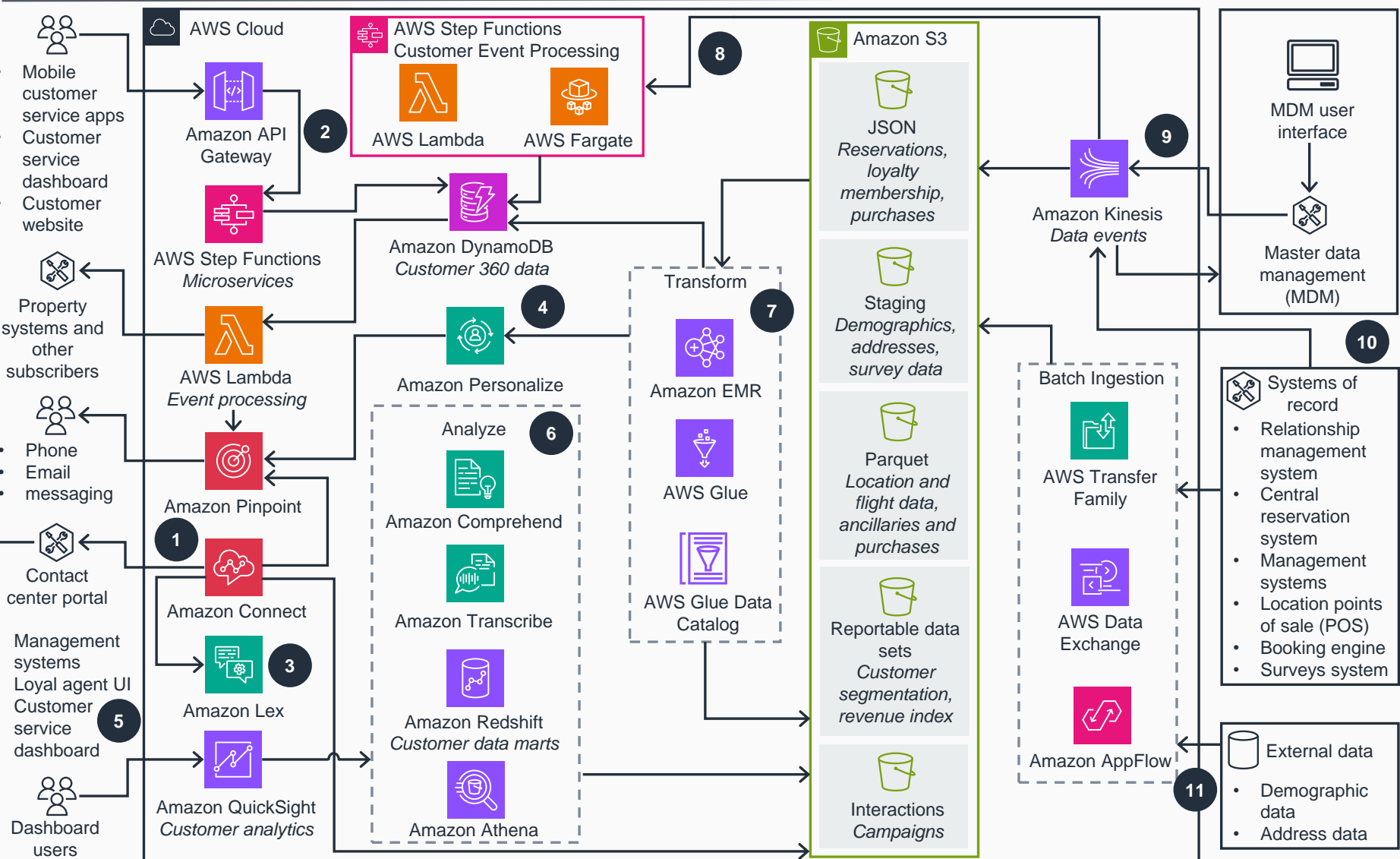


- 1 Use **Amazon Connect** to implement call centers in the cloud and eliminate call center hardware on-premises. **Amazon Connect** provides skills-based call routing and workflows to streamline call center operations.
- 2 Use serverless capabilities such as **Amazon API Gateway** and **AWS Step Functions** for the operational data hub for customer interactions.
- 3 Use **Amazon Lex** to build conversational chatbots and automate user interactions.
- 4 Use **Amazon Personalize** to create real-time personalized user experiences at scale. **Amazon Pinpoint** enables engagement with customers across multiple messaging channels.
- 5 Integrate Amazon Connect Contact Control Panel (CCP) with customer service, loyalty membership, and reservations, to improve call handling times for complex scenarios.
- 6 Use **Amazon Transcribe** and **Amazon Comprehend** to do sentiment analysis, identify frequent customer intents, and appropriately change call center operations and automation. **Amazon Redshift** provides customer data mart capabilities. **Amazon Athena** combined with **Amazon QuickSight** enables dashboards for visualizing customer analytics.
- 7 Catalog the data in **AWS Glue Data Catalog** and use **AWS Glue** or **Amazon EMR** to clean, transform, or aggregate the data. Store customer preferences, loyalty, interaction, folio, demographics, metasearch, and clickstream data back on **Amazon Simple Storage Service (Amazon S3)**, and deliver customer insights to the 360-degree view of customer data in **Amazon DynamoDB**.



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- 8 Use **Step Functions** to orchestrate processing and aggregate the 360-degree view of customer data into the **DynamoDB** table. **AWS Fargate** and **AWS Lambda** provide computing capabilities.
- 9 Optionally, improve the effectiveness of the customer interaction by integrating the master data management (MDM) system using **Amazon Kinesis**.
- 10 Integrate systems of record such as reservation systems, points of sale (POS) systems, and loyalty systems into the Guidance using services such as **Amazon Kinesis** and **AWS Transfer Family**. Use **Amazon S3** for object storage.
- 11 Optionally, pull in external data, such as demographics and address information, to further enhance existing data. To do this, integrate third-party software-as-a-service (SaaS) solutions securely using **Amazon AppFlow** or consume third-party data sets using **AWS Data Exchange**.



Reviewed for technical accuracy July 21, 2024  
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**AWS Reference Architecture**