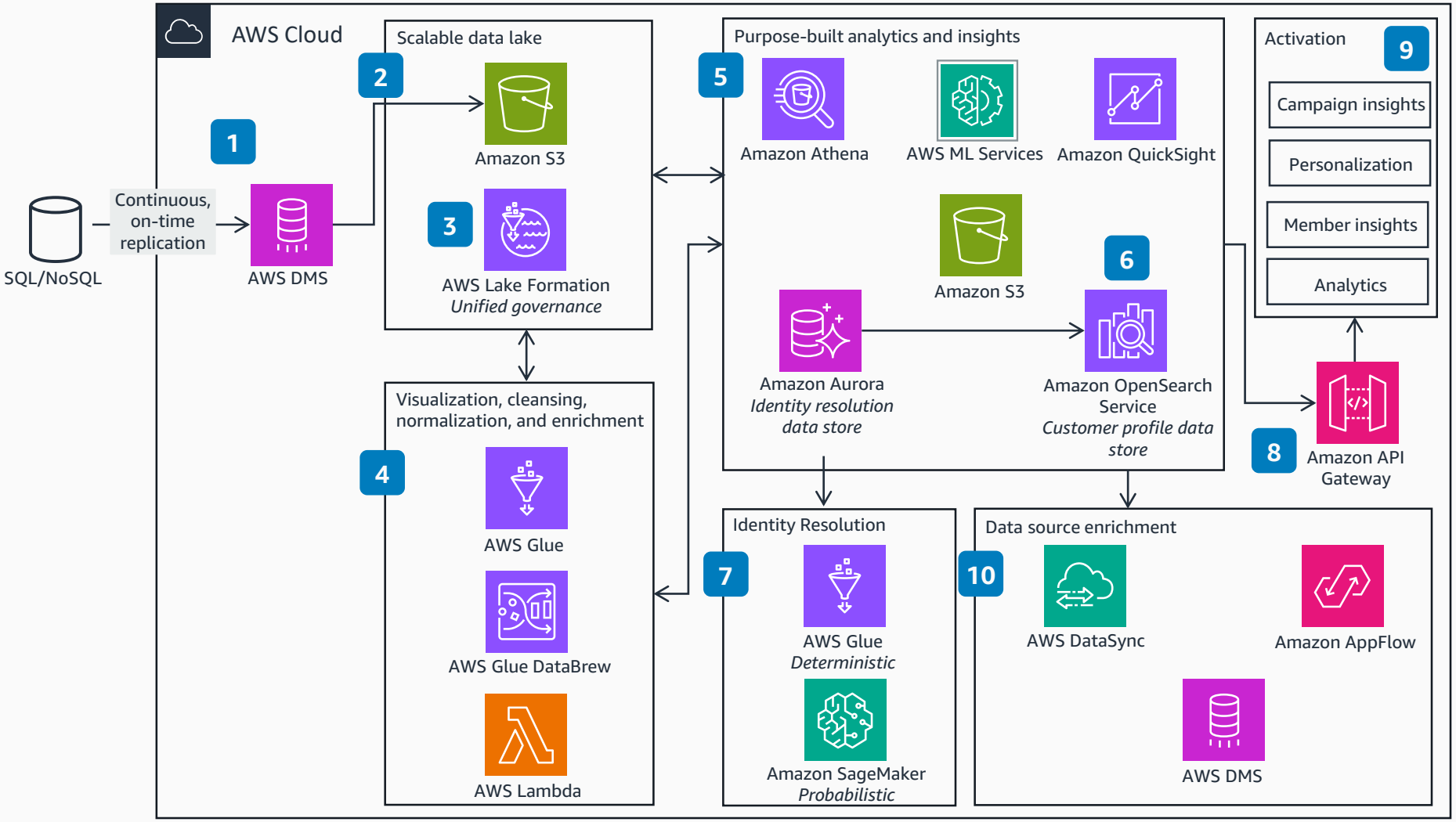
Guidance for Analyzing Credit Union Member Engagement Data on AWS

This architecture shows you how to build a member engagement data analytics pipeline to derive insights from that data.



1. Member data flows from core baking databases into **AWS Database Migration Service (AWS DMS)**.
2. Using **Amazon Simple Storage Service (Amazon S3)**, **AWS Lake Formation** helps build a scalable data lake for credit unions.
3. **Lake Formation** enables unified governance to centrally manage security, access control, and audit trails. This helps ensure financial regulatory compliance and enables automatic schema discovery and conversion to a required format.
4. **AWS Glue** extracts, transforms, catalogs, and ingests data across multiple data stores. **AWS Glue DataBrew** handles visual data preparation, such as member insights. **AWS Lambda** enriches and validates data.
5. **Amazon QuickSight** provides machine learning (ML)-powered business intelligence, such as member dashboards. **AWS ML services** build, train, and deploy ML models and add intelligence to applications. **Amazon Athena** provides interactive querying, analyzing, and processing capabilities. **Amazon S3** stores trained models from **Amazon SageMaker** and queries from **Athena**.
6. Unified member profile information is stored in **Amazon OpenSearch Service**.
7. **AWS Glue** discovers, prepares, and integrates identity resolution data from **Amazon Aurora** and builds a single member profile view with **SageMaker**.
8. **Amazon API Gateway** provides APIs as microservices.
9. Send the unified member data for activation. This data can help deliver personalized experiences and campaigns, allowing for deeper engagement with members.
10. Enrich the data sources by exporting to **AWS DMS**, **AWS AppFlow**, or **AWS Data Sync**, based on the destination type.

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AWS Reference Architecture