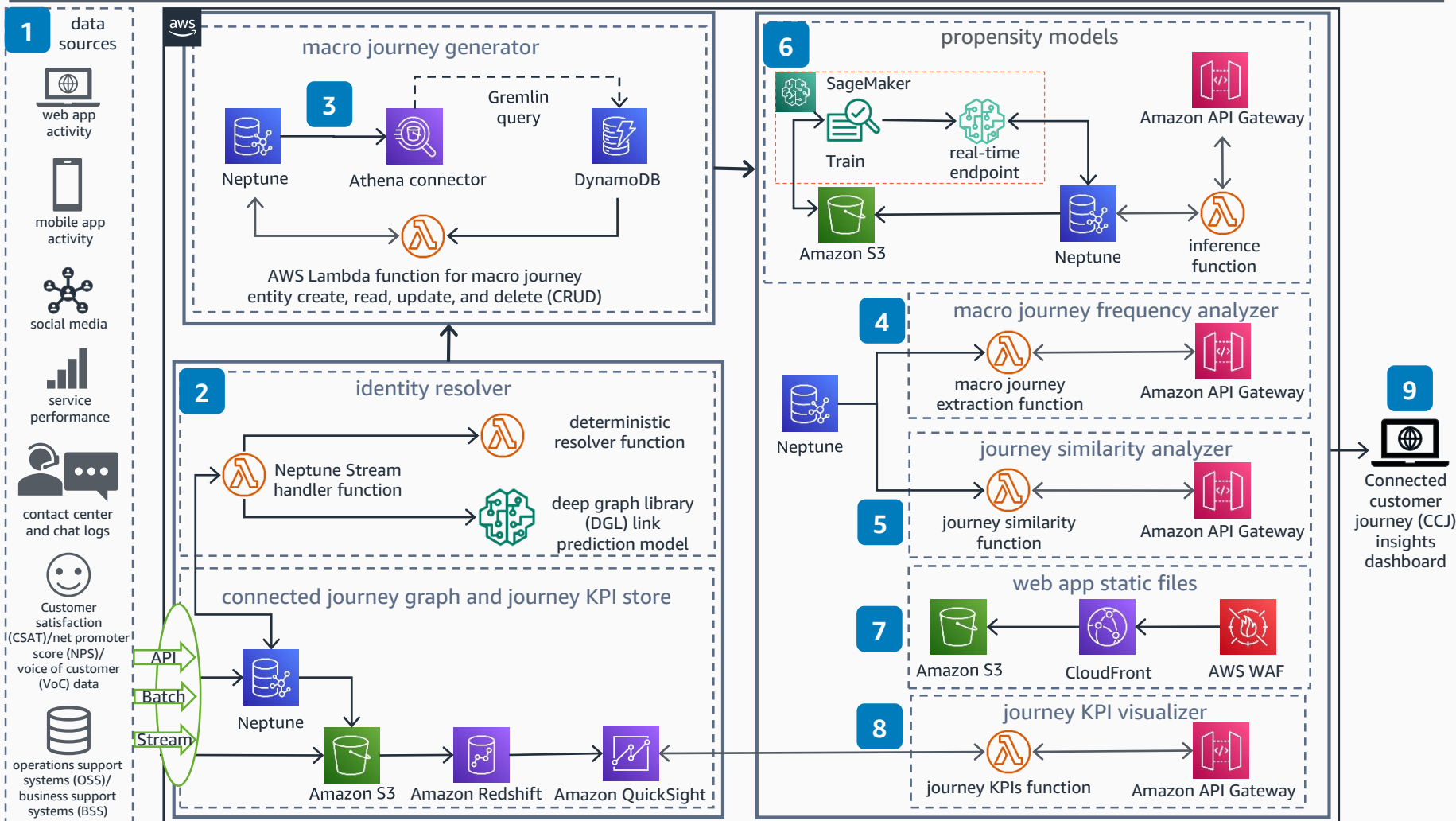


Guidance for Connected Customer Journey Hub on AWS

This architecture provides actionable insights using analytics and ML from a singular connected view of the customer journey across interaction channels and the network over time.



- 1 Data is ingested from multiple data sources across telco's engagement channels and systems of record through batch, streaming, and/or API-based mechanisms.
- 2 Data is loaded in parallel to **AWS Neptune** and **Amazon Simple Storage Service (Amazon S3)**. **AWS Lambda** calls either deterministic or probabilistic identity resolver machine learning (ML) models deployed on **Amazon SageMaker** real-time interface endpoints based on **Neptune** Stream data. The identity resolved data is upserted into **Amazon S3**.

The journey KPI store is a set of queries written on **Amazon Redshift** in order to visualize key insights from journey data on **QuickSight** dashboards.
- 3 **Amazon Athena** connector is used for querying journey milestone data on **Neptune**. This data is then converted into a Gremlin query and stored in **Amazon DynamoDB** along with trigger criteria. This query is triggered as new vertices and edges are created or updated on **Neptune**. Based on the result, journey milestone vertices and edges are created/updated.
- 4 The journey frequency analyzer returns the top journeys along with the number of times each journey step happened based on the event of interest chosen by the customer experience (CX) strategist as the start or end of the journey.
- 5 The journey similarity analyzer returns the count and details of other customers who have gone through very similar journeys.
- 6 A number of journey propensity models are trained and deployed on **SageMaker** using the data on **Neptune**. These models are invoked using **Neptune** ML queries. Example propensity models include churn, personalization, fraud, and customer satisfaction score prediction.
- 7 The website static files are deployed on **Amazon S3** and distributed globally using **Amazon CloudFront**. The website is secured using **AWS WAF**.
- 8 The journey key performance indicator (KPI) visualizer exposes an API, which allows the **Amazon QuickSight** dashboards to be embedded into the CCJ insights dashboard.
- 9 All the extracted journey data is presented via insights dashboards or the APIs and widgets can be integrated to the communication service provider's (CSP) choice of system of engagement.