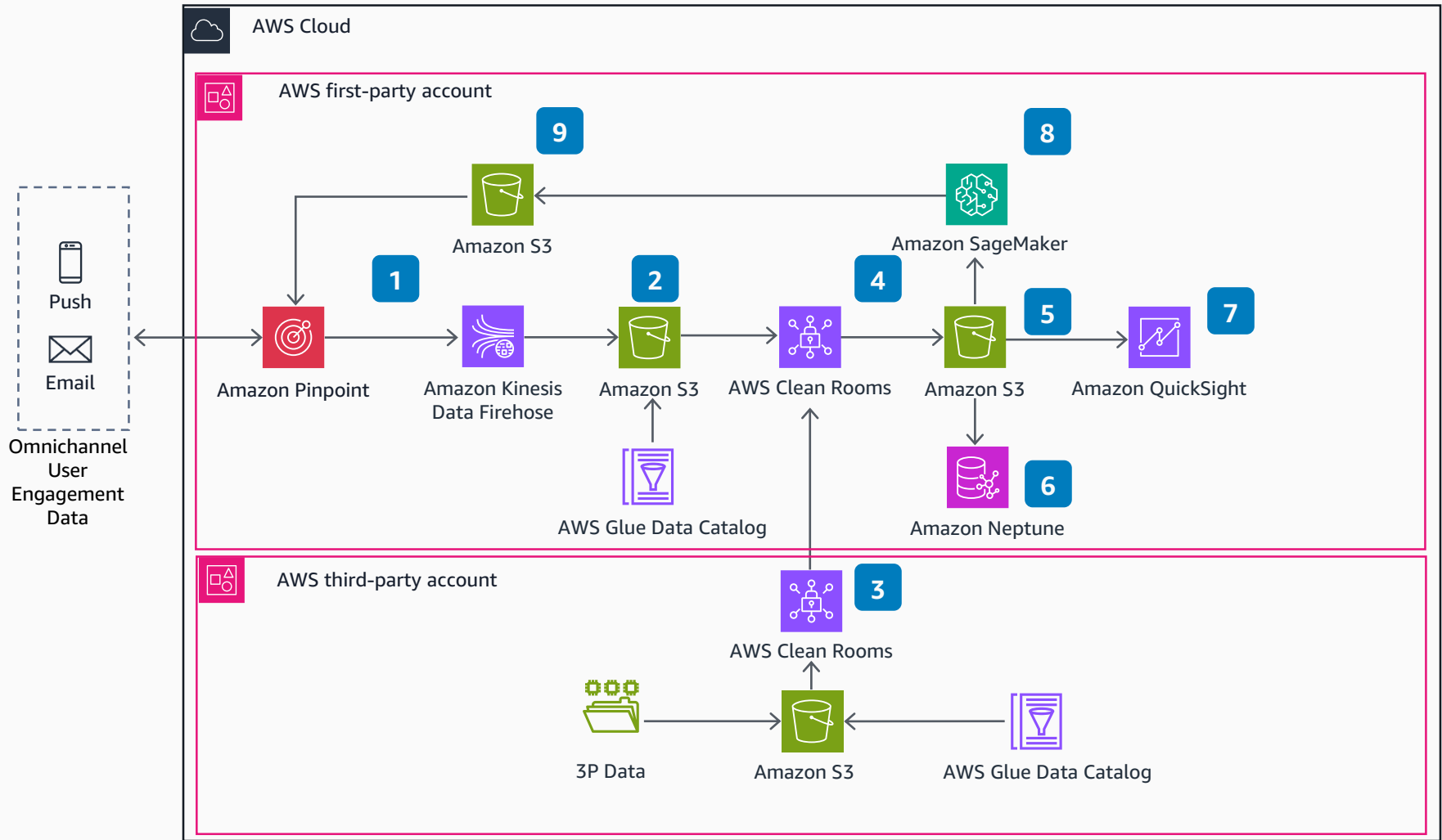# Guidance for Predictive Segmentation Using Third-Party Data with AWS Clean Rooms

This diagram shows how first-party data is combined with third-party data to generate predictive segments in AWS Clean Rooms.

AWS Cloud

AWS first-party account

9 Amazon S3

1 Amazon Pinpoint

Amazon Kinesis Data Firehose

2 Amazon S3

AWS Glue Data Catalog

4 AWS Clean Rooms

8 Amazon SageMaker

Amazon S3

5 **7** Amazon QuickSight

6 Amazon Neptune

Omnichannel User Engagement Data — Push — Email

AWS third-party account

3 AWS Clean Rooms

3P Data

Amazon S3

AWS Glue Data Catalog

AWS Reference Architecture

1. **Amazon Pinpoint** captures the customer interaction first-party data needed for predictive segmentation. This data loads into **Amazon Simple Storage Service** (Amazon S3) using **Amazon Kinesis Data Firehose**.

2. Use **AWS Glue Data Catalog** to catalog the first-party data stored in **Amazon S3** and make it available to **AWS Clean Rooms** as a table.

3. Clean and normalize the third-party partner data and store that data in an **Amazon S3** bucket within the partner's AWS account. Use Glue Data Catalog to catalog the files and make it available to **AWS Clean Rooms** as a table.

4. Set up an **AWS Clean Rooms Collaboration** with the third-party account as the data provider and the first-party account as the query runner.

5. Run the data collaboration query in **AWS Clean Rooms**, and store the query results within the first-party data account.

6. Optionally, upload the dataset to **Amazon Neptune**, a fully managed graph database, to visualize the data relationships (such as cross-device user data or household data).

7. Optionally, use **Amazon QuickSight** to build dashboards, visualize your analysis, and to generate insights.

8. Use **Amazon SageMaker** to build, train, and deploy machine learning (ML) models that generate predictive segments from the first-party and third-party data.

9. Import the generated predictive segments in **Amazon Pinpoint** to utilize the generated segments in Amazon Pinpoint campaigns.