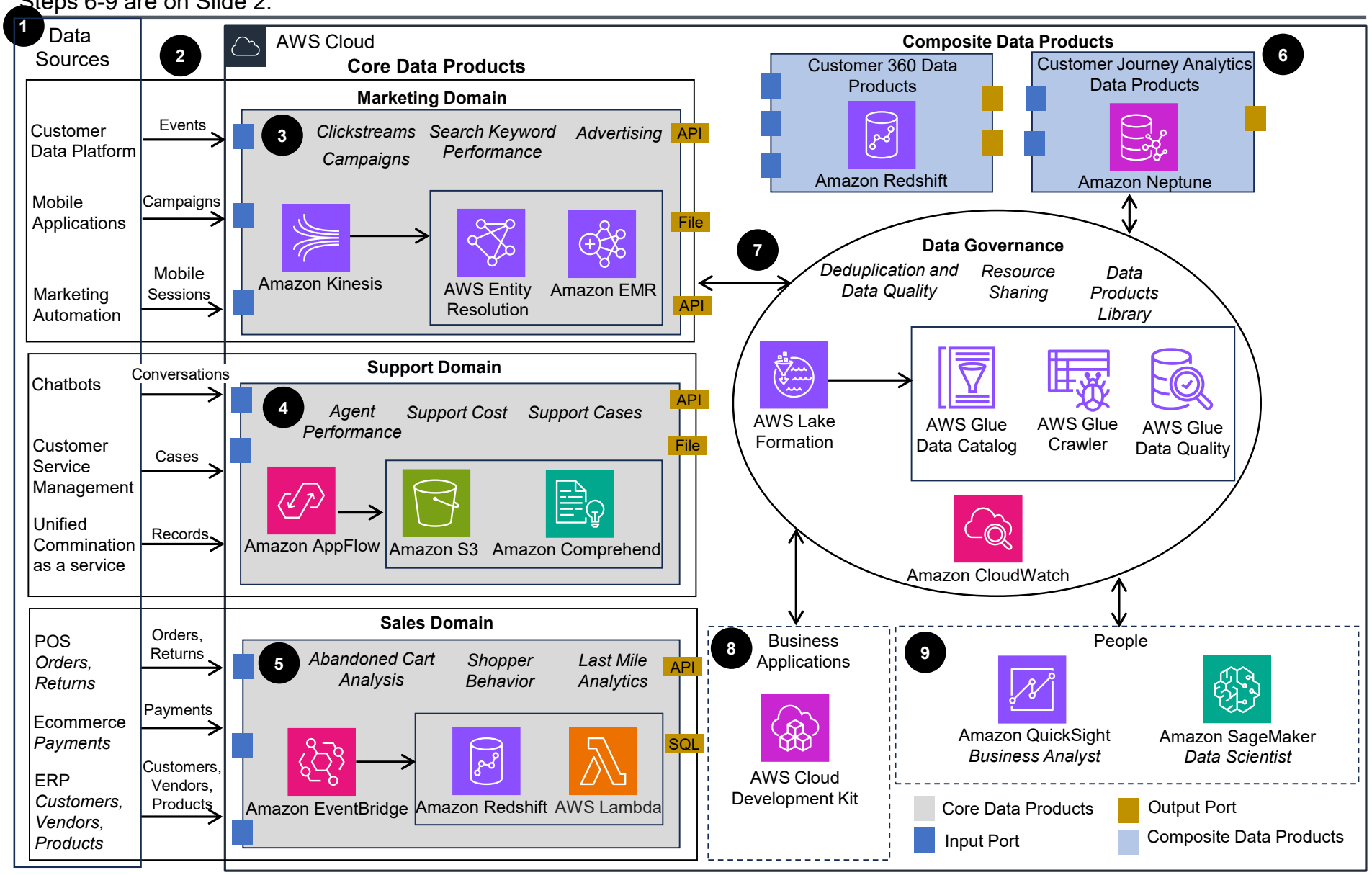
Guidance for Building a Customer 360 Data Product in a Data Mesh on AWS

This Guidance shows how to implement a data mesh architecture to create unified view of your customer. Steps 1-5 are shown here. Steps 6-9 are on Slide 2.



1 The data required for building a customer 360 product for your enterprise is distributed in source systems, such as a Customer Data Platform (CDP), Point of Sale (POS), Unified Communication as a Service (UCaaS), ecommerce, and many other data sources.

2 Ingest data from source systems into AWS using AWS services like **Amazon AppFlow**. Event-driven and near real-time ingestion can be achieved using **Amazon Kinesis** and **Amazon EventBridge**.

3 Core data products owned by business teams can be built using AWS services. For example, a campaign performance data product is owned by the marketing team and combines data from multiple campaign sources. These sources can include audio ads, paid ads, pay-per-click, influencer campaigns, and more. **Amazon EMR** can be used to process these interactive analytics. **AWS Entity Resolution** can be used to de-duplicate and unify customer master data. This curated data can be published through output ports such as files using **Amazon Simple Storage Service** (Amazon S3) and **AWS Glue** Data Catalog or APIs published using **AWS Lambda**.

4 An agent performance data product owned by a support team is built using data from customer chatbot conversations, support call recordings, and cases. It is ingested through **AppFlow** and processed using **Amazon Comprehend**. These customer insights can be published through output ports as files using **Amazon S3**.

5 A sales analytics data product owned by a sales team is built on source data like order, payments and product data. This data is stored in **Amazon Redshift** data warehouse for analysis and can be accessed using SQL or by using APIs built through **Lambda**.

Reviewed for technical accuracy November 7, 2023

AWS Reference Architecture

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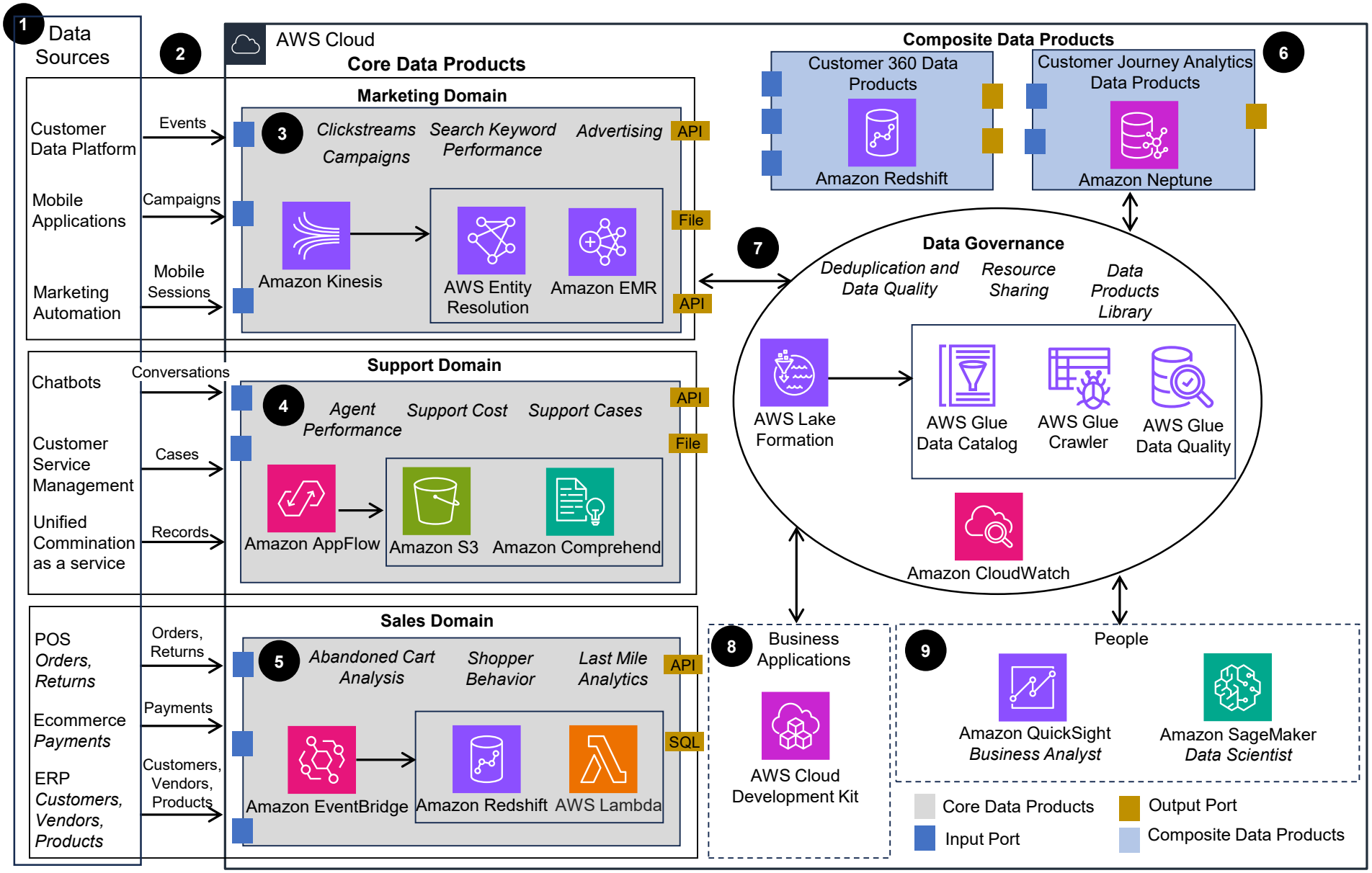
Steps 6-9 are shown here.



6 Composite Data Products, such as Customer 360 and Customer Journey Analytics, can be built using **Amazon Redshift** and **Amazon Neptune** by combining multiple core data products.

7 Data products are secured, published, and governed using AWS services such as **AWS Lake Formation** and **Data Catalog**. Metadata changes in data products can be automatically captured using **AWS Glue** Crawlers. Shared capabilities such as data quality, deduplication, and monitoring can be implemented using AWS Glue Data Quality and **Amazon CloudWatch**.

8 Existing business applications, such as core data products and ecommerce using an **AWS Cloud Development Kit**, can consume data products using SQL or API endpoints.

9 Users, such as data scientists, can consume data products to build a machine learning (ML) model using **Amazon SageMaker** for customer insights like next best offer or customer intent prediction. Business analysts can build self-service dashboards using **Amazon QuickSight**.

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