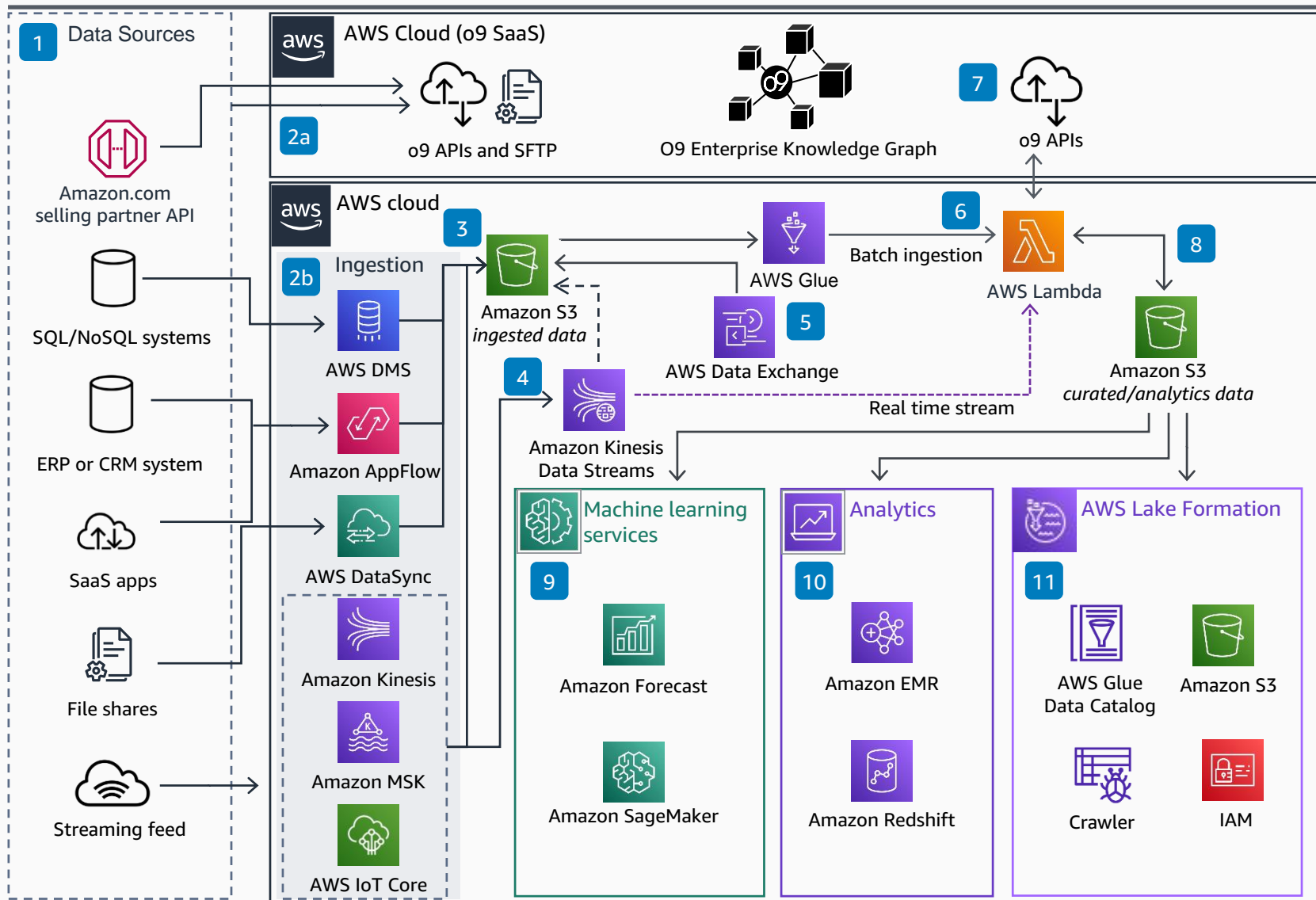


o9 Demand Planning Solution for CPG Industry

This reference architecture helps you review architectural options for ingesting data and using AWS services in an o9 demand planning solution for the consumer packaged goods (CPG) industry.



1 Data is fed into demand planning by sources such as SQL/NoSQL systems, enterprise resource planning (ERP) or customer relationship management (CRM) systems, other SaaS applications, file shares, and streaming data sources like social media, smart devices, and logs. An Amazon.com selling partner API provides API access to vendor sales orders, product catalogs and vendor reports.

2a Data can be ingested into the o9 SaaS solution by using native o9 native APIs and SSH File Transfer Protocol (SFTP).

2b Data can also be ingested into an AWS account. The service selected depends on the source. Customers can use **AWS Data Migration Service** for SQL/NoSQL, **Amazon AppFlow** for ERP, CRM, or SaaS, **AWS Data Sync** for a file share, or **Amazon Kinesis**, **Amazon Managed Streaming for Apache Kafka (Amazon MSK)**, or **AWS IoT Core** for streaming data feeds.

3 Ingested data is stored in **Amazon Simple Storage Service (Amazon S3)**.

4 Streaming data can also be fed to the o9 SaaS solution by using o9 native REST APIs or stored in **Amazon S3** by using **Amazon Kinesis Data Streams** through an AWS SDK or **AWS Lambda**.

5 Data from a third party such as TransUnion, IMDb, or Reuters can be imported to the AWS cloud using **AWS Data Exchange**.

6 AWS customer account data in **Amazon S3** can be batch-ingested into the o9 SaaS solution using **AWS Glue** through an AWS SDK or **AWS Lambda**.

7 Data within the o9 SaaS solution and AWS customer account are shared using o9 native APIs and optionally **AWS Lambda**.

8 Outbound data is collected from the o9 SaaS solution in **Amazon S3** using standard **Amazon S3** APIs or **AWS Lambda** and used for other AWS services for analytics and artificial intelligence and machine learning (AI/ML) workloads.

9 AWS AI/ML services such as **Amazon Forecast** and **Amazon SageMaker** are used to build, train, and deploy ML models to complement o9 SaaS solution ML capabilities.

10 AWS analytics services such as **Amazon EMR** and **Amazon RedShift** are engaged for big data processing and warehousing.

11 Customers can integrate data from the o9 SaaS solution to **AWS Data Lake**. **AWS Lake Formation** includes services such as **Amazon S3**, **AWS Glue Data Catalog** and **Crawler**, and **AWS Identity and Access Management (IAM)** for permissions.



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AWS Reference Architecture