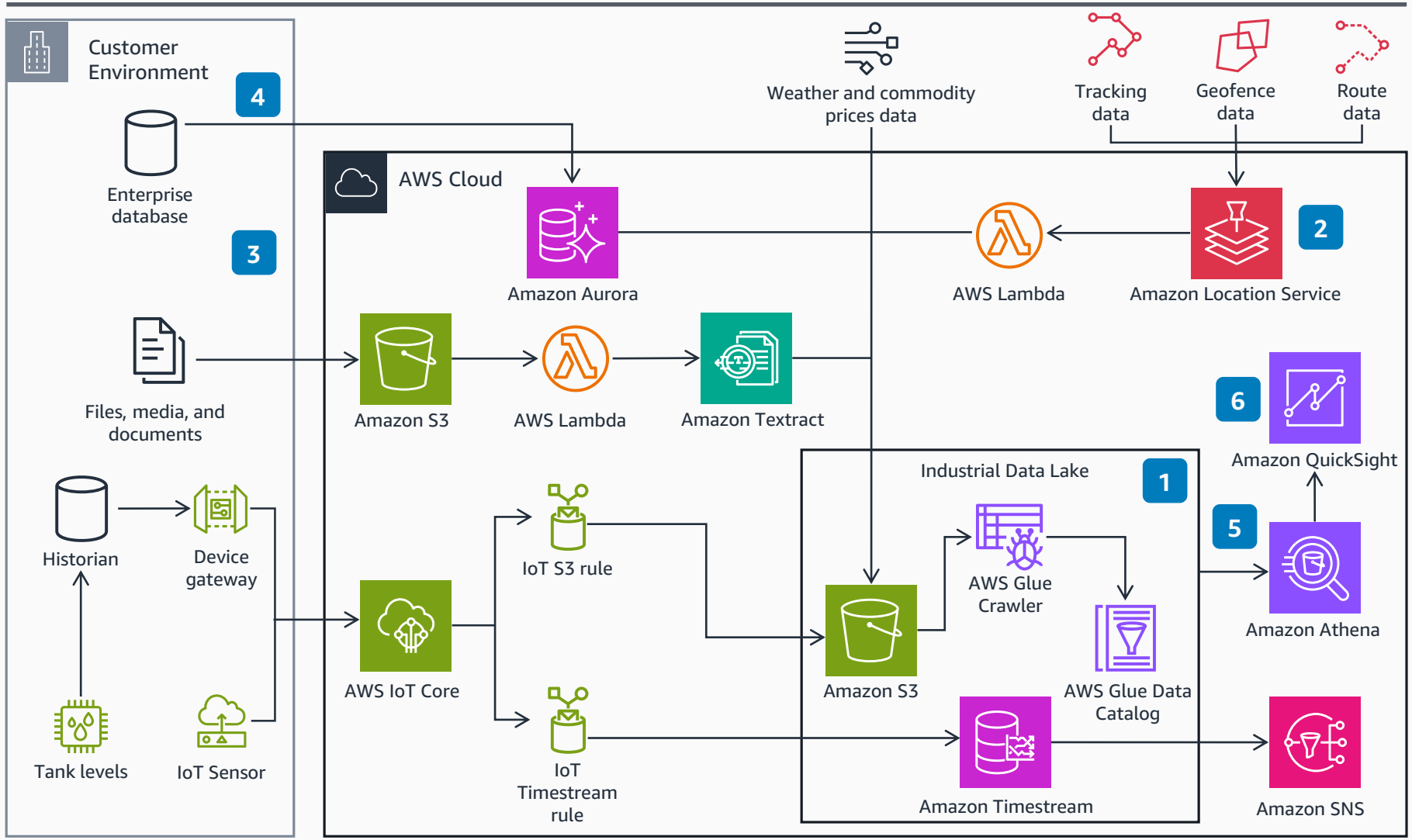
Guidance for Downstream Logistics Optimization on AWS

This architecture diagram uses an industrial data lake and location-based data to increase asset utilization.



1. An industrial data lake built with **Amazon Simple Storage Service (Amazon S3)**, **AWS Glue**, and **Amazon Timestream** stores timeseries data. Scheduled **AWS Glue crawlers** and the **AWS Glue Data Catalog** organize data sources and relationships.

2. **Amazon Location Service** ingests partner and operational technology (OT) vehicle, vessel, tank level, and other logistics data. **Amazon Location** optimizes asset tracking, geofence alerts, and driving directions as conditions and asset locations change.

3. Paper and digital documents contain valuable operational data that use **Amazon S3** to call an **AWS Lambda** function that analyzes and structures document text using **Amazon Textract**. The industrial data lake stores results.

4. Enterprise information technology (IT) systems contain asset functional locations, product movement records, and critical contextual information for product supply and demand.

5. Data analytics capabilities from **Amazon Athena** provide contextualized datasets of OT data joined with enterprise systems of record and static documents. You can apply, reuse, and share queries and views in Athena.

6. **Amazon QuickSight**, **Amazon Managed Grafana**, or AWS Partner business intelligence (BI) applications provide visualization and reporting based on customer preference. **Amazon Managed Grafana** provides real-time monitoring, and **QuickSight** focuses on business key performance indicators (KPIs).

Reviewed for technical accuracy August 31, 2023

AWS Reference Architecture