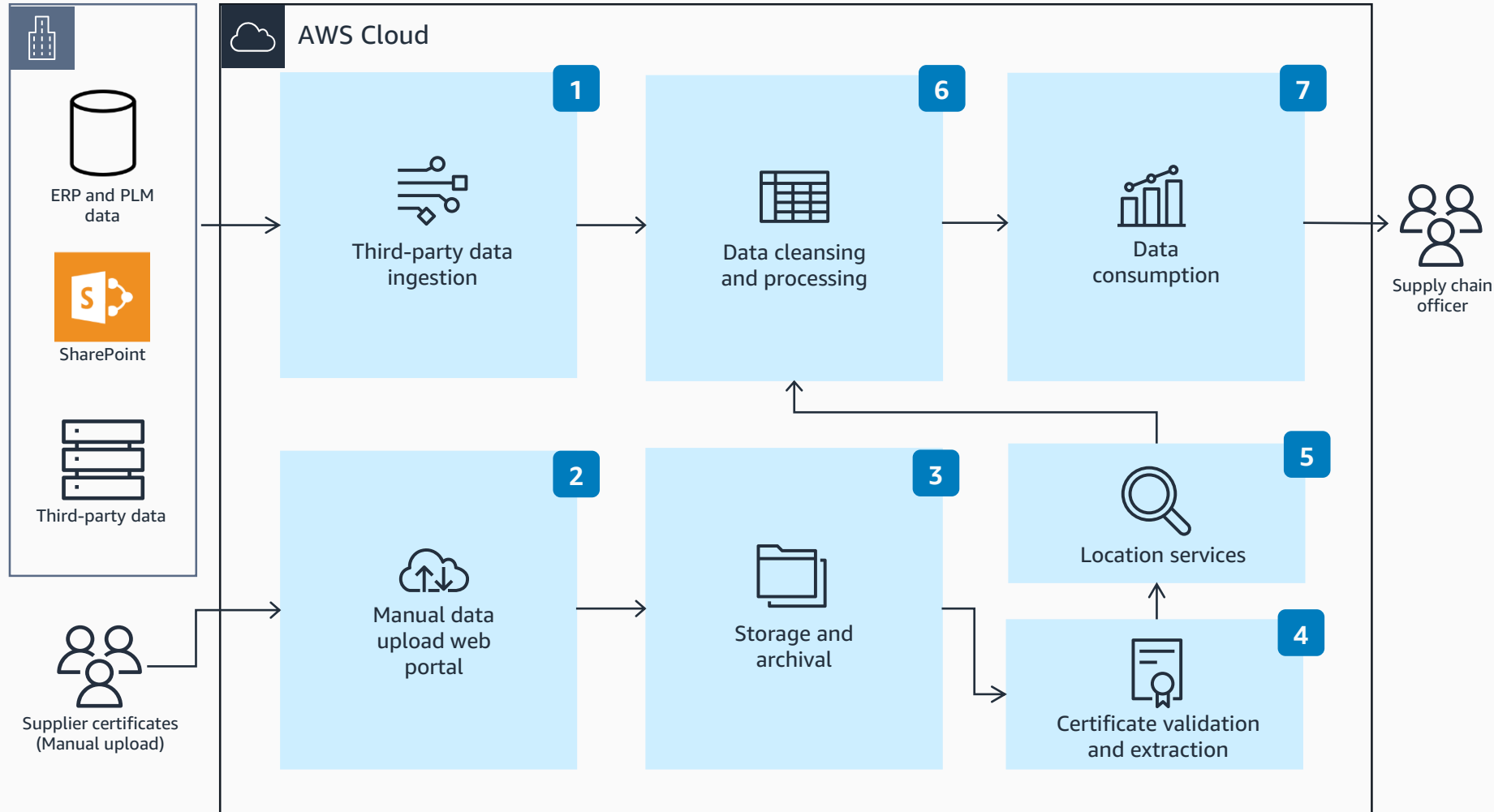


Guidance for Product Traceability on AWS

This overview architecture shows a process flow for adding traceability and transparency to a product supply chain.

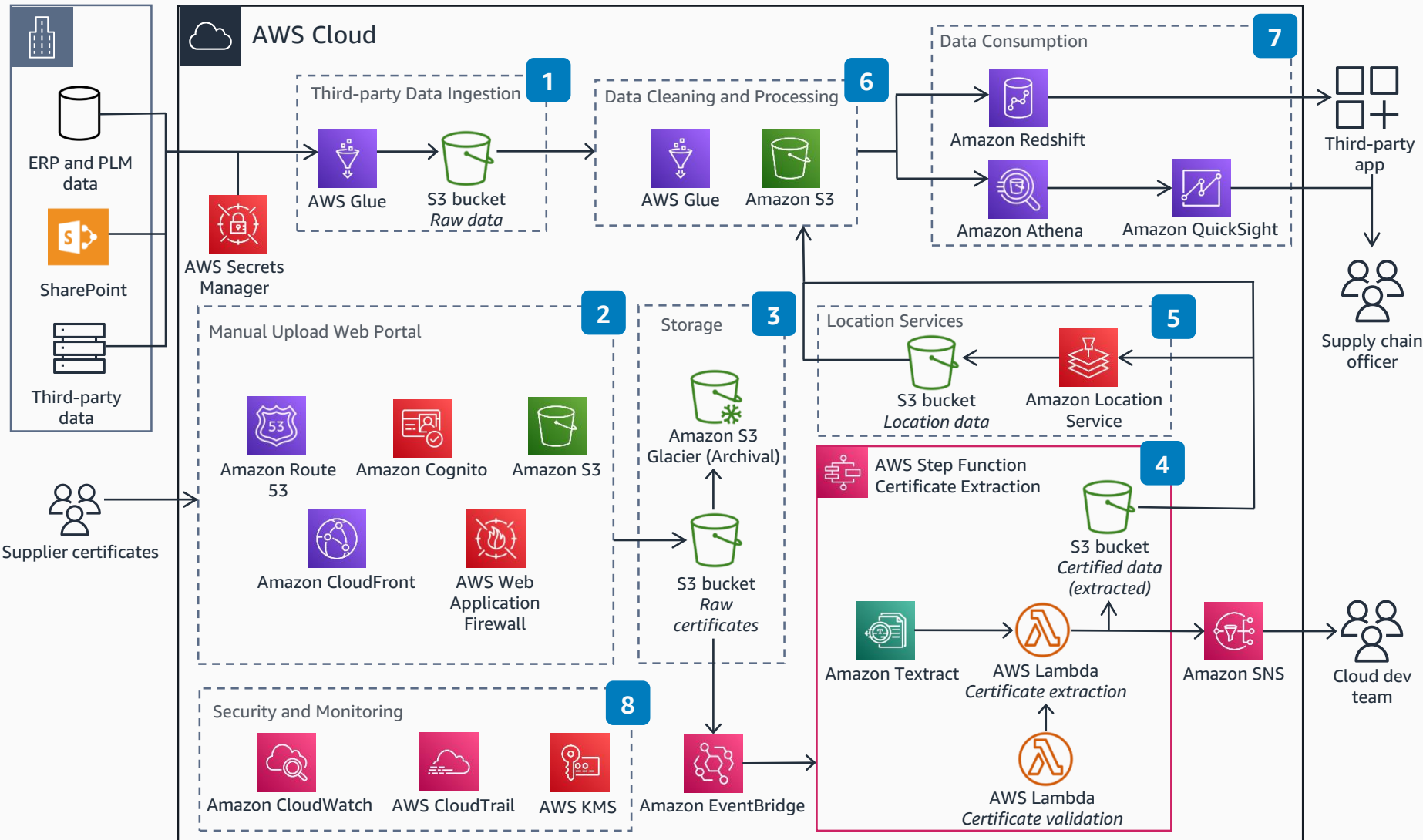


- 1** External data sources are ingested for extraction validation.
- 2** Suppliers upload certificates through a secure web application.
- 3** The certificate upload triggers an extraction Step Function, and certificates are eventually archived.
- 4** Data is extracted from the certificate.
- 5** Extracted addresses are mapped to GPS coordinates.
- 6** Extracted data is matched with and cross-checked against third-party data.
- 7** Relevant parties consume data.



Guidance for Product Traceability on AWS

This detailed architecture shows a process flow for adding traceability and transparency to a product supply chain.



- 1** AWS Glue ingests, cleans, and processes third-party data, such as shipping and invoice information.
- 2** Users upload supply chain certificates through a serverless portal powered by **Amazon Route 53**, **Amazon Cognito**, **Amazon CloudFront**, and **Amazon Simple Storage Service (Amazon S3)**.
- 3** Lifecycle rules automatically move certificates from **Amazon S3** to **Amazon S3 Glacier**.
- 4** **Amazon EventBridge** initiates a data extraction process, orchestrated by **AWS Step Functions**. **Amazon Textract** facilitates the extraction of key information, such as expiration date and certificate number, using plain language queries and built-in optical character recognition (OCR) functionalities.
- 5** **Amazon Location Service** maps extracted supplier addresses to GPS coordinates, allowing for location visualization.
- 6** Data extracted from the supply chain certificates is optionally matched with and crosschecked against third-party data. This data can be used as a form of extraction validation or certificate validity checking.
- 7** You can access final data through **Amazon Athena** or **Amazon Redshift** and visualize it in **Amazon QuickSight** or in a third-party app of choice.
- 8** **Amazon CloudWatch** and **AWS CloudTrail** monitor all services. **AWS Key Management Service (AWS KMS)** stores and manages encryption keys.



Reviewed for technical accuracy May 10, 2023
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AWS Reference Architecture