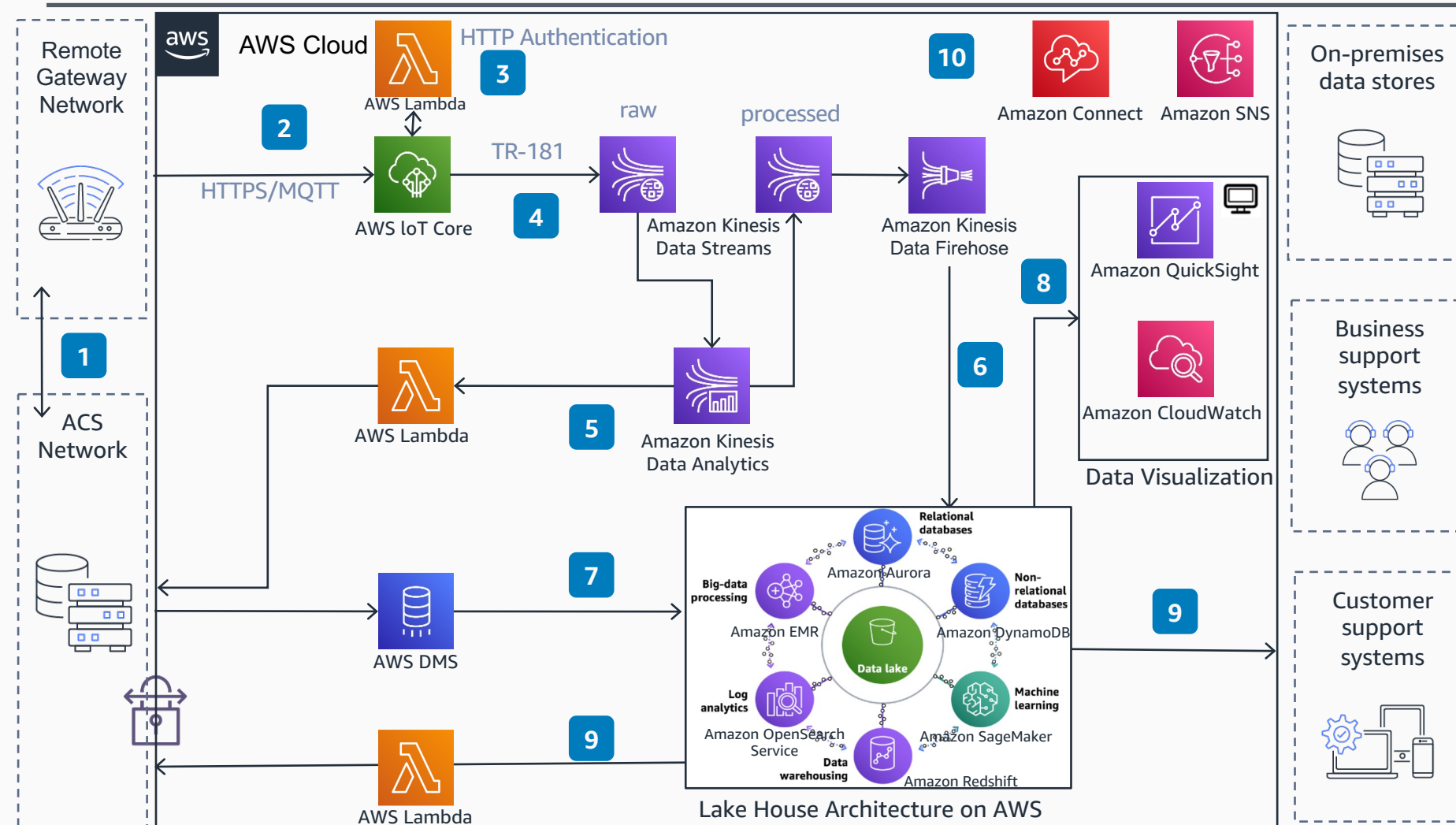


TR-069 and AWS

Connecting TR-069 CPE fleets with AWS for bulk data collection, data lakes, analytics and visualization, and artificial intelligence and machine learning integrations



- 1 Remote gateways are configured to send key performance indicators to **AWS IoT Core** through an Auto Configuration Server (ACS) instance. ACS uses TR-069 protocol to configure remote gateways. ACS can be deployed on-premises or on AWS.
- 2 Remote gateways send TR-181 data model parameters to **AWS IoT Core** using HTTPS with custom domains or MQTT.
- 3 (Optional) If the ingestion is done over HTTPS, an **AWS IoT Core** custom authorizer is used for authentication.
- 4 After authentication, messages are routed to the rules engine by the **Amazon Kinesis Data Streams** action.
- 5 **Amazon Kinesis Data Analytics** normalizes the TR-181 payload, and outputs the processed data to another stream in **Amazon Kinesis Data Streams**. It also performs real-time analytics to detect customer premises equipment problems. Findings can be used to launch actions on ACS.
- 6 Normalized TR-181 data is stored in data lake repository by **Amazon Kinesis Data Firehose**.
- 7 Metrics collected by the ACS (outside TR-069) can also be brought into the data lake through **AWS Database Migration Service (AWS DMS)**.
- 8 **Amazon QuickSight**, **Amazon CloudWatch**, and other tools can be used for visualizing data and monitoring fleet health.
- 9 Data and insights collected at the data lake are used to feed external systems, and can also be used to initiate actions on ACS.
- 10 **Amazon Connect** and **Amazon Simple Notification Service (Amazon SNS)** are used to notify operational personnel and end customers based on findings.

