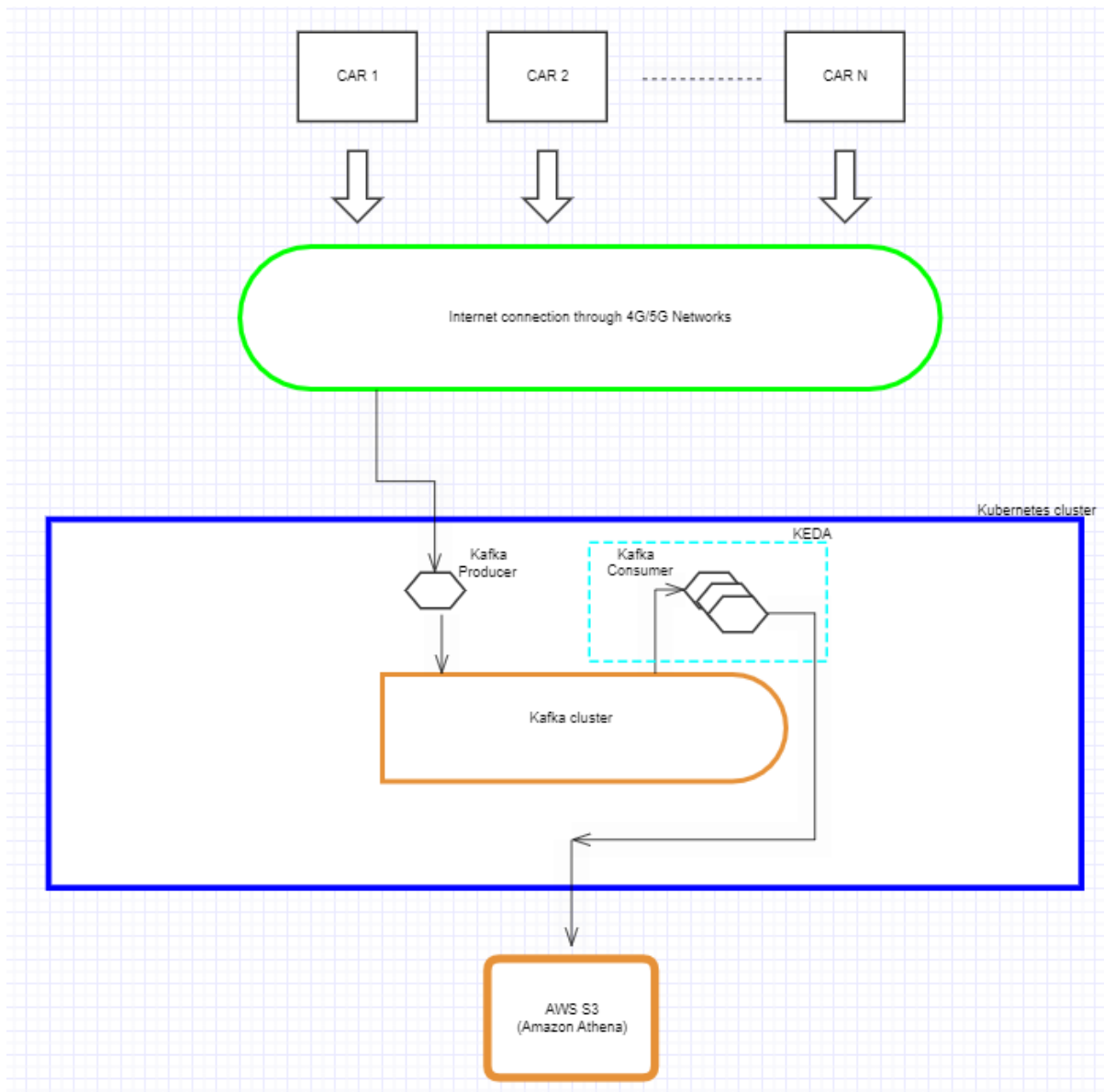


Car event-driven autoscaling solution

High-level diagram:



The solution will be deployed on a Kubernetes cluster. Kafka producers will receive the information generated by the cars and will be consumed through three different topics: battery_level, fuel_level and mileage.

The solution will include KEDA, which is an event-driven autoscaler. Based on the number of events that are being received, KEDA manages the scaling of any container. More information in link: <https://keda.sh/docs/1.4/concepts/>

Kafka Consumers and Producers will be developed and deployed using Java. They can be used to consume in “real time”, but due to the costs we consider streaming and storing events in a data lake from where they can be retrieved and managed.

The most extended cloud services provider is AWS. In this solution, information coming from the Kafka cluster can be stored in an S3 bucket for batch processing. We can connect Kafka to S3 through Confluent's connector: <https://www.confluent.io/hub/>

Once the information is stored, it can be managed and analyzed using the Glue and Athena services from AWS. AWS Glue can be used to define the schemas based on the info from Kafka and we can use SQL in Athena to mine and analyze them. The diagram below represents the tables.

