**Design Question**

Design A Google Analytic like Backend System. We need to provide Google Analytic like services to our customers. Please provide a high level solution design for the backend system. Feel free to choose any open source tools as you want.

This system will handle mainly include:

1. Collection
2. Configuration
3. Processing
4. Reporting

Since the requirements involve handling high read & write volumes the system will be built using microservices (Java based Spring boot) that could enable elastic auto scaling horizontally based on the incoming traffic into the system and a distributed processing stream processing solution (Apache Pulsar) that scales in proportion to the incoming traffic. A timeseries database (Influx DB) will be very useful to handle time-series patterns and also reprocess historical data whenever needed. The components used in this system are:

1. A user tracking unique ID (UUID)
2. Traefik HTTP reverse proxy & load balancer
3. Apigee API management gateway
4. Spring boot microservices
5. Apache Pulsar for streaming
6. Apache Spark for stream processing
7. Influx DB for timeseries data persistence (will be able to reprocess data when needed)
8. Analytics dashboard for stakeholders

The system components are described in the below image.

A close up of a map

Description automatically generated