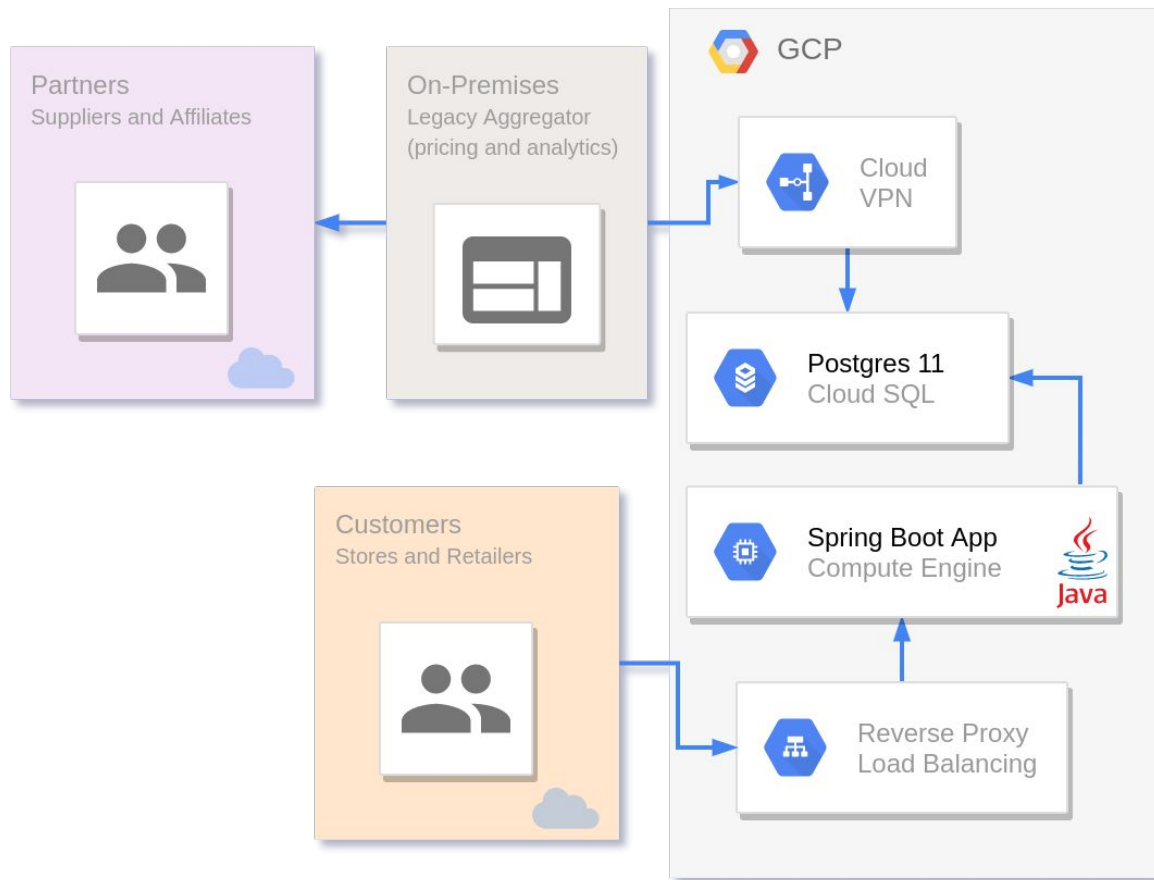# Modernize cloud infrastructure
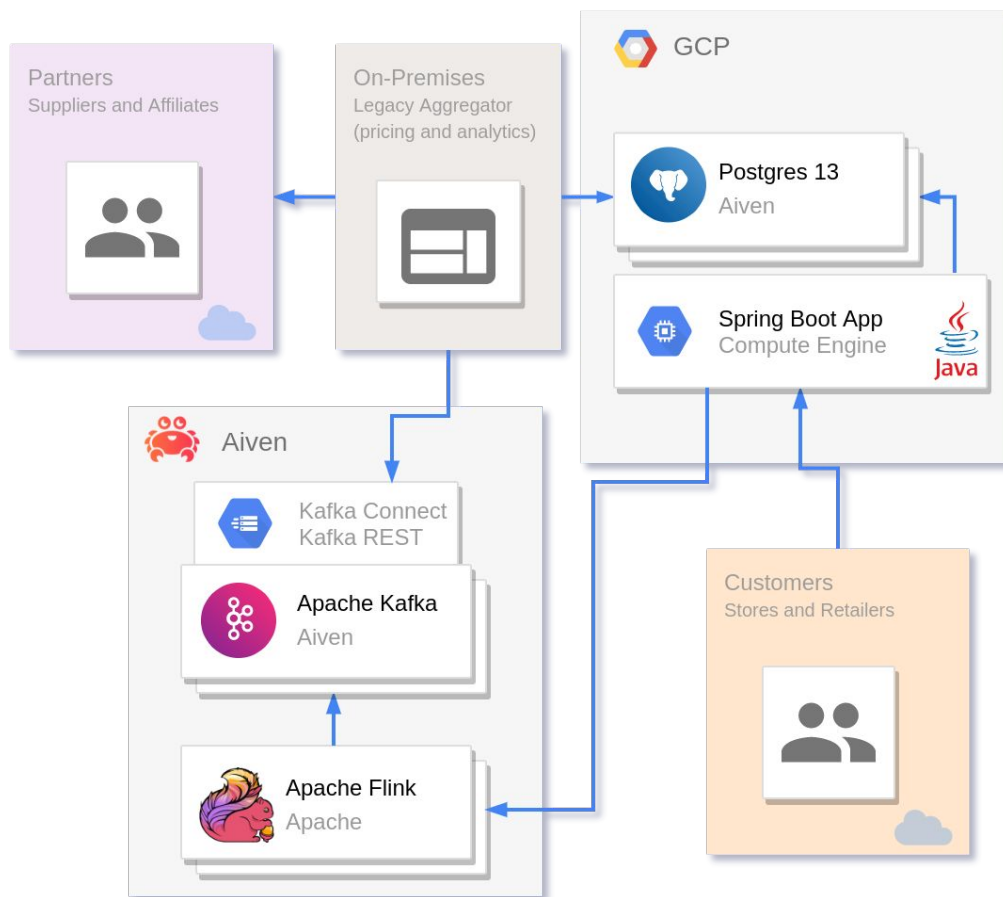
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Requirements

- **Speed up slow pricing/analytics queries**

- Update infrastructure to a more modern setup while still having existing system in place

- Prevent vendor lock-in

- Data security and GDPR compliance

- Integrate more with third parties

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Current architecture

- GCP
- CloudSQL PG 11
- Spring Boot Web App
- on-prem daily updates
- **20 seconds queries**

First stage - speed up queries

Partners
Suppliers and Affiliates

On-Premises
Legacy Aggregator
(pricing and analytics)

GCP

Postgres 13
Aiven

Spring Boot App
Compute Engine
Java

Aiven

Kafka Connect
Kafka REST

Apache Kafka
Aiven

Apache Flink
Apache

Customers
Stores and Retailers

- Stream pricing and analytics data to Kafka
- Use Flink to process data in real-time
- Replace CloudSQL Postgres 11 with Aiven managed Postgres 13

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Later stage
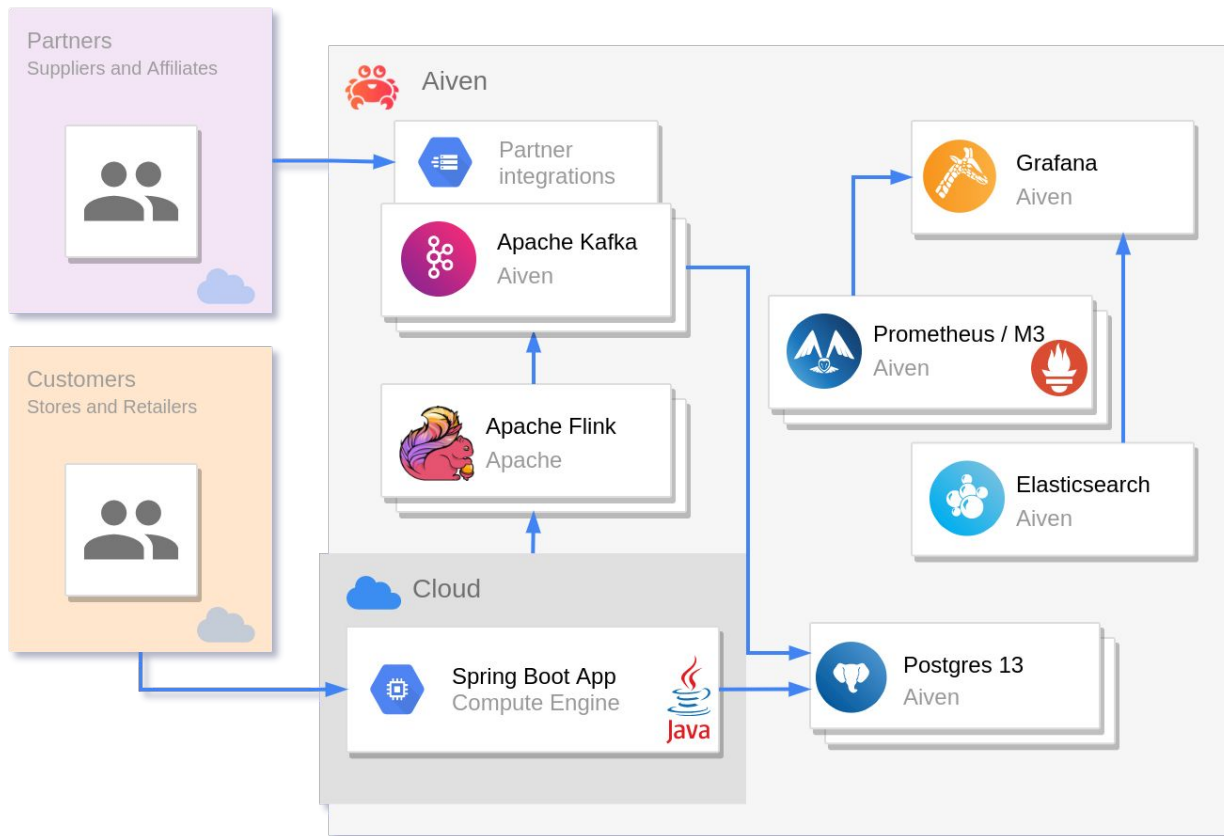
- Replace legacy software with modern integration APIs
- Monitoring and alerting
  - collect metrics with Prometheus/M3
  - implement Grafana dashboards
  - collect partners/customers and system logs to Elasticsearch
- Migrate from Puppet to Terraform or Ansible

Diagram labels:

Partners
Suppliers and Affiliates

Customers
Stores and Retailers

Aiven

Partner integrations

Apache Kafka
Aiven

Apache Flink
Apache

Cloud

Spring Boot App
Compute Engine
Java

Grafana
Aiven

Prometheus / M3
Aiven

Elasticsearch
Aiven

Postgres 13
Aiven

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All product and service names and icons used in this presentation are for identification purposes only