



Automotive

Scalable systems for sensor data

For a globally operating automobile manufacturer we developed scalable systems for the processing of sensor data from the vehicle fleet. In this project, modern cloud and big data technologies were put into operation with the support of agile development.

Requirements

- New development of scalable systems on the basis of cloud and big data technologies
- Automation of the cloud infrastructure on the basis of AWS
- Incremental deployment
- Integration of various data sources
- Continuous delivery and zero downtime
- Introduction of an agile development process

Technologies

- Core: Java 8, Spring Core, Spring Boot, Tomcat
- Communication: REST, AWS: SQS, SNS
- Persistence: MySQL, AWS S3, Parquet
- Infrastructure automation: AWS Cloud formation
- Monitoring: AWS Cloudwatch, Cloudwatch Logs
- Scaling: AWS Elastic Beanstalk, SQS, Cloudwatch
- Continuous Delivery: Jenkins, Maven, Git, AWS code pipeline
- Big Data: Apache Spark, Zeppelin, AWS: EMR, data pipeline

Procedures and Methods

- Introduction of agile software development using SCRUM in IT
- Agile requirements analysis in close coordination with the technical departments
- Set up of a continuous delivery pipeline with blue/green deployments for zero downtime
- Introduction and training of the developers in the practices of modern software development (e.g. pair programming, code reviews, TDD)
- Evaluation of technical alternatives, architecture, performance, security, AWS costs