



REAL-TIME VEHICLE DOCUMENTATION MONITORING SYSTEM

An ELK stack-based solution helps our client leverage the power of analytics to comply with business standards.

PROJECT OVERVIEW

A centralized log management solution enables our client to access service metrics and log files to capture and analyze business data. We migrated the client's documentation monitoring system into the ELK stack to generate real-time visualizations, delivering a convenient end-user experience with a Kibana-based dashboard. The solution helped the client gain actionable insights to achieve operational excellence.

CLIENT PROFILE

Headquartered in Germany, our client is the research and development center for the world's largest manufacturer of premium and commercial vehicles. The center focuses on research, IT engineering, and product development.

BUSINESS REQUIREMENT

The client wanted to upgrade the IT infrastructure and help engineers overcome the challenge of running multiple scripts to access the vehicle documentation logging system.

- Migrate the current system into an ELK stack
- OpenID login implementation
- Extract actionable insights from visualizations
- Real-time monitoring of logs

QBURST SOLUTION

We migrated the client's vehicle documentation monitoring system into:

- Elasticsearch: Used for full-text search and analysis of logs and metrics
- Logstash: Ingests and transforms logs and events
- Kibana: Provides intuitive visualizations to review logs and events

The vehicle documentation monitoring system consists of multiple servers that handle daily transactions. Kibana visualizations were generated to monitor system servers, which include transaction and metric monitoring.

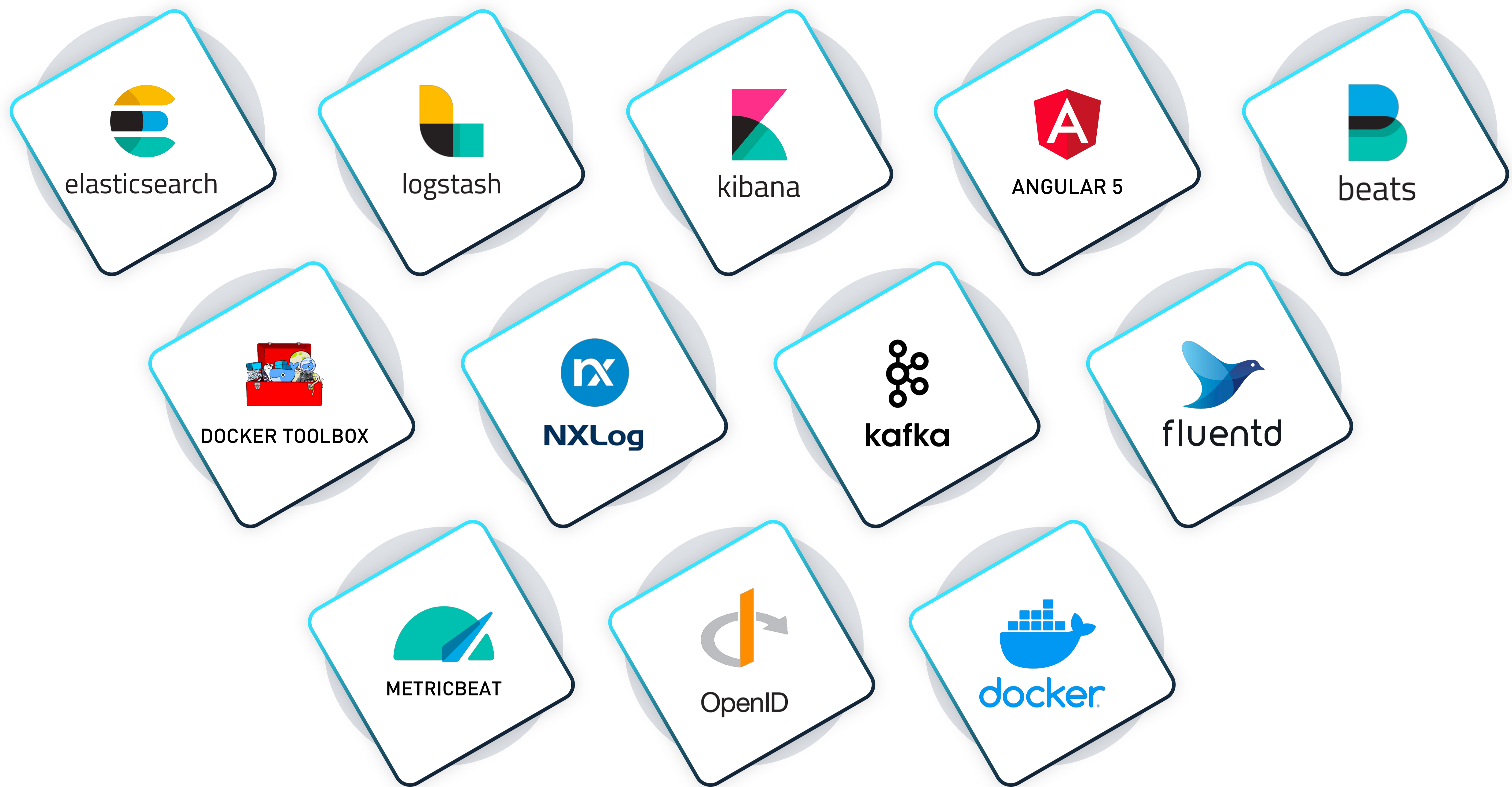
The solution monitors application transactions and plots load time graphs, request response time graphs, and calculates response time. Additionally, it monitors DB logs, DB transactions, and DB health.

The solution drills down transaction details, processes load details, and presents them in the form of intuitive visualizations using Kibana.

KEY FEATURES

- Live monitoring and analysis of logs are done based on data extracted using Logstash filters
- Multiple types of graphs are generated to monitor transactions, server load, memory, CPU utilization, transaction loads (on multiple servers), response time of the processed transaction
- Live email reporting for 'severe' and 'fatal' errors were configured on all the servers
- Using Elasticsearch APIs, log data is manipulated to generate meaningful graphs that indicate the health status of the server using load, CPU, and memory data
- Live email reporting for multiple application and system errors

TECHNOLOGIES



BUSINESS BENEFITS

- 12% spike in revenue as a result of real-time performance monitoring
- 45% drop in issues as a result of predictive analysis and overall stability
- Visualized logs and time-stamped data helped perform faster root cause analysis
- 40% reduction in effort time to generate graphs helped expedite business decisions
- 23% increase in operational efficiency as a result of enhanced KPI tracking
- Automation reduced the steep learning curve of manually performed tasks



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