



KubeCon



CloudNativeCon

North America 2017

Unified Monitoring of Containers & Microservices

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About us



- Senior Architect @ Wipro Ltd.
- Java, Nodejs, Python, Machine Learning, Deep Learning
- Working On
 - Unified Monitoring
 - Computer Vision

- Architect @ Wipro Ltd.
- Java, Elastic Search
- Working On
 - Unified Monitoring
 - Log Analytics



Presentation

Goals

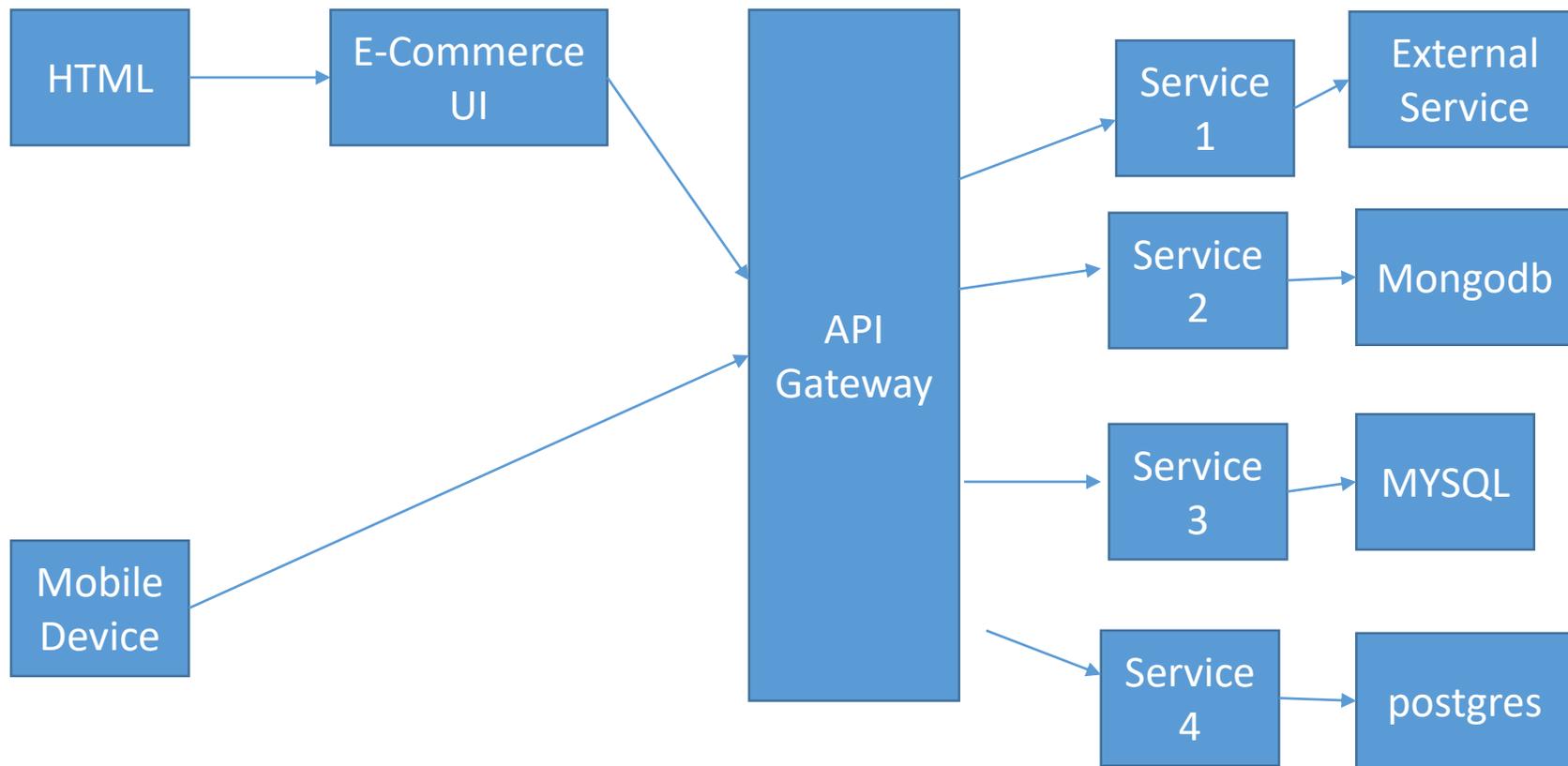
Explain how we have utilized the power of Zipkin, the intelligence of Spark Ecosystem & the flexibility of ELK+Beats to create a Unified Monitoring Framework



Agenda

- 1 Need for Unified Monitoring
- 2 Unified Monitoring Solution Stack
- 3 Demo

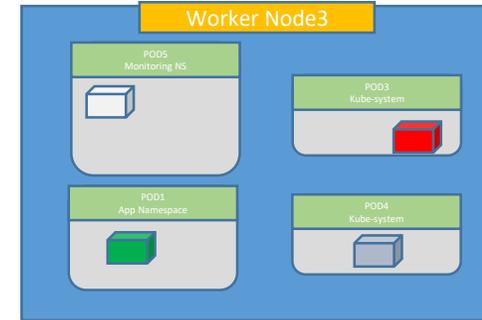
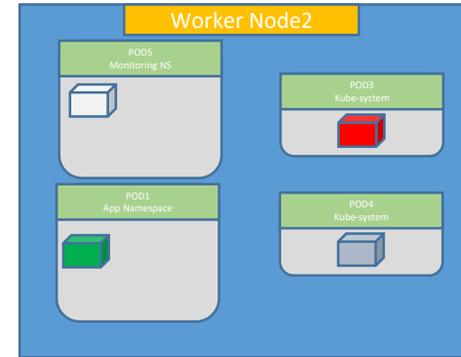
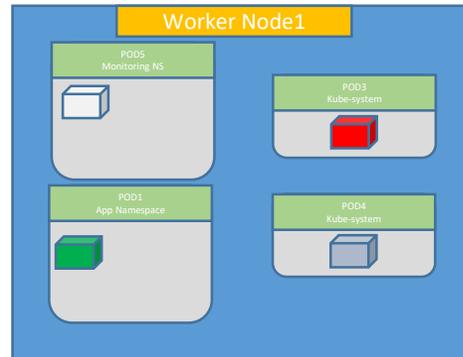
Typical Microservice Use Case



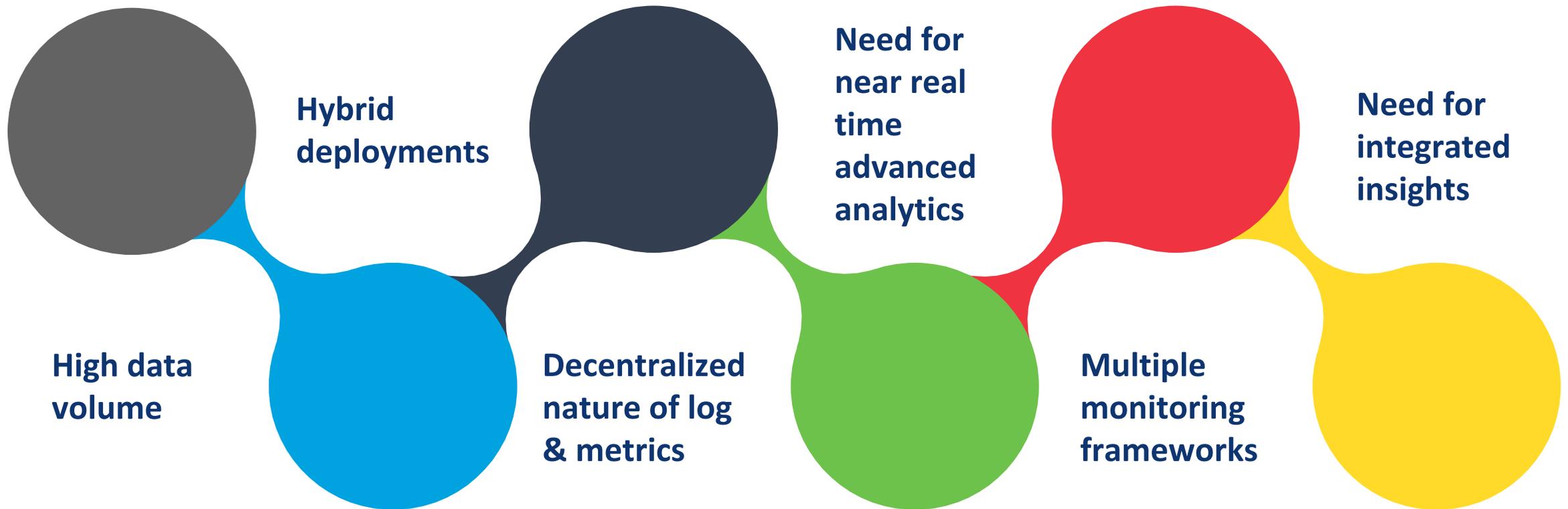
- **Service Isolation**
- **High Scalability**
- **Flexibility**
- **Better Resource Utilization**

The Terrific Trio - Containers , Microservices and Kubernetes

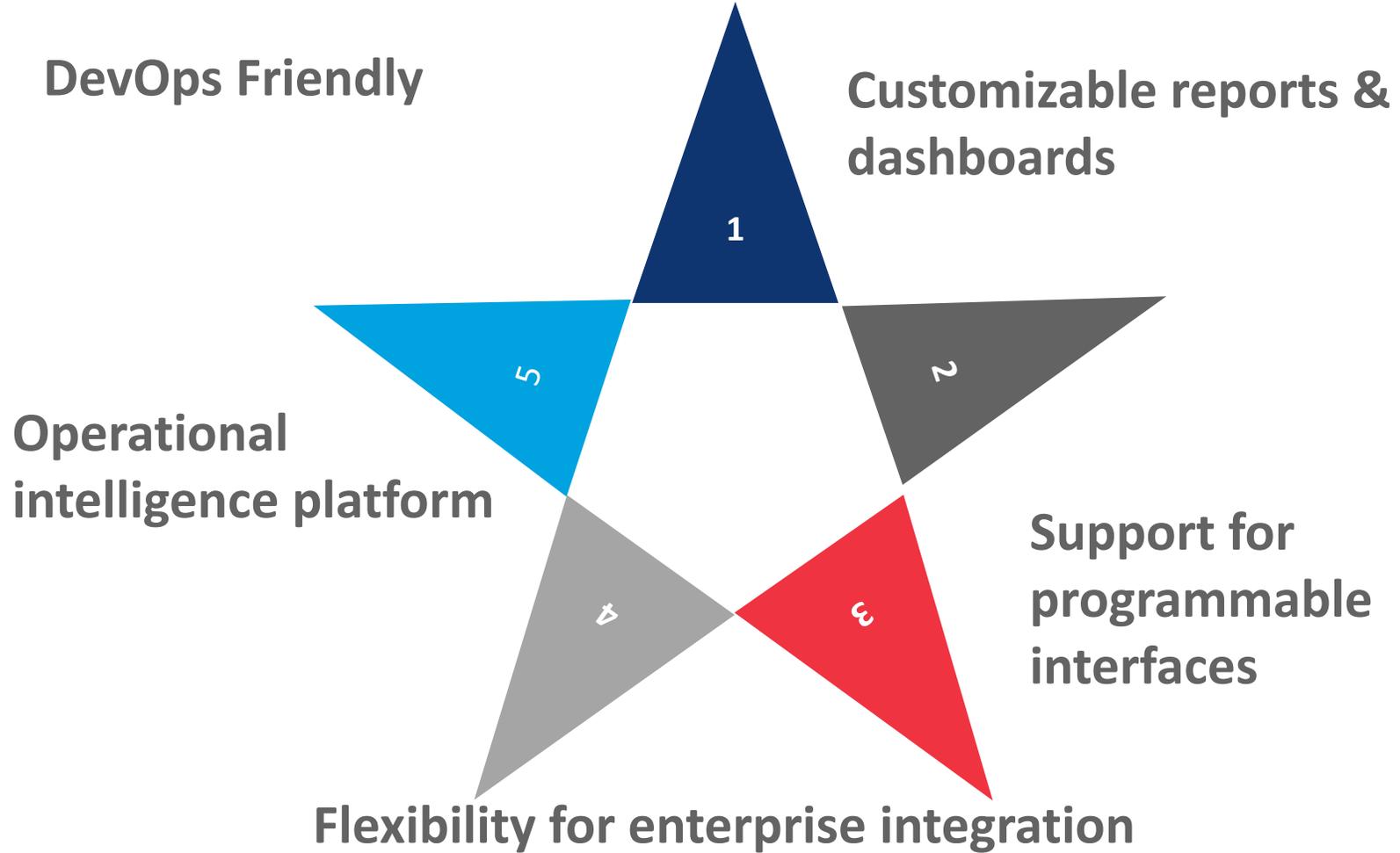
- **Services Isolation**
- **Stack agnostic hosting**
- **Container Orchestration**
- **Reliable cluster & workload management**



Need for Unified Monitoring Solution



Unified Monitoring Solution – Wish List



Assets To Be Monitored

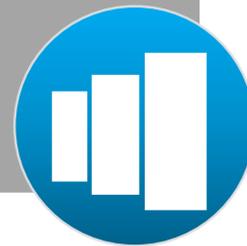
- Bare-metal, Virtual Machines
- Private, Public and Hybrid Cloud infrastructure
- IoT devices
- Network Services

Infrastructure



- Kubernetes and Docker containers
- PaaS infrastructure
- Databases
- Middleware, Integration and Messaging platforms
- Gateways and Load balancers
- Web servers

Containers & Platforms

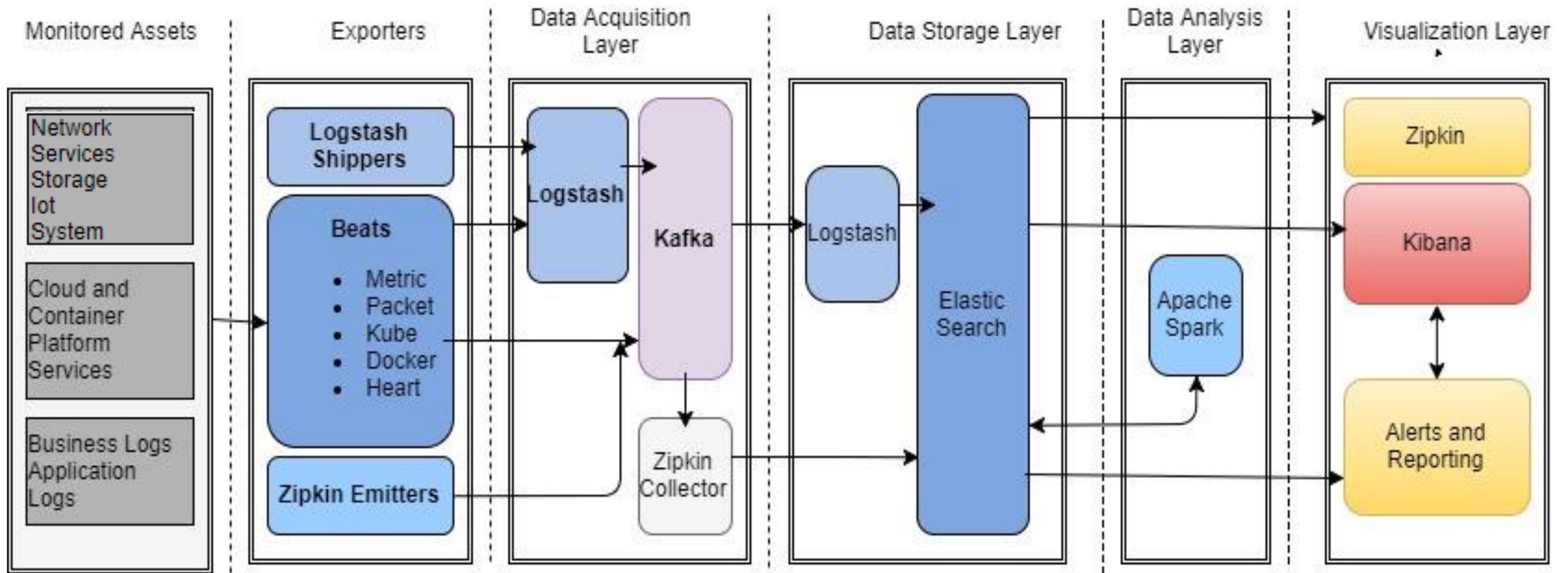


- Application logs
- Application performance monitoring
- Business transactions track and trace
- Events

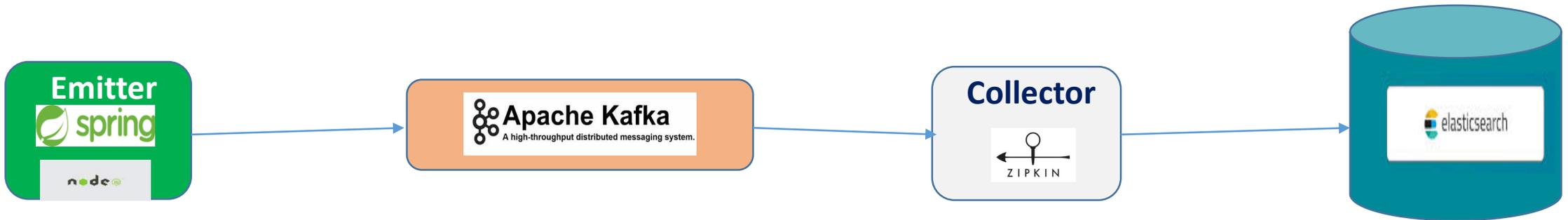
Applications



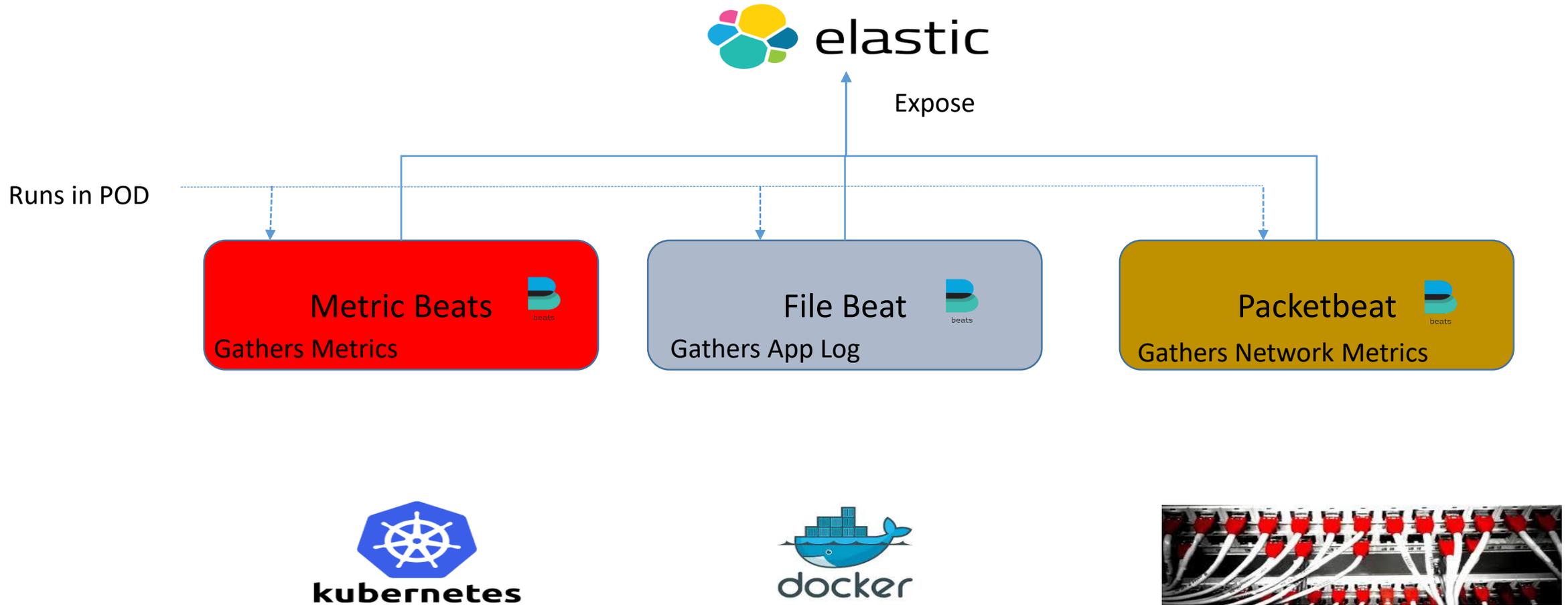
Solution Conceptual View



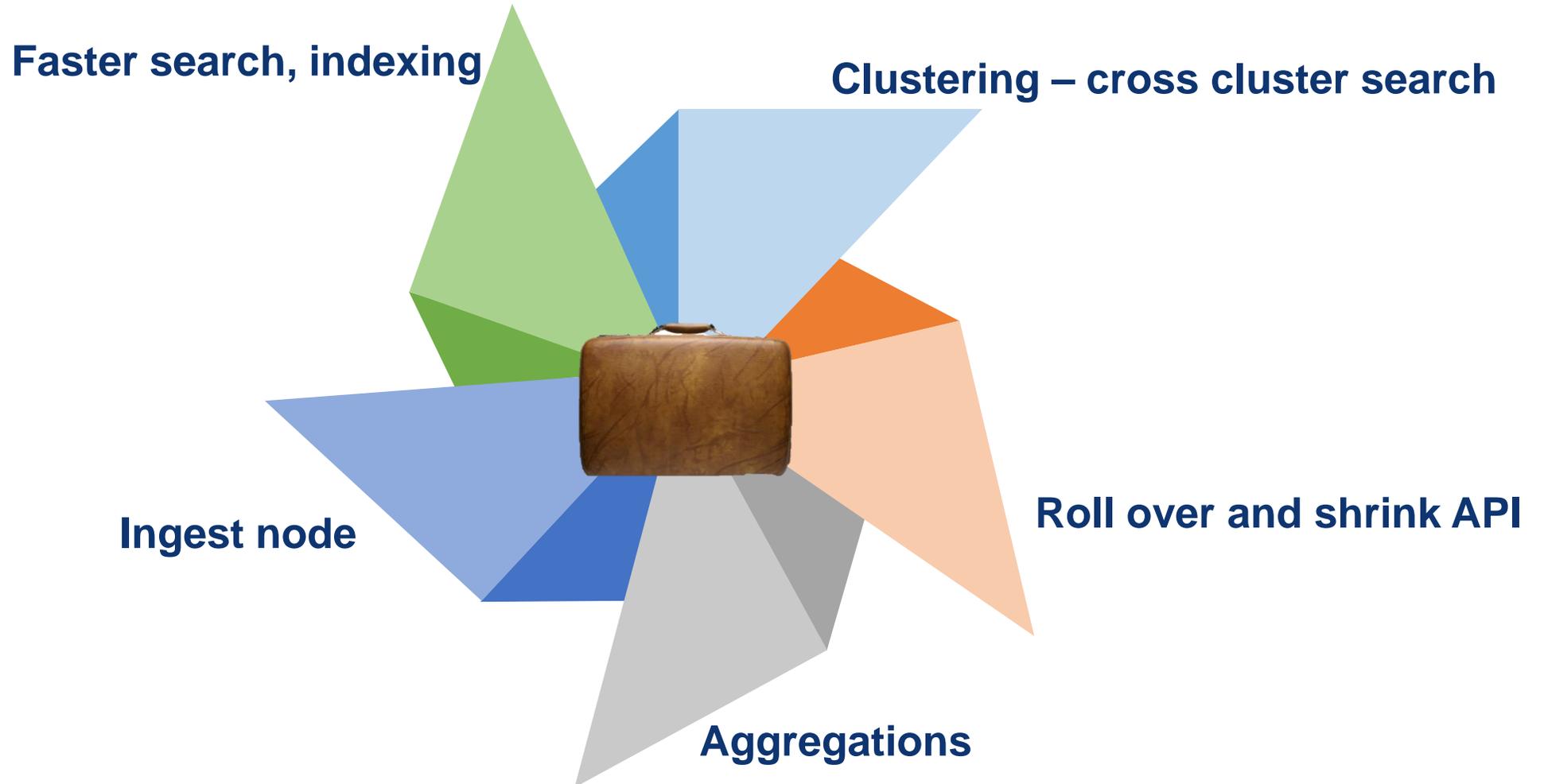
Ingestion – Zipkin



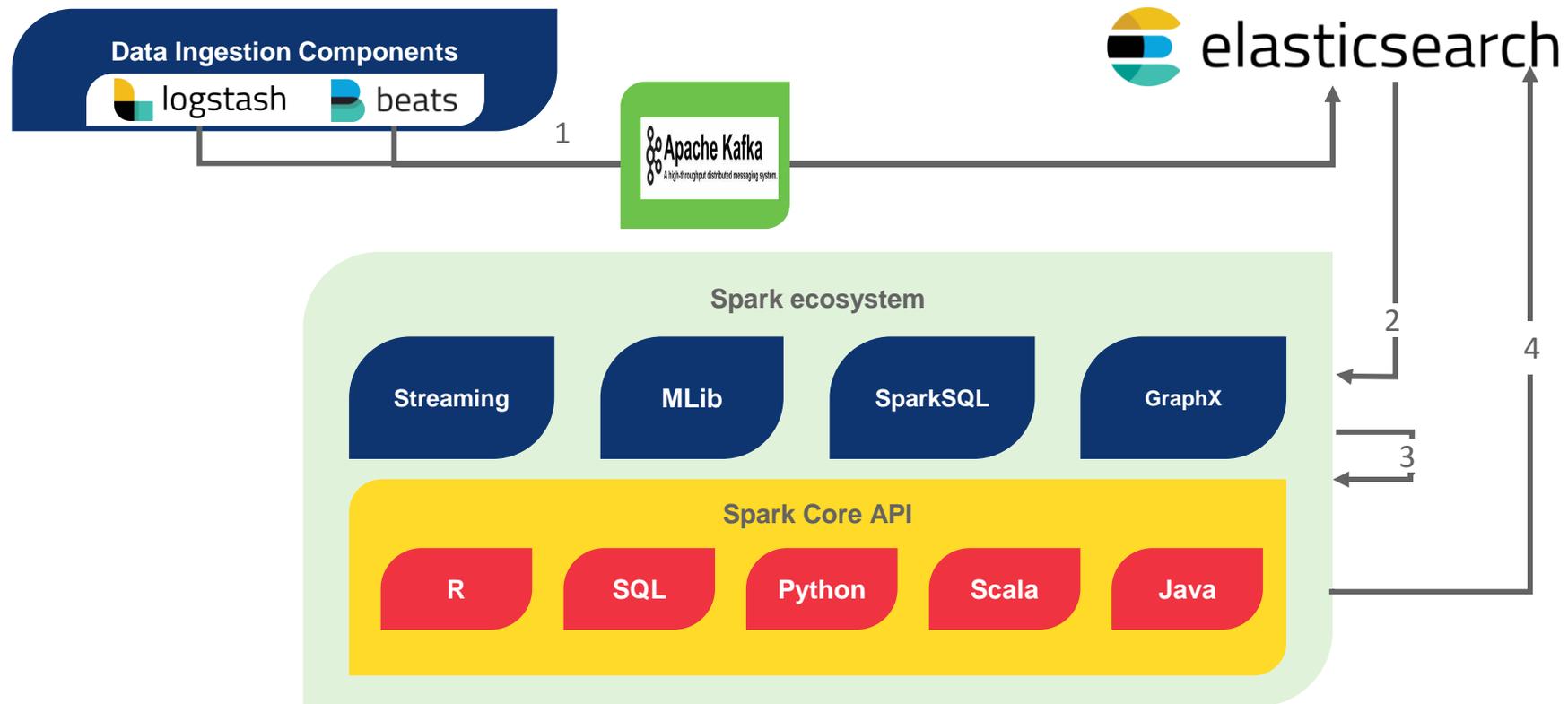
Ingestion - Elastic Beats



Storage – Elastic DB



Predictive Analysis - SPARK



ML Lifecycle

- Data Collection & Preprocessing
- ML Model Generation
 - K-Means Clustering
- Inference

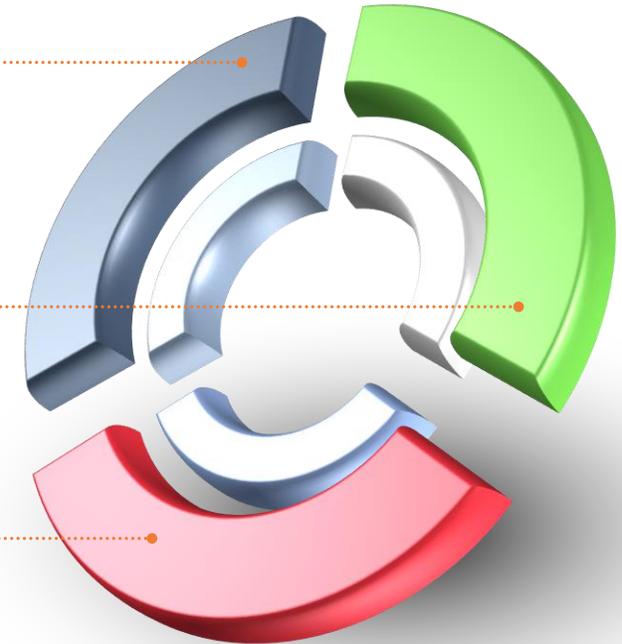
Alert and Reporting - SentiNL



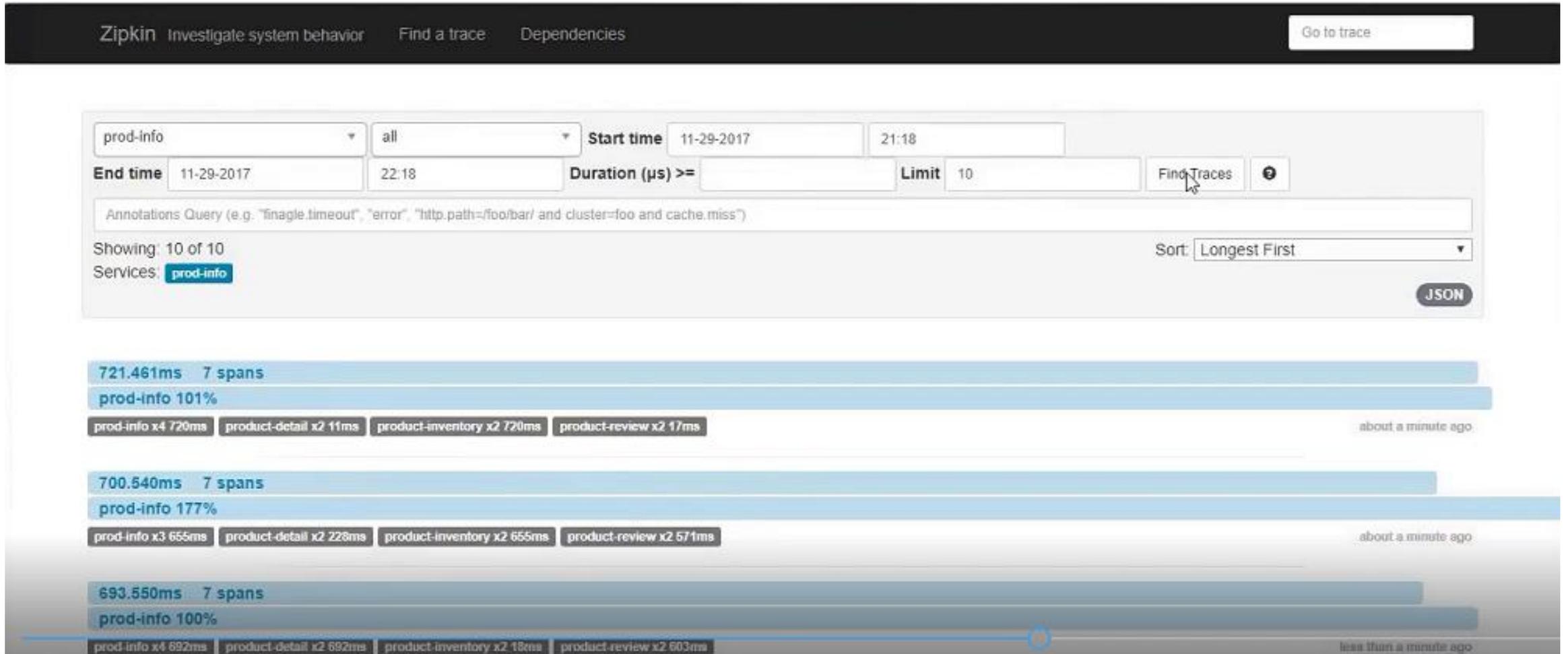
Execute Request

Validate Response

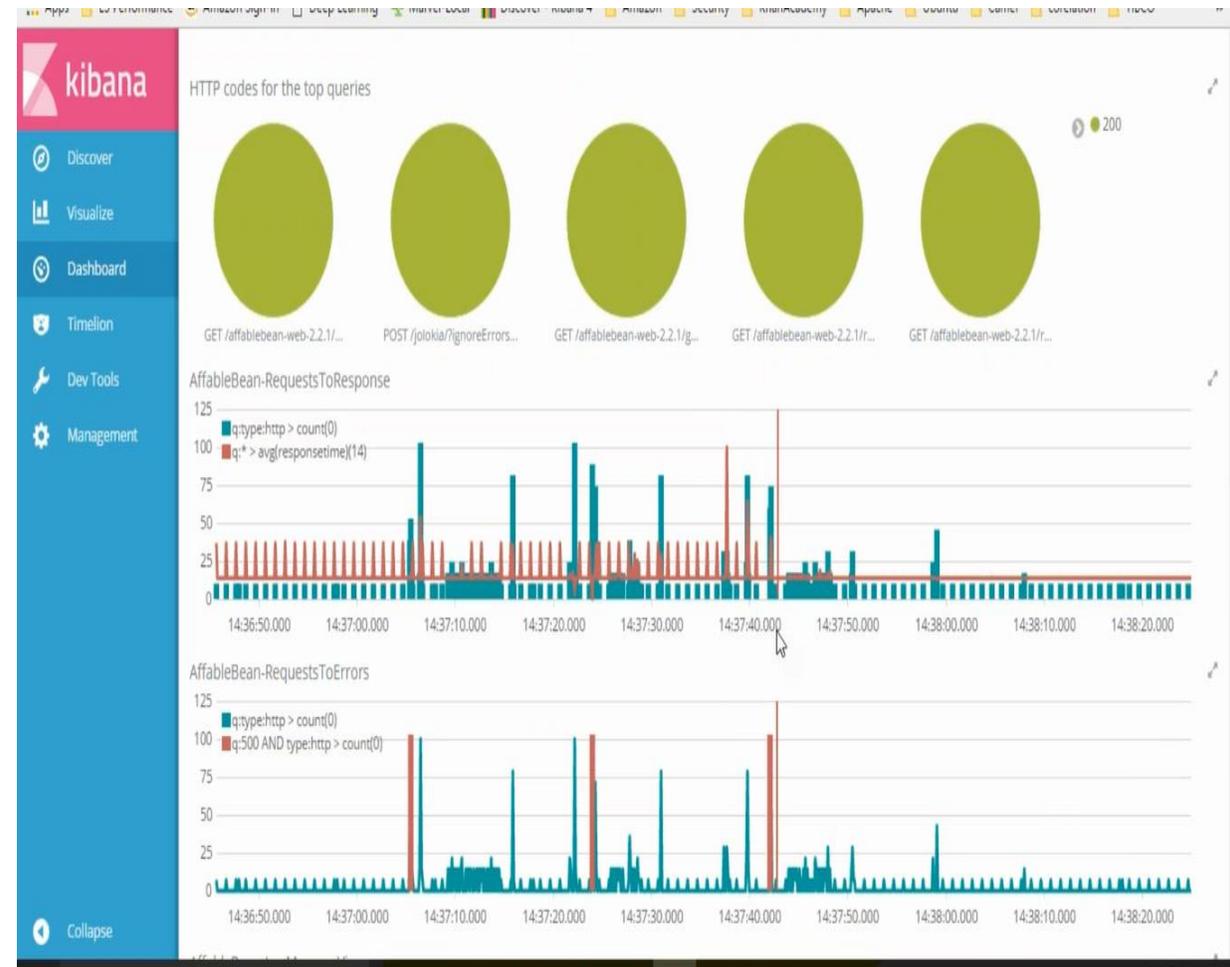
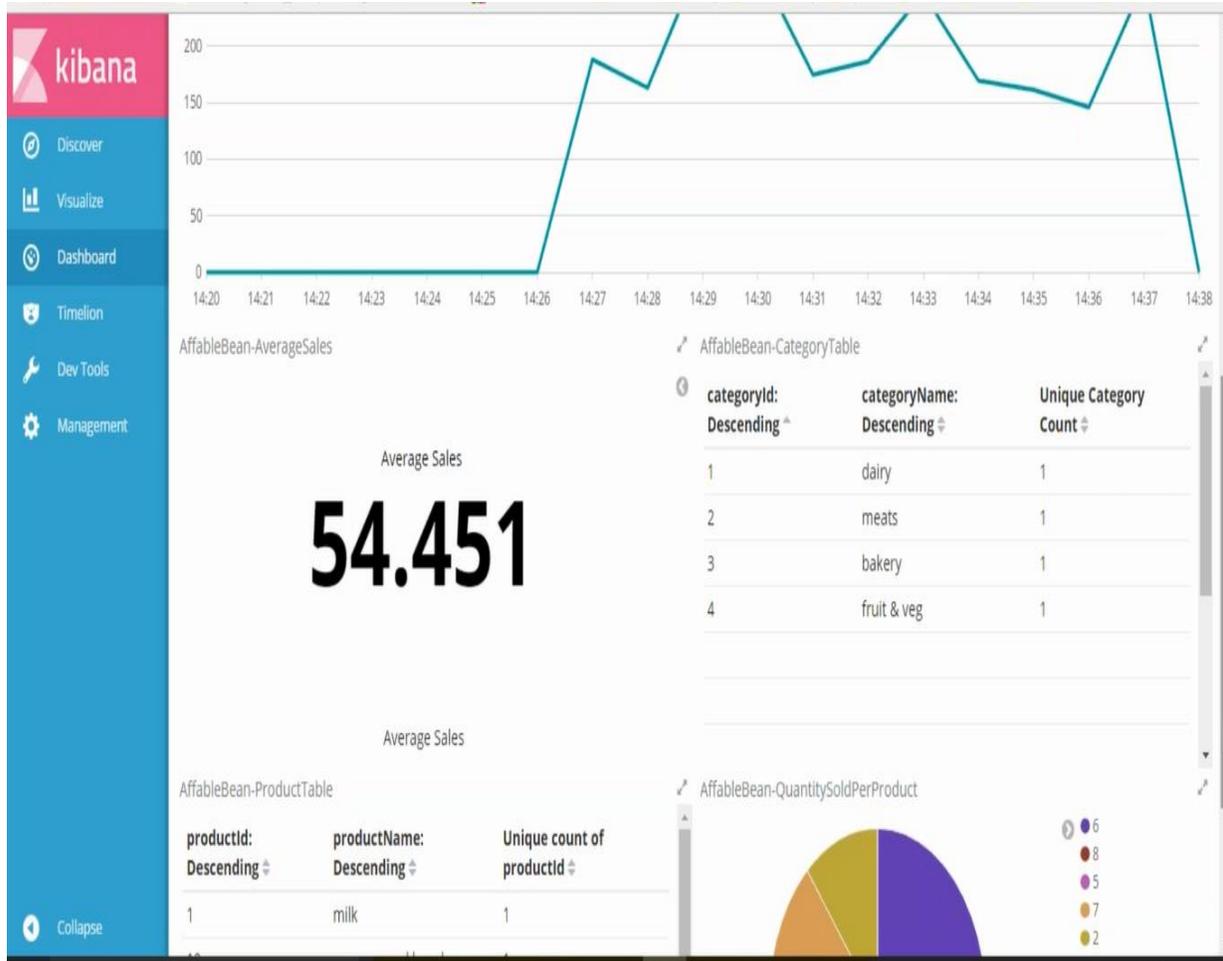
Execute Action



Visualization – Zipkin Service Dependencies

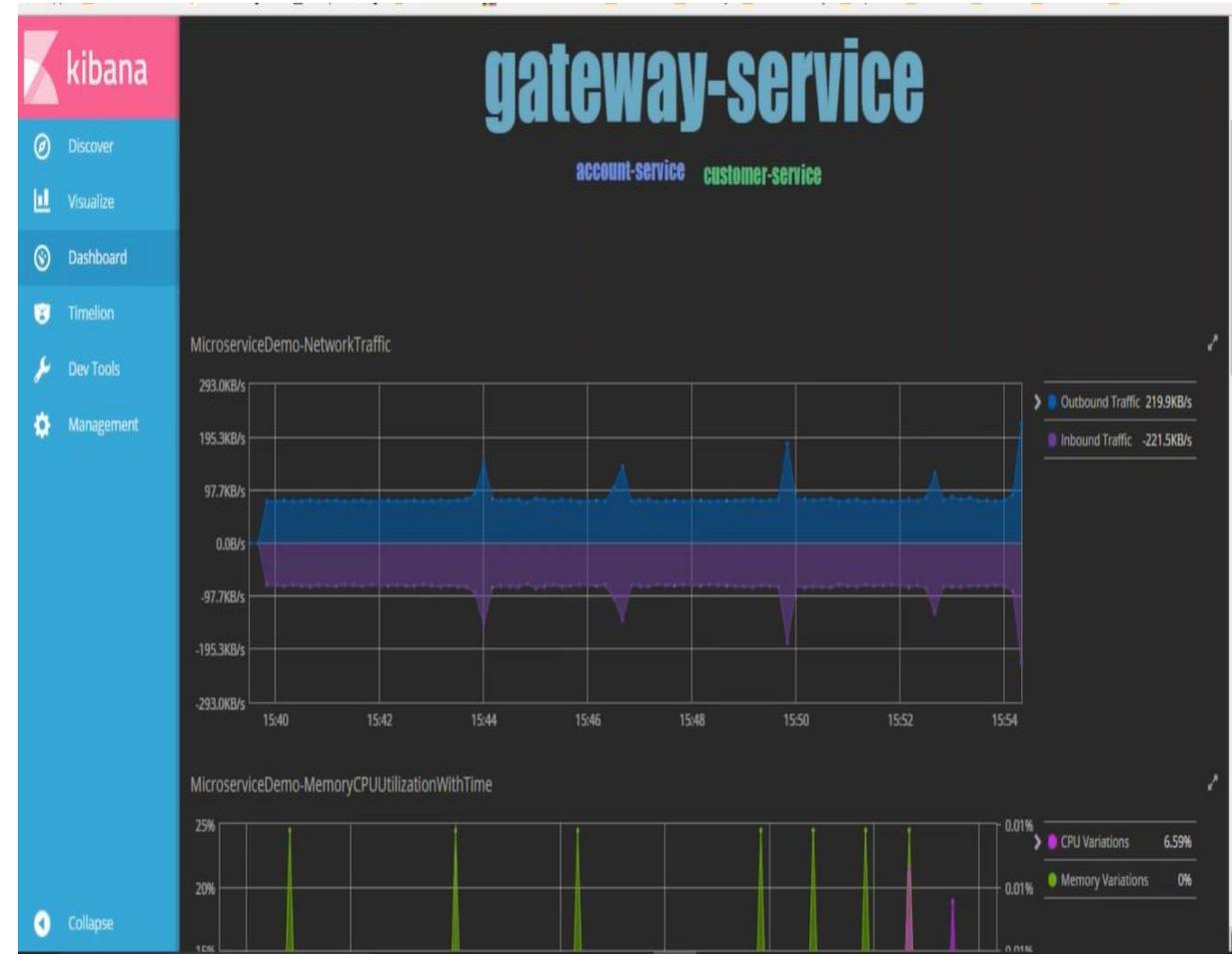


Visualization – Kibana Business View



Visualization – Kibana

Ops View



Demo



UM-SolutionDemo.mp4



Have a great day!

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