



# I-Havvkkular

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# Bit of History...

2006 JBoss Operations Network 1.x

2008 RHQ

JBoss Operations Network 2.0

Using Postgres for metrics

2013 Storage Nodes (on Cassandra)

2014 Start of Hawkular Metrics + Hawkular

# Three flavours of Hawkular



**Metrics**



**Services**



**APM**



# Hawkular-Metrics

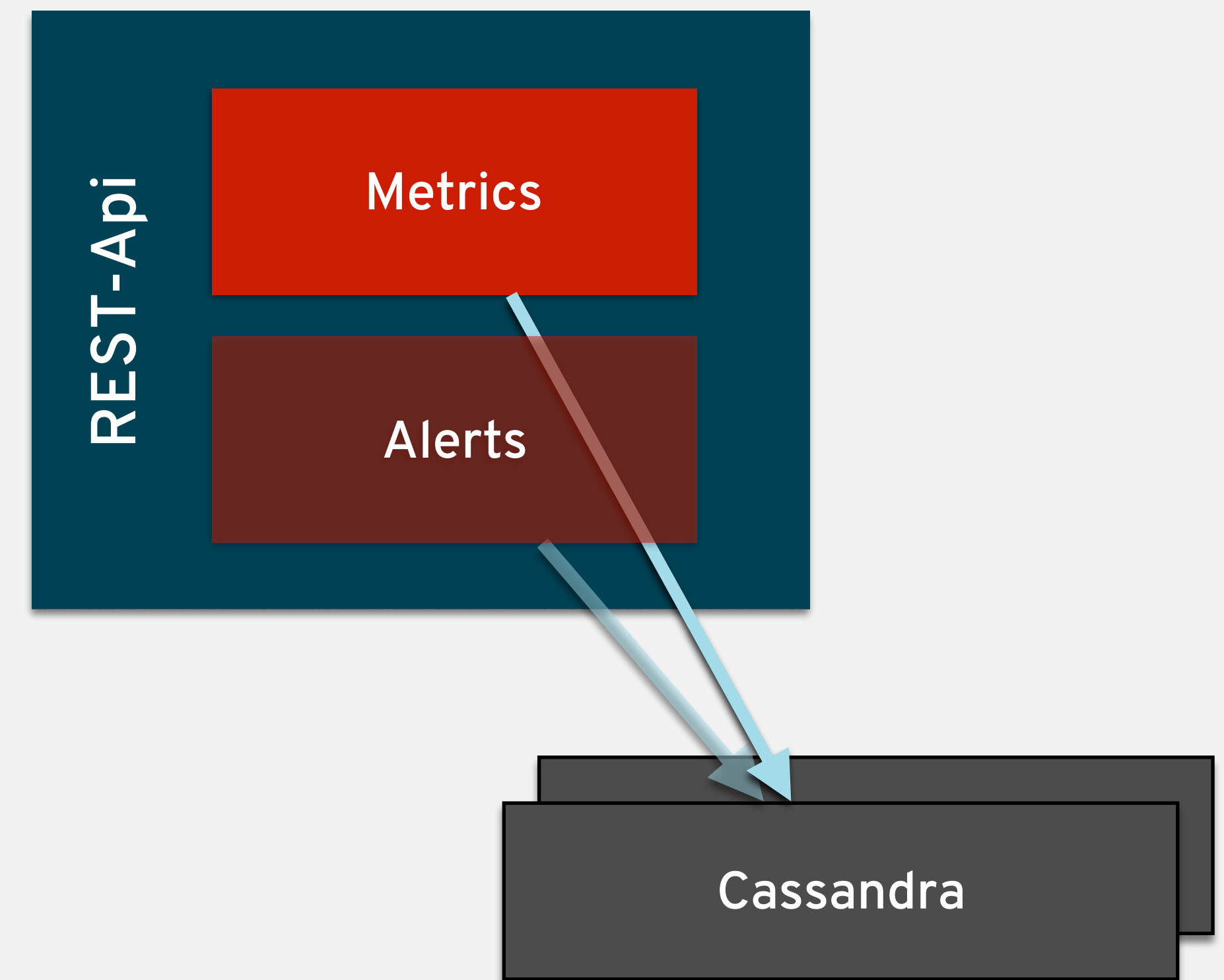
## Time Series Data Base

- Multi-Tenant
- Java with Non-blocking IO
- REST-API
- Metadata support
  - Units / Tags
- Auto-expiry global/tenant/metric

## Cassandra-backend

- Cassandra-compression
- „Gorilla-paper“ compression

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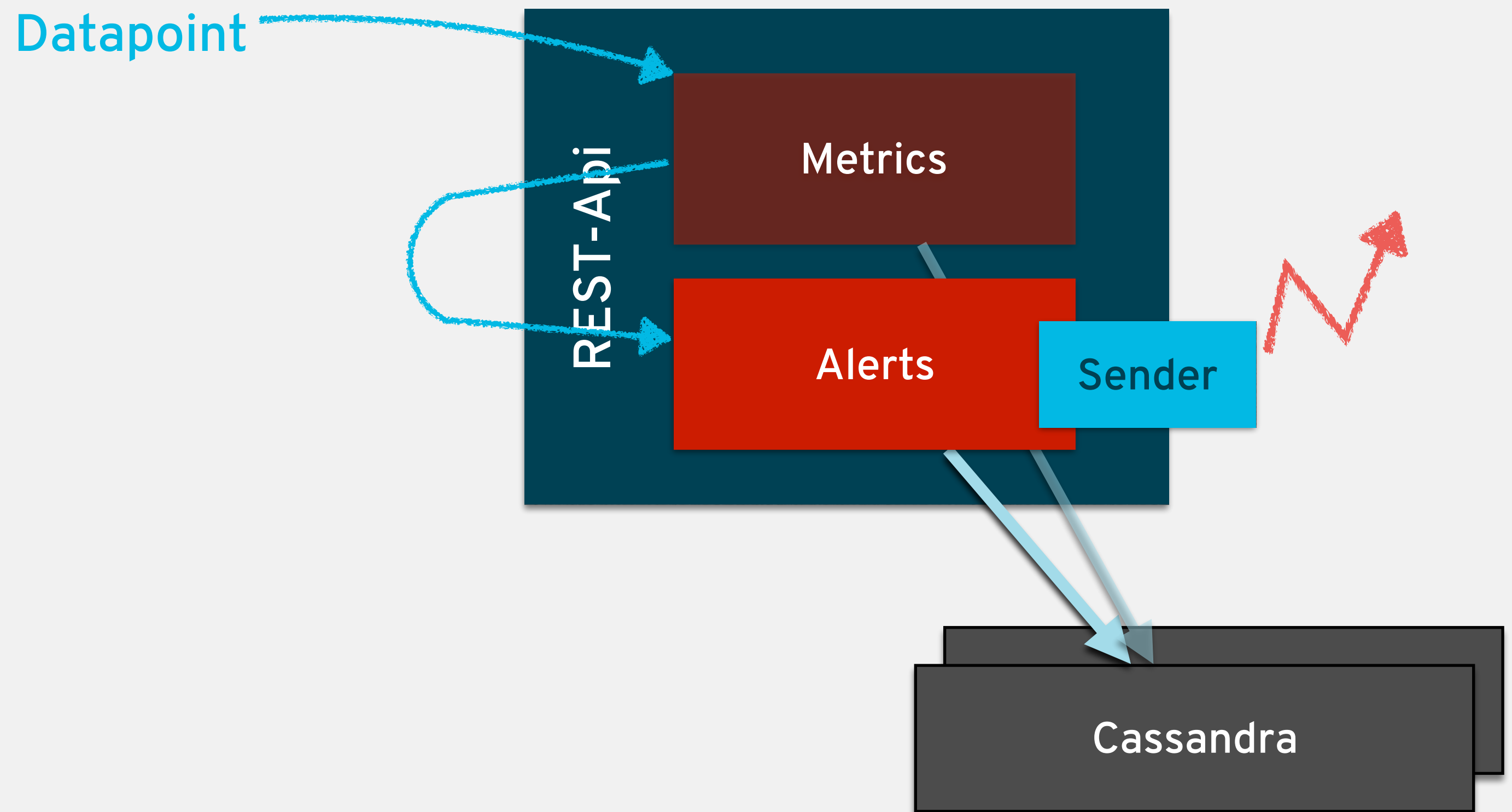




# Hawkular-Metrics

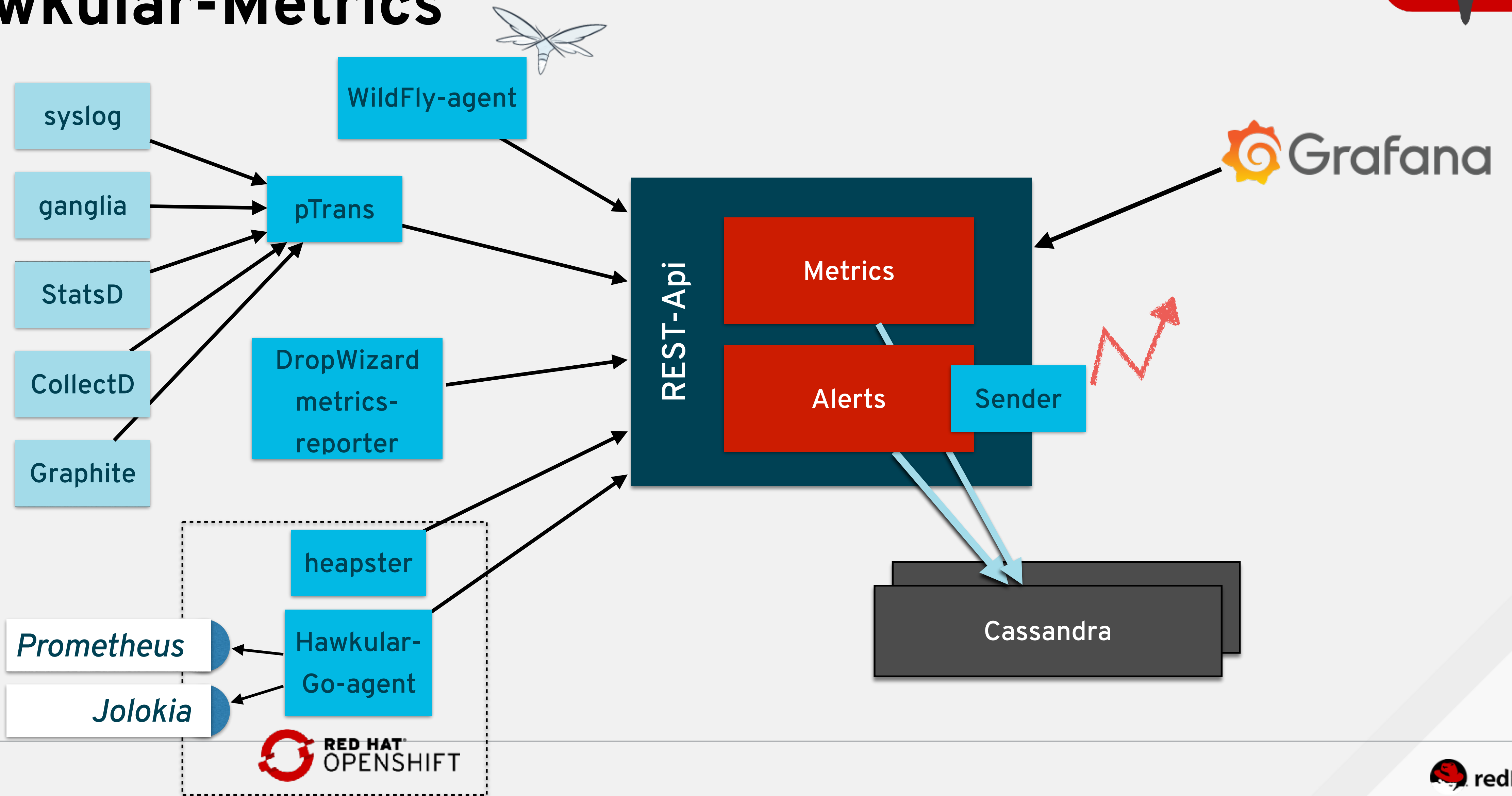
## Built-in Alert engine

- Single / Group triggers
- „Template“ triggers
- Complex conditions
- Dampening
- Event or Alert+Workflow
- Auto-resolve / -disable Triggers
- REST-API
- Metrics is forwarding data
- Pluggable Notifiers
- Can also run standalone



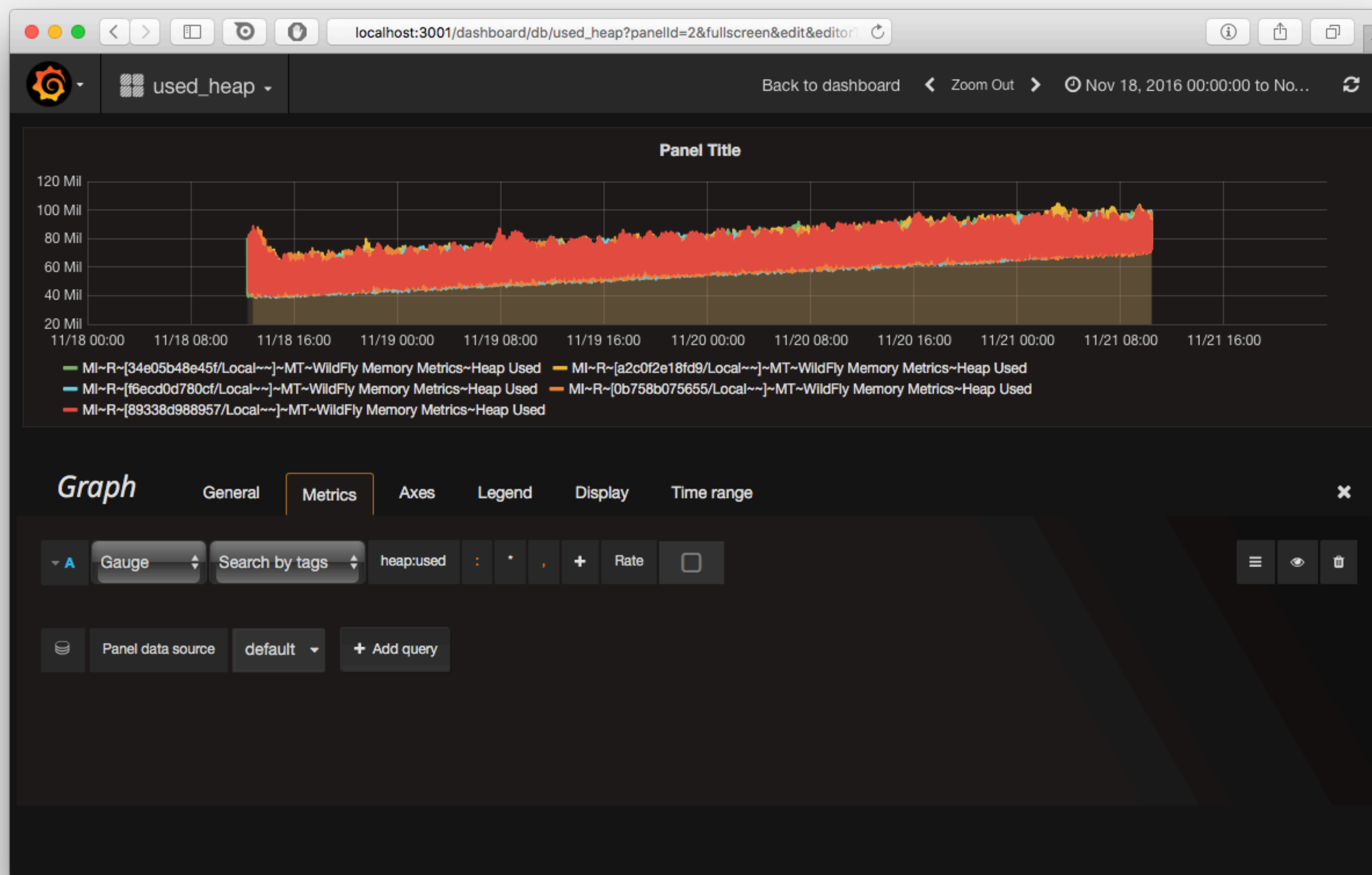


# Hawkular-Metrics





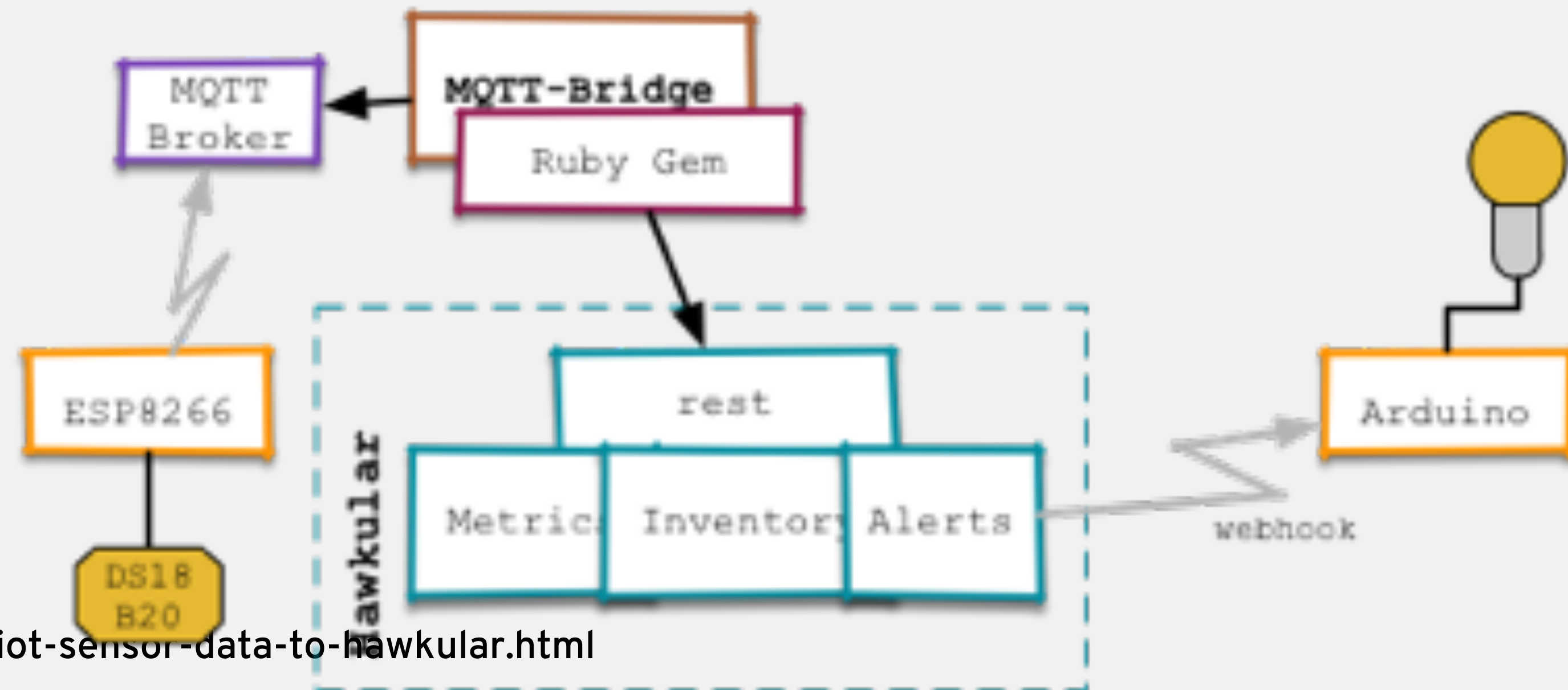
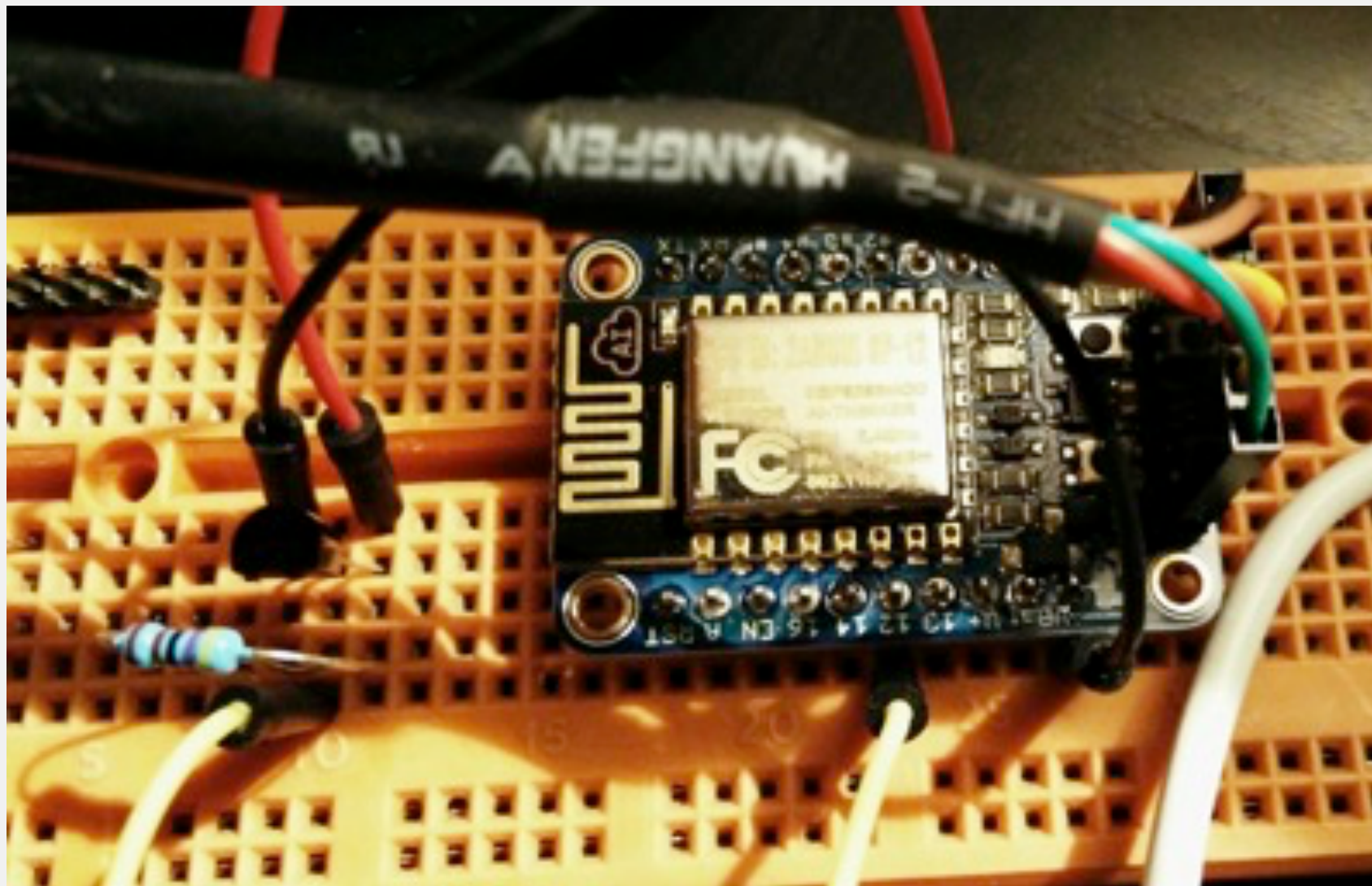
# Hawkular-Metrics





# Hawkular-Metrics

No lasers or cats, but still ... :-)



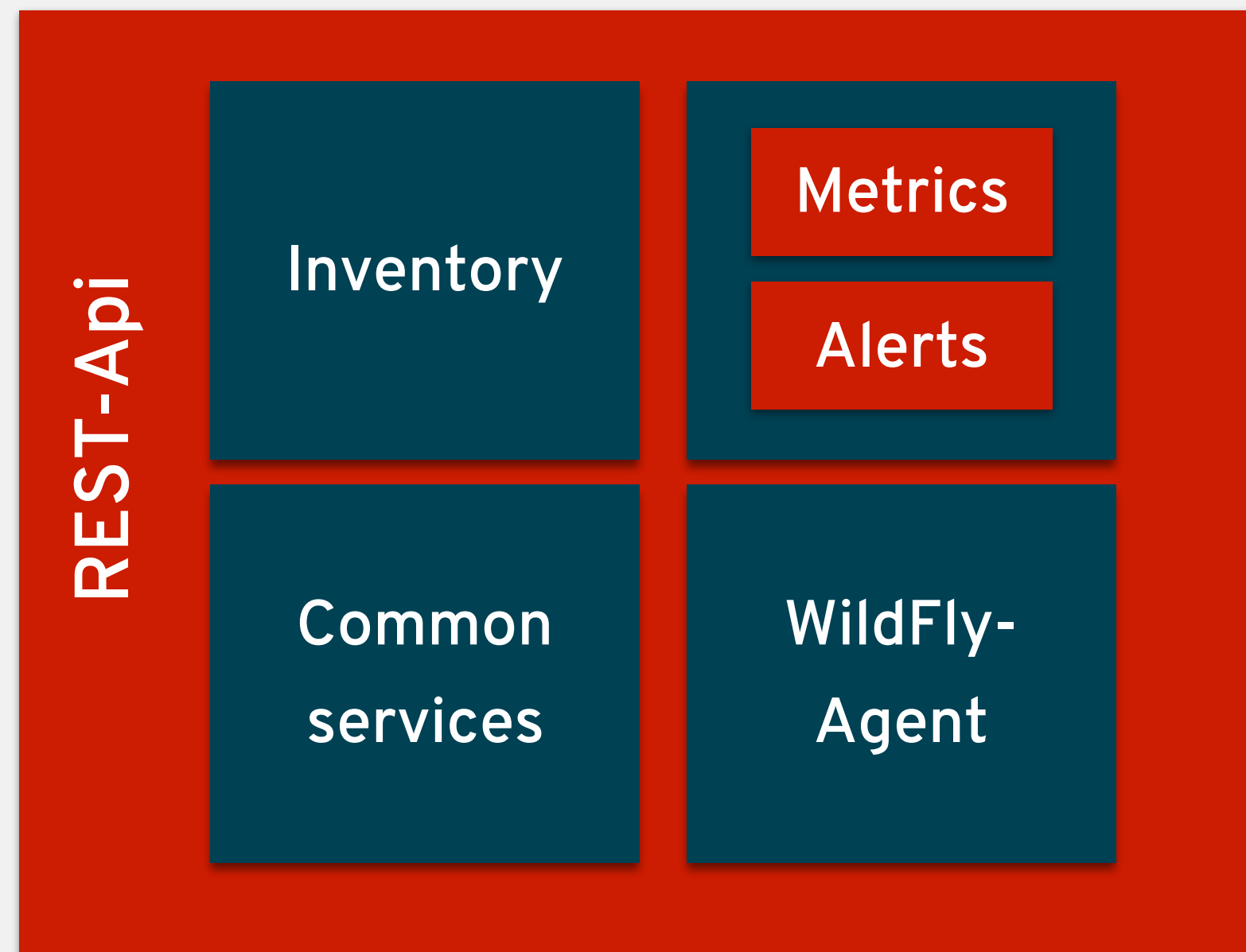
<http://pilhuhn.blogspot.com/2016/02/sending-iot-sensor-data-to-hawkular.html>



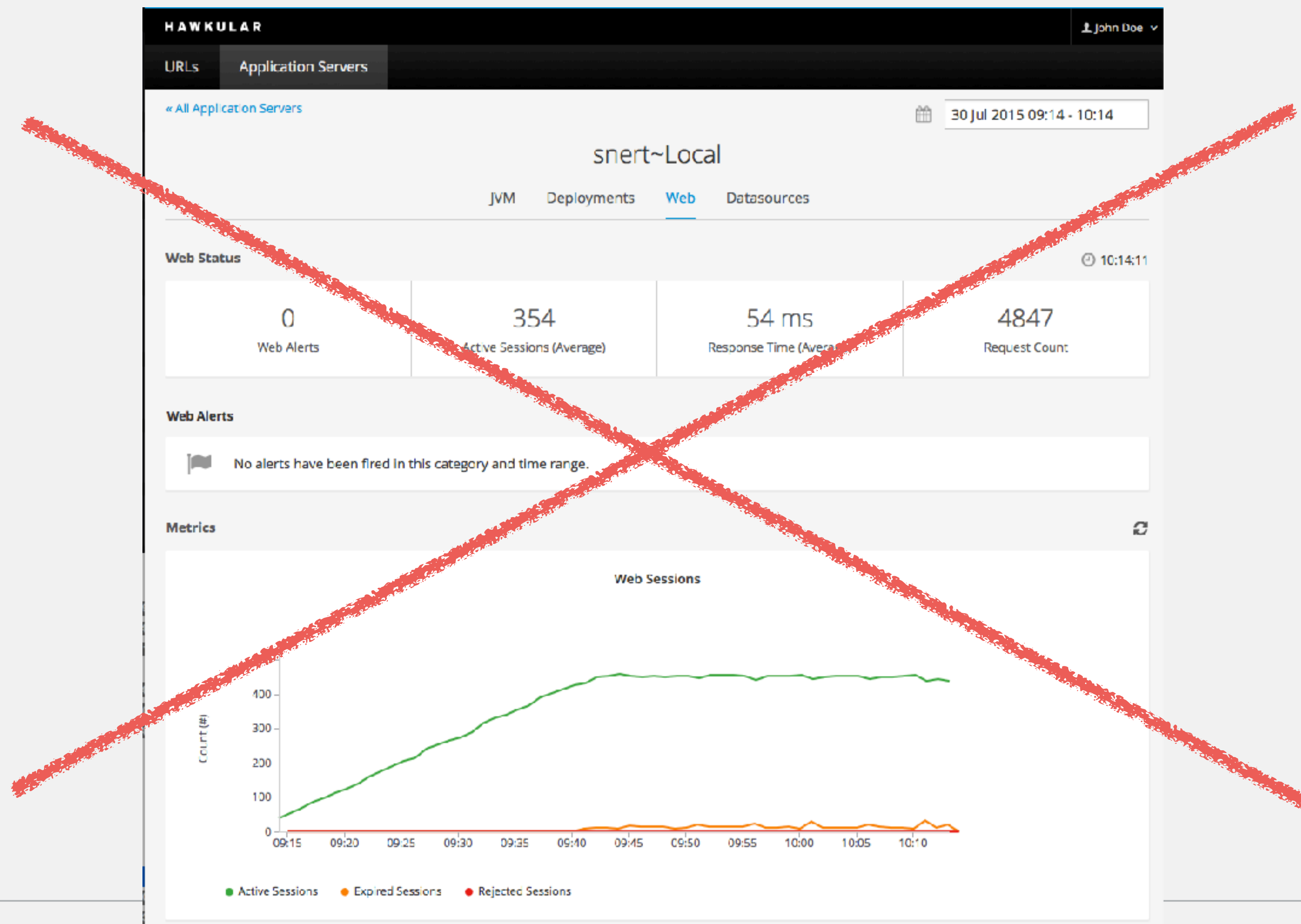
# Hawkular-Services



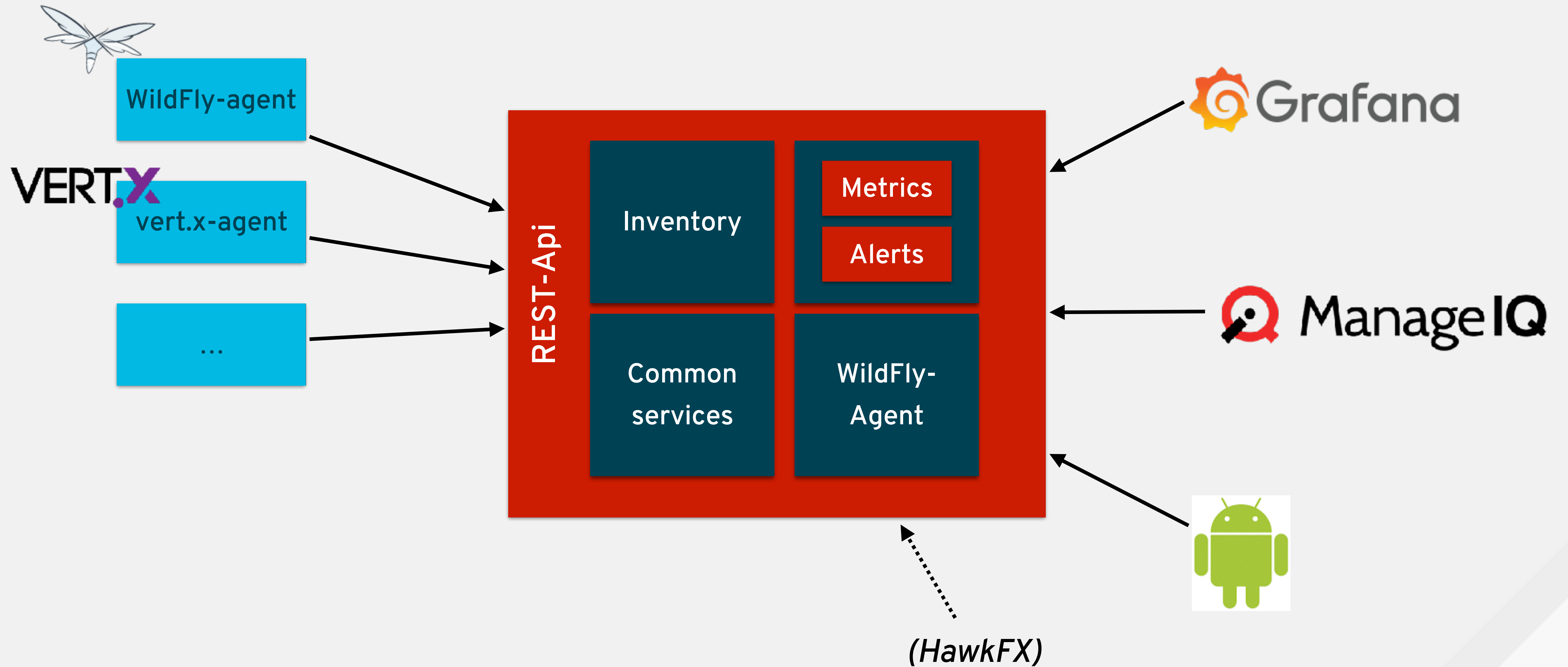
Builds on Hawkular-Metrics  
„Classical“ environments  
Inventory as graph database  
Agent for WildFly and others  
Run operations



# Hawkular-Services

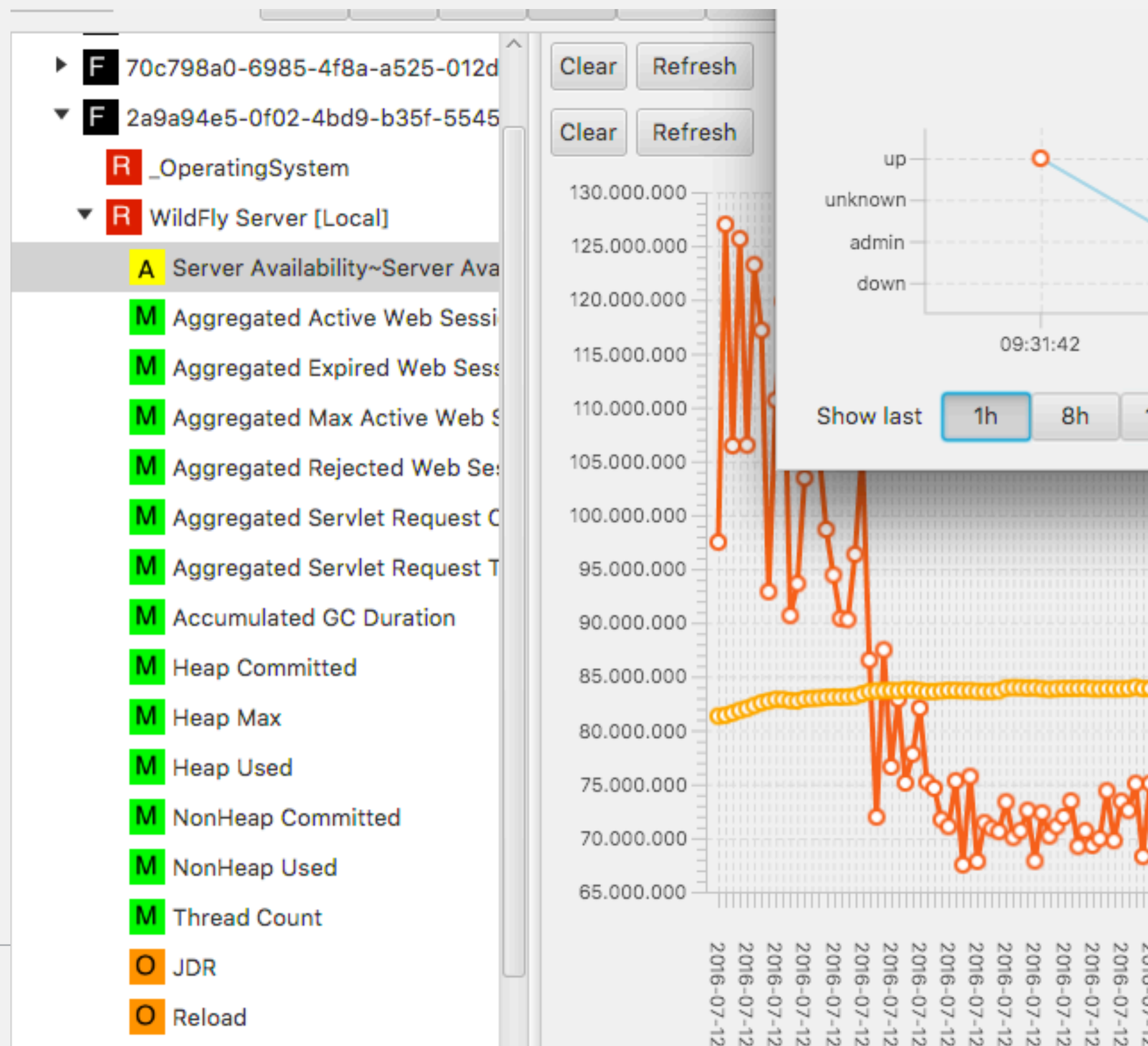


# Hawkular-Services





# Hawkular-Services

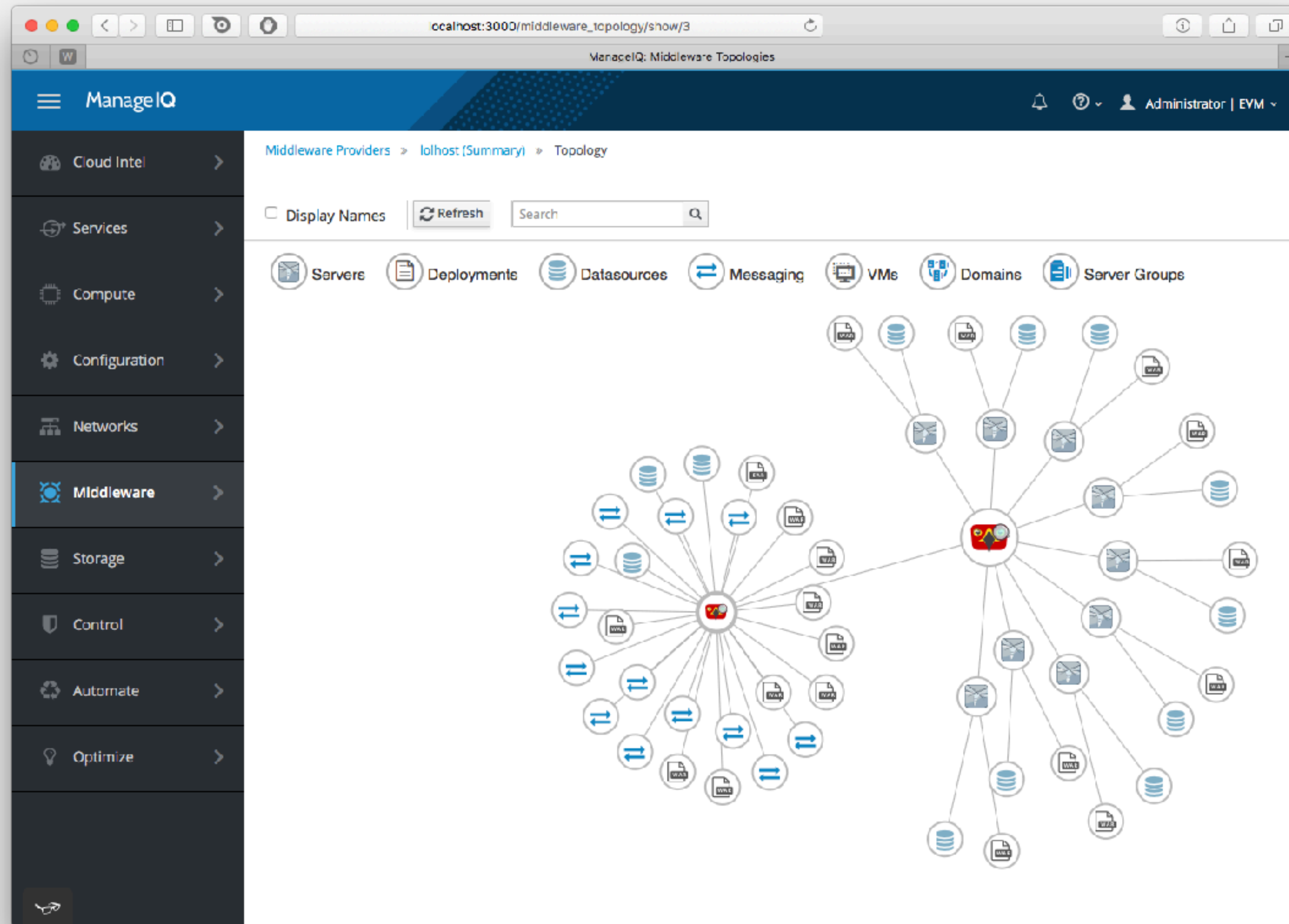


# Hawkular-Services



Runs on

# Hawkular-Services







# Hawkular-APM

Application Instrumentation, „tracers“

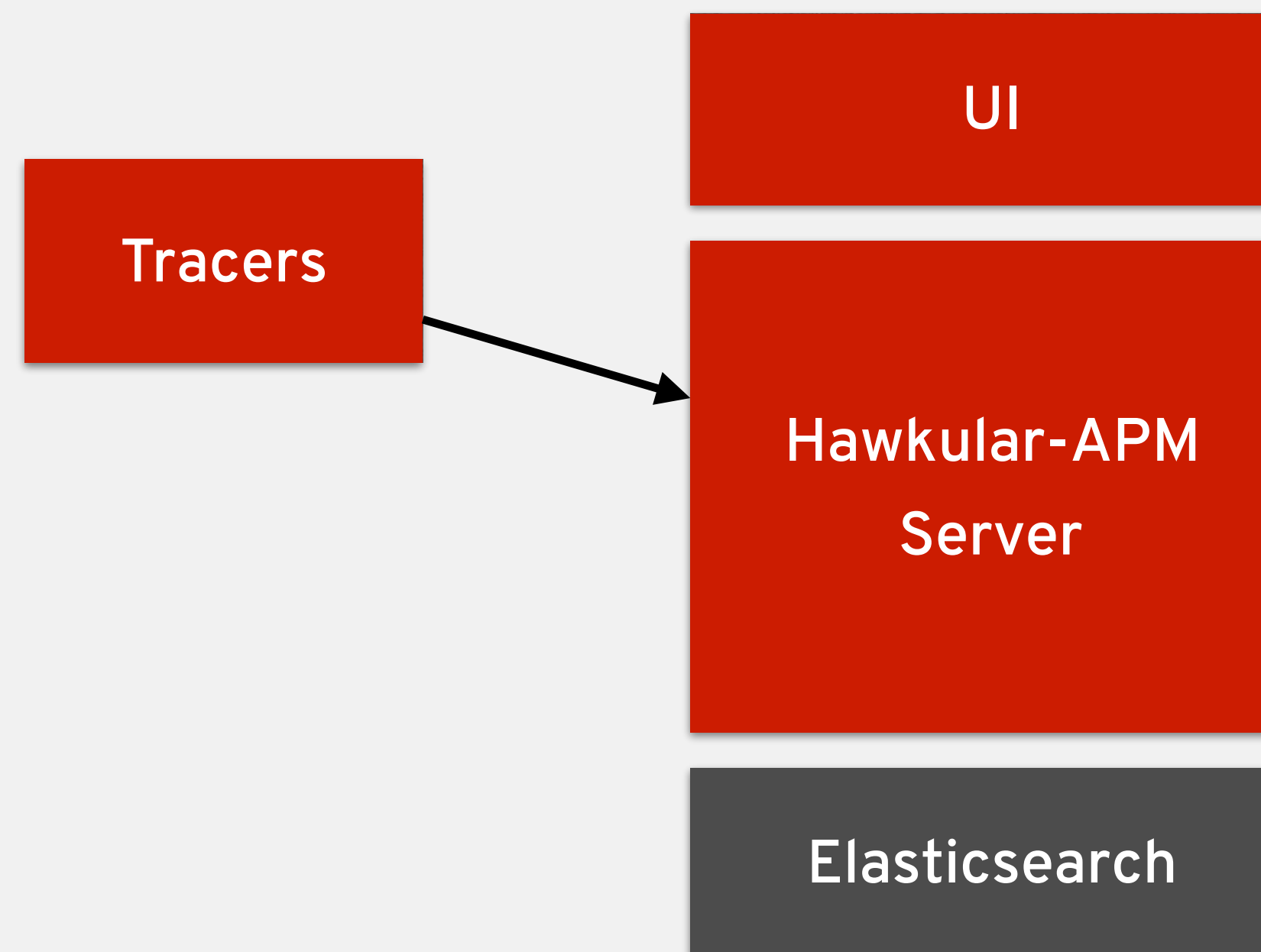
Call tracing over services

Reporting on kpi-values

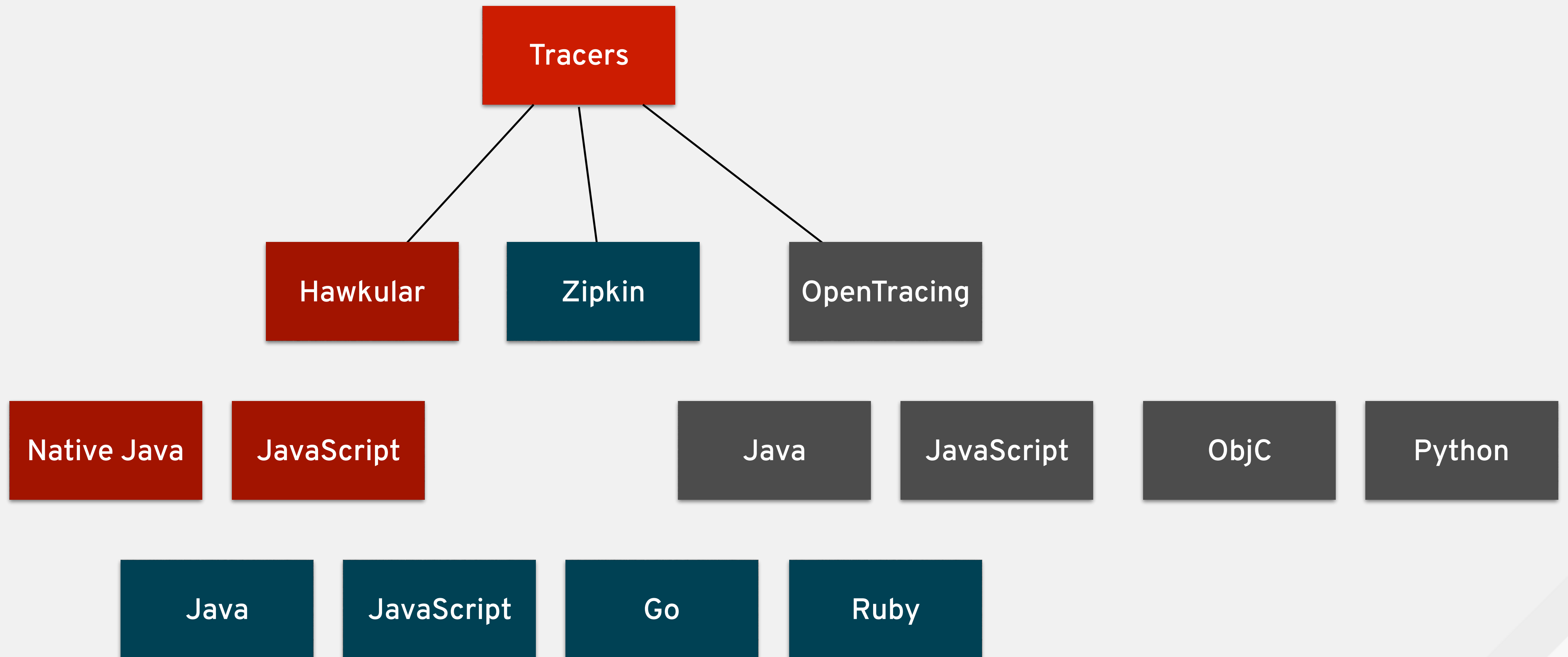
Invocation timing

Currently ES backend

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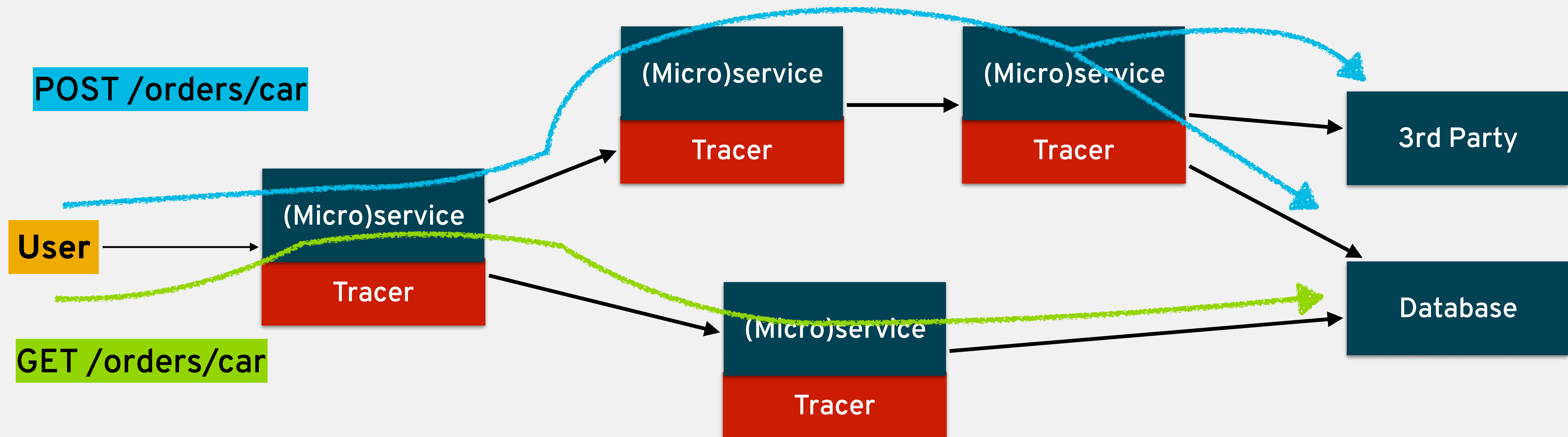
# Hawkular-APM





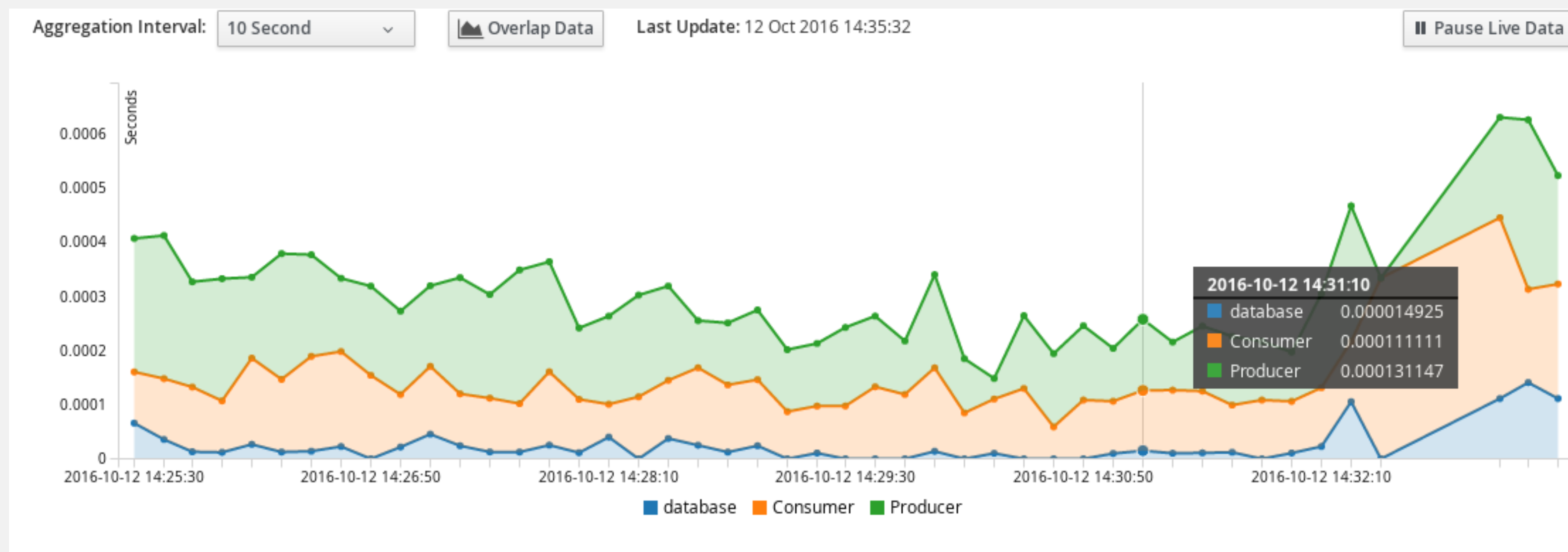
# Hawkular-APM

Call-chain of a service



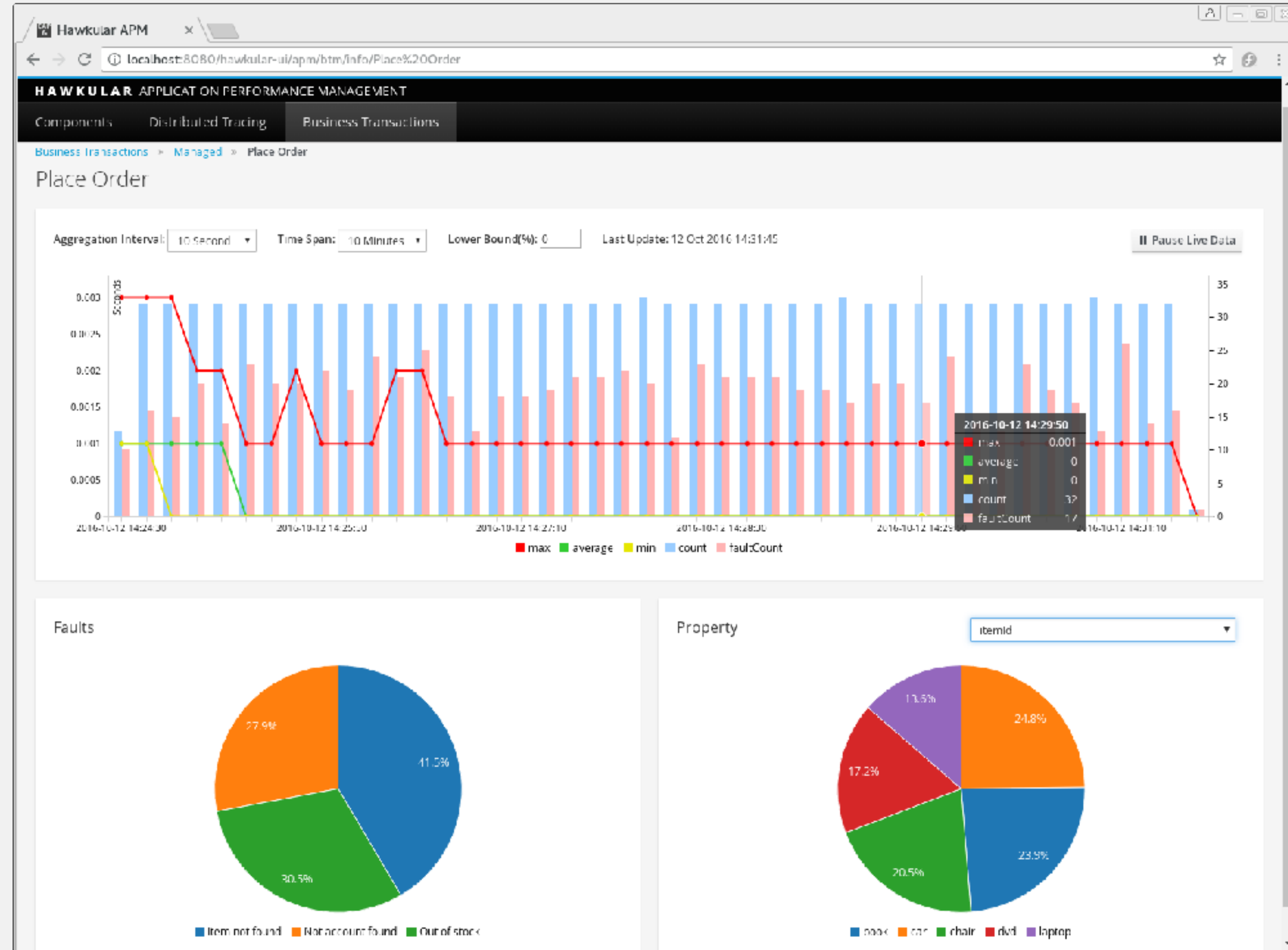


# Hawkular APM



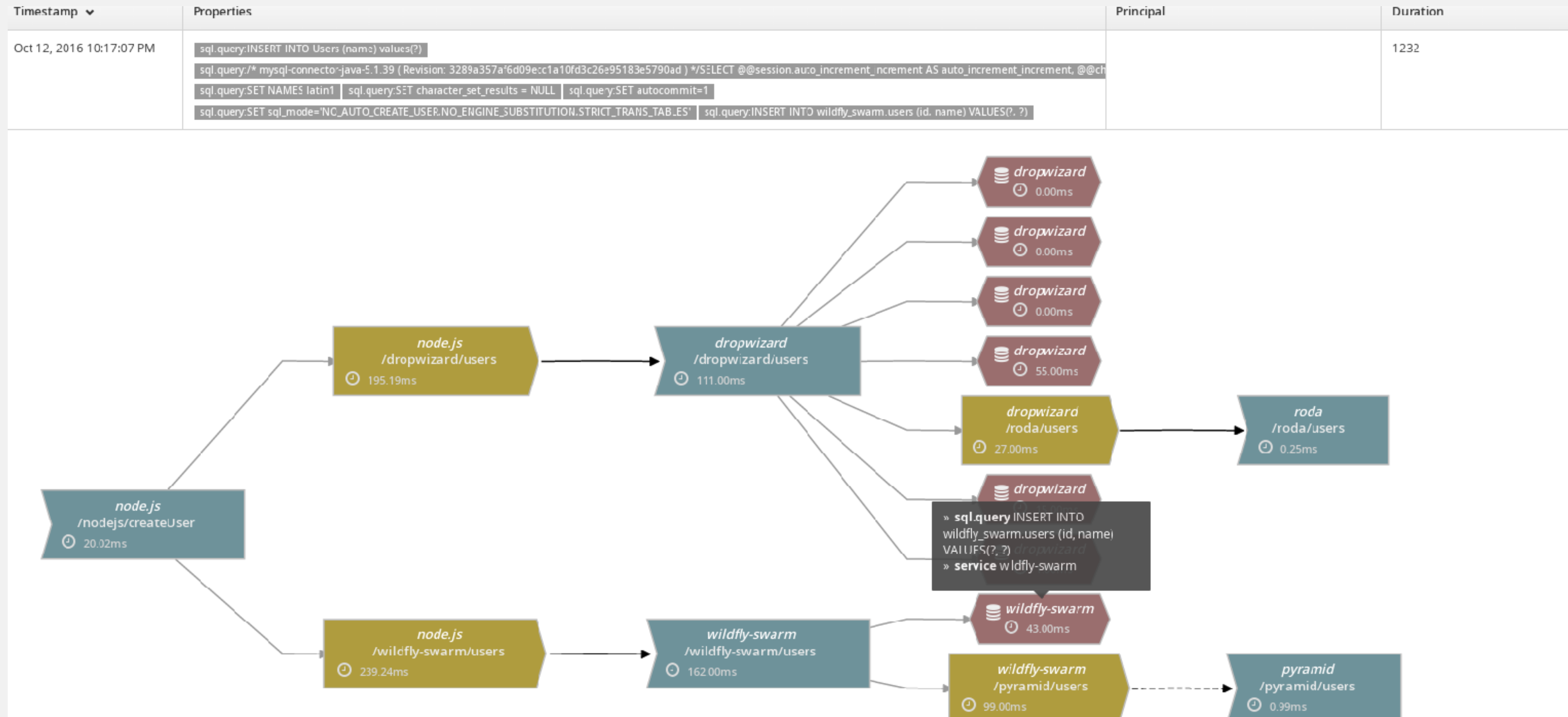
|  | Actual (secs) | Elapsed (secs) | Count | Component | URI     | Operation  |
|--|---------------|----------------|-------|-----------|---------|------------|
|  | 0.000         | 0.001          | 1320  | consumer  | /orders | POST       |
|  | 0.000         | 0.001          | 140   | consumer  | /orders | GET        |
|  | 0.000         | 0.000          | 1320  | consumer  |         | GetAccount |
|  | 0.000         | 0.000          | 1102  | consumer  |         | GetItem    |
|  | 0.000         | 0.000          | 535   | consumer  |         | StoreOrder |

# Hawkular APM





# Hawkular APM







Learn more at **hawkular.org**

Try it: <https://gitlab.com/pilhuhn/grafanacon-2016>

```
$ docker-compose -f hawkular-grafana-tagger-compose.yml up
```

Hawkular on Twitter: [@hawkular\\_org](https://twitter.com/hawkular_org)