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How we replaced a Gartner APM Leader with an open-source monitoring solution

Henning Schulz, Tobias Angerstein


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CRUISE
LDG GEAR
AUTO/BRK
TERR ON ND
NORTH REF
ECAM SWITCHING
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Std
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SIDE STICK PRIORITY
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LDG GEAR
AUTO/BRK
A/SKID & NW STRG
TERR ON ND
UP
DOWN
LDG GEAR GRVTY EXTN
RESET
OFF
DOWN
TERR ON ND
NORTH REF
ECAM SWITCHING
SWITCHING


...that’s how to operate software
without monitoring!

Commercial APM tools have great features

distributed tracing

metric collection

alerting

visualization & dashboarding

baselining

dynamic instrumentation

user management

“management-ready” reporting

UI-based configuration

dependency discovery

...and painpoints

There are lots of APM tools...

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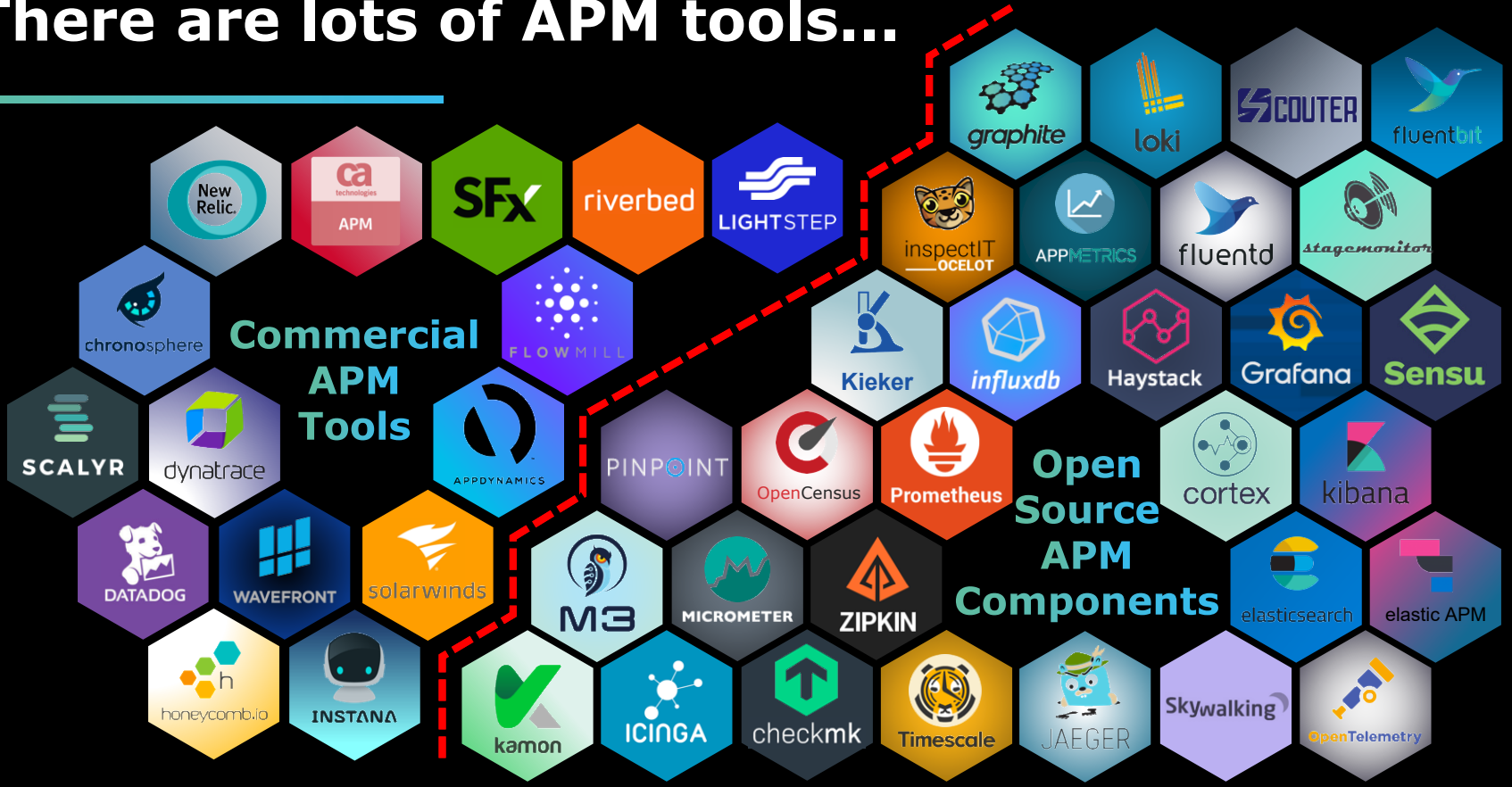
There are lots of APM tools...



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There are lots of APM tools...

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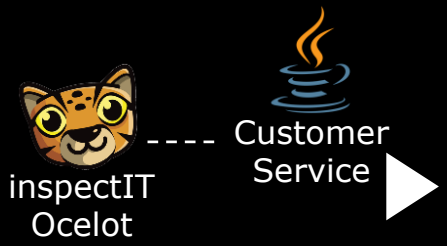
...to build a tailored APM solution

openapm.io

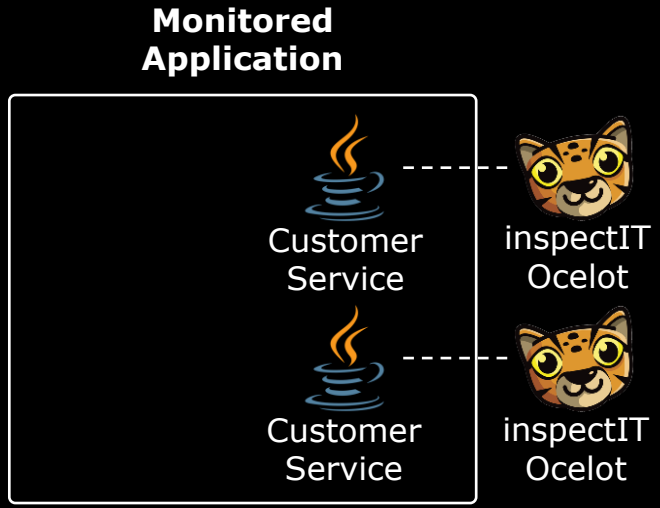

EFSF


EUM
Alerting
Baselining
Visualization
Metrics
Service Discovery
Tracing

Dynamic Instrumentation of Java Services



Instrumentation of Java Services



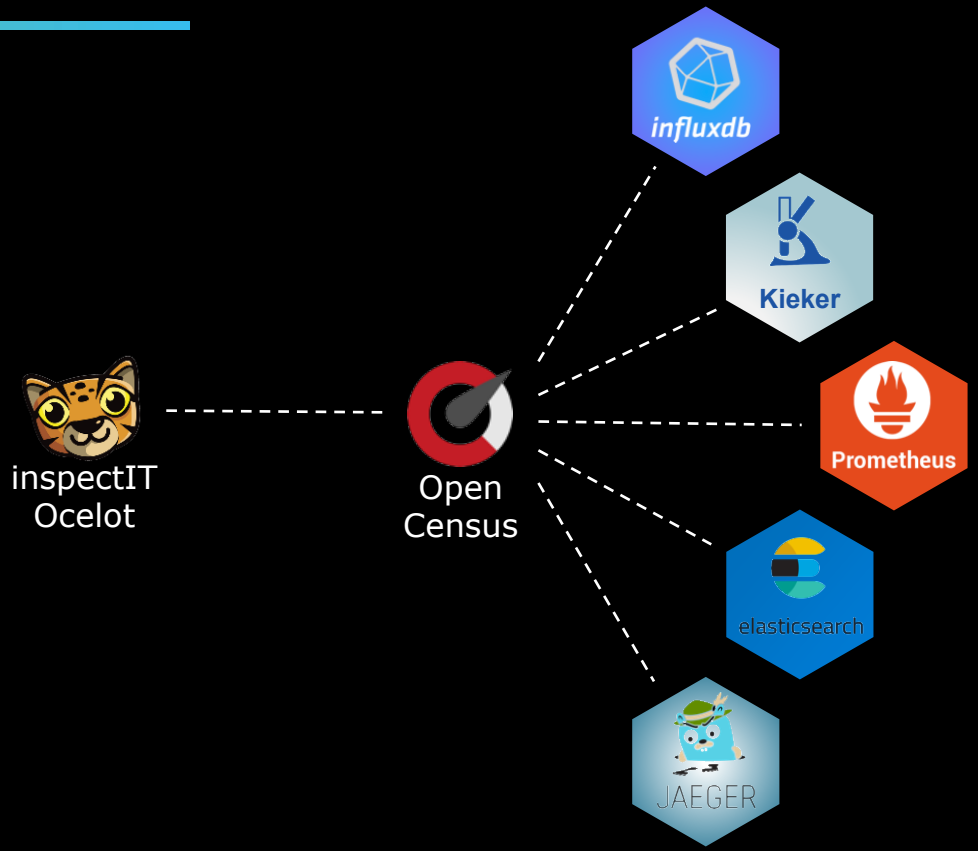
Runtime Attachment

```
java -javaagent:"/path/to/inspectit-ocelot-agent-0.3.jar" -jar my-java-program.jar
```

```
# Find the process ID of the JVM to which the agent should be attached to
#  ps aux | grep java
#  jps -lV # Requires an installed JDK
# Attach the latest Ocelot agent to your JVM
bash <(curl -s https://inspectit.github.io/inspectit-ocelot/attach.sh) <JVM_PID>

# See awesome OpenCencus metrics
wget -qO- localhost:8888
```

Interoperability



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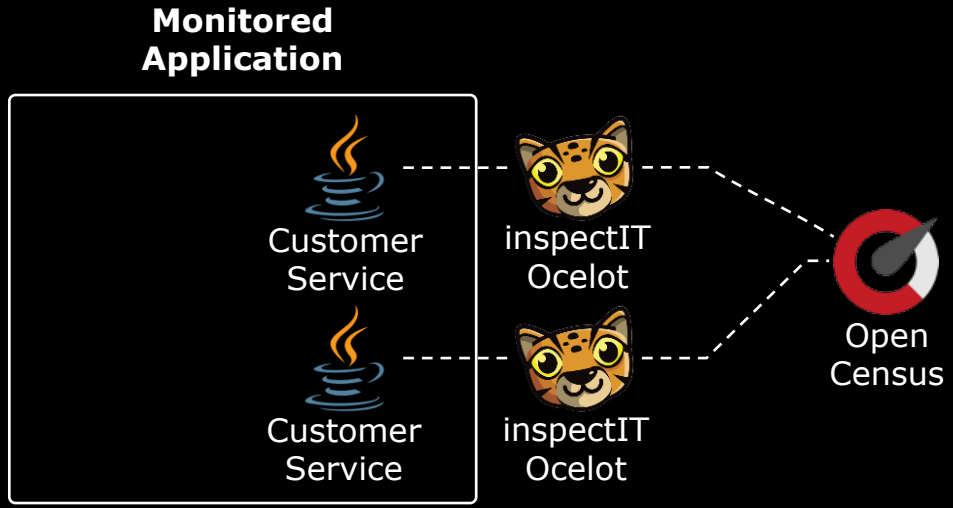
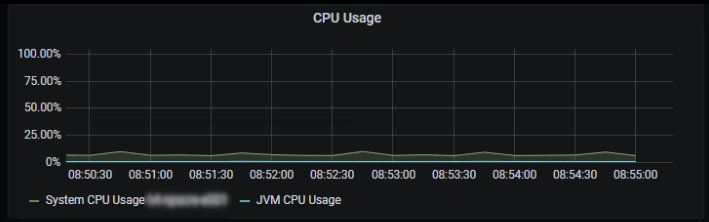
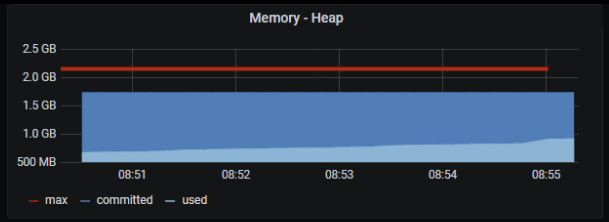
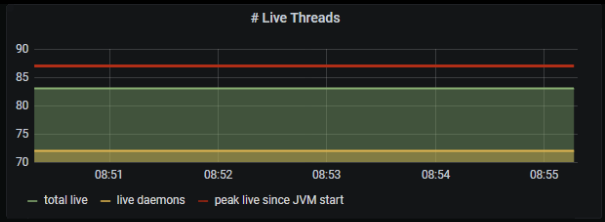
Interoperability

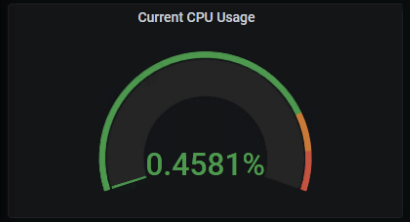


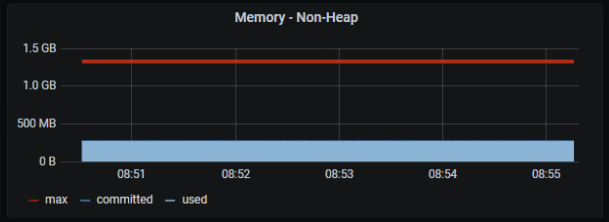
Metric Collection & Visulization

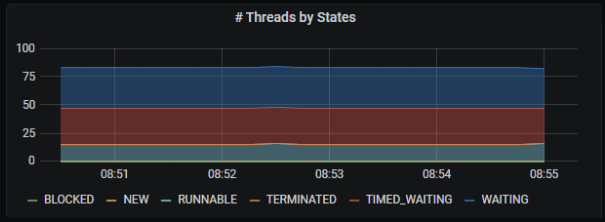












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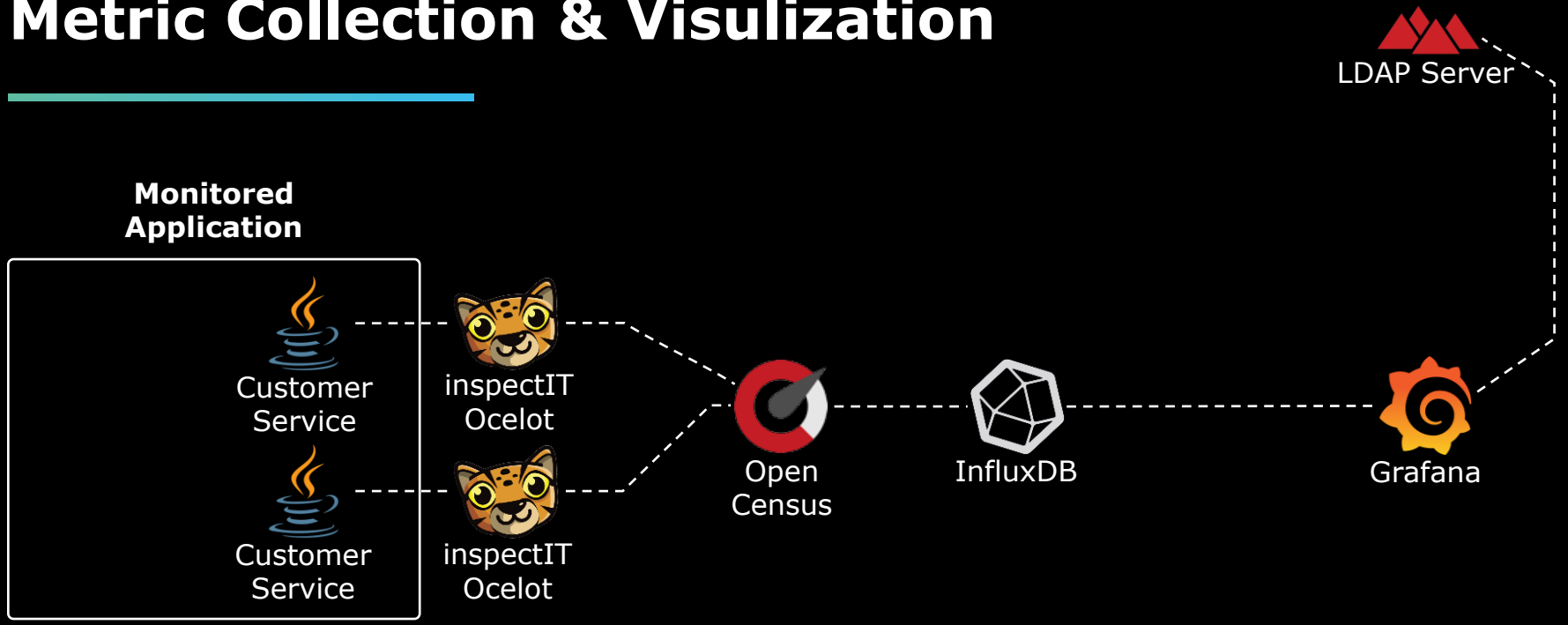
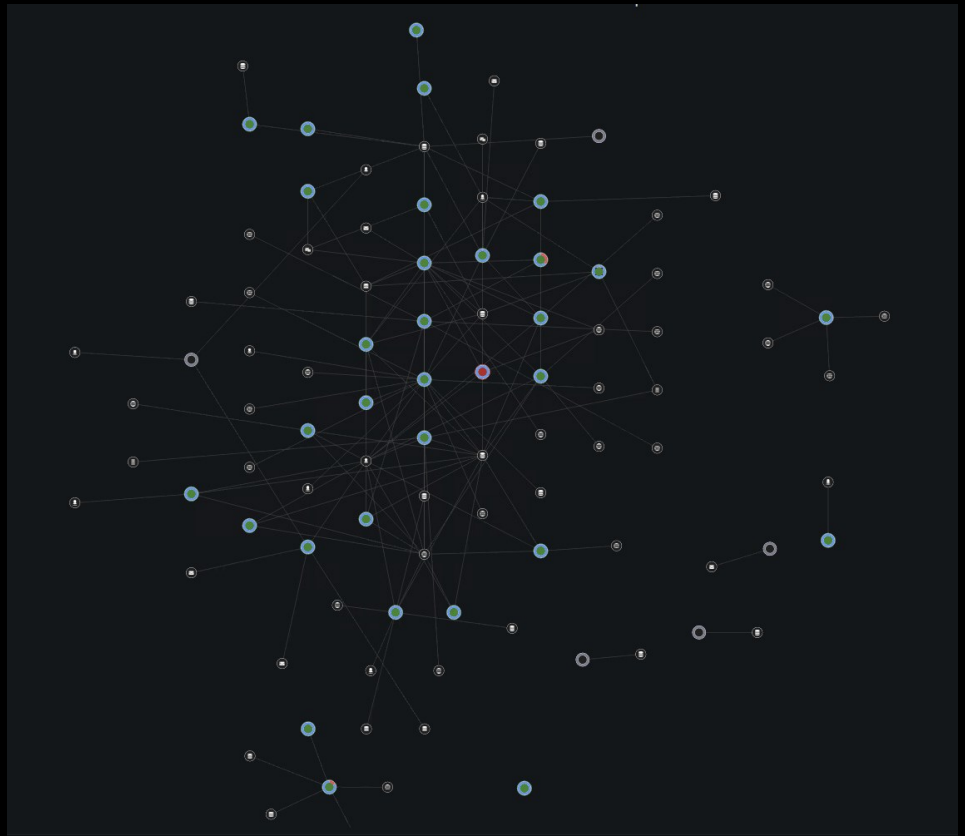
Metric Collection & Visulization



Dependency Discovery



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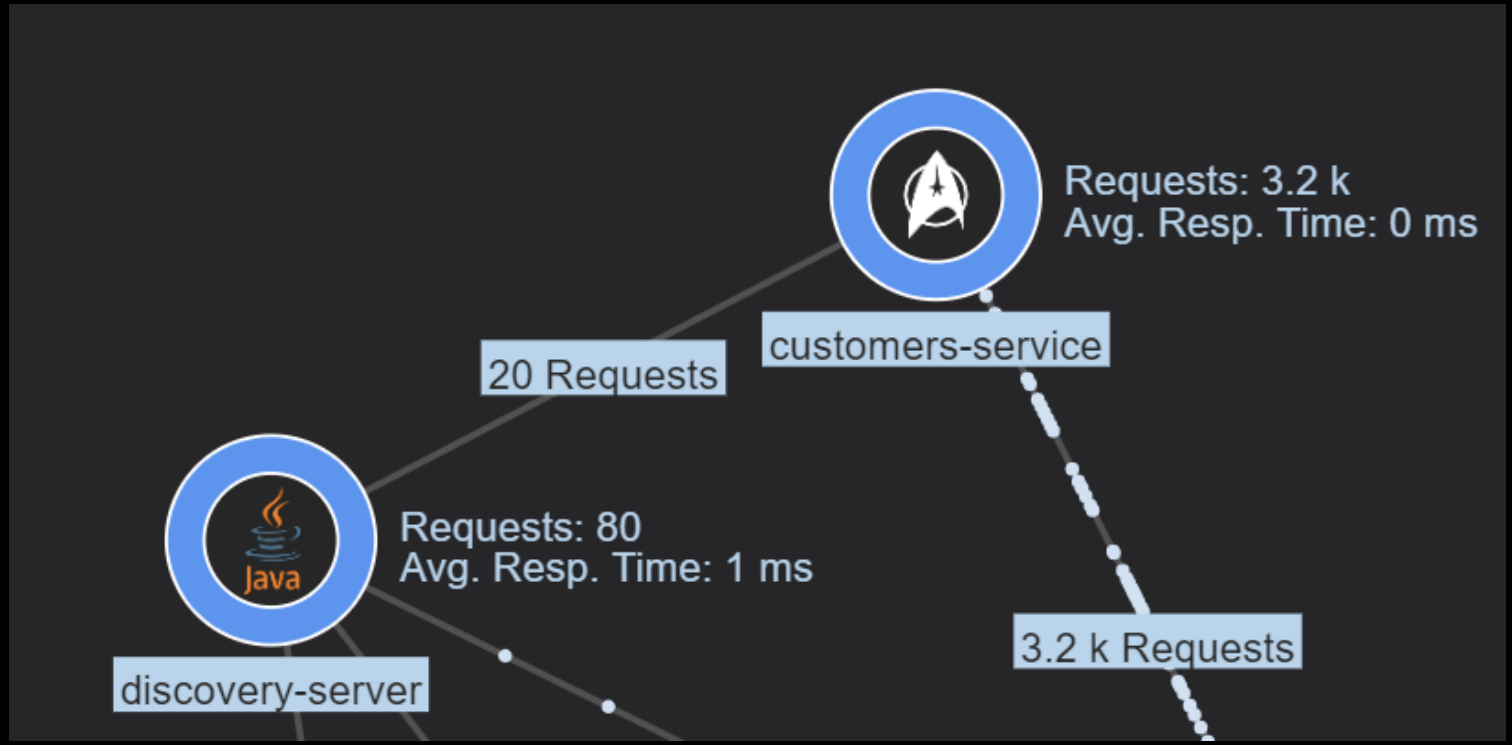
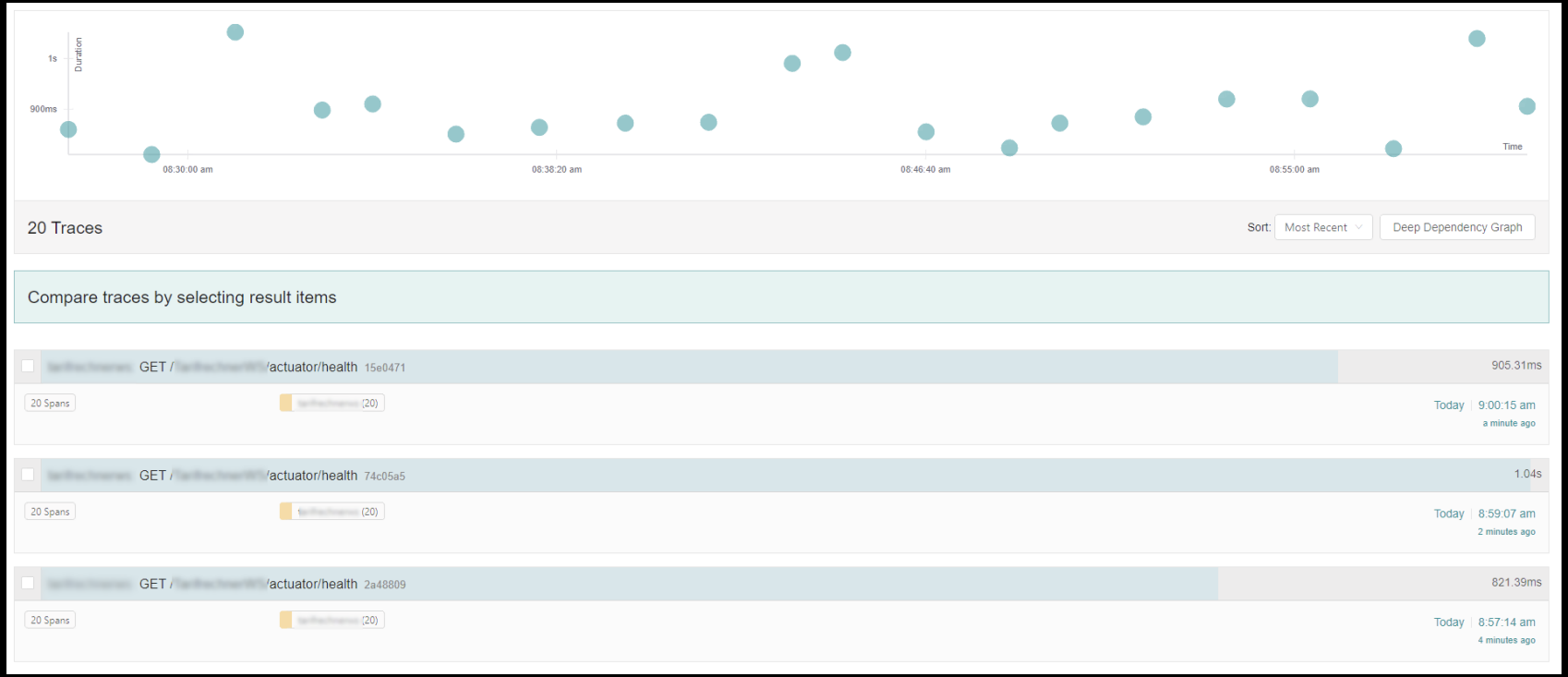
Dependency Discovery



Distributed Tracing



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Extend Jaeger

Jaeger UI

localhost:3000/trace/50fd1a1b5268e69596513bba36edd31d?uiFind=pets

Jaeger UI | Lookup by Trace ID... | Search | Compare | Dependencies

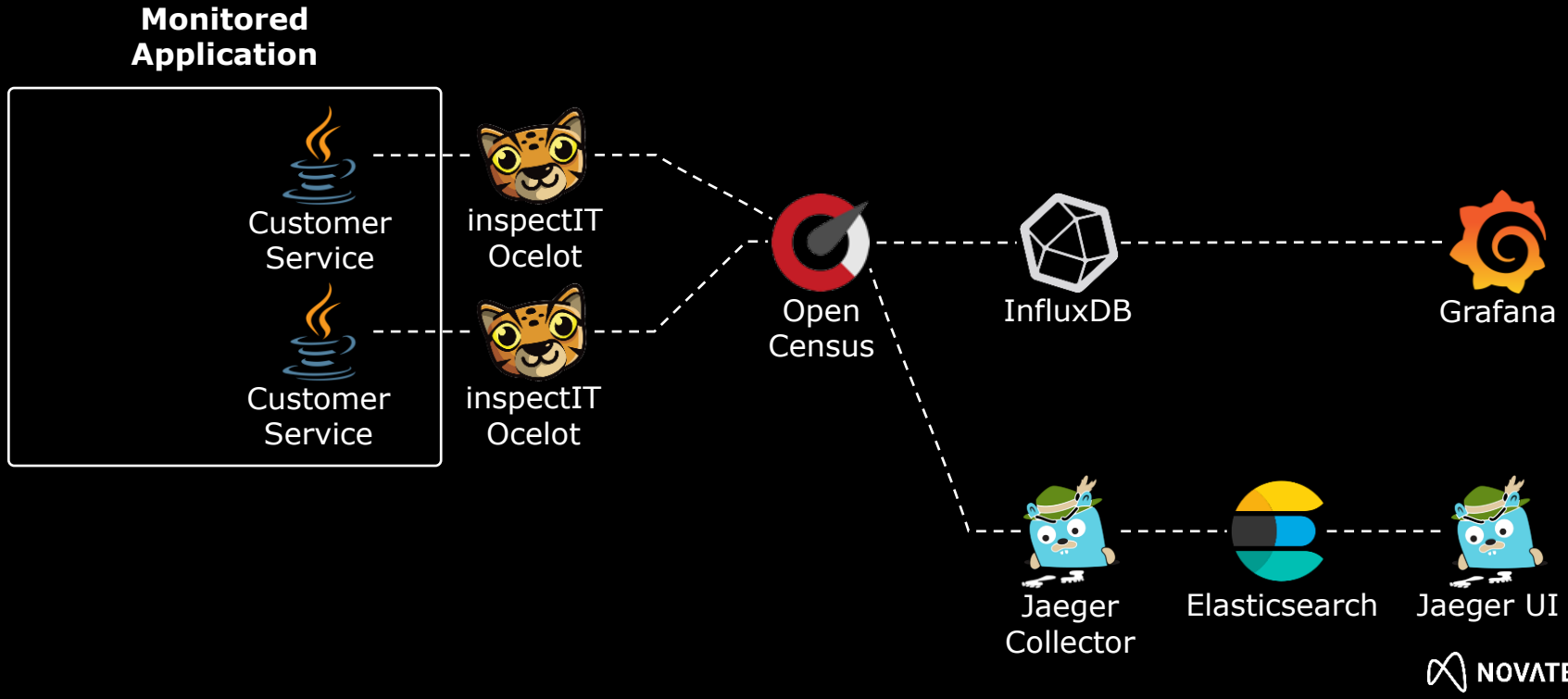
api-gateway: GET /api/gateway/owners/3 50fd1a1

Trace Start **September 3 2019, 08:13**:06.172 | Duration **22.61ms** | Services **3** | Depth **6** | Total Spans **9**

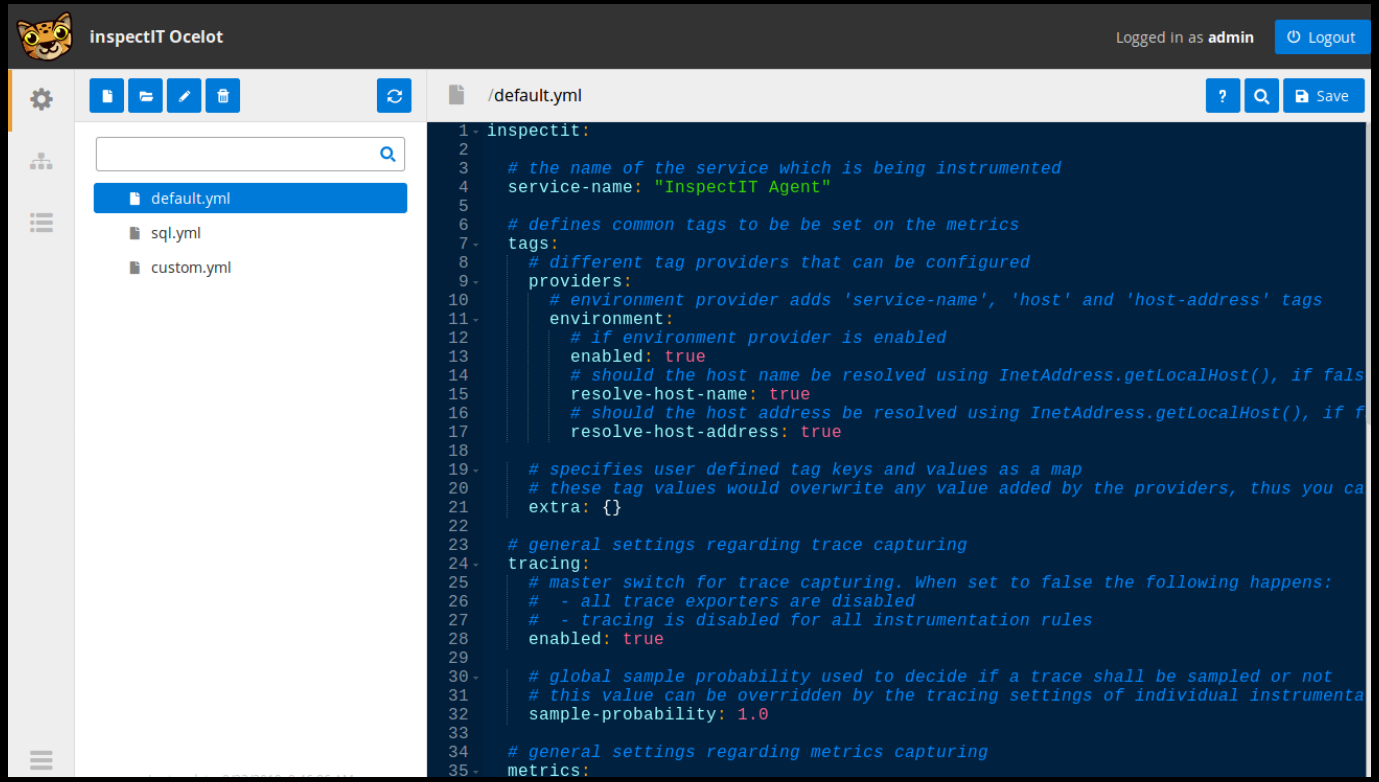
Trace Detail

Name	Count	Total	Avg	Min	Max	Total Exc
GET /owners/3	4	44.26ms	11.06ms	2.92ms	20.82ms	16.51ms
api-gateway	3	41.33ms	13.78ms	4.17ms	20.82ms	13.70ms
customers-service	1	2.92ms	2.92ms	2.92ms	2.92ms	2.81ms
HikariProxyPreparedStatement.executeQuery	2	0.33ms	0.16ms	0.11ms	0.22ms	0.33ms
customers-service	1	0.11ms	0.11ms	0.11ms	0.11ms	0.11ms
visits-service	1	0.22ms	0.22ms	0.11ms	0.22ms	0.22ms
GET /pets/visits	2	7.82ms	3.91ms	3.63ms	4.19ms	3.97ms
GET /api/gateway/owners/3	**1**	**22.61ms**	**22.61ms**	**22.61ms**	**22.61ms**	**1.79ms**

Distributed Tracing



Configuration Server & UI



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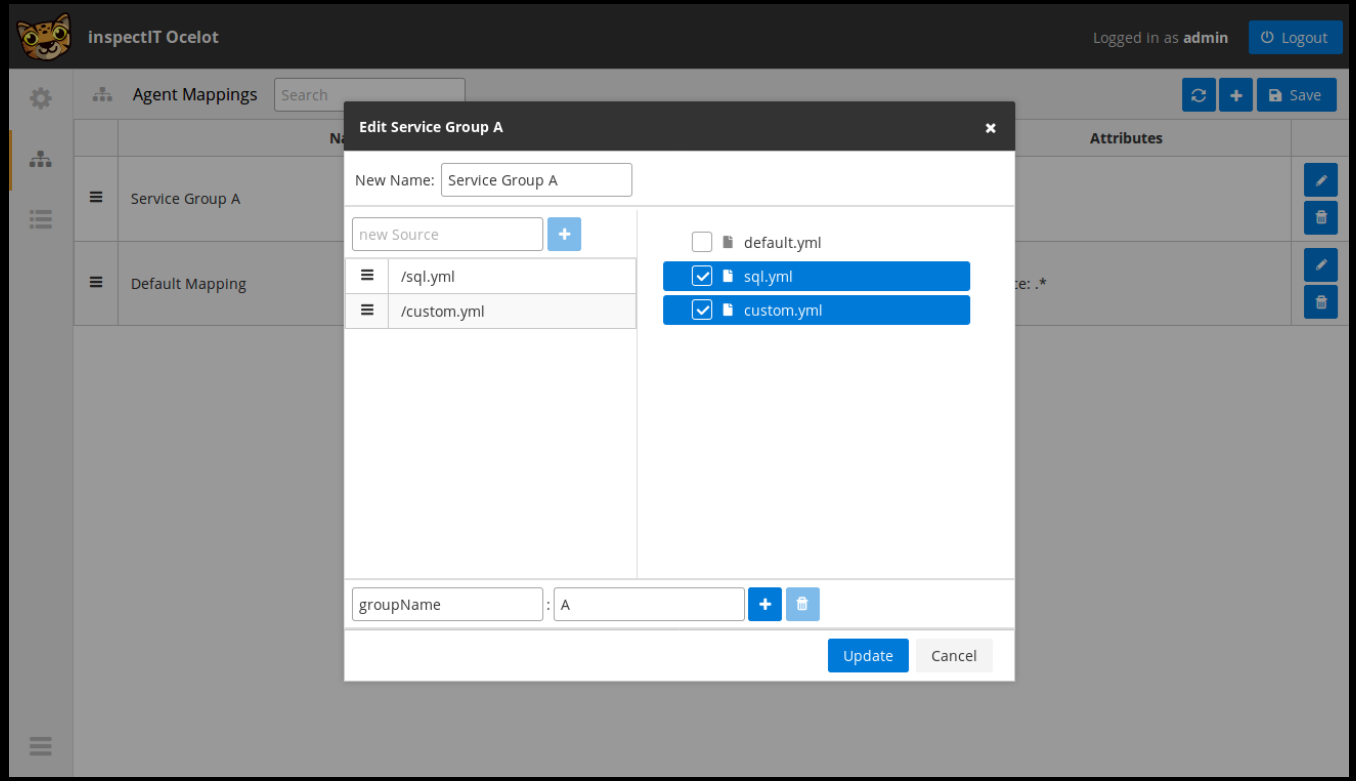
Config Server



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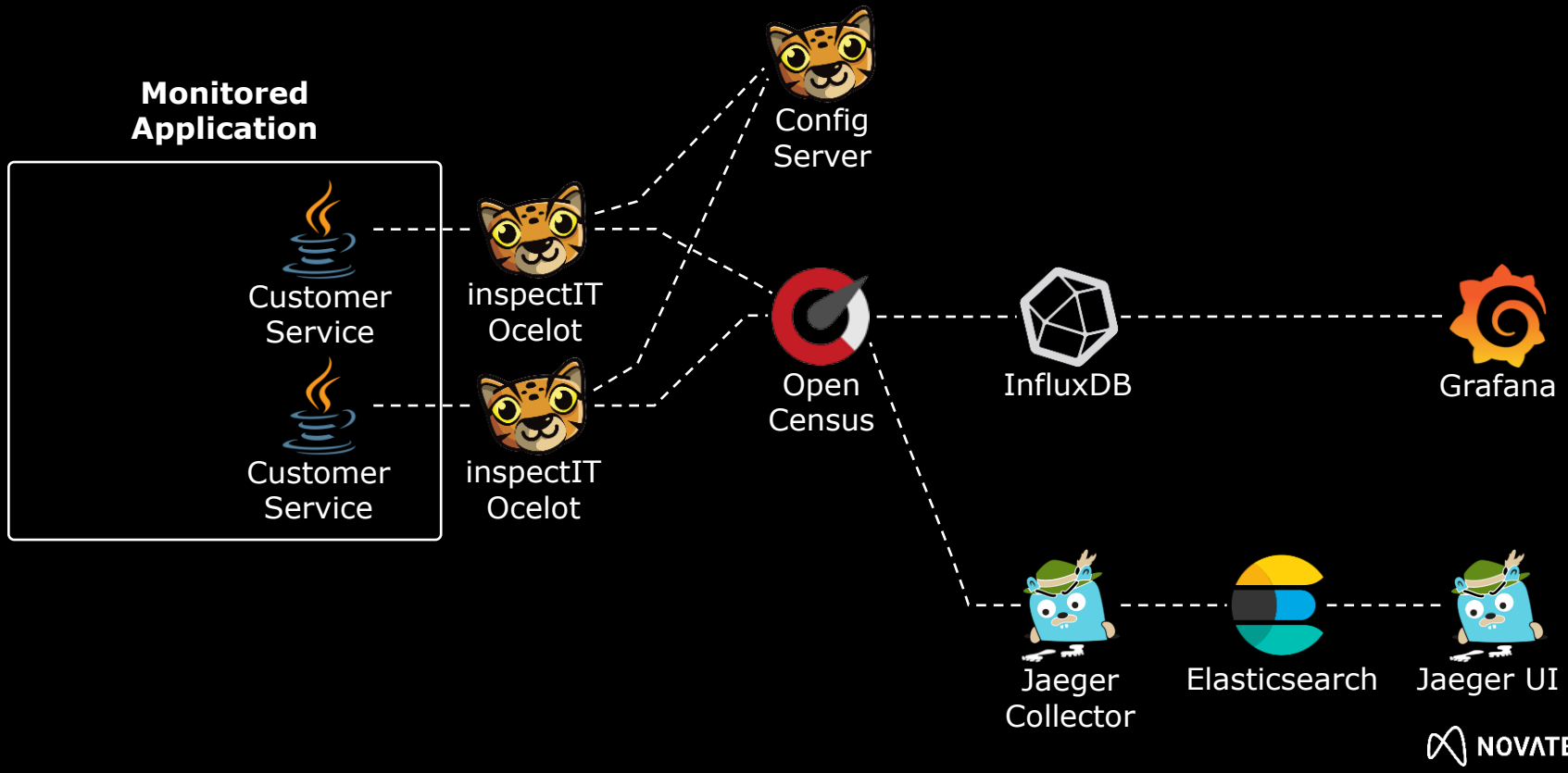
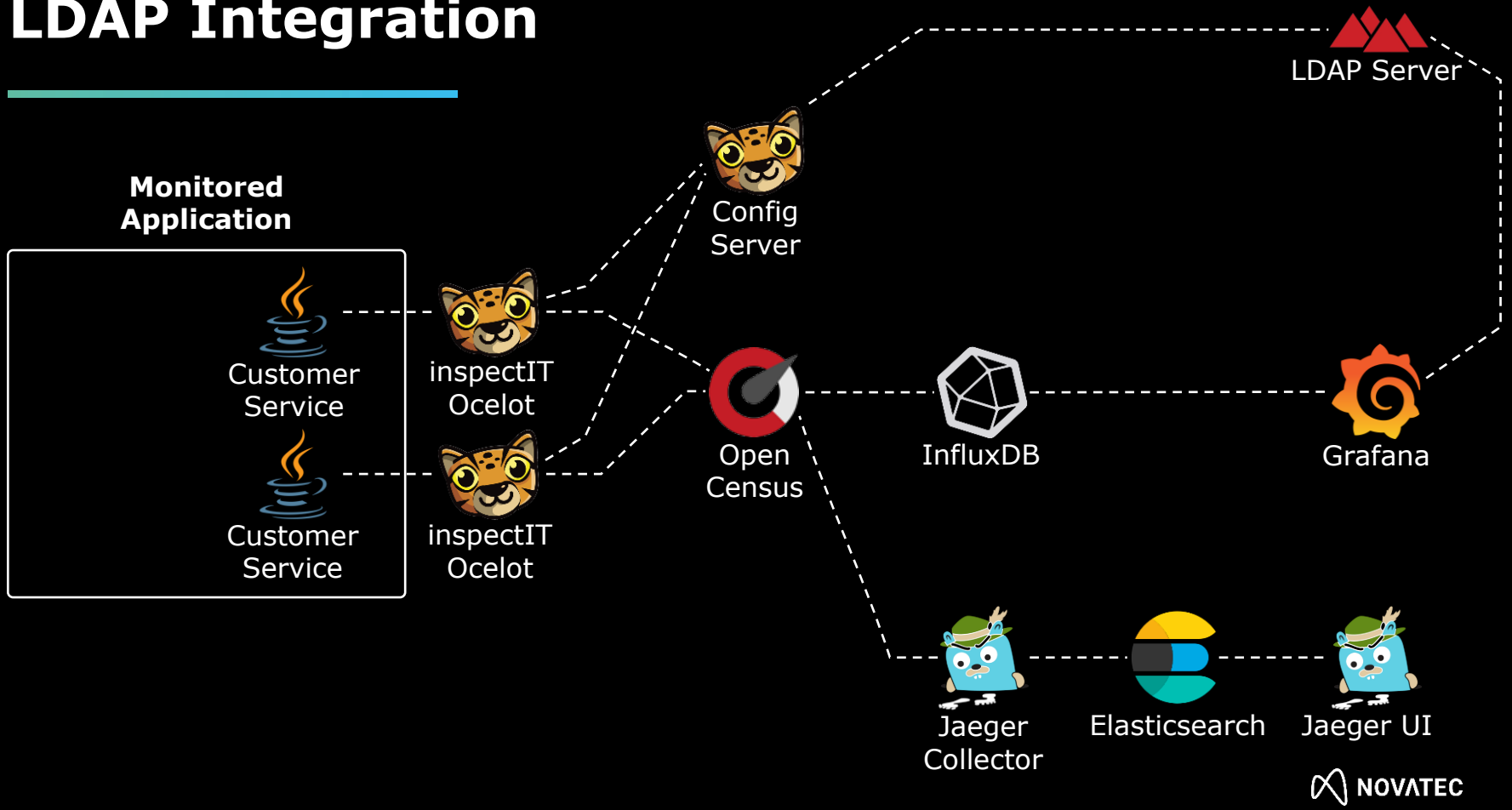
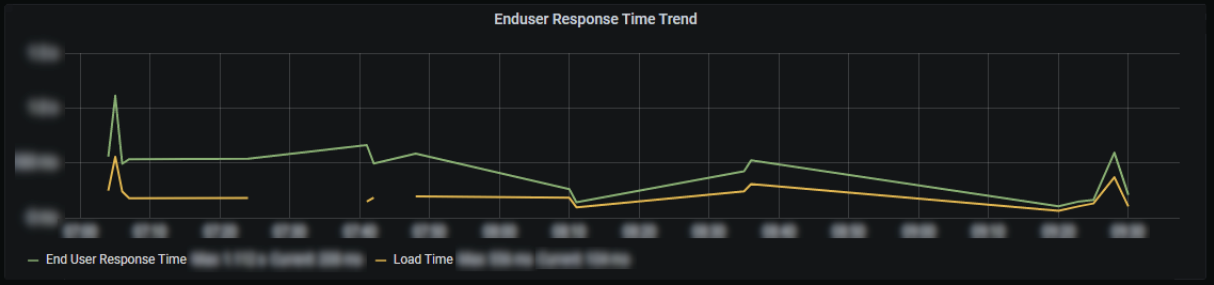
Config Server

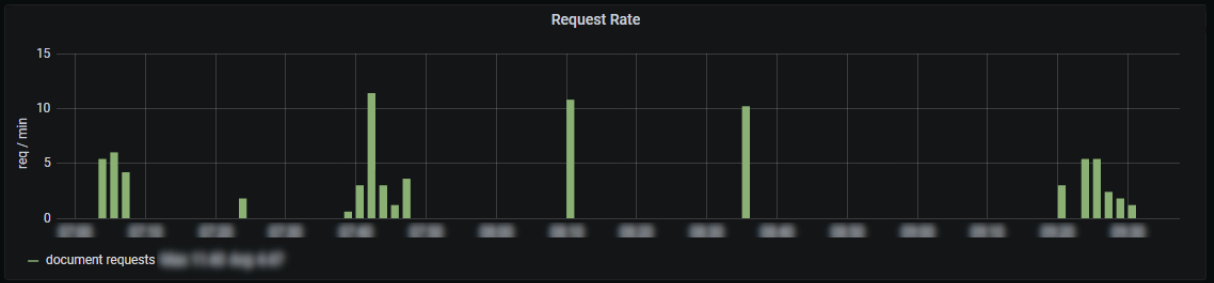


LDAP Integration



Enduser Monitoring





Top Requests

Page	Number of Requests	Load Time
/[redacted]/jsp/[redacted].jsp	63	[redacted] ms
/[redacted]/jsp/screen65.jsp	46	[redacted] ms
/[redacted]/jsp/screen62.jsp	13	[redacted] ms
/[redacted]/jsp/[redacted].jsp	3	[redacted] ms
/[redacted]/jsp/screen63.jsp	3	[redacted] ms
/[redacted]/jsp/navigation.jsp	3	[redacted] ms
/[redacted]/jsp/screen60.jsp	2	[redacted] ms
/[redacted]/jsp/screen61.jsp	1	-

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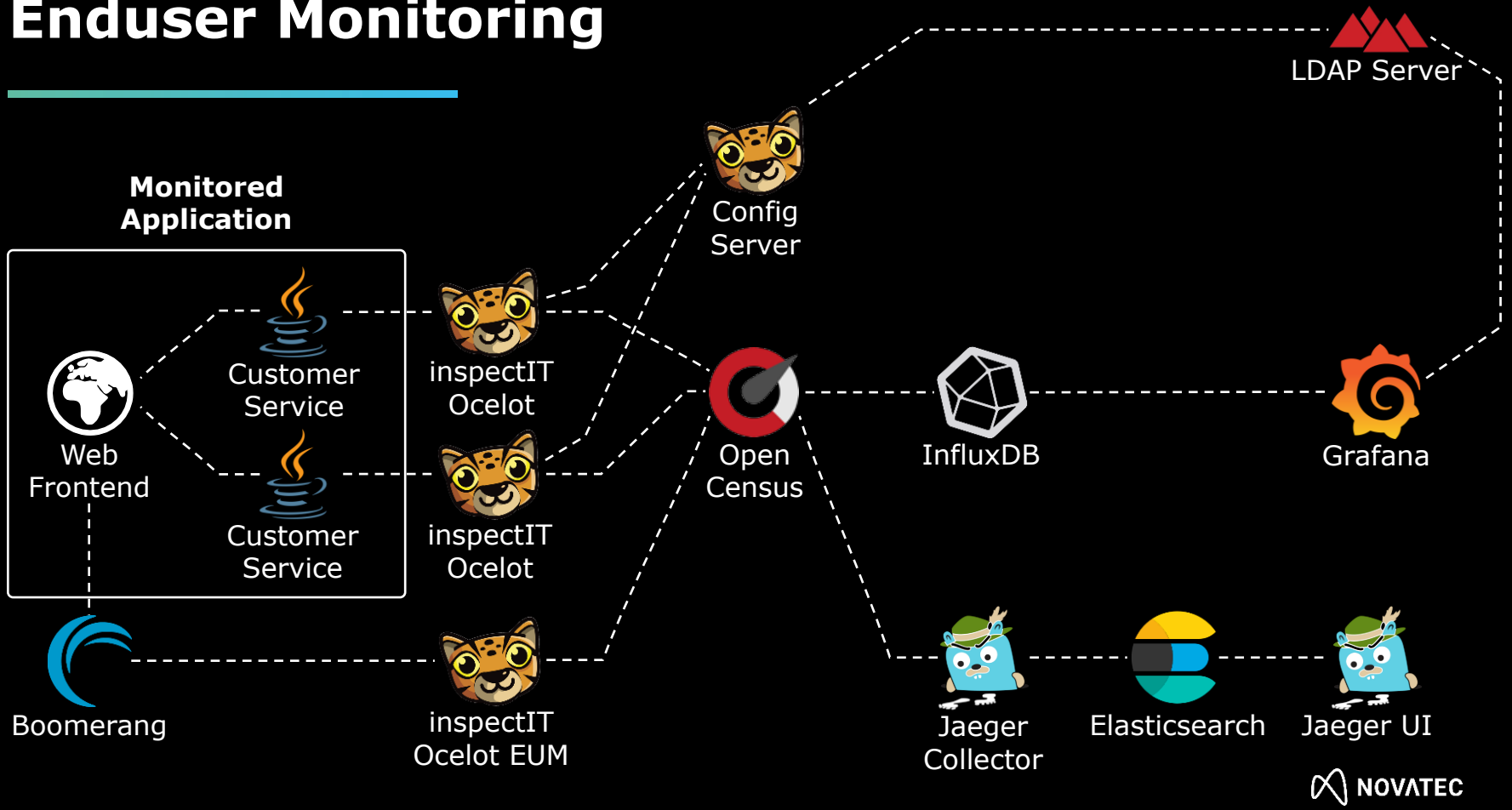
Enduser Monitoring



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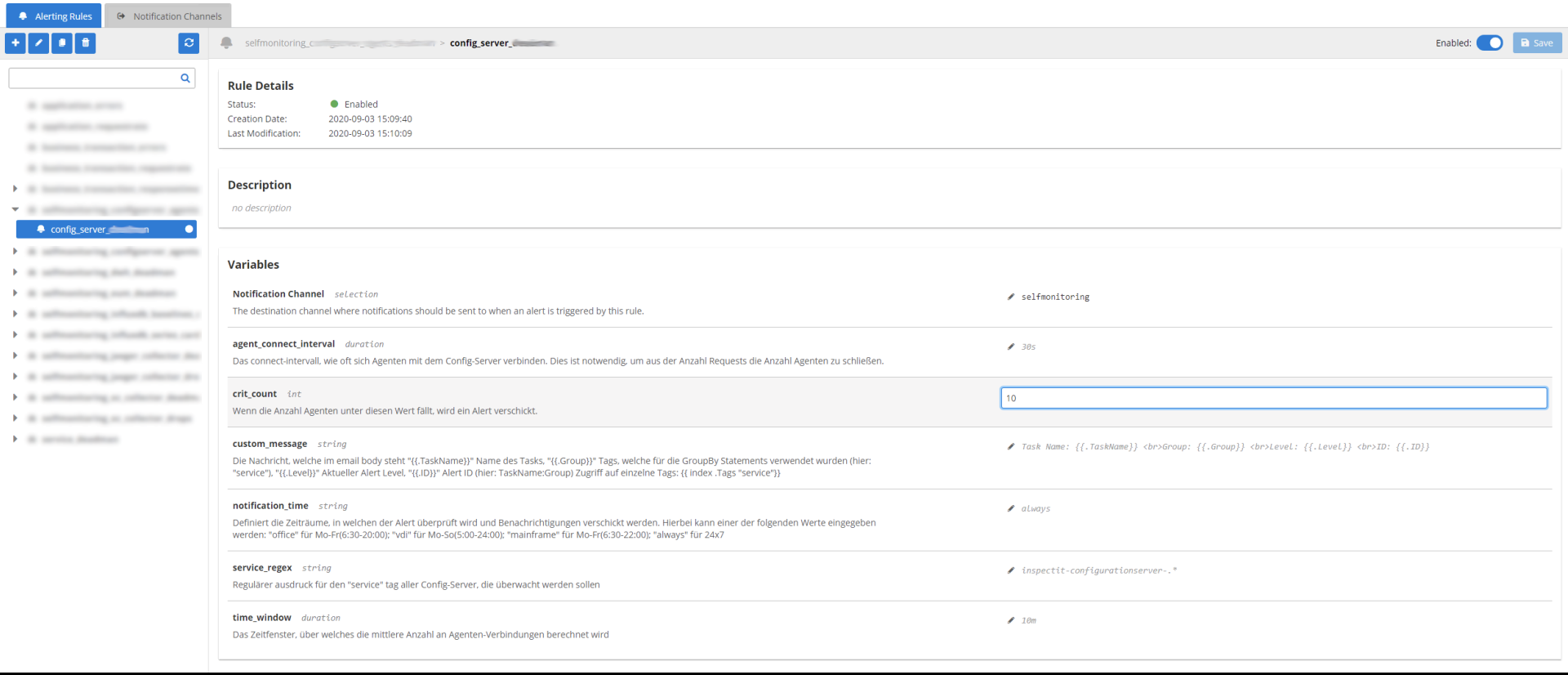
Alerting & Reporting



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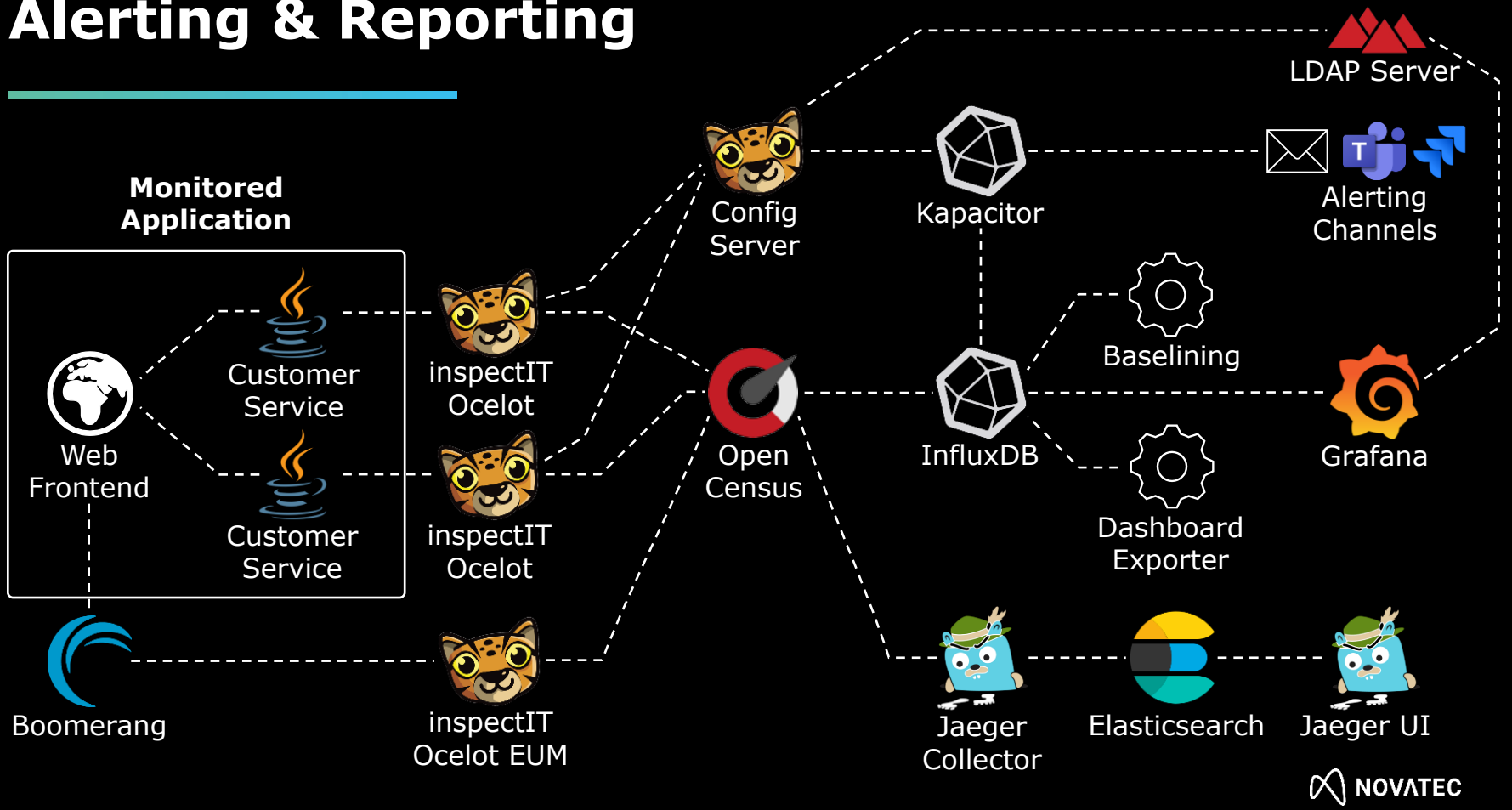

When will you go open-source?

- Successful replacement of APM Leader

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When will you go open-source?

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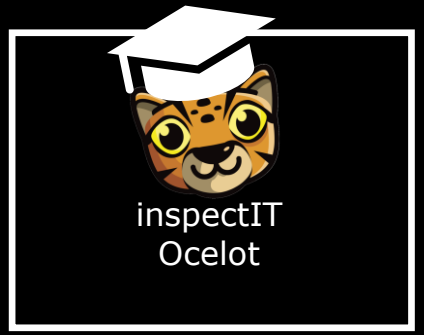
- Further customization is necessary

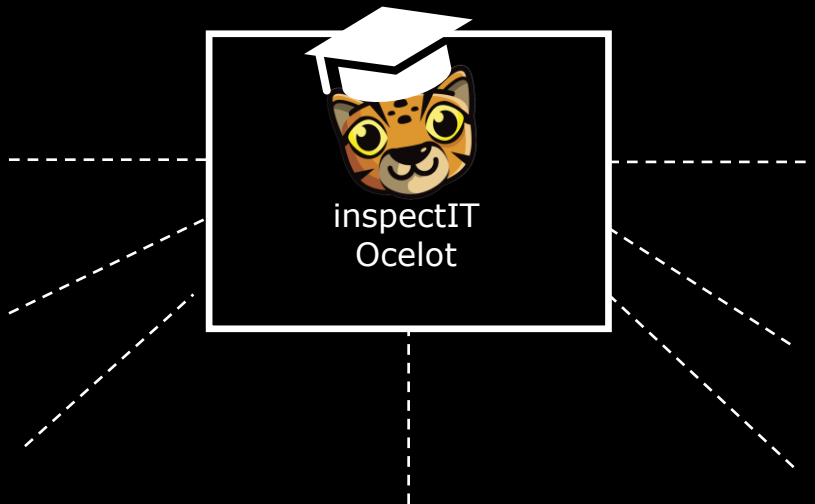
When will you go open-source?

- Successful replacement of APM Leader
- Further customization is necessary
- Enterprise-ready OpenAPM solution



When will you go open-source?

- Successful replacement of APM Leader
- Further customization is necessary
- Enterprise-ready OpenAPM solution
- High flexibility through high-degree of interoperability



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When will you go open-source?

- Successful replacement of APM Leader
- Further customization is necessary
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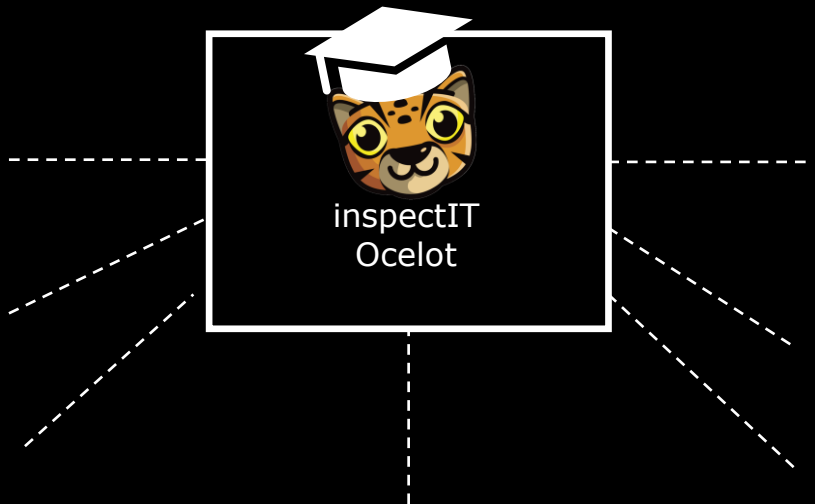
We are happy to support academics; please reach out to us



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