

MONITORING W DOBIE CLOUD NATIVE

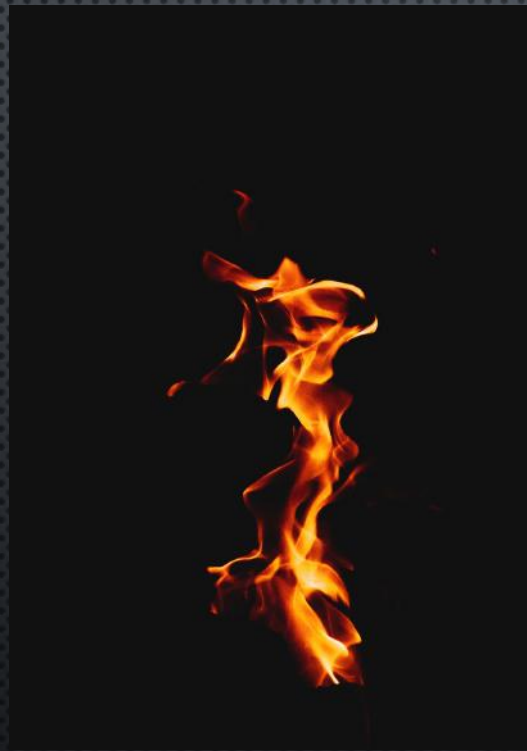


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maciej.szulc@pl.ibm.com

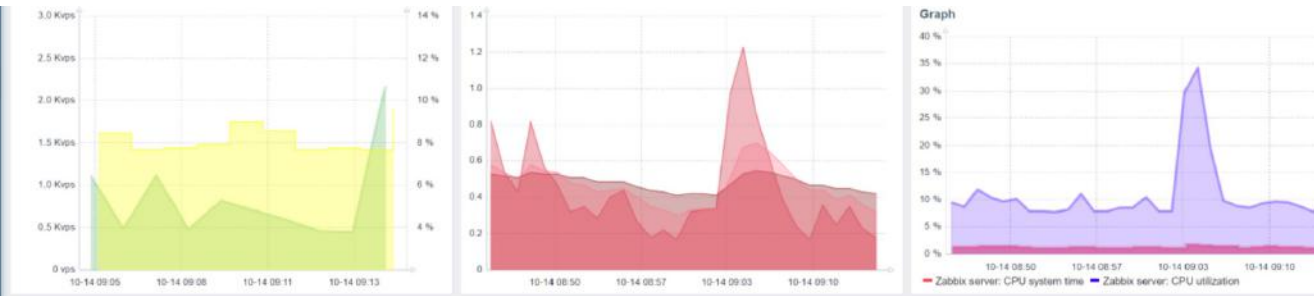
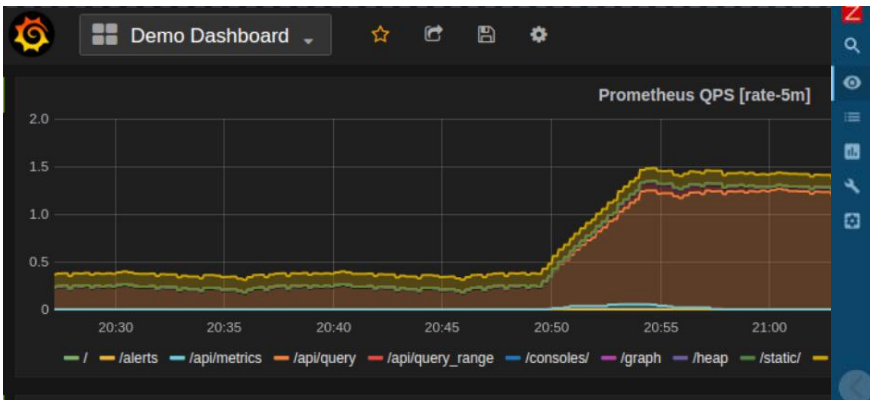
Red Hat
Summit

Connect

CZYM JEST MONITORING?



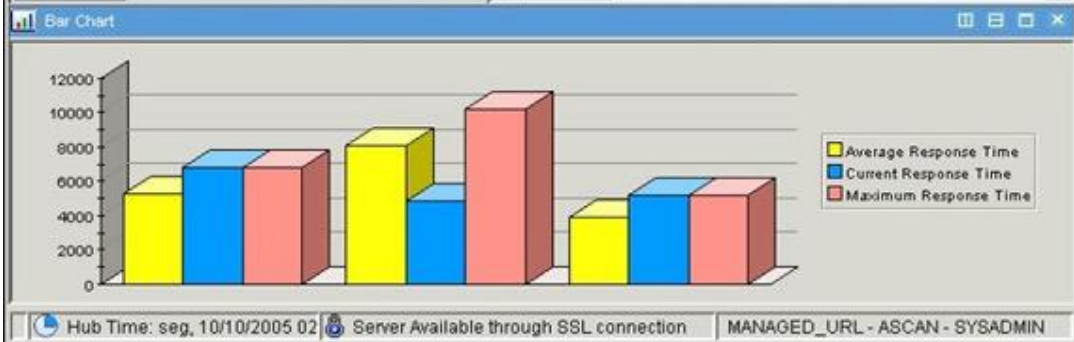




URL	Status	Stat
http://www.ibm.com	OK	2005/10/
http://www.redbooks.ibm.com	OK	2005/10/
http://www.tivoli.com	OK	2005/10/



Time Received	Title	Related CI	Severity	Group
10/10/2011 12:52:41 PM	WebLog: 2 admin application operating normal	_appscf2_admin_app	Info	Application Spec
10/10/2011 12:52:40 PM	WebLog: 2 report submit application operating normal	WebLog: 2	Info	Application Spec
10/10/2011 12:52:39 PM	WebLog: 2 app server operating normal	WebLog: 2	Info	Application Spec
10/10/2011 12:52:39 PM	WebLog: 2 domain operating normal	Domain-Mobile-2	Info	Application Spec
10/10/2011 12:52:39 PM	Appscf1 network interface operating normal	00056A1001	Info	Network Spec
10/10/2011 12:52:34 PM	WebLog: 1 JFE operating normal	JVM_VER:1.6.0_18	Info	Application Spec
10/10/2011 12:52:33 PM	WebLog: 1 JDC operating normal	gdbsh1-jdcOS	Info	Application Spec
10/10/2011 12:52:33 PM	WebLog: 1 server operating normal	appscf1	Info	Application Spec
10/10/2011 12:52:30 PM	WebLog: 1 admin application operating normal	_appscf1_admin_app	Info	Application Spec
10/10/2011 12:52:30 PM	WebLog: 1 report submit application operating normal	WebLog: 1	Info	Application Spec
10/10/2011 12:52:27 PM	WebLog: 1 app server operating normal	WebLog: 1	Info	Application Spec
10/10/2011 12:52:26 PM	WebLog: 1 domain operating normal	Domain-Mobile-1	Info	Application Spec
10/10/2011 1:18:45 PM	Performance of deployed applications is low	Domain-Mobile-1	Warning	Administrator
10/10/2011 1:18:45 PM	Two threads are stuck longer than 30 seconds	WebLog: 1	Warning	Administrator
10/10/2011 1:18:44 PM	Employees complain about slow mobile report performance	Domain-Mobile-1	Warning	Administrator



Host Status Summary

Up	Down	Unreachable
3	0	0

Unhandled Problems: 0

My Graph

Metrics Overview

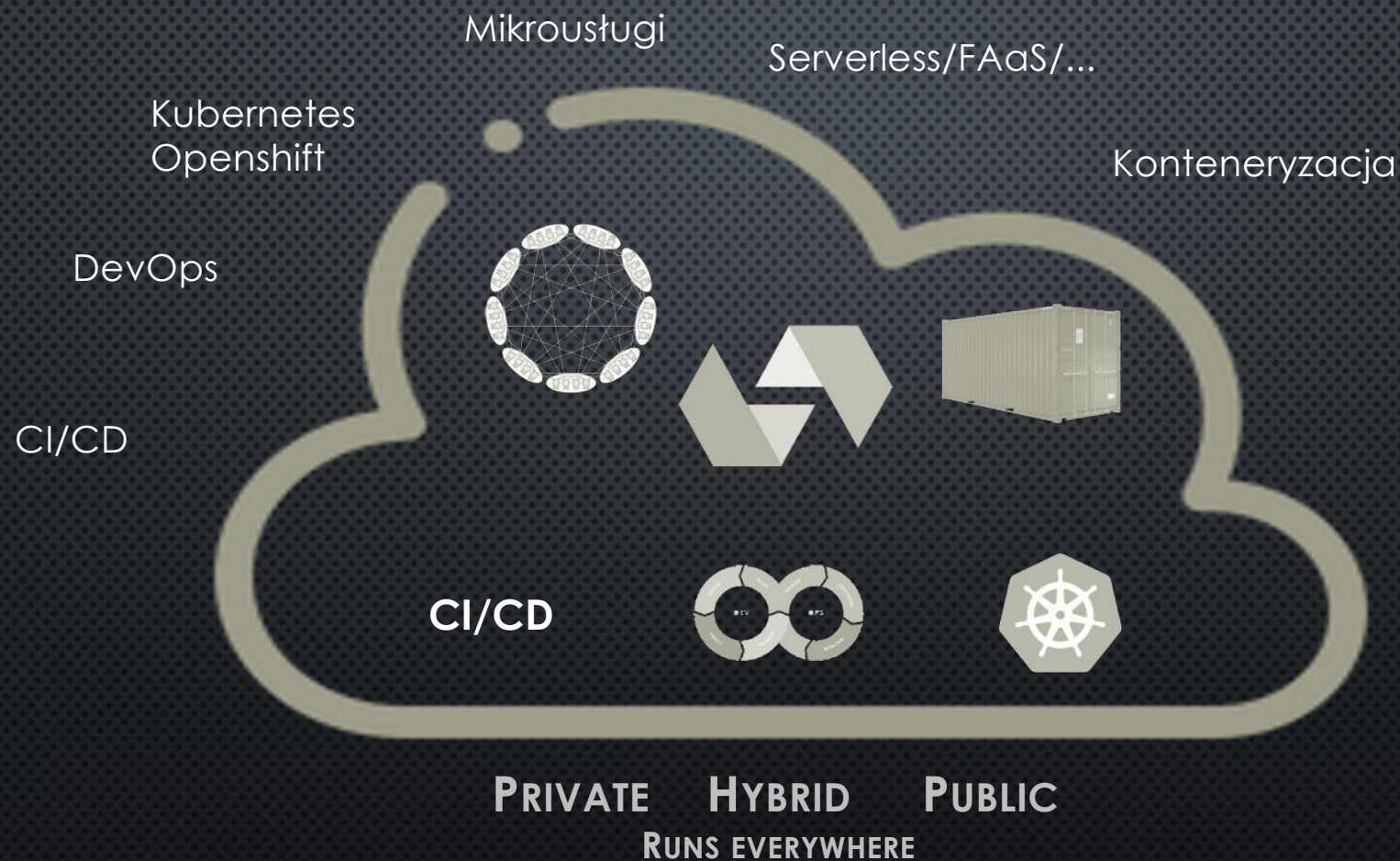
Host	Service	% Utilization	Details
localhost	Root Partition	78.67%	DISK WARNING - free space: / 1207 MB (17% inode=68%):

Disk Usage

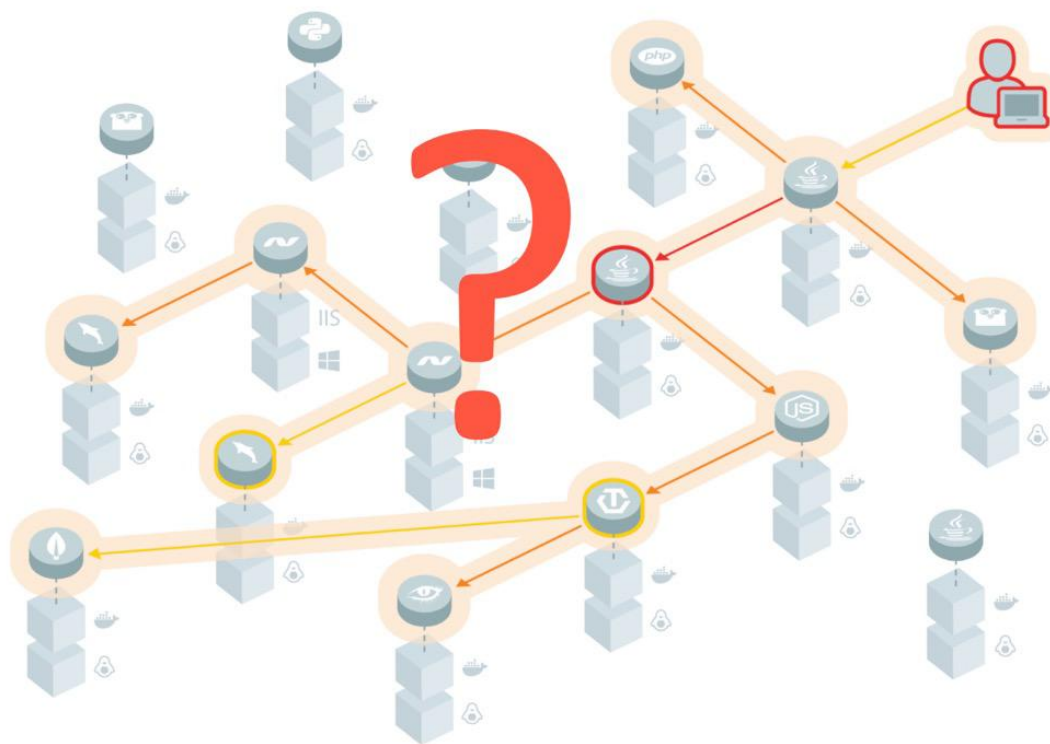


**Monitoring
w dzisiejszych realiach**

CLOUD NATIVE?



CZEGO ZATEM POWINNIŚMY OCZEKIWAĆ?







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Nowoczesny APM - Observability



APM Experts

Ranking the Observability Offerings

Capability	Splunk	Elastic	AppDynamics	Dynatrace	New Relic	Instana	Datadog	Honeycomb	Lightstep
Comprehensive Log Collection	●	●	○	●	●	●	●	●	○
Comprehensive Metric Collection	●	●	●	●	●	●	●	●	●
Comprehensive Tracing Collection	●	●	●	●	●	●	●	●	●
Comprehensive Dependency Collection	○	○	●	●	●	●	●	○	○
Comprehensive Relating of Logs, Metrics, and Dependencies	○	○	●	●	●	●	●	○	○
Automated and Instant Instrumentation	○	○	○	●	○	●	○	○	○
High Cardinality Analytics	●	●	○	●	●	●	●	●	●
Dependency Map and AI Based Root Cause	●	●	○	●	●	●	●	○	○
Rank	5 th	5 th	8 th	2 nd	3 rd	1 st	4 th	5 th	8 th

● – Strongly Differentiated Capability
 ● – Differentiated Capability

● – Average Value
 ● – Less Value than Normal

○ – Feature or Benefit not Present



2022 Magic Quadrant™ for Application Performance Monitoring and Observability

Gartner® recognizes Instana an IBM Company as a LEADER in the Magic Quadrant™



INSTANA

an IBM Company

Automatic End-to-End Observability
 Machine Learning-driven Instant Application Insights for Dev, Ops, SRE, and Security

Architektura APM

```
//fires the appear event when appropriate
var check = function() {
  //is the element hidden?
  if (!t.is(':visible')) {
    //it became hidden
    t.appeared = false;
    return;
  }
  //is the element inside the visible window?
  var a = w.scrollLeft();
  var b = w.scrollTop();
  var o = t.offset();
  var x = o.left;
  var y = o.top;
  var ax = settings.accX;
  var ay = settings.accY;
  var th = t.height();
  var wh = w.height();
  var tw = t.width();
  var ww = w.width();
  if (y + th + ay >= b &&
      y <= b + wh + ay &&
      x + tw + ax >= a &&
      x <= a + ww + ax) {
    //trigger the custom event
    if (!t.appeared) t.trigger('appear', settings.data);
  } else {
    //it scrolled out of view
    t.appeared = false;
  }
};
//create a modified fn with some additional logic
var modifiedFn = function() {
  //mark the element as visible
  t.appeared = true;
  //is this supposed to happen only once?
  if (settings.one) {
    //remove the check
    w.unbind('scroll', check);
    var i = $.inArray(check, $.fn.appear.checks);
    if (i >= 0) $.fn.appear.checks.splice(i, 1);
  }
  //trigger the original fn
  fn.apply(this, arguments);
};
//bind the modified fn to the element
$.fn.appear(settings.data, modifiedFn);
```

Aplikacja



Agent



Backend analityczny

Backend Instana

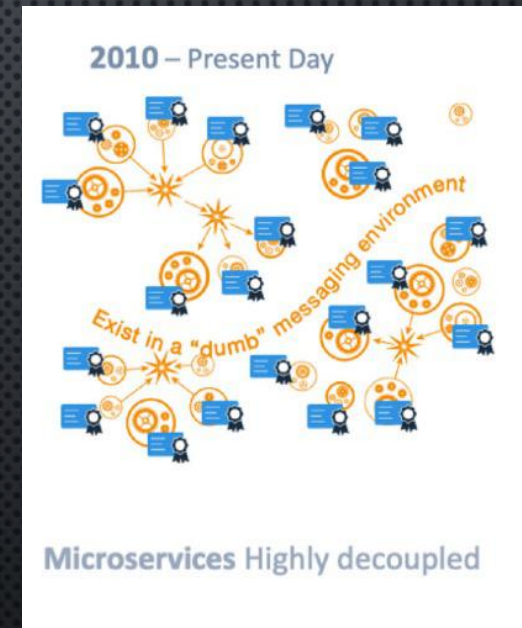
30 minut do działającego środowiska



Connect

„Onboarding” serwerów

5 minut do monitorowania aplikacji



Jak zainstalować agenta?

Installing Instana Agents

Search...

PLATFORM

- AWS
- Azure
- Google Cloud
- Docker
- Kubernetes
- OpenShift
- Cloud Foundry and BOSH
- VMware Tanzu

OS

- Linux**
- macOS
- Unix
- Windows

INTEGRATIONS

- IBM

Linux

Technology

Agent mode	Agent runtime	Installation mode
<input checked="" type="radio"/> Dynamic	<input checked="" type="radio"/> Azul Zulu 1.8	<input checked="" type="radio"/> Interactive
<input type="radio"/> Static	<input type="radio"/> Eclipse OpenJ9 11	<input type="radio"/> Silent

Install and start as service (only supported for SystemD-based systems)

```
#!/bin/bash
curl -o setup_agent.sh https://setup.instana.io/agent && chmod 700 ./setup_agent.sh && ./setup_agent.sh -t dynamic -e instana.lab.cloudpak.site:1444
```

Supported Operating Systems

- Ubuntu Linux (14.04 / 16.04 / 18.04 / 20.04)
- CentOS (6 / 7 / 8)
- Debian (9 / 10)
- Suse Linux Enterprise Server (SLES) (12)
- Redhat Enterprise Linux (RHEL) (6 / 7 / 8)
- Amazon Linux (1 / 2)

Need a colleague to install the Instana agent?

Help & Support

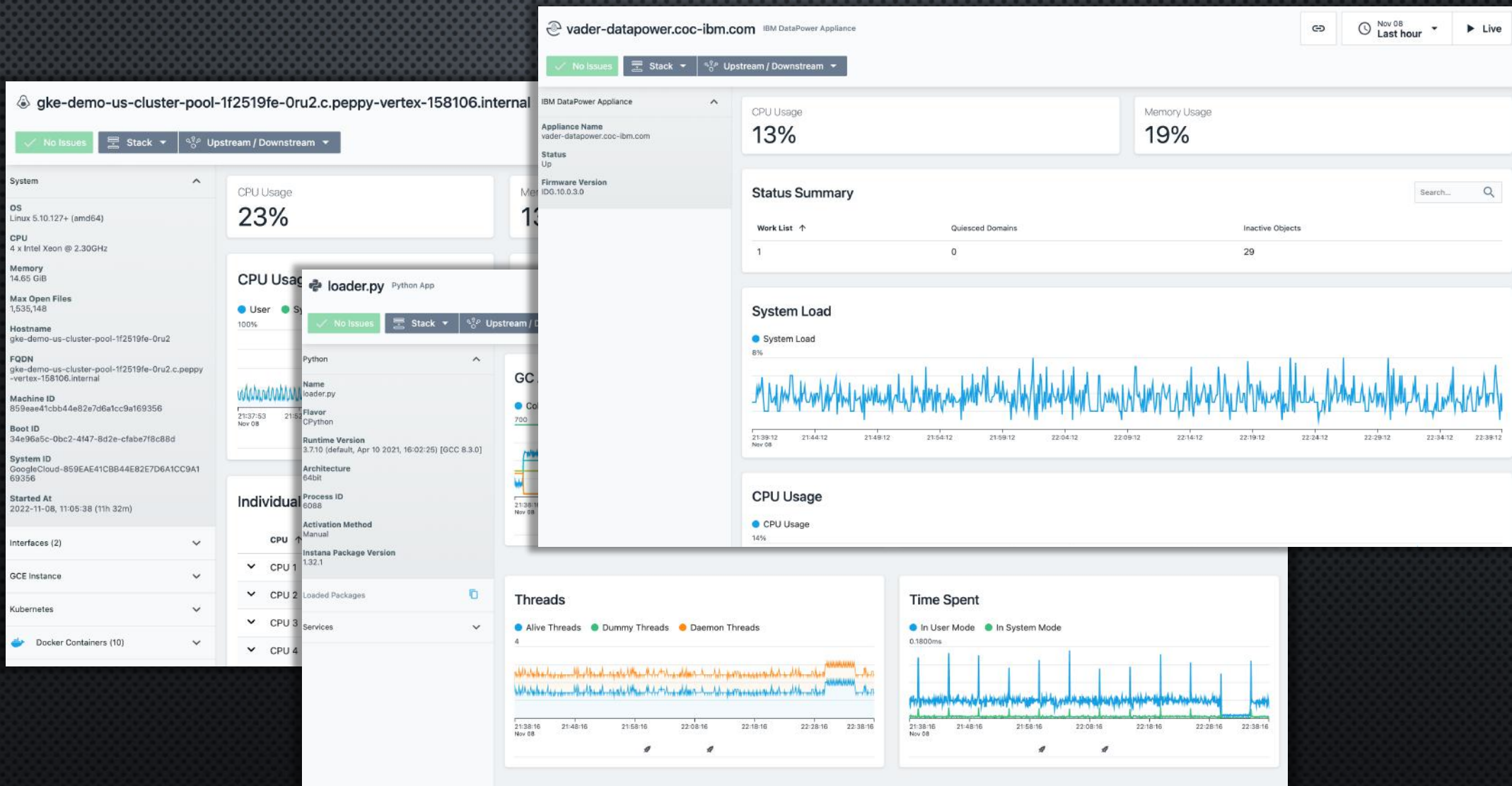


Supported technologies

Last Updated: 2022-11-01

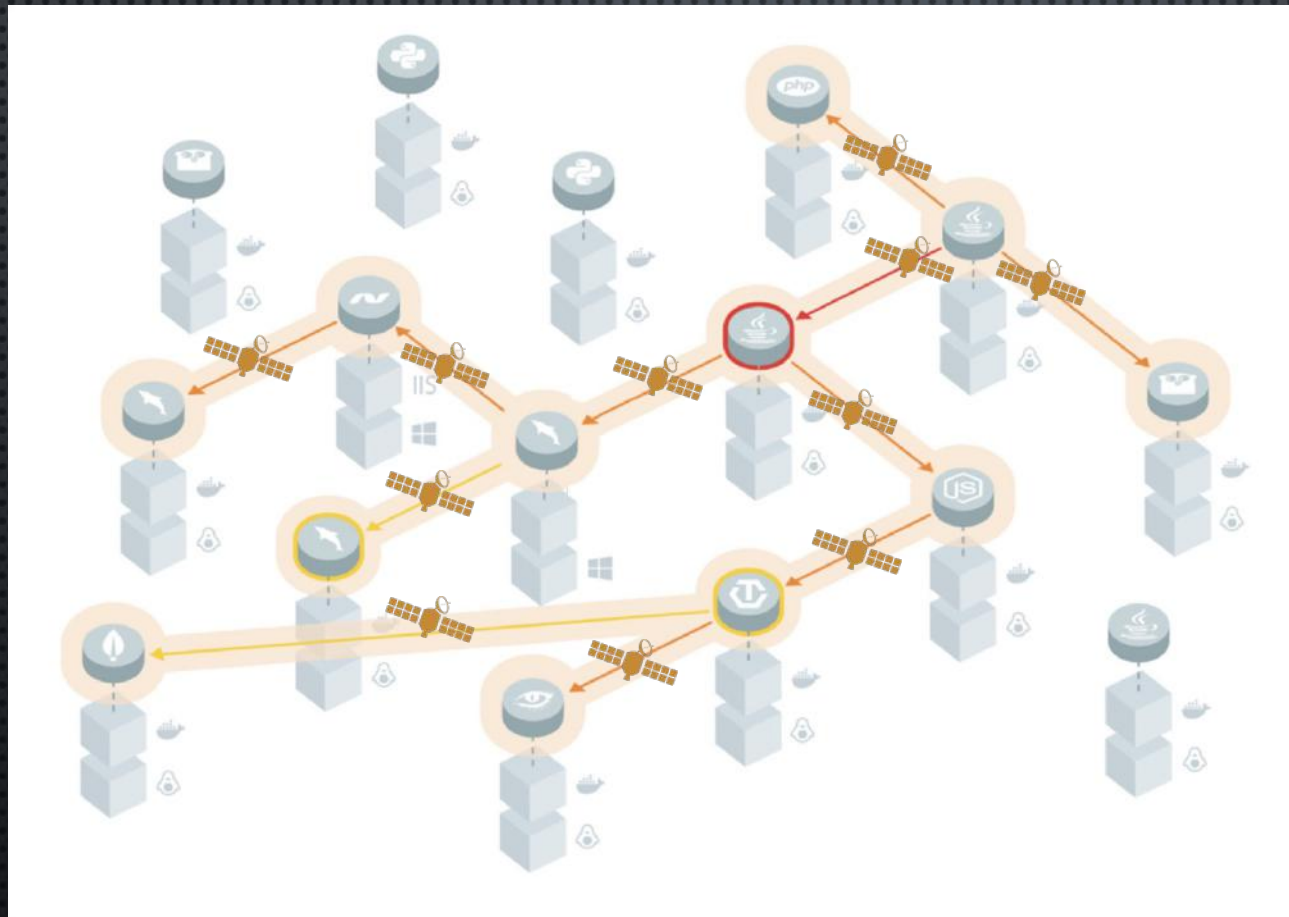
Explore the ecosystem of hundreds of supported technologies.

Metryki z całego środowiska



Jak zbudować topologię połączeń?

5 minut do mapy połączeń



AUTO TRACING

.NET CLOJURE JAVA
KOTLIN PHP PYTHON
SCALA NGINX NODE.JS
RUBY (...)

SDK

.NET CRYSTAL GO
HASKEL JAVA NODE PHP
PYTHON RUBY
TRACEWEBSDK

3RD PARTY

OPEN TELEMETRY, OPEN
TRACING, OPEN
CENSUS, JAEGER, ZIPKIN

Jak wykorzystać topologię połączeń?

The image displays a monitoring dashboard with several overlapping panels. On the left, a network topology diagram shows a central node labeled 'nginx-web' connected to several other nodes. The main panel shows system details for a host named 'gke-demo-us-cluster-pool-1f2519fe-mu3a.c.peppy-vertex-158106.internal' with a status of 'No Issues'. Below this, there are tabs for 'Application', 'Kubernetes', and 'Infrastructure'. The 'Application' tab is active, showing a table of services and their performance metrics.

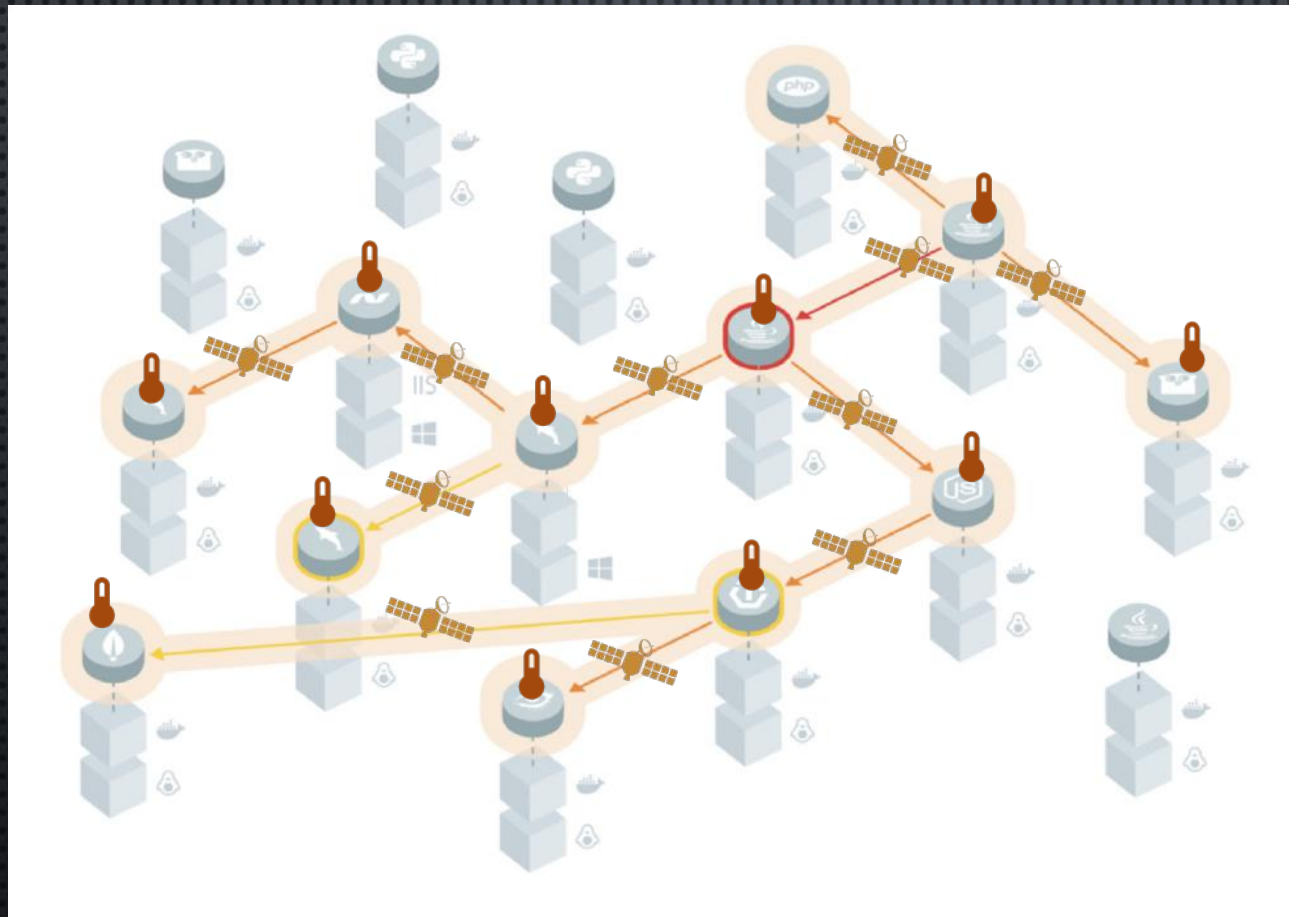
Service	Calls	Erroneous Calls
All Services	58,115	692
Robot Shop All Calls	122,953	1,892
Robot Shop		

Below the table, it states 'Provides 12 Services' and lists several services: nginx-we, catalogu, shipping, user HTTP, php + 1 ratings, and payment.

On the right, a network topology diagram shows a central node labeled 'discount HTTP' connected to three other nodes: 'discount', 'loyalty-program-container', and 'catalogue-demo'. The 'discount HTTP' node is further connected to 'jdbc' and 'discountdb' nodes.

Service	Calls	Latency	Erroneous Calls
discount	2	88ms	100.00%
loyalty-program-container	30	216ms	0.00%
catalogue-demo	262,609	123ms	4.71%
discount HTTP	262,034	118ms	4.72%
jdbc	2	78ms	100.00%
discountdb	255,487	104ms	2.04%

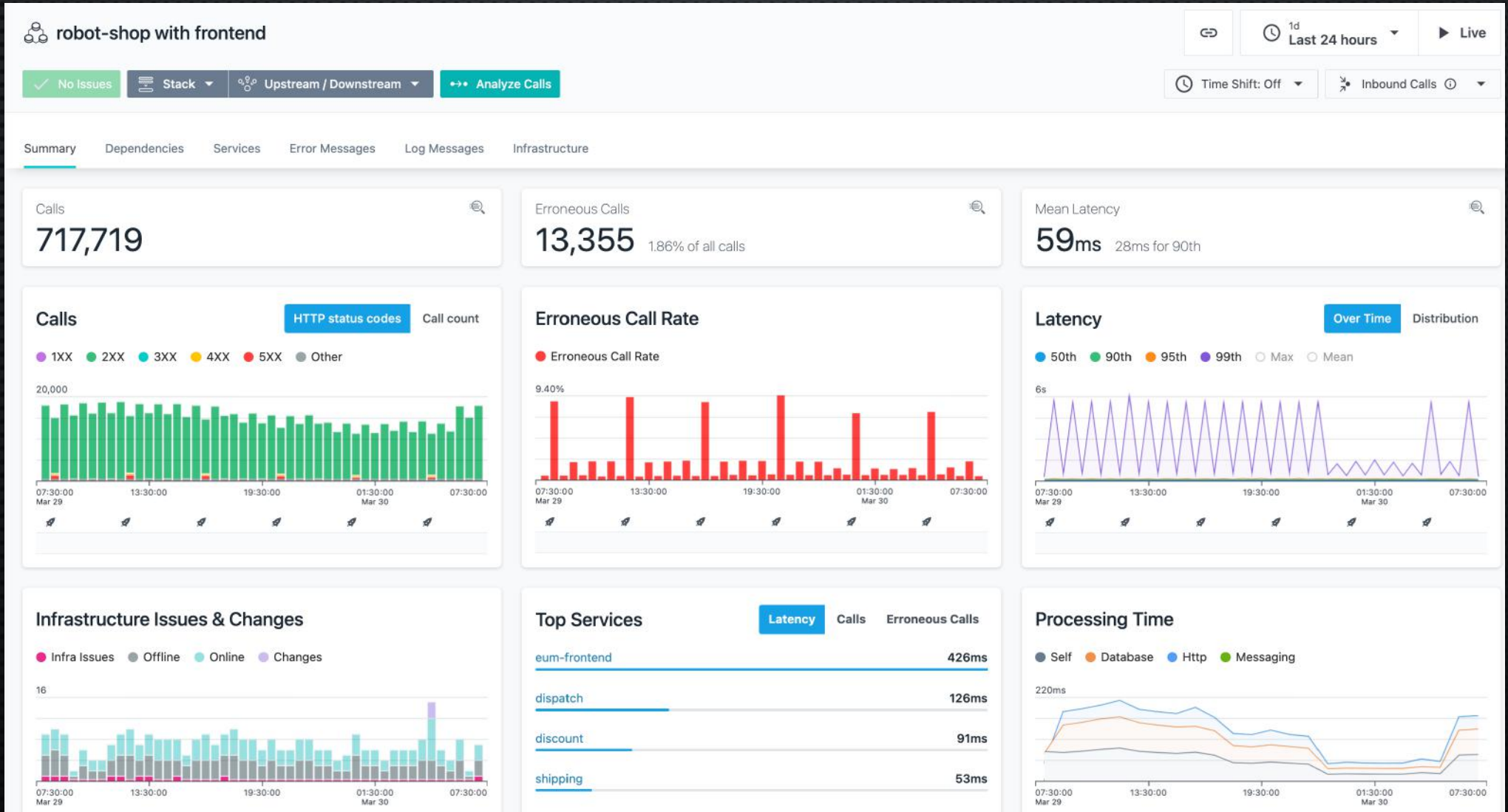
Jak pokazać aplikacje ich właścicielom?



APLIKACJA:

- serwisy
- KPI
- topologia
- transakcje
- błędy
- alerty

Metryki aplikacji



Topologia aplikacji

Robot Shop

✓ No Issues | Stack | Upstream / Downstream | Analyze Calls

Summary | Dependencies | **Services** | Error Messages | Log Messages | Infrastructure | Smart Alerts | Configuration

Services

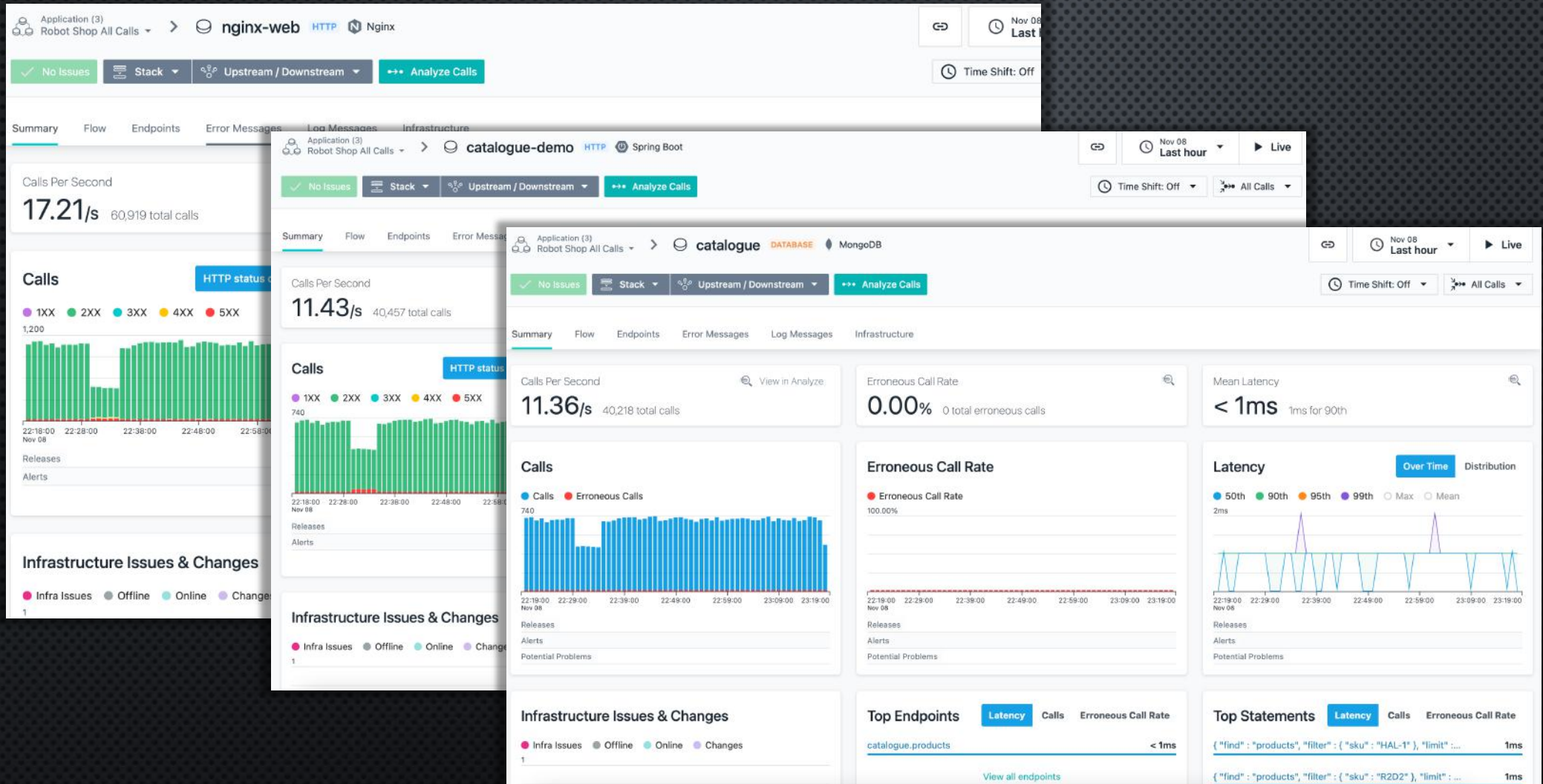
Name	Types	Technologies	Endpoints	Calls ↓	Erroneous Calls	Erroneous Call Ra
nginx-web	HTTP	Nginx	7	61,190	730	1.19
dispatch	MESSAGING	Go	1	1,898	0	0.00
discount	HTTP	Spring Boot	2	570	12	2.10
user	HTTP	Node.js	1	22	0	0.00
payment	HTTP	Python	1	22	2	9.09
cart	HTTP	Node.js	1	20	0	0.00

Analyze Services

Upstream | Analyze Calls

```
graph TD; nginx-web --> ratings; nginx-web --> users; nginx-web --> MySQL; nginx-web --> cities; nginx-web --> dispatch; nginx-web --> catalogue; nginx-web --> redis; ratings --> users; users --> MySQL; MySQL --> cities; cities --> dispatch; dispatch --> catalogue; catalogue --> redis; ratings --> discount; discount --> shipping; shipping --> payment; payment --> cart; cart --> robot-shop; robot-shop --> dispatch; robot-shop --> catalogue; robot-shop --> redis;
```

Metryki serwisów składających się na aplikację



Metryki endpointów składających się na serwis

Application (3) Robot Shop All Calls > redis:6379 DATABASE Redis

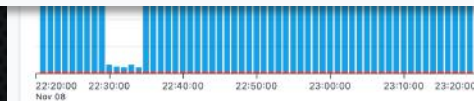
No Issues Stack Upstream / Downstream Analyze Calls

Summary Flow Endpoints Error Messages Log Messages Infrastructure

Endpoints

Analyze Endpoints Type... Techn...

Name	Database	Icon	Calls ↓	Erroneous Calls	Erroneous Call Rate	Latency
get	DATABASE	Redis	8,918	0	0.00%	2ms
setex	DATABASE	Redis	6,227	0	0.00%	2ms
incr	DATABASE	Redis	2,114	0	0.00%	< 1ms
del	DATABASE	Redis	2,075	0	0.00%	1ms

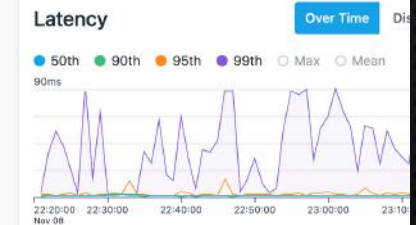


Releases
Alerts
Potential Problems



Releases
Alerts
Potential Problems

Mean Latency
2ms 1ms for 90th



Releases
Alerts
Potential Problems

Infrastructure Issues & Changes

● Infra Issues ● Offline ● Online ● Changes

Top Statements

Latency Calls Erroneous

Transkacje – wszystkie. Bez wyjątku!

GET /api/cart/add/anonymous-1855898/EVE-1/1 Trace ID: c36e410aa354df96

Download

Started: 2022-11-07, 10:20:59

Calls Colorize by Endpoint Technology

- GET /api/cart/add/anonymous-1855898/EVE-1/1 15ms
To upstream cart of nginx-web
- GET /add/anonymous-1855898/EVE-1/1 10ms
To GET /add/:id:sku:qty of cart
- GET /api/cart/add/anonymous-1855898/EVE-1/1 9ms

Service Endpoint List

Service	Endpoint	Aggregated Time ↓	Erroneous Calls
nginx-web	upstr...	10ms	
cart	GET /...	9ms	

A release has occurred recently

Release: rollback-5657
2022-11-07, 10:10:32 (11m 54s ago)

[Focus time to release](#) [Follow releases live](#)

GET /api/cart/add/anonymo... HTTP

SOURCE Not monitored by Instana

Details

The source of this call has not been traced and as a result no information can be provided about the source. All information shown about this call is provided by the destination.

DESTINATION upstream cart of nginx-web

Details

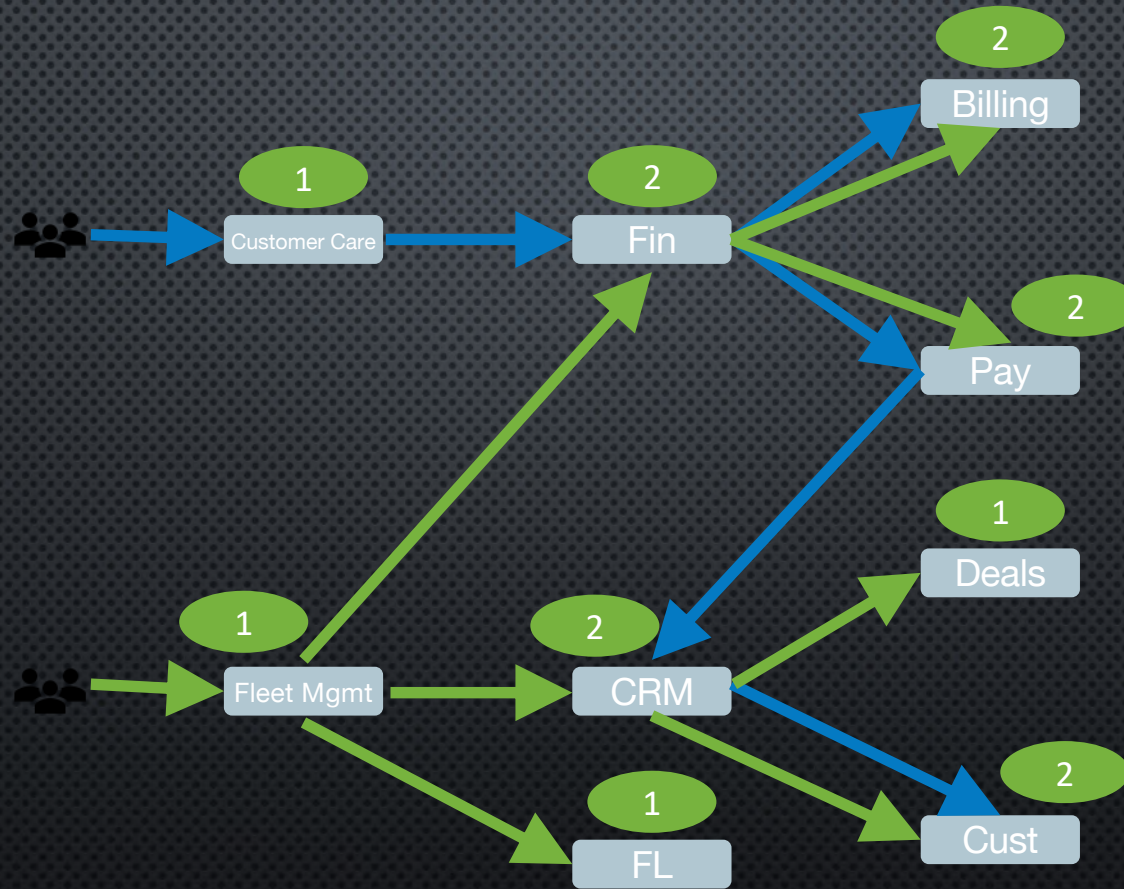
Type	HTTP Call
Category	http
Host	web:8080
Request Path	/api/cart/add/anonymous-1855898/EVE-1/1
URL	http://web:8080/api/cart/add/anonymous-1855898/EVE-1/1
Route ID	upstream cart
Method	GET
Status Code	200 – OK
Header user-agent	python-requests/2.25.1

Red Hat
Summit

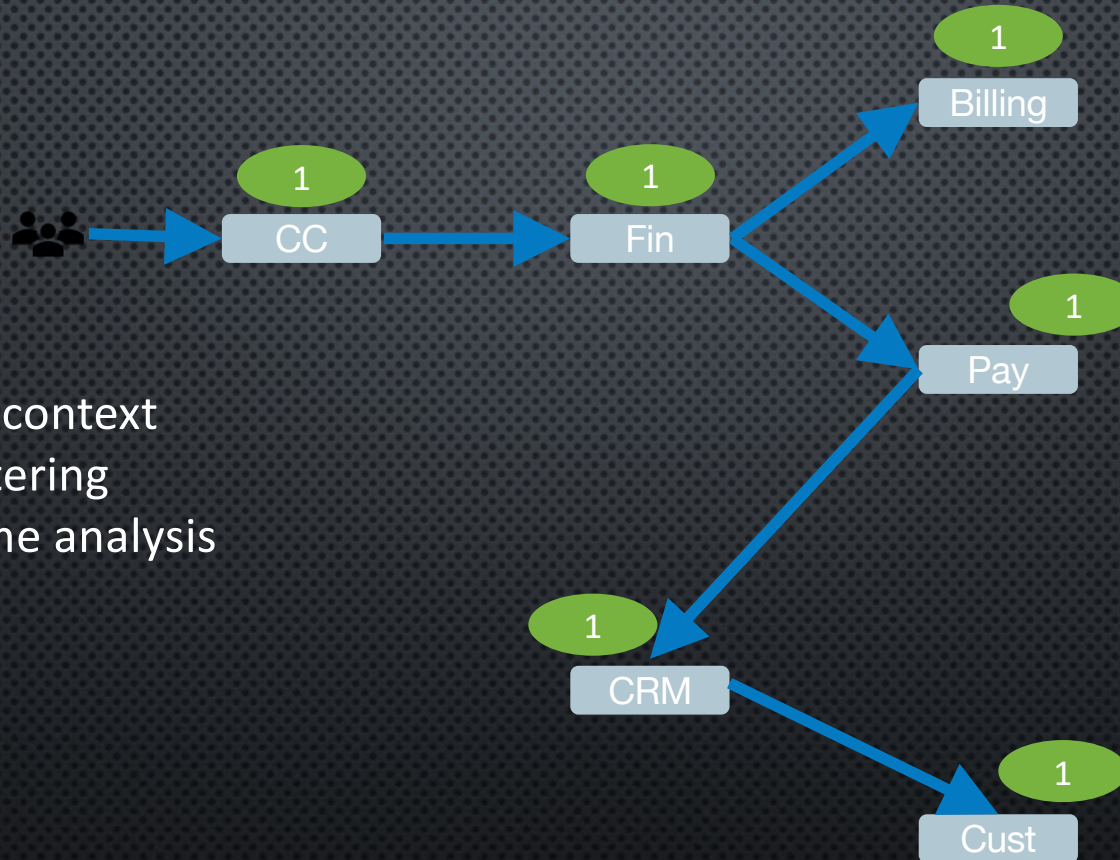
Connect

Krok 3: Jak pokazać aplikacje?

Total call count

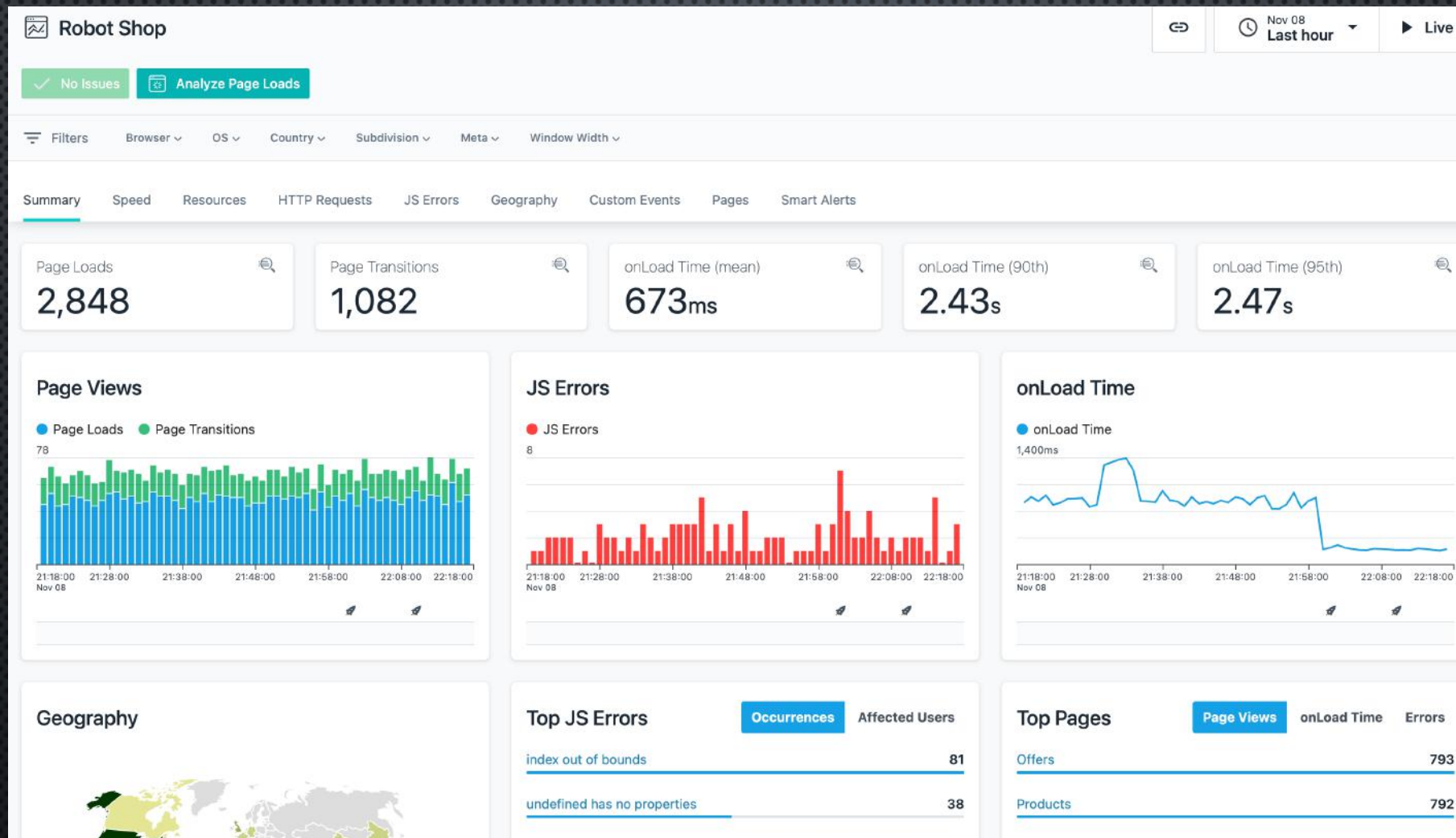


Krok 3: Jak pokazać aplikacje?



Total call count in context
More than just filtering
Automatic real time analysis

Ale i tak użytkownik końcowy jest najważniejszy - frontend



Interakcje z użytkownikiem

Home on http://robotshop.instana.com

Download

Start Time
2022-11-08
22:18:46


JS Errors
0

Resources
19

HTTP Requests
2


Website
Robot Shop

User Information

 Tommy Hugin
thugin0@google.ru
817909e7-3bbe-4dcc-951c-88d5bb16bcb

User Location

Tucson
Arizona, United States



Browser Firefox 64
Operating System Windows 10
Window Dimensions 1149x1008
PreferredLanguages en-US
IP Address 63.227.85.0
Effective Connection Type 4g
Session ID 61ed390d92304ae

Activity

























Pages: All | Search: Search... | Types: All | XHR | JS | CSS | Img | Font | Doc | Tra | Err | Cus | Other

Home

DOC	Page Load http://robotshop.instana.com/	onLoad Time 209ms	View Backend Trace	
JS	Page Resource https://eum.instana.io/eum.min.js	Start Time 213ms	Retrieval Time < 1ms	
CSS	Page Resource http://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-alpha...	Start Time 213ms	Retrieval Time 22ms	
CSS	Page Resource http://maxcdn.bootstrapcdn.com/font-awesome/4.6.3/...	Start Time 214ms	Retrieval Time < 1ms	
CSS	Page Resource /stylesheets/style.css	Start Time 214ms	Retrieval Time 90ms	View Backend Trace
IMG	Page Resource /images/page-splash.png	Start Time 215ms	Retrieval Time 290ms	View Backend Trace

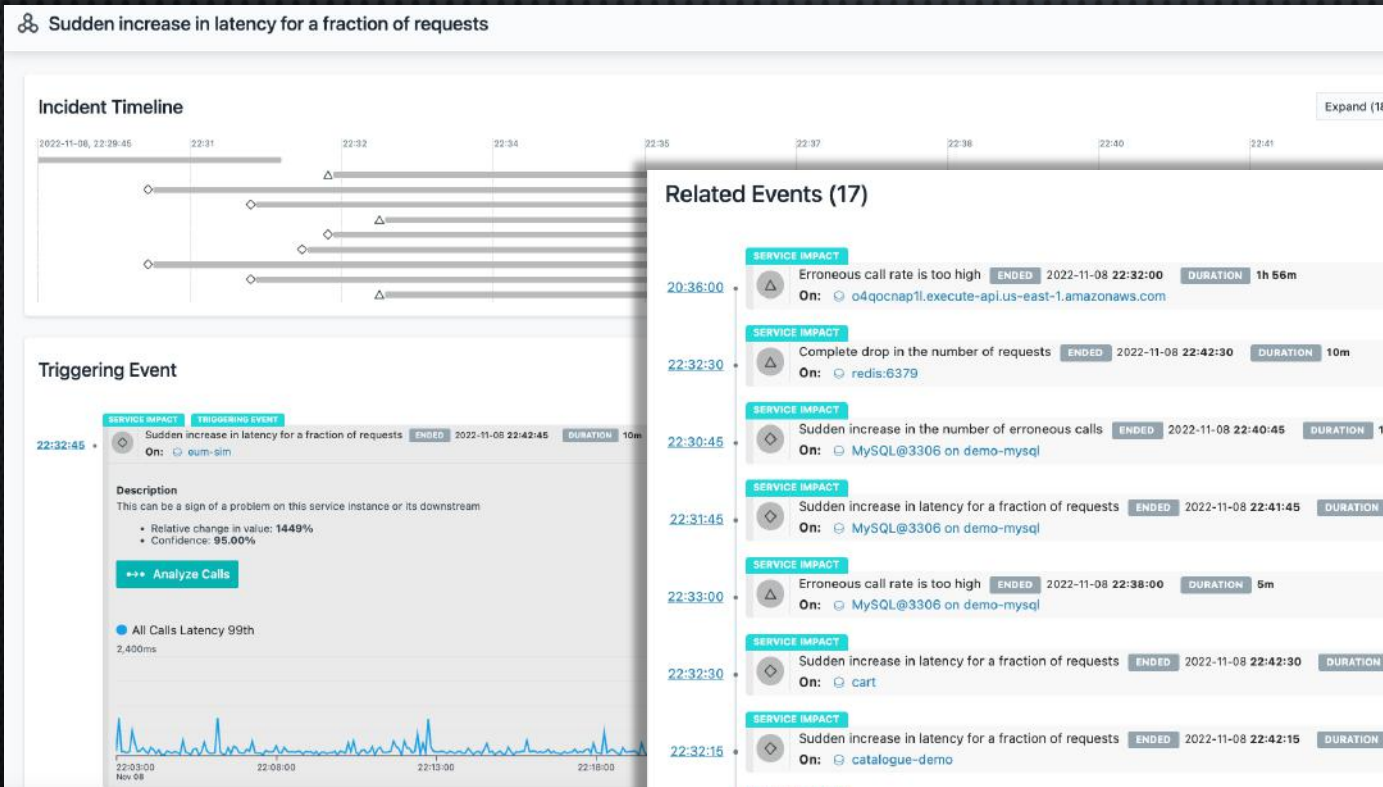
Zdarzenia i notyfikacje

Typy zdarzeń

Events (334)		+ New Event	Type	Incidents & Severity...	Entity type	State...	Filter Events
Name ↑			Description		Entity type		
 A sudden increase in secret reads count <small>Built-in</small>			Secret read count suddenly increased		 Vault Instance		
 A sudden increase in total objects size <small>Built-in</small>			Total objects size suddenly increased		 Google Cloud Storage		
 Abnormally high disk backend commit duration <small>Built-in</small>			Detects high disc backend commit duration		 Etcd Node		
 Abnormally high disk wal fsync duration <small>Built-in</small>			Detects high disc was fsync duration		 Etcd Node		
 Abnormally high snapshot duration <small>Built-in</small>			Detects high duration of saving a snapshot		 Etcd Node		
 ACE Connection status between Queue Manager and Integr... <small>Built-in</small>			Queue Manager State Check.		 IBM ACE Integration Ser...		
 ACE Integration Server state <small>Built-in</small>			Integration Server State check.		 IBM ACE Integration Ser...		
 ACE Message Flow Max Elapsed Time <small>Built-in</small>			Monitor the maximum elapsed time spent processing an input message.		 IBM ACE Message Flow		

Zdarzenia i notyfikacje

Incydenty



Related Events (17)

- 20:36:00** SERVICE IMPACT: Erroneous call rate is too high ENDED 2022-11-08 22:32:00 DURATION 1h 56m
On: o4qocnap1l.execute-apl.us-east-1.amazonaws.com
- 22:32:30** SERVICE IMPACT: Complete drop in the number of requests ENDED 2022-11-08 22:42:30 DURATION 10m
On: redis:6379
- 22:30:45** SERVICE IMPACT: Sudden increase in the number of erroneous calls ENDED 2022-11-08 22:40:45 DURATION 10m
On: MySQL@3306 on demo-mysql
- 22:31:45** SERVICE IMPACT: Sudden increase in latency for a fraction of requests ENDED 2022-11-08 22:41:45 DURATION 10m
On: MySQL@3306 on demo-mysql
- 22:33:00** SERVICE IMPACT: Erroneous call rate is too high ENDED 2022-11-08 22:38:00 DURATION 5m
On: MySQL@3306 on demo-mysql
- 22:32:30** SERVICE IMPACT: Sudden increase in latency for a fraction of requests ENDED 2022-11-08 22:42:30 DURATION 10m
On: cart
- 22:32:15** SERVICE IMPACT: Sudden increase in latency for a fraction of requests ENDED 2022-11-08 22:42:15 DURATION 10m
On: catalogue-demo
- 22:30:45** SERVICE IMPACT: Sudden increase in the number of erroneous calls ENDED 2022-11-08 22:40:45 DURATION 10m
On: discount
- 22:31:45** SERVICE IMPACT: Sudden increase in latency for a fraction of requests ENDED 2022-11-08 22:41:45 DURATION 10m
On: discount

Zdarzenia i notyfikacje

Powiadamianie

[+ Add Alert Channel](#) Filter...

- Email
- Slack
- Opsgenie
- PagerDuty
- Office 365 / Microsoft Teams
- Generic Webhook
- Splunk
- Google Chat
- VictorOps
- Prometheus Alertmanager Webhook
- Cisco Webex Teams Webhook
- IBM Watson AIOps Webhook

Name

New Alert Configuration







Shows up in the list of alerts. Should be unique and meaningful.

2. Events

Only send alerts for event types or on selected events.

Alert on Event(s) ▼

Events (3) + Add Events

Name ↑	Description	Entity type
 A sudden increase in secret reads count <small>Built-in</small>	Secret read count suddenly increased	 Vault Instance
 Abnormally high disk backend commit duration <small>Built-in</small>	Detects high disc backend commit duration	 Etcd Node
 Abnormally high disk wal fsync duration <small>Built-in</small>	Detects high disc was fsync duration	 Etcd Node

Analityka

Analytics > Applications / Calls

Filter: Application Name = Robot Shop

Group: + Add group

0 Selected

Log levels: [dropdown]

Stream: [dropdown]

Service: [dropdown]

Latency

From: [input] To: [input]

Erroneous: [dropdown]

Only erroneous 5.7k

HTTP Status: [dropdown]

Applications: [dropdown]

Services: [dropdown]

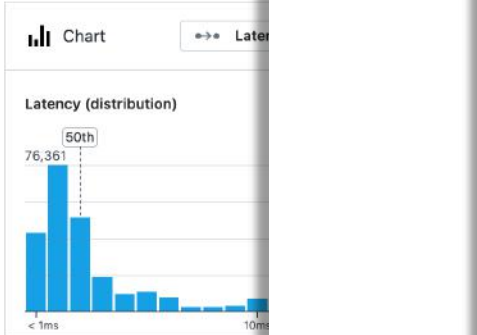
Endpoints: [dropdown]

Types: [dropdown]

Technologies: [dropdown]

256,227 Calls

- Call
- get
- GET /cart/anonymous-25767
- GET /find/STAN-1



Analytics > Applications / Logs BETA

Filter: + Add filter

Group: + Add group

0 Selected

Log levels: [dropdown]

Stream: [dropdown]

Service: [dropdown]

Chart: Logs sum

Log levels: [dropdown]

Stream: [dropdown]

Service: [dropdown]

Analyze profiles > Profiles of Process cart v1.0.0

Stack Upstream / Downstream

Summary CPU Memory Wait Time

CPU User CPU System

5%

21:58:58 Nov 08 22:03:58 22:08:58 22:13:58 22:18:58 22:23:58 22:28:58 22:33:58 22:38:58 22:43:58 22:48:58

CPU Hotspots

Used	Code
21.00%	<garbage collector>
2.74%	<_addHeaderLine> at _http_incoming.js:0
2.28%	<Socket> at net.js:225
2.28%	<connect>
1.83%	<writev>

Memory Hotspots


Used	Code
9.53%	<copy> at /opt/server/node_modules/request/lib/h...
9.52%	<(V8 API)>
4.76%	<Readable.on> at _stream_readable.js:842
4.76%	<> at /opt/server/node_modules/request/request.j...
4.76%	<onconnection> at net.js:1490






Wait Time Hotspots

Used	Code
36.56%	<emitInitScript> at int
32.41%	<tickOnSocket> at _h
7.00%	<tickOnSocket> at _h
6.47%	<emitInitScript> at int
4.05%	<lookup> at dns.js:140

DevOps i CI/CD

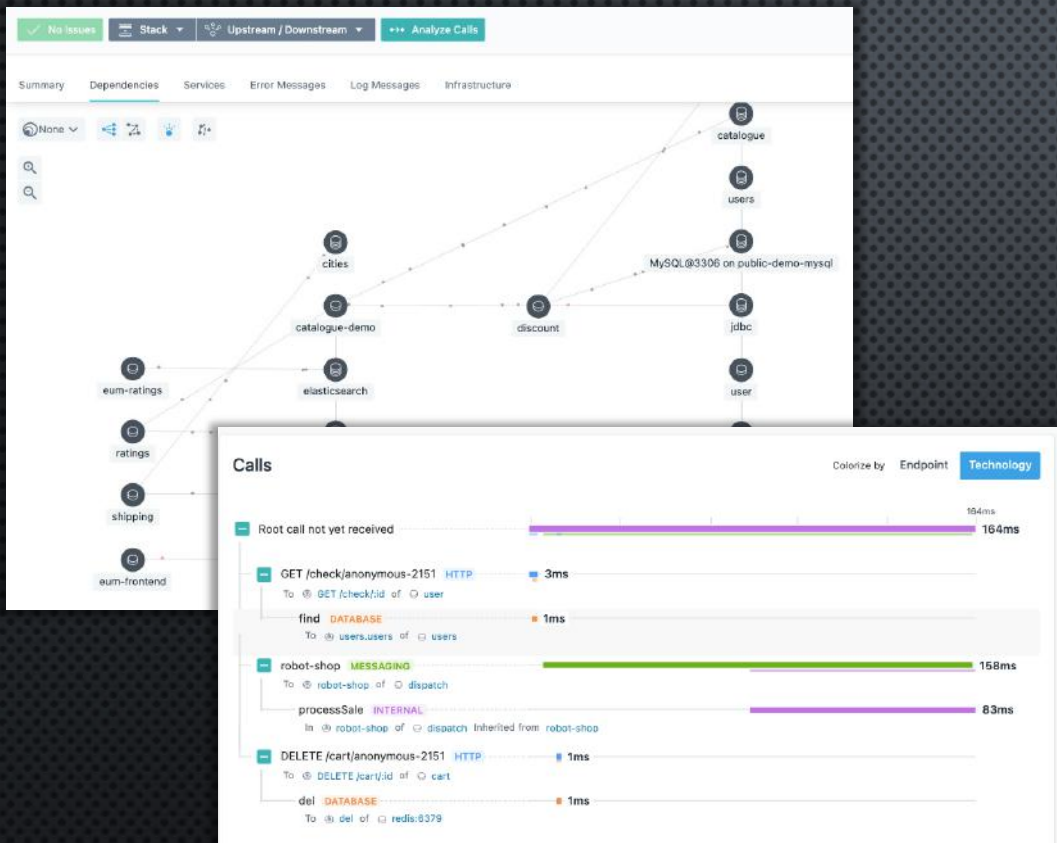
Time Range Releases

Filter... 

Name	Scope	Release time ↓
 rollback-5669	Global	2022-11-08, 22:10:31
 discount-canary-5669	Global	2022-11-08, 22:00:25
 rollback-5668	Global	2022-11-08, 19:10:31
 discount-canary-5668	Global	2022-11-08, 19:00:24
 rollback-5667	Global	2022-11-08, 16:10:31

< 1 2 3 ... 96 >

IBM INSTANA – LIDER NOWOCZESNEGO APM I OBSERVABILITY



- **KOMPLETNA PLATFORMA APM & OBSERVABILITY**
 - METRYKI, TOPOLOGIA, KLUCZOWE BŁĘDY, TRANSAKCJE
- **LEKKA I WYDAJNA**
 - MINIMALNY WPŁYW NA MONITOROWANE ŚRODOWISKO
 - 100% TRANSAKCJI
 - 1 SEKUNDOWA ROZDZIELCZOŚĆ DANYCH – NA ŻĄDANIE
- **INTUICYJNA**
 - PRZEJRZYSTY I ŁATWY W UŻYCIU INTERFEJS
- **NOWOCZESNA**
 - DOSKONAŁE WSPARCIE DLA ŚRODOWISK SKONTENERYZOWANYCH I NOWOCZESNYCH APLIKACJI

CHCESZ DOWIEDZIEĆ SIĘ
WIĘCEJ?



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