

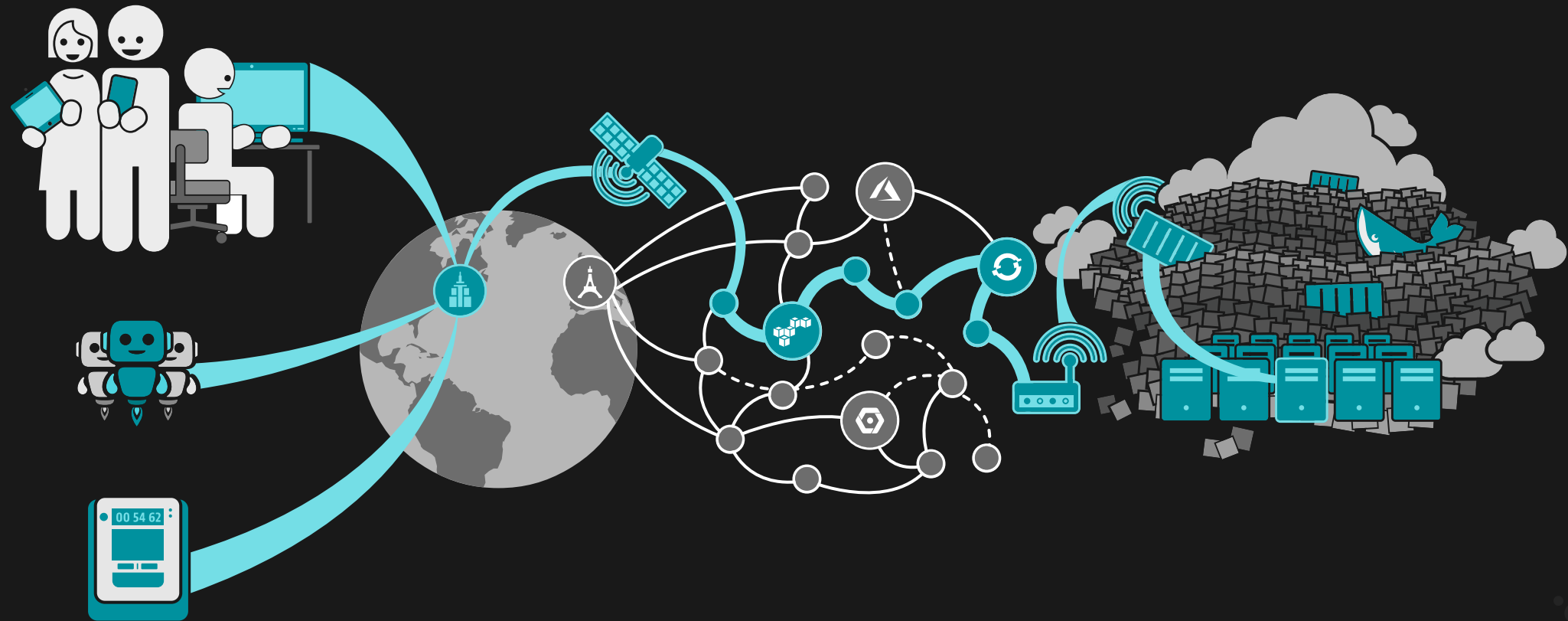
# Platform innovation – AI and openness

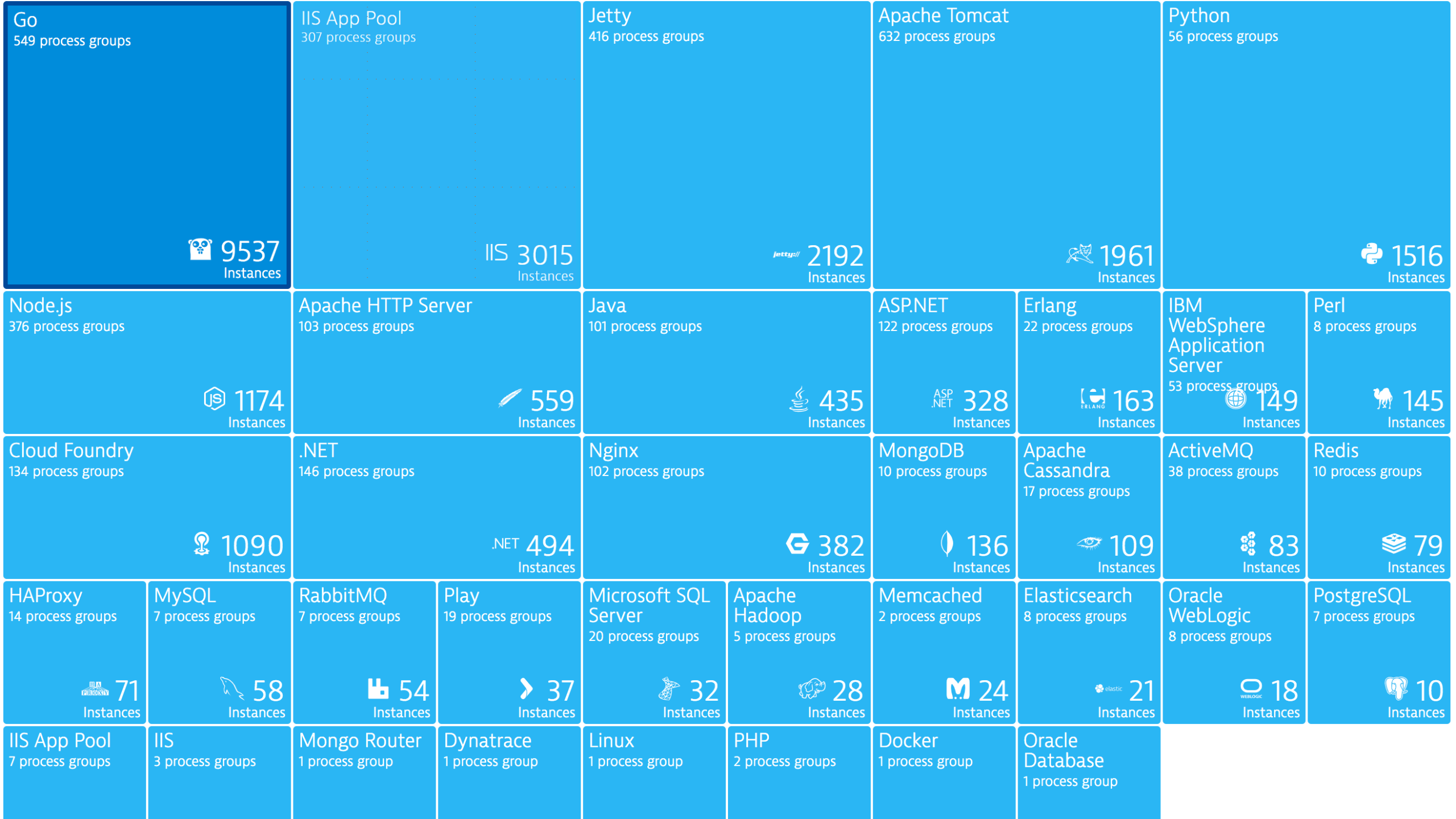
---

Steve Tack, SVP Products

 dynatrace  
**Perform**

**one year ago...**  
**in a casino 1,056 feet away...**









# OneAgent

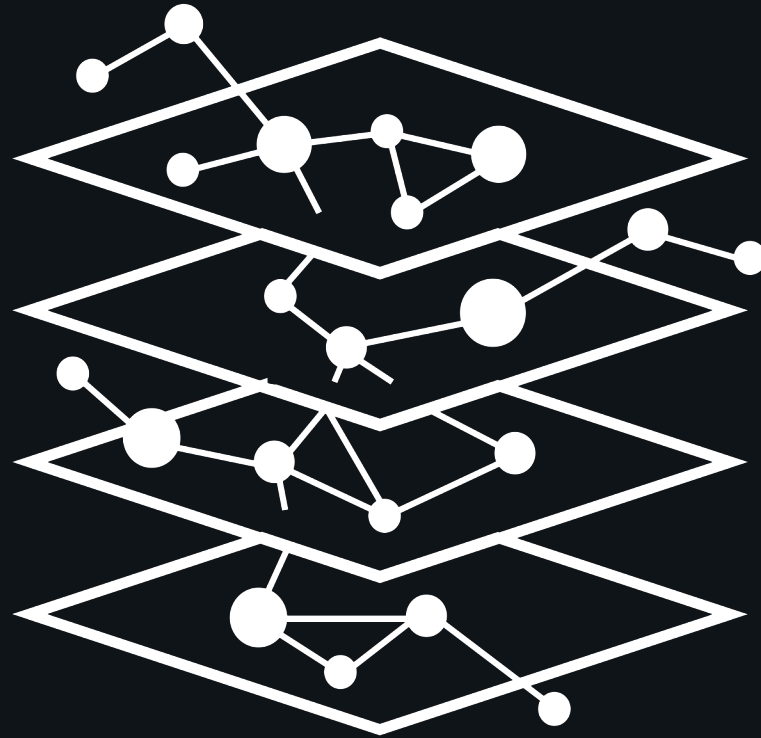
automatic, full-stack instrumentation



**one customer environment...**

**700,000,000**

**model updates per day**



# Smartscape

real-time topology model

A dark gray background featuring a complex network diagram. The diagram consists of numerous small, light gray circular nodes connected by thin, light gray lines. Some nodes contain small icons, such as a globe, a document, or a person. The overall appearance is that of a digital or social network.

**one customer environment...**

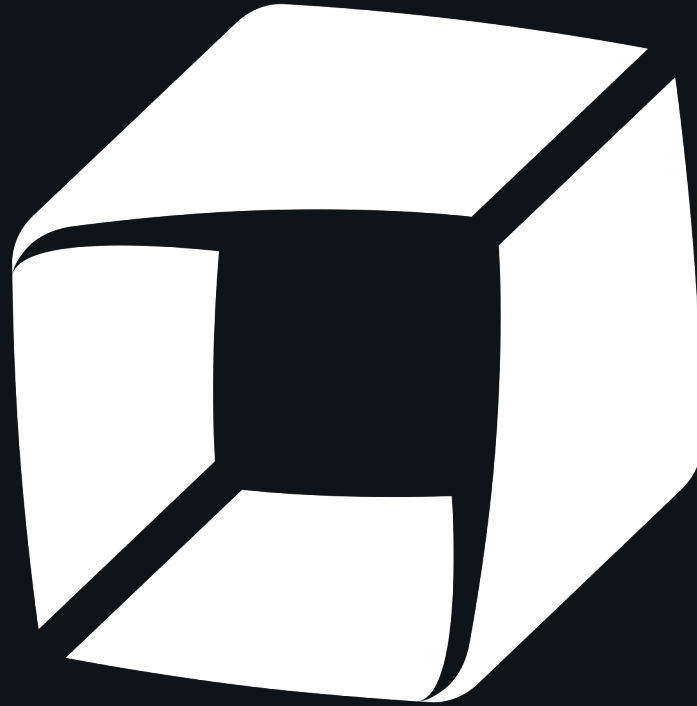
**235,000,000,000**

**dependencies analyzed per problem**



# Davis

deterministic AI engine



# Dynatrace

open software intelligence platform



# Product news

What's new – Product updates & new feature announcements

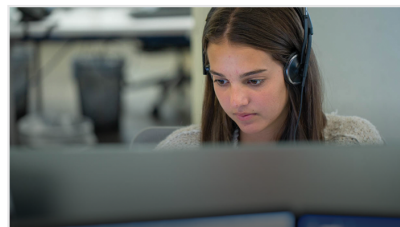
[Show all categories](#)



**Dynatrace Managed feature update, Version 1.160**

January 23, 2019

Wolfgang Schreiner



**Get ready for extended container-monitoring capabilities**

January 21, 2019

Alois Mayr



**Extend native Cloud Foundry support with BOSH Process Manager (bpm) monitoring (Beta)**

January 21, 2019

Alois Mayr



**OneAgent & ActiveGate release notes (version 1.159)**

January 21, 2019

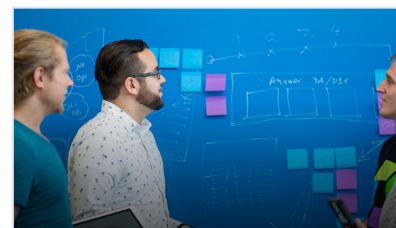
Bartek Gatz



**Improved host memory metrics now include Reclaimable memory**

January 21, 2019

Bartek Gatz



**Get automatic code-level insights into your Go applications and cloud platform components**

January 17, 2019

Gernot Reisinger

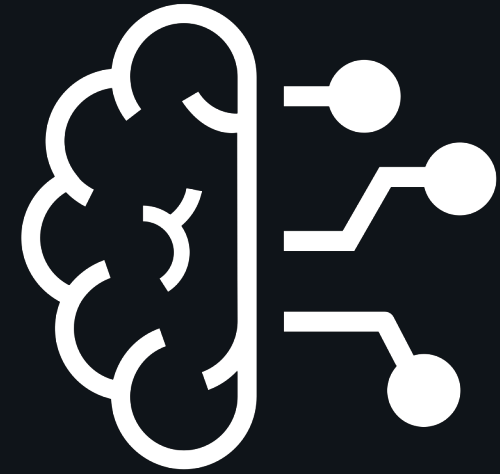




**automatic**



**smart**



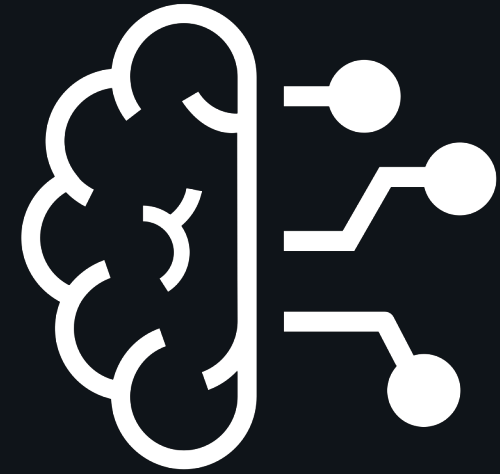
**open**



**automatic**



**smart**

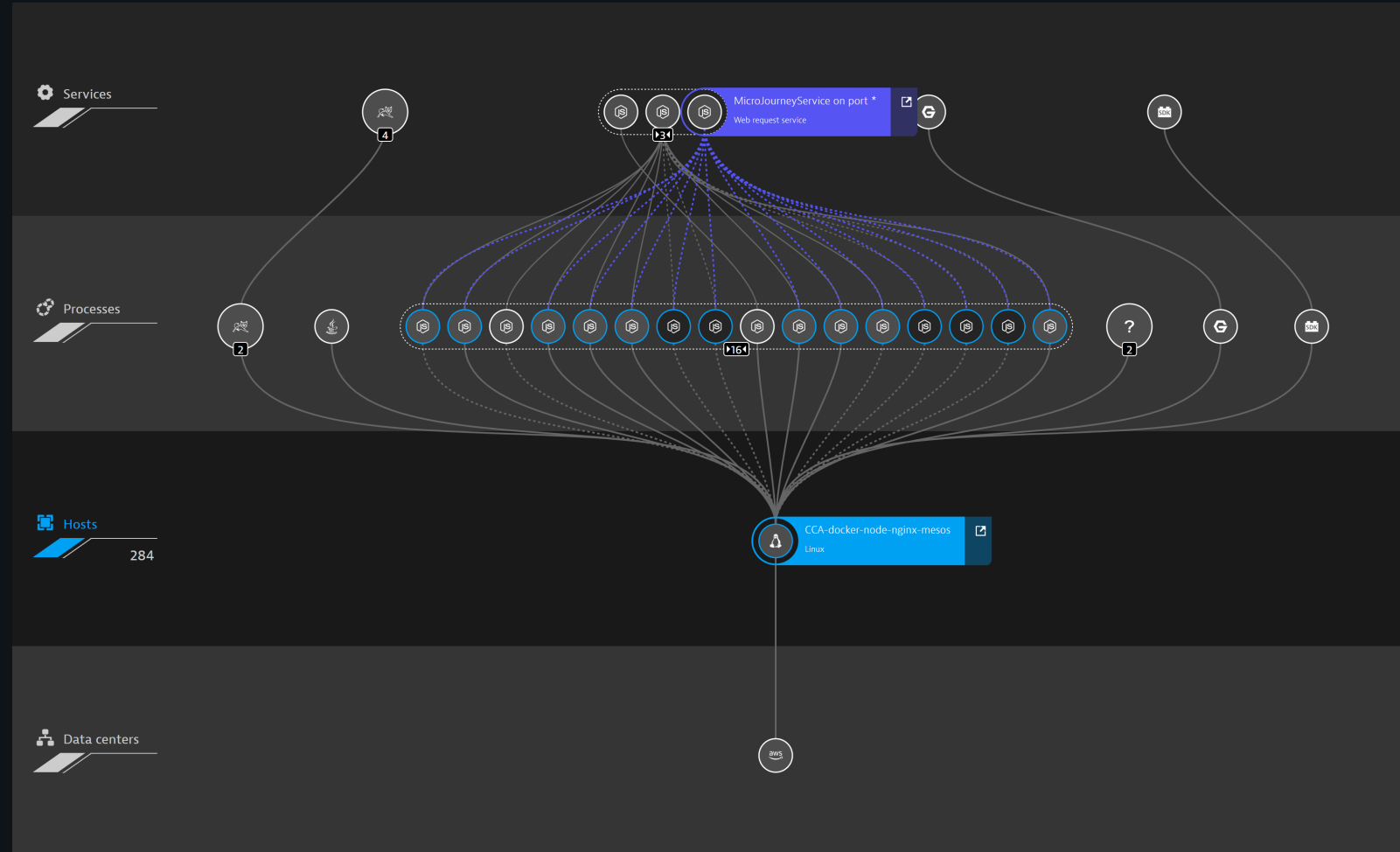


**open**

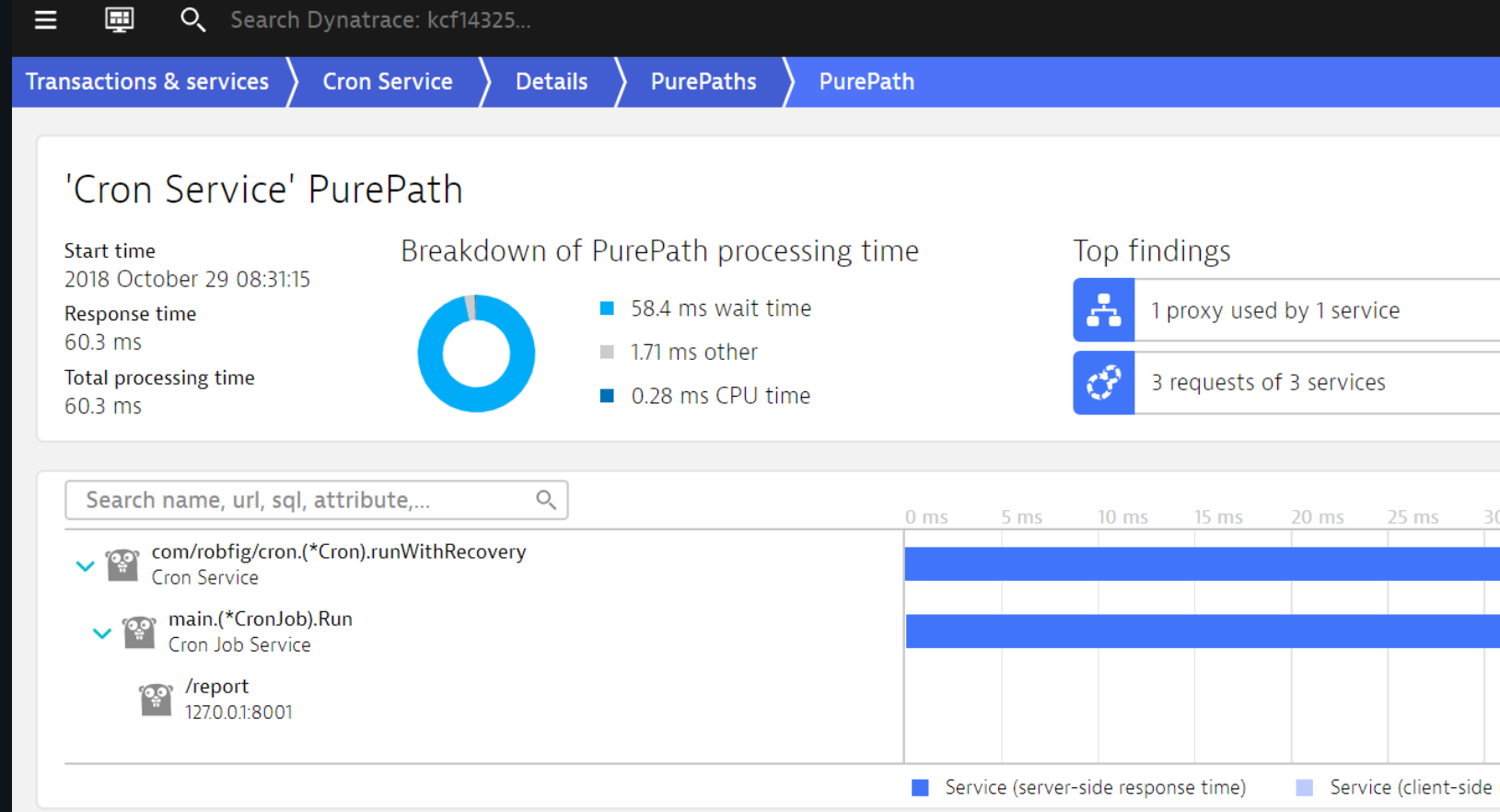
# Full-stack PaaS visibility



# Node.js code-level visibility



# Golang code-level insights





# Automatic hotspot analysis

Diagnostic tools > CPU profiler (code level) > Hotspots

Hotspots of process group 'dynatrace-dev-CF'

Today, 14:35 - 14:40 Apply

Type: Service request CPU × Add filter

---

**Execution time breakdown**

- 57 % network I/O
- 41 % code execution
- 2.47 % disk I/O

**Top APIs**

disk I/O code execution network I/O

---

Filtered by

**Call tree**

Search  🔍 ▼ ▲

Method	Contribution	Stacktrace samples	Actions
Thread.run Java   java.lang		159	...
ThreadPoolExecutor\$Worker.run Java   java.util.concurrent		159	...
ThreadPoolExecutor.runWorker Java   java.util.concurrent		159	...
JioEndpoint\$SocketProcessor.run Tomcat   org.apache.tomcat.util.net		139	...
AsyncContextImpl\$RunnableWrapper.run Apache   org.apache.catalina.core		20	...
PluginRefreshThread.run easyTravel   com.dynatrace.easytravel.spring		3	...

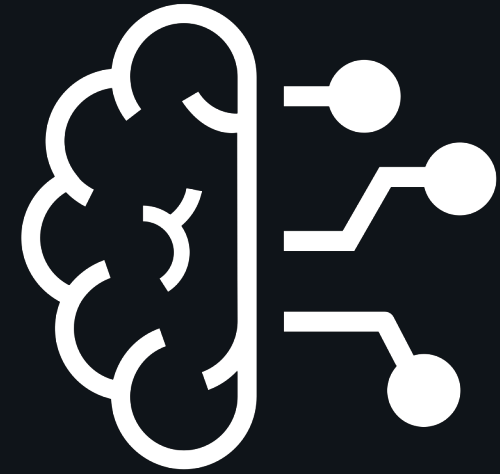
**Hotspots**



**automatic**



**smart**



**open**

**4 years of continual AI advancements...**

**Announcing Today  
Next-gen of Dynatrace Davis**

**3 applications: User action duration degradation**  
 Problem 225 detected at 01:59 - 02:52 (was open for 53 minutes). This problem affects real users.

Affected applications 3
Affected services 16
Affected infrastructure 2

725,461,920  
 Dependencies analyzed

### Business impact analysis

An analysis of all affected service calls and impacted real users during the first 10 minutes of the problem shows the following potential impact.

13.8k Impacted users (show first 100)
1.58M Affected service calls

[Show more](#)

### 3 impacted applications

475 User actions per minute impacted

**www.easytravel.com**  
 Application

**User action duration degradation**  
 The current response time (43.4 s) exceeds the auto-detected baseline (1.69 s) by 2,470 %

Affected user actions	User action
33.4 /min	2 User actions
Browser	Geolocation OS
All	All All

**www.easytravelb2b.com**  
 Application

**User action duration degradation**  
 The current response time (58.8 s) exceeds the auto-detected baseline (389 ms) by 15,028 %

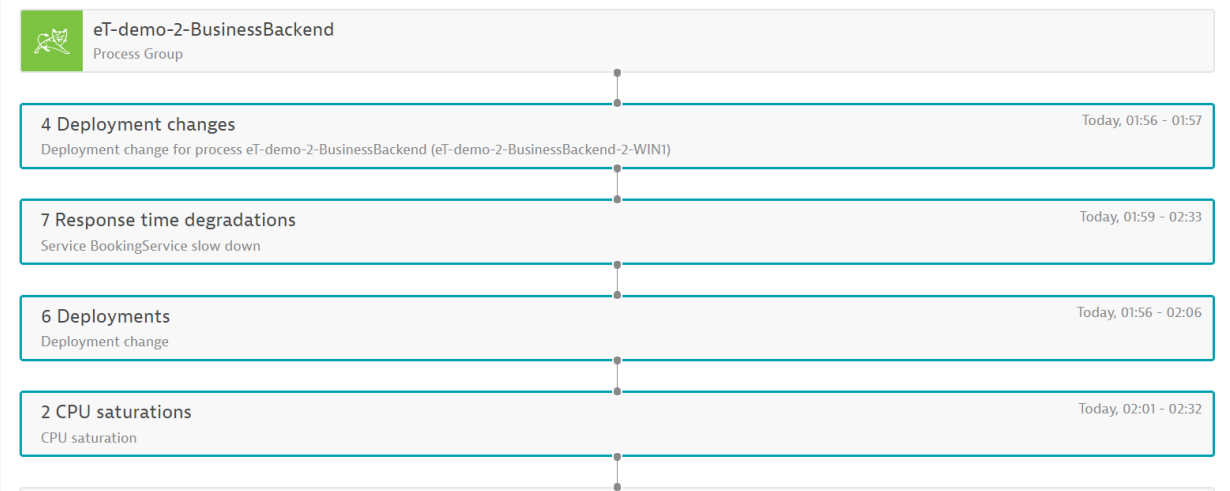
Affected user actions	User action
223 /min	7 User actions
Browser	Geolocation OS
All	All All

**www.angular.easytravel.com**  
 Application

**User action duration degradation**  
 The current response time (1.01 min) exceeds the auto-detected baseline (518 ms) by 11,572 %

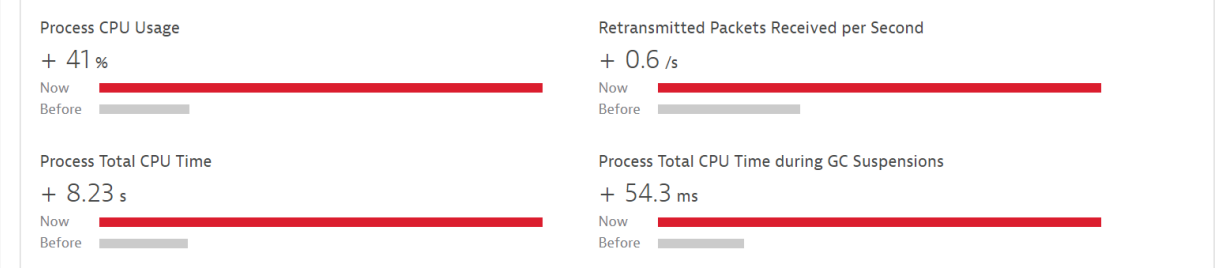
### Root cause

Based on our dependency analysis all incidents have the same root cause



### Metric anomalies detected

Review the metrics which show abnormal or outlying behavior.



Analyze findings

Show 2 more

# Change detection in dynamic environments

Problems > Problem 225

**3 applications: User action duration degradation**  
Problem 225 detected at 01:59 - 02:52 (was open for 53 minutes). This problem affects real users

**Affected applications** 3   **Affected services** 16   **Affected infrastructure** 2

## Business impact analysis

An analysis of all affected service calls and impacted real users during the first 10 minutes of the problem

**13.8k** Impacted users (show first 100)   **1.58M** Affected service calls

Show more

## 3 impacted applications

475 User actions per minute impacted

**www.easytravel.com**  
Application

### User action duration degradation

The current response time (43.4 s) exceeds the auto-detected baseline (1.69 s) by 2,470 %

Affected user actions 33.4 /min   User action 2 User actions

Browser All   Geolocation All   OS All

**www.easytravelb2b.com**  
Application

### User action duration degradation

The current response time (58.8 s) exceeds the auto-detected baseline (389 ms) by 15,028 %

Affected user actions 223 /min   User action 7 User actions

Browser All   Geolocation All   OS All

## Root cause

Based on our dependency analysis all incidents have the same root cause

**eT-demo-2-BusinessBackend**  
Process Group

**4 Deployment changes** Today, 01:56 - 01:57  
Deployment change for process eT-demo-2-BusinessBackend (eT-demo-2-BusinessBackend-2-WIN1)

**7 Response time degradations** Today, 01:59 - 02:33  
Service BookingService slow down

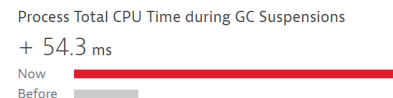
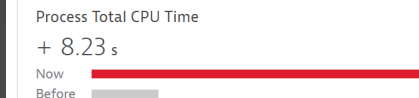
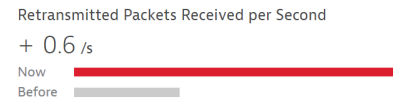
**6 Deployments** Today, 01:56 - 02:06  
Deployment change

Source easyTravel  
Version 2.0.0.3038  
Action Sujej Edward's Deployment

Events on:  
Service [CheckDestination](#)  
Service [AuthenticationService](#)  
Host [BB1-apache-tomcatjms-iis](#)  
Host [BB2-apache-tomcatjms-iis](#)

**2 CPU saturations** Today, 02:01 - 02:32  
CPU saturation

**Metric anomalies detected**  
Review the metrics which show abnormal or outlying behavior.



Analyze findings

725,461,920 Dependencies analyzed

Root cause

Today, 01:56 - 01:57

Today, 01:59 - 02:33

Today, 01:56 - 02:06

Today, 02:01 - 02:32

Today, 01:56 - 01:57

Today, 01:59 - 02:33

Today, 01:56 - 02:06

Today, 02:01 - 02:32

Retransmitted Packets Received per Second + 0.6 /s

Process Total CPU Time during GC Suspensions + 54.3 ms

Confidential

Analyze findings

# Anomaly detection without thresholds or baselines

Problems > Problem 225

**3 applications: User action duration degradation**  
Problem 225 detected at 01:59 - 02:52 (was open for 53 minutes). This problem affected 3 applications, 16 services, and 2 impacted users.

**Affected applications:** 3  
**Affected services:** 16  
**Affected impacted users:** 2

**Business impact analysis**  
An analysis of all affected service calls and impacted real users during the first 10 minutes of the problem.

**13.8k** Impacted users (show first 100)  
**1.58M** Affected service calls

**3 impacted applications**  
475 User actions per minute impacted

**www.easytravel.com**  
Application

User action duration degradation  
The current response time (43.4 s) exceeds the auto-detected baseline (1.69 s) by 2,470 %

Affected user actions	User action
33.4 /min	2 User actions
Browser: All	Geolocation: All, OS: All

**www.easytravelb2b.com**  
Application

User action duration degradation  
The current response time (58.8 s) exceeds the auto-detected baseline (389 ms) by 15,020 %

Affected user actions	User action
223 /min	7 User actions
Browser: All	Geolocation: All, OS: All



725,461,920 Dependencies analyzed

Backend-2-WIN1

- Today, 01:56 - 01:57
- Today, 01:59 - 02:33
- Today, 01:56 - 02:06
- Today, 02:01 - 02:32

Retransmitted Packets Received per Second  
+ 0.6 /s  
Now: [Bar] Before: [Bar]

Process Total CPU Time during GC Suspensions  
+ 54.3 ms  
Now: [Bar] Before: [Bar]

Confidential

22


Analyze findings



# Precise availability detection


## Root cause

Based on time correlation and analysis of all transactions that use these components, this issue has the following root cause

 **pmprivateag**  
Host

**Availability changes detected**  
Review all downtimes for associated hosts and processes.

Host **pmprivateag**  
6 min total downtime



Running Offline

**Host or monitoring unavailable** Yesterday, 06:16 - 06:48  
Host or monitoring unavailable due to connectivity issues or server outage

Events on:  
Host **pmprivateag**

3 applications: User action duration degradation  
Problem 225 detected at 01:59 - 02:52 (was open for 53 minutes). This problem is currently active.

Affected applications: 3  
Affected services: 16  
Affected processes: 2

**Business impact analysis**  
An analysis of all affected service calls and impacted real users during the first 10 minutes of the problem.

13.8k Impacted users (show first 100)  
1.58M Affected service calls

3 impacted applications  
475 User actions per minute impacted

**www.easytravel.com**  
Application

User action duration degradation  
The current response time (43.4 s) exceeds the auto-detected baseline (1.69 s) by 2543.2%.

Affected user actions	User action
33.4 /min	2 User actions
Browser: All	Geolocation: All, OS: All

**www.easytravelb2b.com**  
Application

User action duration degradation  
The current response time (58.8 s) exceeds the auto-detected baseline (389 ms) by 15,028%.

Affected user actions	User action
223 /min	7 User actions
Browser: All	Geolocation: All, OS: All

725,461,920  
Dependencies analyzed

- Today, 01:56 - 01:57
- Today, 01:59 - 02:33
- Today, 01:56 - 02:06
- Today, 02:01 - 02:32

Process Total CPU Time  
+ 8.23 s  
Now: [Bar]  
Before: [Bar]

Process Total CPU Time during GC Suspensions  
+ 54.3 ms  
Now: [Bar]  
Before: [Bar]

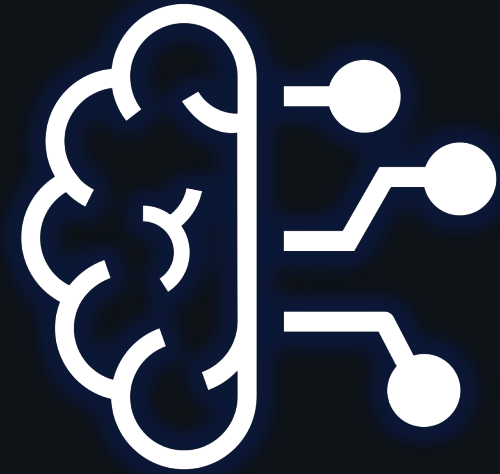
**Root-cause on all metrics and events**  
**None of the noise**



**automatic**

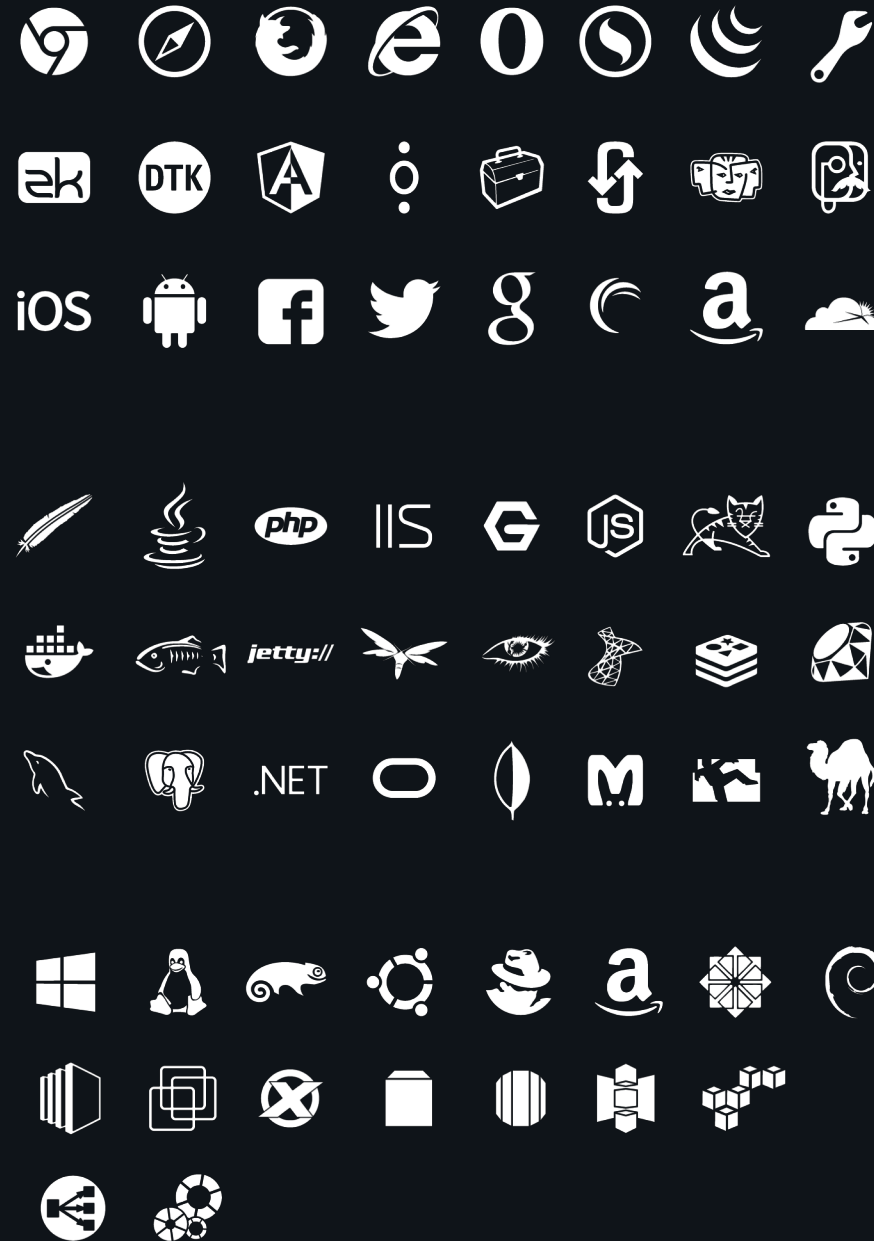


**smart**



**open**

# open platform for AIOps



# Expanding (the already broadest) visibility

# Open to external events and data





# First-class citizen of Smartscape and Davis

Smartscape topology > Processes > DataPower - Mikes group - 192.168.99.108

**Root cause**  
Based on time correlation and analysis of all transactions that use these components, this issue has the following root cause

**Client to f5 to Unmonitored**  
Custom service

**2 Failure rate increases** Nov 02 2018, 09:33 - 10:04  
Service Client to f5 to Unmonitored has failure rate increase

**Metric anomalies detected**  
Review the metrics which show abnormal or outlying behavior.

Metric	Now	Before
Client response time	+ 11.1 ms	
Server failure rate	+ 85 %	

Analyze findings

# Deterministic answers for automation and self-healing

## Continuous Delivery



## Application Platforms



## Cloud Platforms



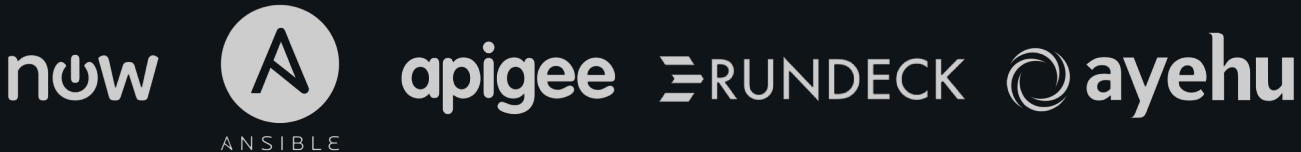
## Version Control



## Testing Platforms



## Runbook Automation



## Collaboration





# SAP CX Commerce Cloud

**2,600+ Managed Tenants**

**95,000+ Services**

**18,000+ Hosts**

**120,000+ Processes**

**600+ Kubernetes  
Clusters**

**0** human config

**Total** visibility

**“I let Dynatrace automation take care of adding 5,000 hosts during my BBQ.”**



# What's next?

# Announcing Today Free for Life Developer Program





## Your journey to the autonomous cloud starts here

Learn, collaborate, and build on the most powerful software intelligence platform.

Begin by requesting a free Dynatrace developer instance.

**Request Instance**



# Dynatrace Developer Experience



## Learn

Access all the online training, tutorials and code samples you need to extend Dynatrace.

[Learn more](#)



## Create

Use your own Dynatrace developer instance to design and implement innovative solutions.

[Learn more](#)



## Connect

Engage and collaborate with a global community of Dynatrace developers.

[Learn more](#)

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[Supported technologies](#)

[Application performance](#)

### Solutions

[Overview](#)

[Customer stories](#)

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[Dynatrace ONE](#)

[Services](#)



### Dynatrace API

Need to automate monitoring tasks or export Dynatrace data into third-party reporting and analysis tools?

[Learn more](#)



### OneAgent SDK

Interested in learning how to gain visibility into applications that are built on technologies not yet supported by Dynatrace?

[Learn more](#)



### OneAgent Plugins

Want to capture additional processes data from OneAgent-monitored environments?

[Learn more](#)



### GitHub

Browse our repository for code samples of all ways to extend the Dynatrace platform.

[Learn more](#)



### ActiveGate Plugins

Did you know you use ActiveGate plugins to remote monitoring environments not supported by the OneAgent?

[Learn more](#)



### OpenKit

Are you looking to instrument custom rich-client apps or embedded devices with Dynatrace?

[Learn more](#)



### Problem Notification

How can automated notifications to your incident-management and ChatOps tools keep you in the know?

[Learn more](#)



### Dynatrace Developer Video Series

View in-depth videos about how-to extend the Dynatrace platform.

[Learn more](#)

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# Resources and best practices at your fingertips

The image shows a browser window with three overlapping elements:

- YouTube (Left):** A video titled "What is Dynatrace and How to Get Started" is playing. The video player shows a blue background with the Dynatrace logo and text: "Hands-On Tutorial: Setup, Onboard Hosts, Data Analysis".
- GitHub (Middle):** The page is for the "Dynatrace API" repository. The search bar shows "topic:dev-program org:Dynatrace" and "14 repository results". The main content area is titled "Dynatrace API" and includes a search bar for help. The left sidebar lists navigation items: Release notes, Get started, Deploy Dynatrace, Monitor with Dynatrace, Technology support, Data privacy & security, Insight discovery, Organize monitored entities, Problem detection & analysis, Diagnostics, User experience, Server-side services, Infrastructure, Cloud platforms, Extend Dynatrace, and Dynatrace API (highlighted). The main content area is divided into sections:
  - Authentication:** "The Dynatrace API uses a token mechanism for authentication. You need to generate the token and assign the required permissions to it. See [Dynatrace API - Authentication](#) to learn how."
  - Anonymization:** [Anonymization](#)
  - Cluster information:** [Cluster information](#)
  - Events:** [Events](#), [Push deployment events from Jenkins](#)
  - Log analytics:** [Basics](#), [Host logs](#), [Process group logs](#)
  - Maintenance windows:** [Maintenance windows](#)
  - Problems:** [Basics](#)
  - RUM:** [User sessions](#), [Real User Monitoring JavaScript code](#)
  - Synthetic:** [Synthetic monitors](#), [Synthetic locations](#), [Push external Synthetic data to Dynatrace](#)
  - Thresholds:** [Thresholds](#)
  - Timeseries:** [Metric definitions](#), [Read metric data points](#), [Custom metrics](#)
  - Topology & Smartscope:** [Basics](#)
- Language List (Right):** A list of programming languages with star counts:
  - Python: 25 stars
  - Python: 24 stars
  - Java: 18 stars
  - Java: 9 stars
  - C: 8 stars

# Your onramp to the autonomous cloud



**learn**



**create**



**connect**

# developer.dynatrace.com



Request  
Instance



Thank you

 dynatrace  
**Perform**