

# The emergence of APM in cloud application development

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# JCON2021

October 5-8, 2021

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# What is APM ?

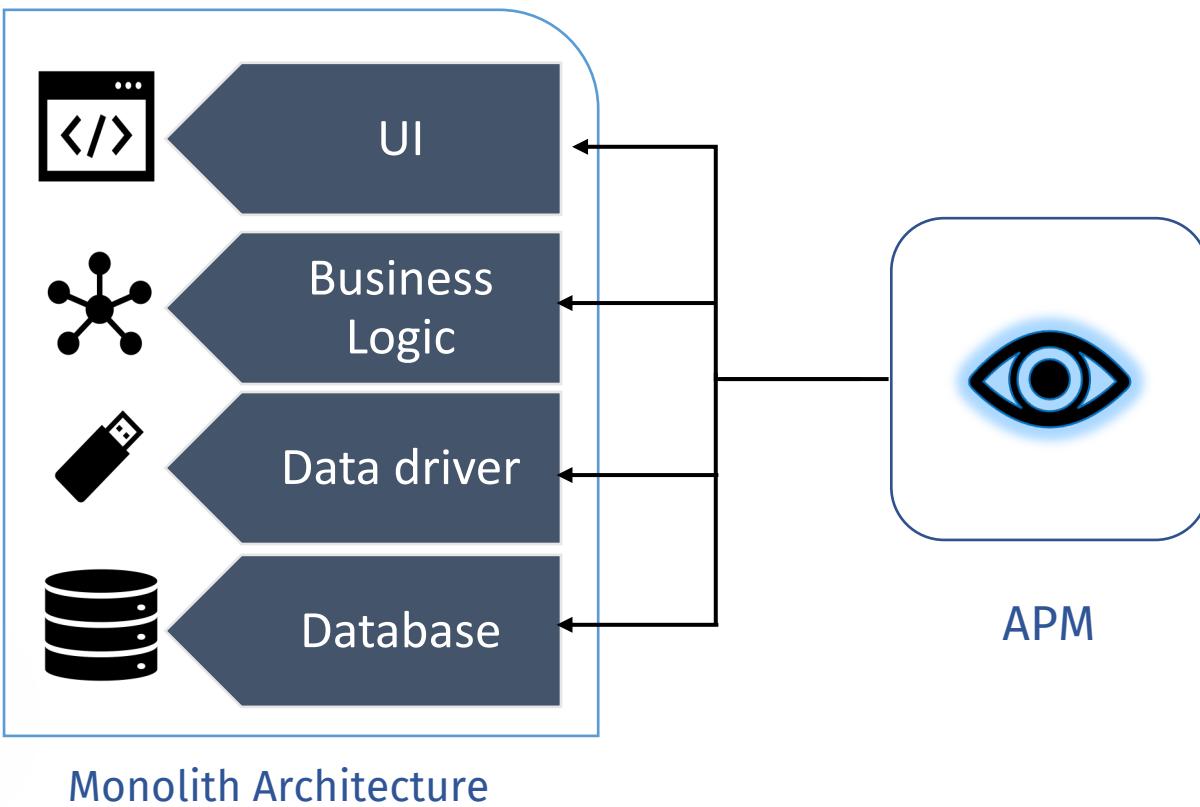
Application Performance Monitoring or Management.

The translation of IT metrics into business value\*

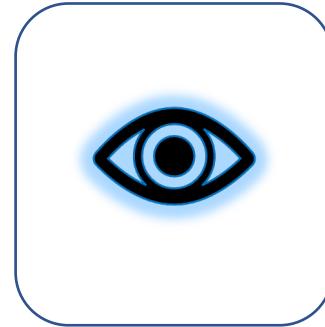
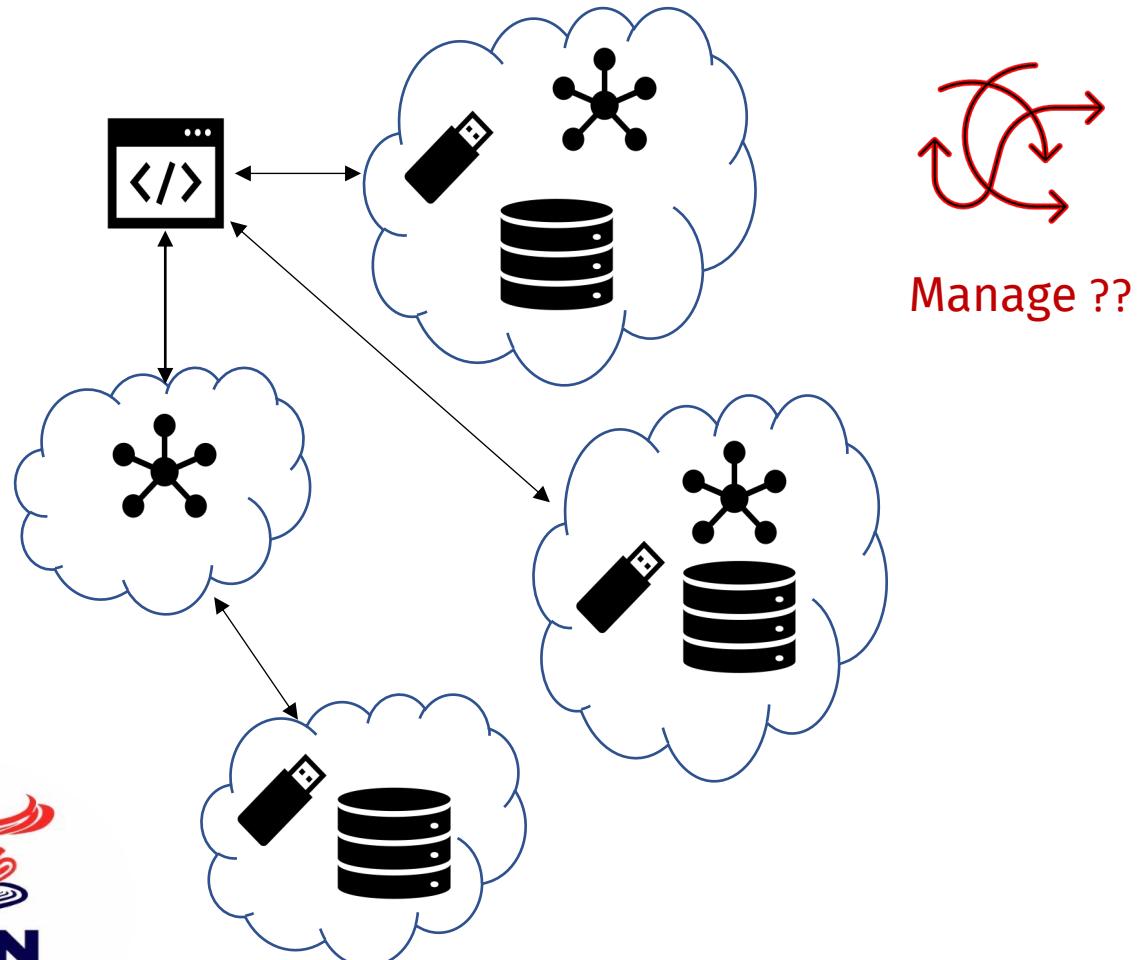


\*source: wiki

# Monoliths



# Microservices



APM



# Characteristics of Microservices

Virtual and Distributed environment

Dynamic data models

Loosely coupled

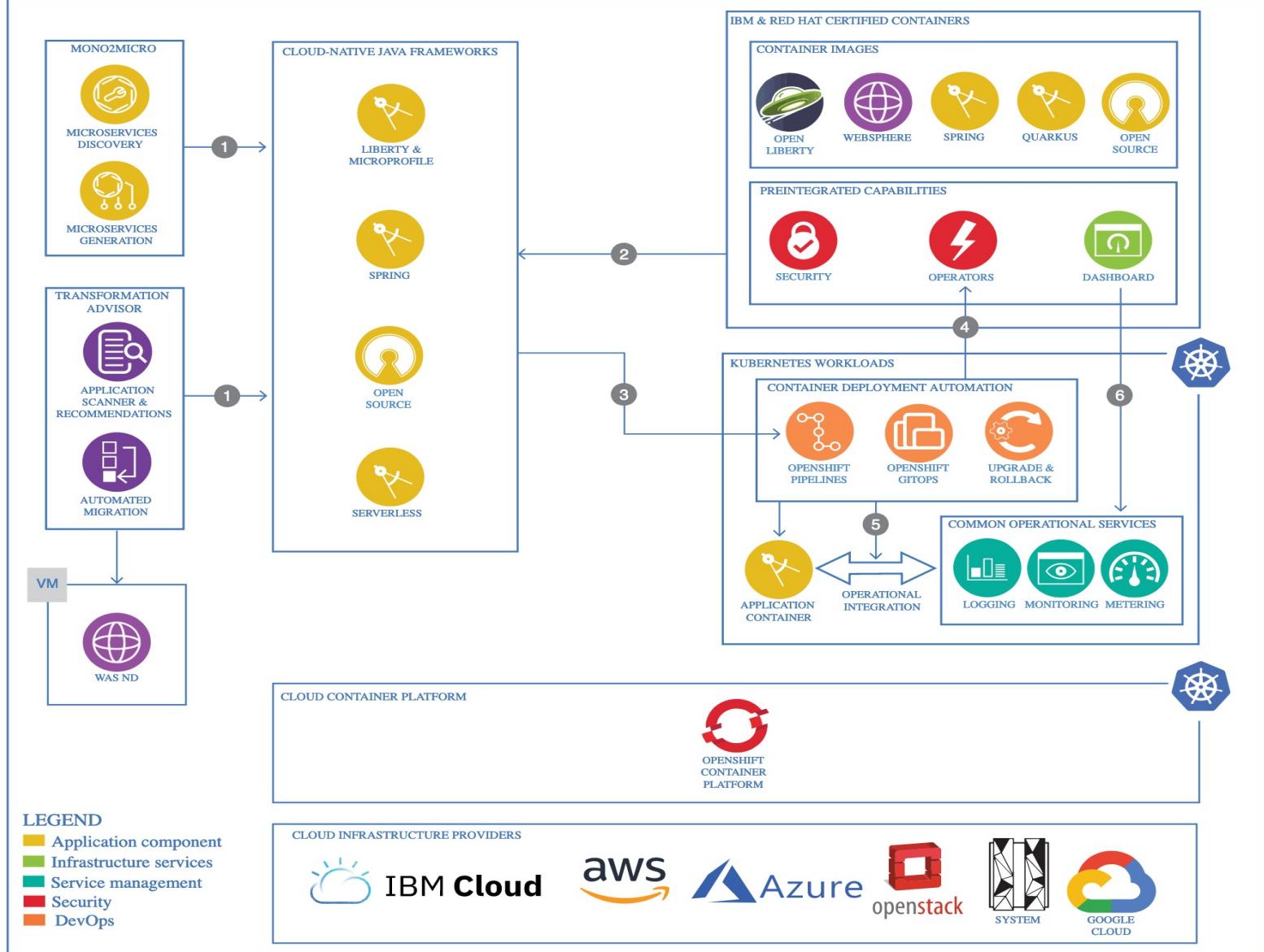
Multi data sources

Multi dimensional delivery pipelines

Easily scalable and unscalable



# Cloud Architecture



# APM Challenges

Monitoring full stack turns nearly impossible

Continuous deployments need frequent reconfiguring

Data is not granular due to high dynamism

Lack of context due to technology abstraction

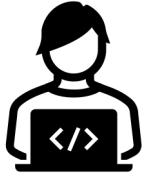
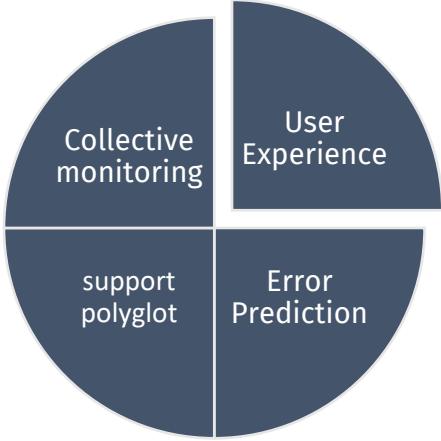
Expertise on new technologies for troubleshooting

Inefficient organisation of monitoring data

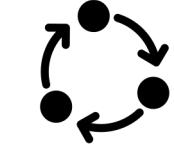
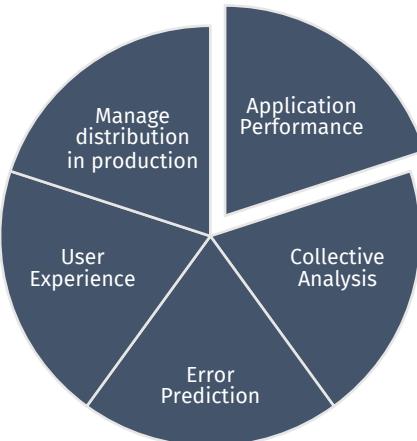
timely alerts can be delayed due to network latency



# What industry needs ?



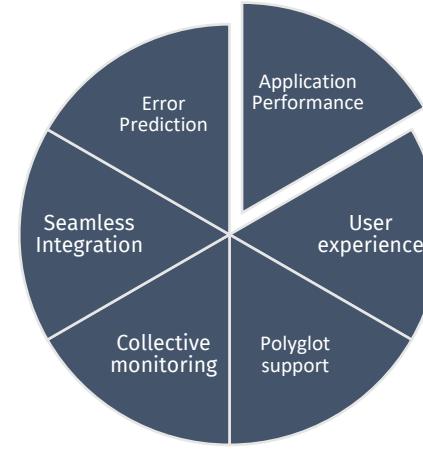
Developer



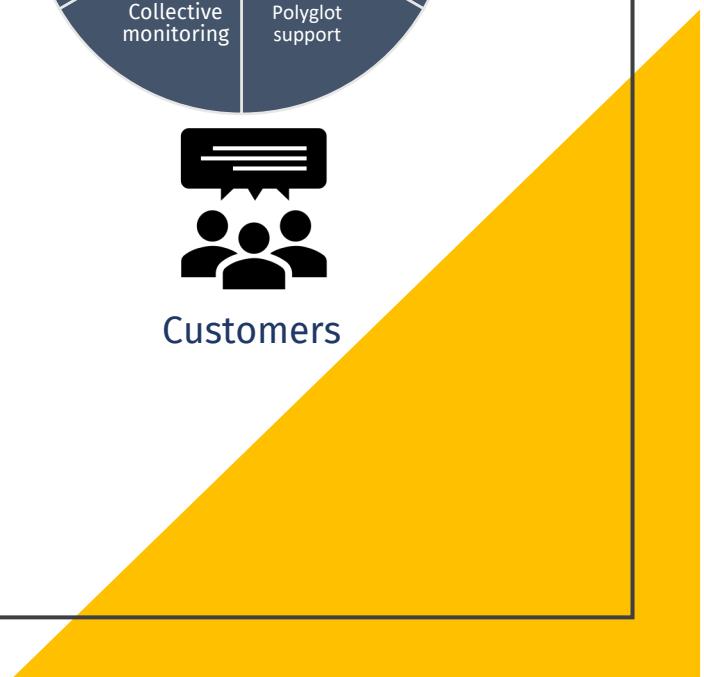
Operations



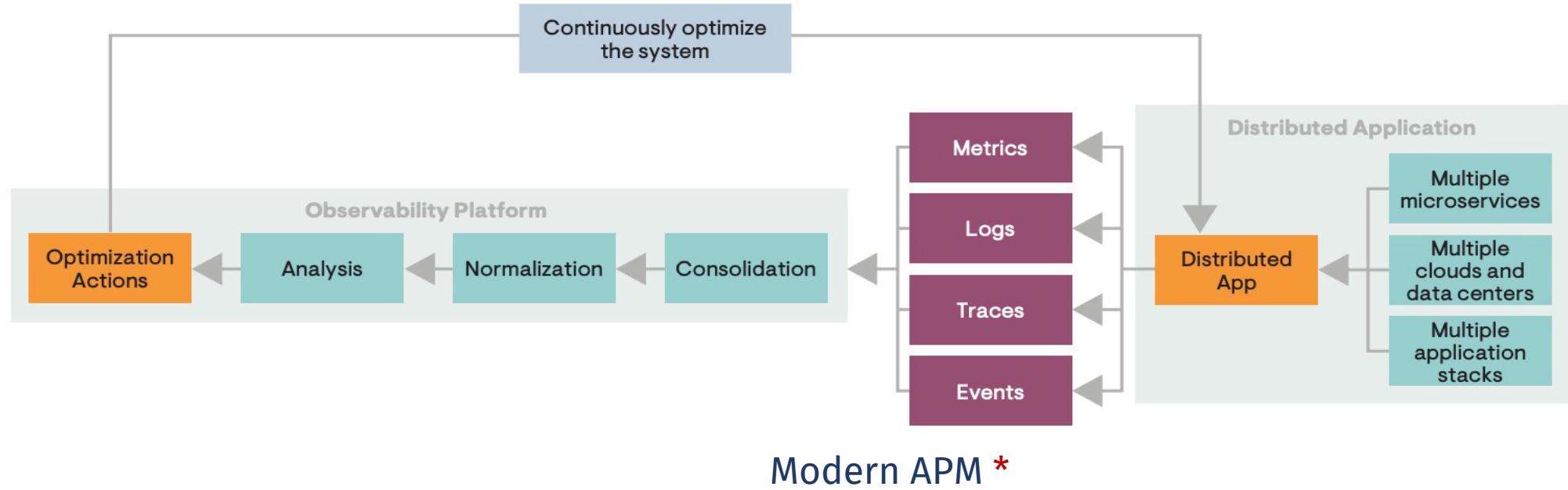
Sales



Customers



# Not just monitoring any more?



# Flawless

## Traceable

# User Experience

More of AI

# Less Interactions

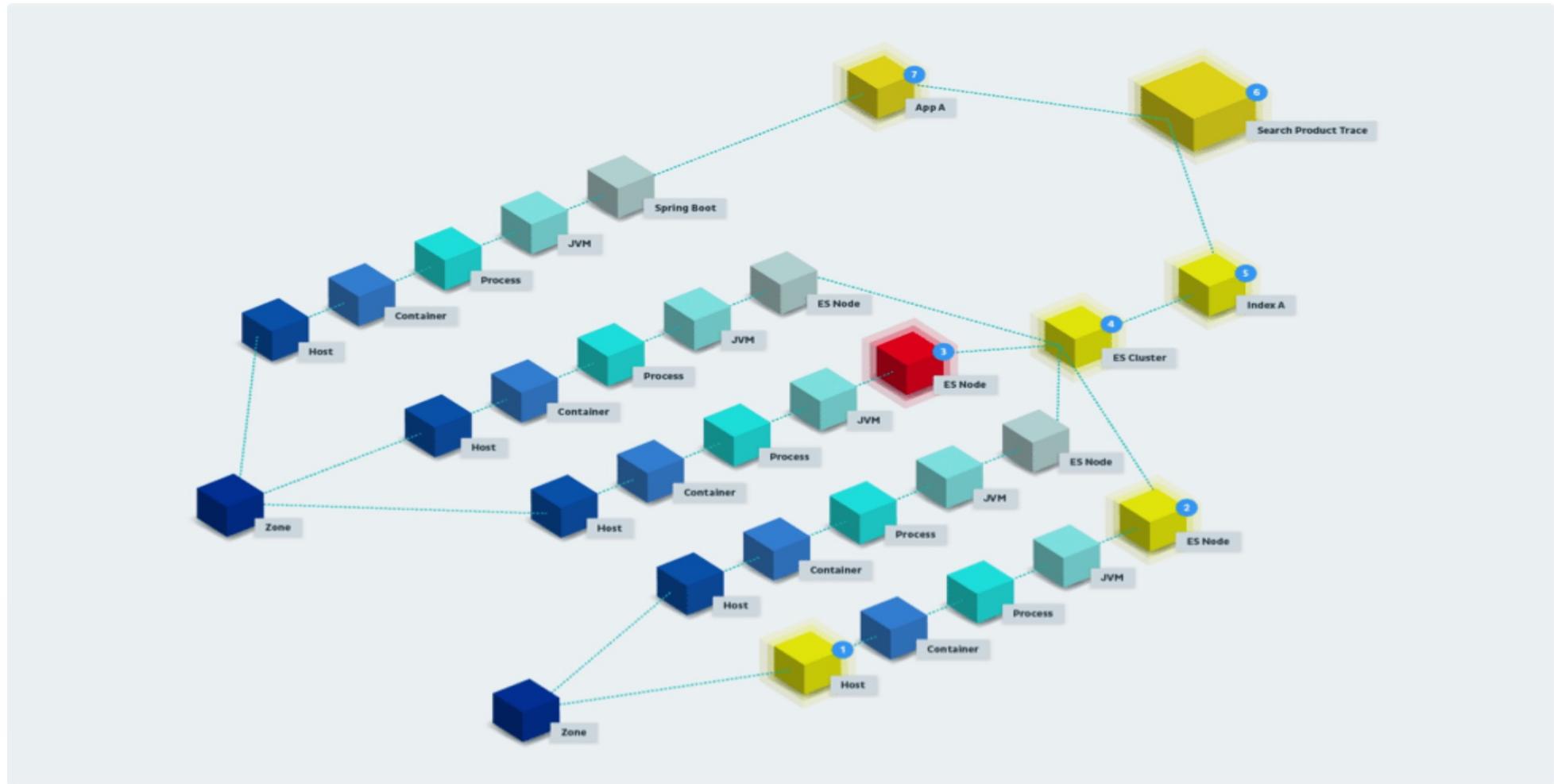
# Polyglot

## Scalable

# Microservices are growing

\*source: EMA Guide 2021

# Microservices: Dynamic Graph Architecture



# Demo



<https://play-with.instana.io/>



# Q & A



# References



<https://www.instana.com/blog/9-new-issues-impacting-cloud-container-based-applications/>

<https://www.ibm.com/cloud/blog/instana-recognized-as-a-top-3-observability-platform-by-ema>

[https://www.ibm.com/garage/method/practices/code/practice\\_get\\_started\\_with\\_architectures/](https://www.ibm.com/garage/method/practices/code/practice_get_started_with_architectures/)

<https://www.instana.com/blog/application-performance-management-3-0-time-new-approach-apm/>

<https://www.instana.com/blog/monitoring-microservice-applications-introducing-dynamic-graph/>

<https://www.ibm.com/cloud/architecture/architectures/cloud-native/>

<https://docs.broadcom.com/doc/the-definitive-guide-to-application-performance-monitoring>

<https://smartbear.com/learn/performance-monitoring/what-is-application-performance-management/>

<https://www.ibm.com/in-en/cloud/learn/cloud-native#toc-microservi-UQglPJzj>

<https://www.instana.com/docs/ecosystem/>

<https://www.appdynamics.com/c/dam/r/appdynamics/Gated-Assets/ebooks/ebook-the-need-for-next-generation-application-performance-monitoring.pdf>