AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

CON204-R2

Observability & beyond with container-based services on AWS

Colin Bookman
Sr. Solutions Architect
AWS

Juan Mendez
Specialist TAM
AWS

Ugur Kira
Specialist TAM
AWS

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Agenda

Presentation (25min)

- Observability
- OpenTelemetry
- AWS Distro for OpenTelemetry
- Reference architecture
- Partners

Workshop (90min)

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

What is observability?

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

“monitoring is what you do *after* a system is observable. Without some level of observability, monitoring is impossible.”

The New Stack
https://thenewstack.io/monitoring-vs-observability-whats-the-difference/

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Why is observability important?



Detect



Investigate

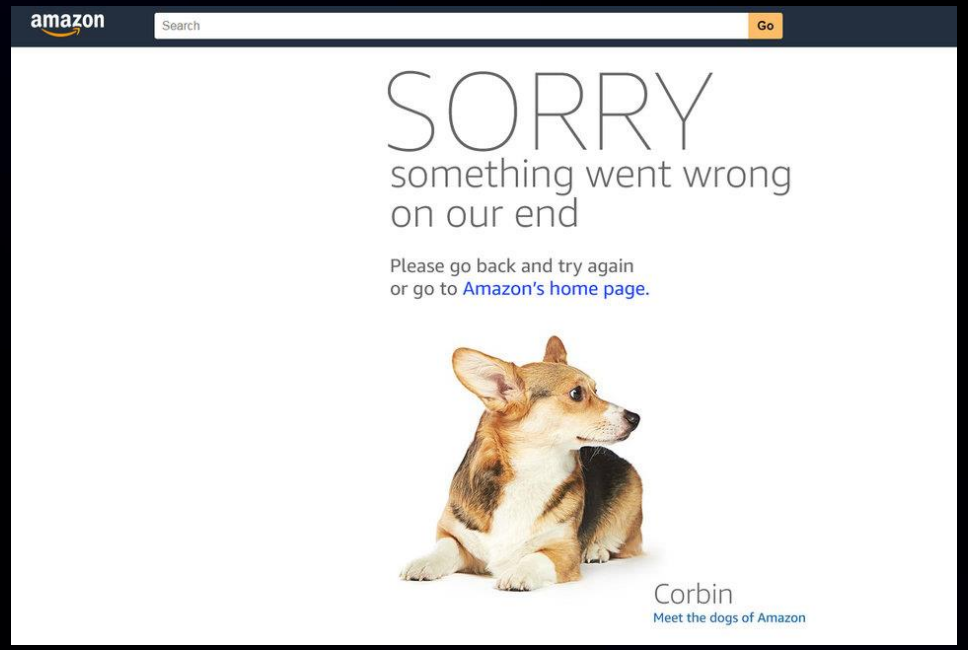


Remediate

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Monitoring compared to Observability

User saw 503 error



Metrics – What browser agents connected to my page? Which saw 503 errors?

Logs – /purchase/dogtoy gailed to connect with credit card company

Traces – How long did I spend trying to connect with the credit card company? Who else did I try sending traffic to?

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

OpenTelemetry

Cloud-centered and open-source framework to gather metrics, logs, and traces

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

What is OpenTelemetry (OTEL)?

- Instrument once
- Collect and aggregate
- Send to multiple destinations
- Cloud-centered framework
- Supports hundreds of destinations and 11 programing languages

OpenTelemetry

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Why care about OpenTelemetry?

- Life **without** OpenTelemetry
  - Proprietary client instrumentation and vendor lock-in
  - Observability data silos

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Why care about OpenTelemetry?

- Life **without** OpenTelemetry
  - Proprietary client instrumentation and vendor lock-in
  - Observability data silos

- Life **with** OpenTelemetry
  - Common API and schema for metrics, traces, and logs
  - Correlating across multiple microservices and compute infrastructure components

aws

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

> **We asked people how much of their time when building these features or capabilities is spent on what really differentiates the capability versus that undifferentiated heavy lifting of the infrastructure. We were stunned to hear that people [spend] about 80 percent of their time on that undifferentiated heavy lifting.**

Andy Jassy
Amazon CEO

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

AWS Distro for OpenTelemetry (ADOT)

A secure, production-ready open-source distribution supported by AWS



Upstream-first distro of the popular CNCF project

Certified by AWS for security and predictability

Backed by AWS support

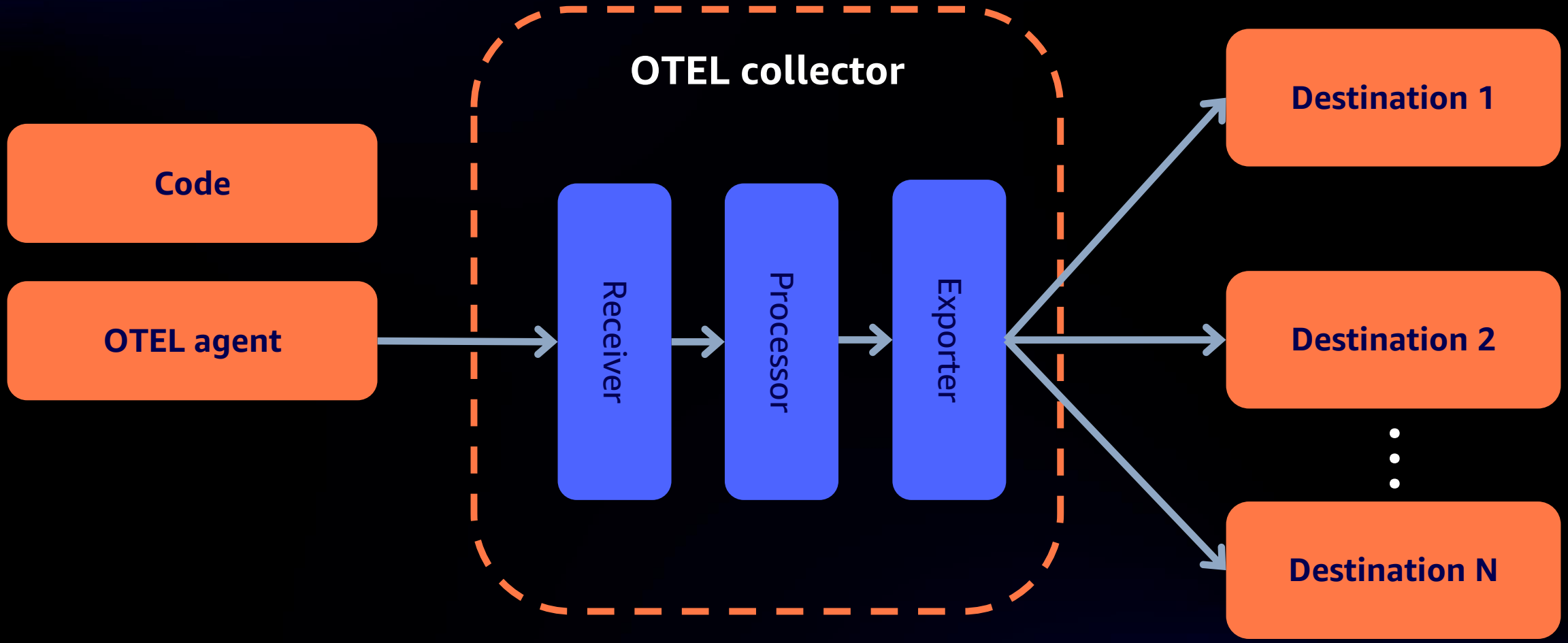
One-click deploy and configure from AWS container and AWS Lambda consoles

Exporters for AWS monitoring solutions including – Amazon CloudWatch, AWS X-Ray, Amazon OpenSearch Service, and partner solutions

aws

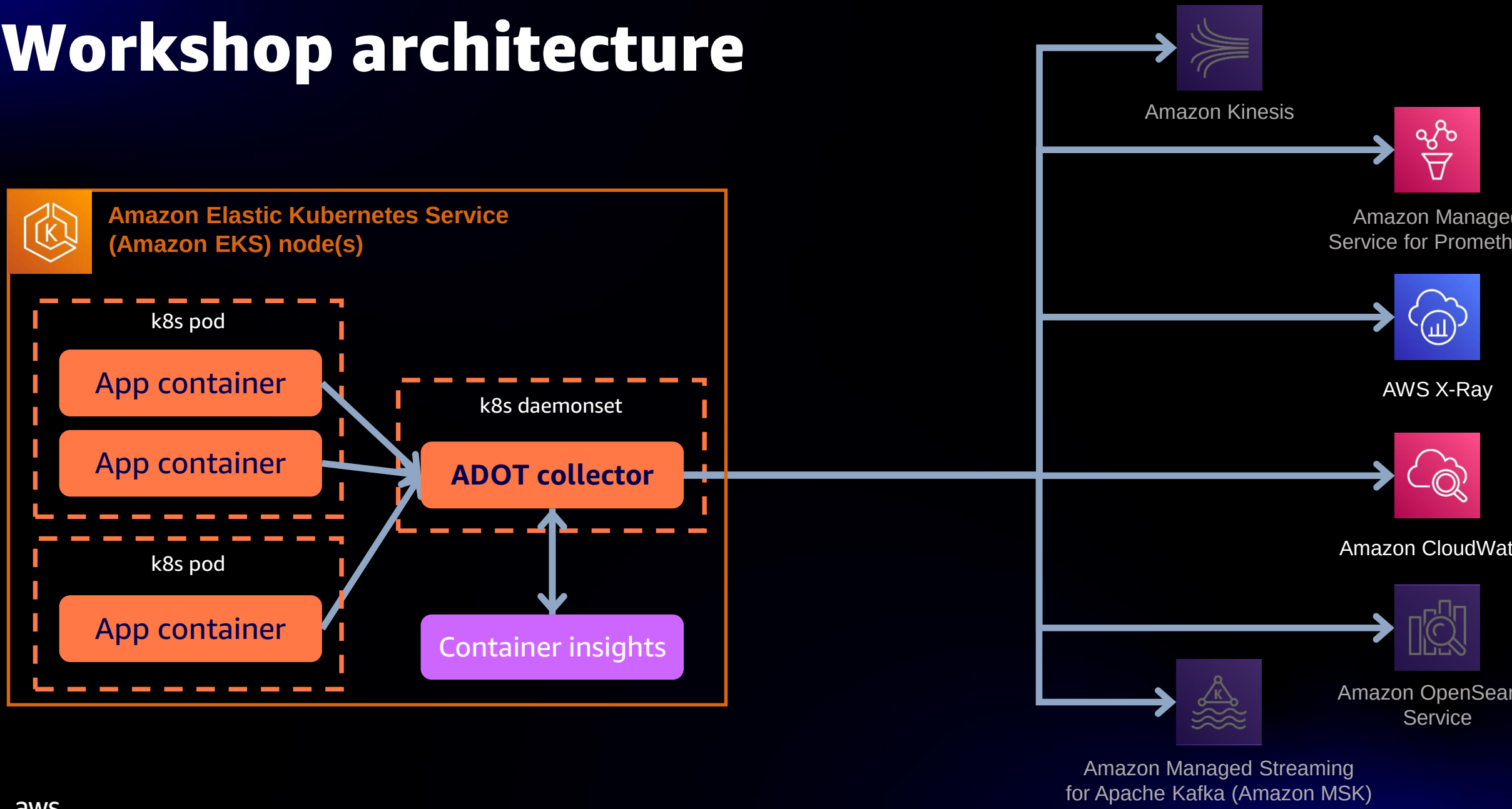
© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Reference architecture



© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Workshop architecture



© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Thank you!

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.