AWS re:Invent

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Observability best practices on AWS

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Agenda

- Observability overview
- Observability on AWS
- Use-case and demonstration
- What’s new
- Operational excellence and observability plan
- Discussion

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Observability overview

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“How do you understand the health of your workload?”

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What is observability

A PROPERTY OF A SYSTEM

In control theory, **observability** is a measure of how well internal states of a system can be inferred from knowledge of its external outputs

Source: Wikipedia, “Observability.” https://en.wikipedia.org/wiki/Observability

Observability is a property of a workload, just like the following properties

- Highly available
- Fault tolerant
- Scalable
- Loosely coupled
- Observable

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What is observability

A PROPERTY OF A SYSTEM

In control theory, **observability** is a measure of how well internal states of a system can be inferred from knowledge of its external outputs

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- Observability is a property of a workload
- Observable is an adjective – a system or workload is observable
- Monitoring is the act of taking data from an observable system and determining health/performance, and it is a verb – you monitor an observable system

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Foundation for observability



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What is observability?



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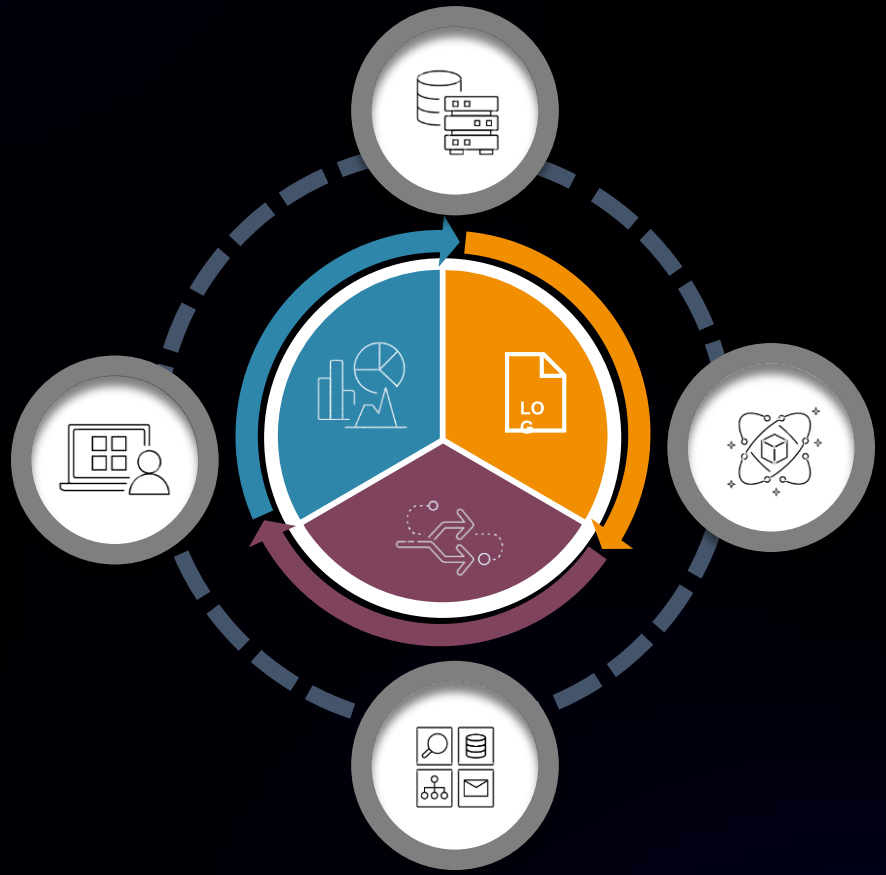
Observability on AWS

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How AWS enables observability

VMs, Containers, OS

Infrastructure



Digital experience

Synthetic monitoring

AWS services

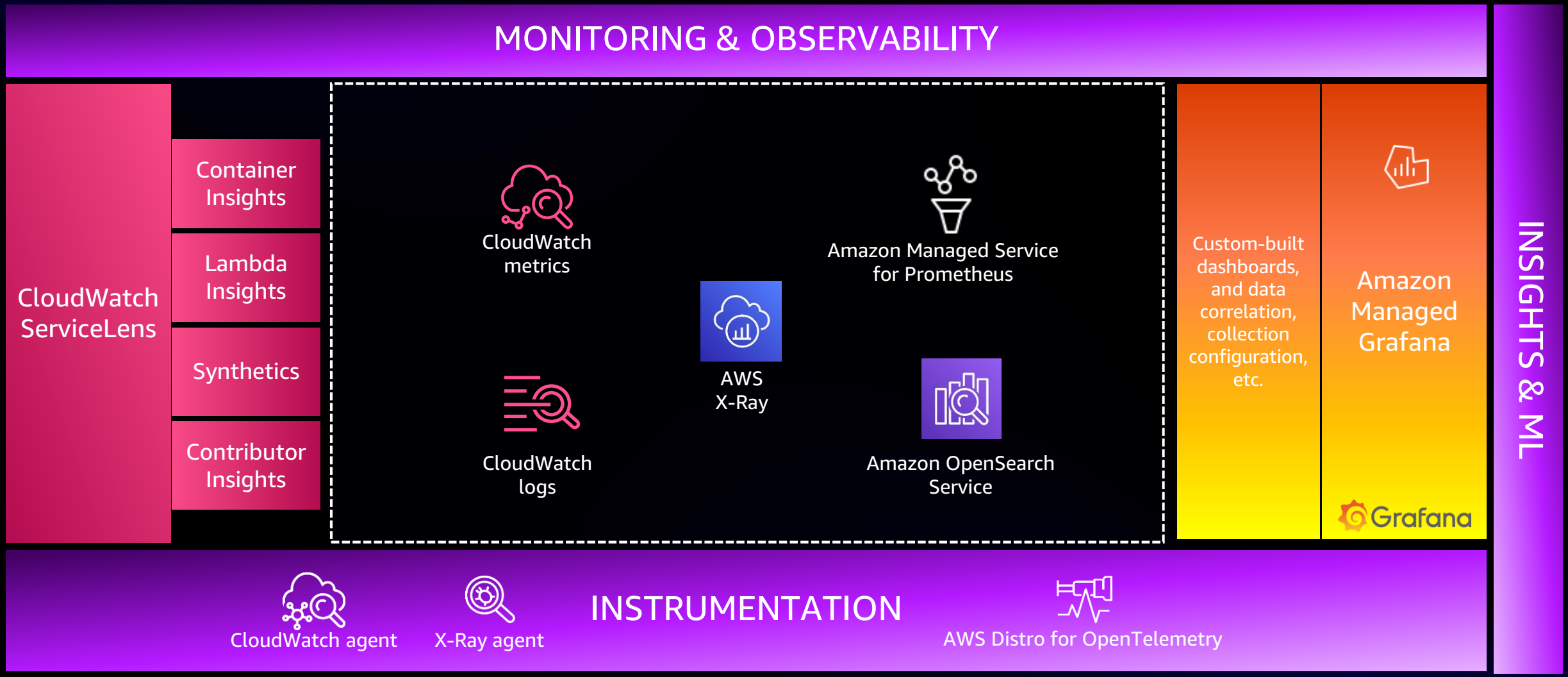
Vended monitoring

Application performance

Tracing and profiling

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AWS observability choices



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Use-case and demonstration

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“

How can I monitor my application health using AWS observability solutions?

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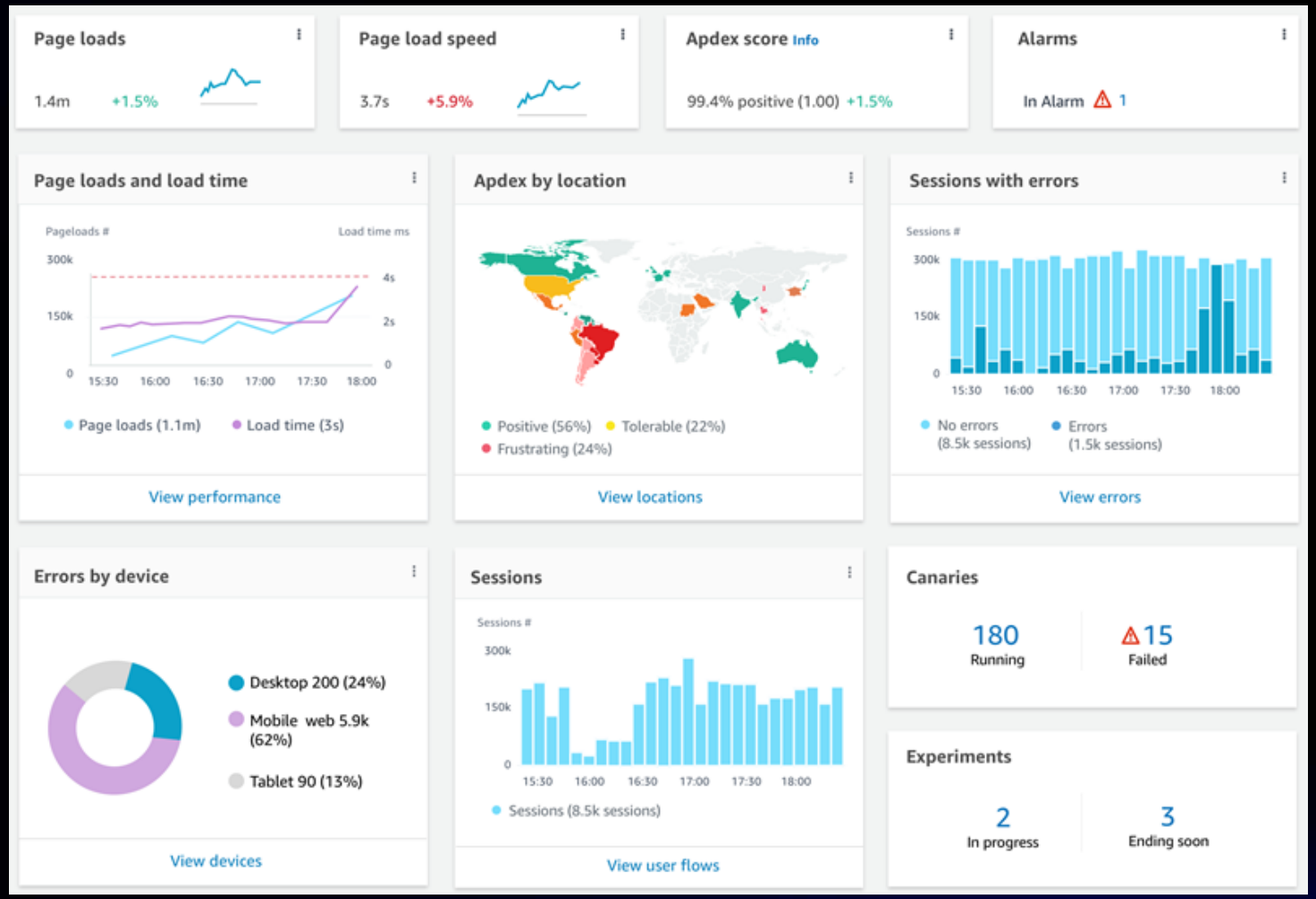
What’s new?

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CloudWatch RUM

Real user monitoring

Enable web application developers and DevOps engineers in optimizing end-user experience

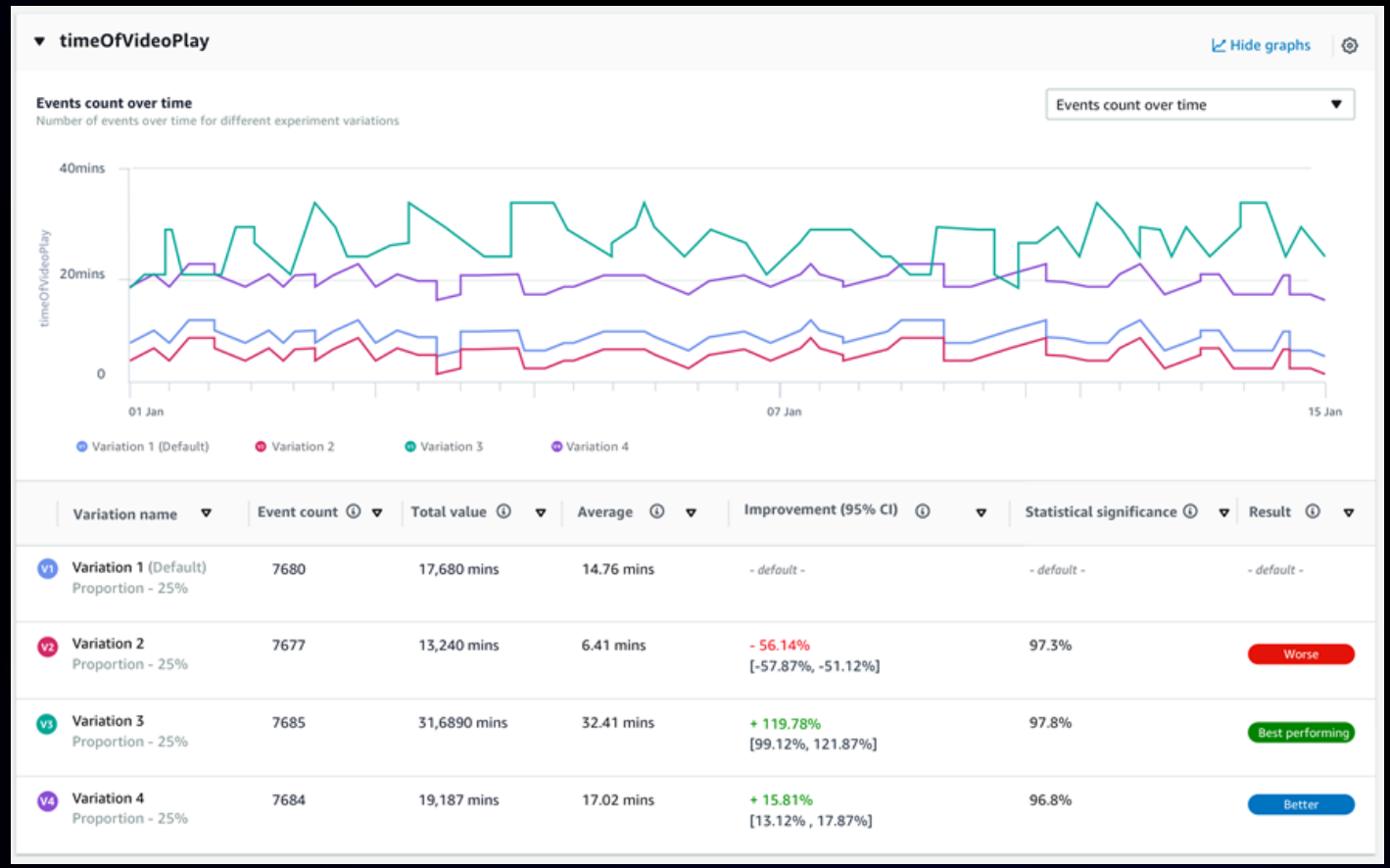


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CloudWatch evidently

Safe feature launch, A/B tests, and rollout monitoring

- Safely deploy new features and validate web application choices by conducting online experiments



Variation name	Event count	Total value	Average	Improvement (95% CI)	Statistical significance	Result
Variation 1 (Default) Proportion - 25%	7680	17,680 mins	14.76 mins	- default -	- default -	- default -
Variation 2 Proportion - 25%	7677	13,240 mins	6.41 mins	- 56.14% [-57.87%, -51.12%]	97.3%	Worse
Variation 3 Proportion - 25%	7685	31,6890 mins	32.41 mins	+ 119.78% [99.12%, 121.87%]	97.8%	Best performing
Variation 4 Proportion - 25%	7684	19,187 mins	17.02 mins	+ 15.81% [13.12% , 17.87%]	96.8%	Better

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“How do you understand the health of your workload?”

AWS Well Architected Review

Operational Excellence

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Operational excellence

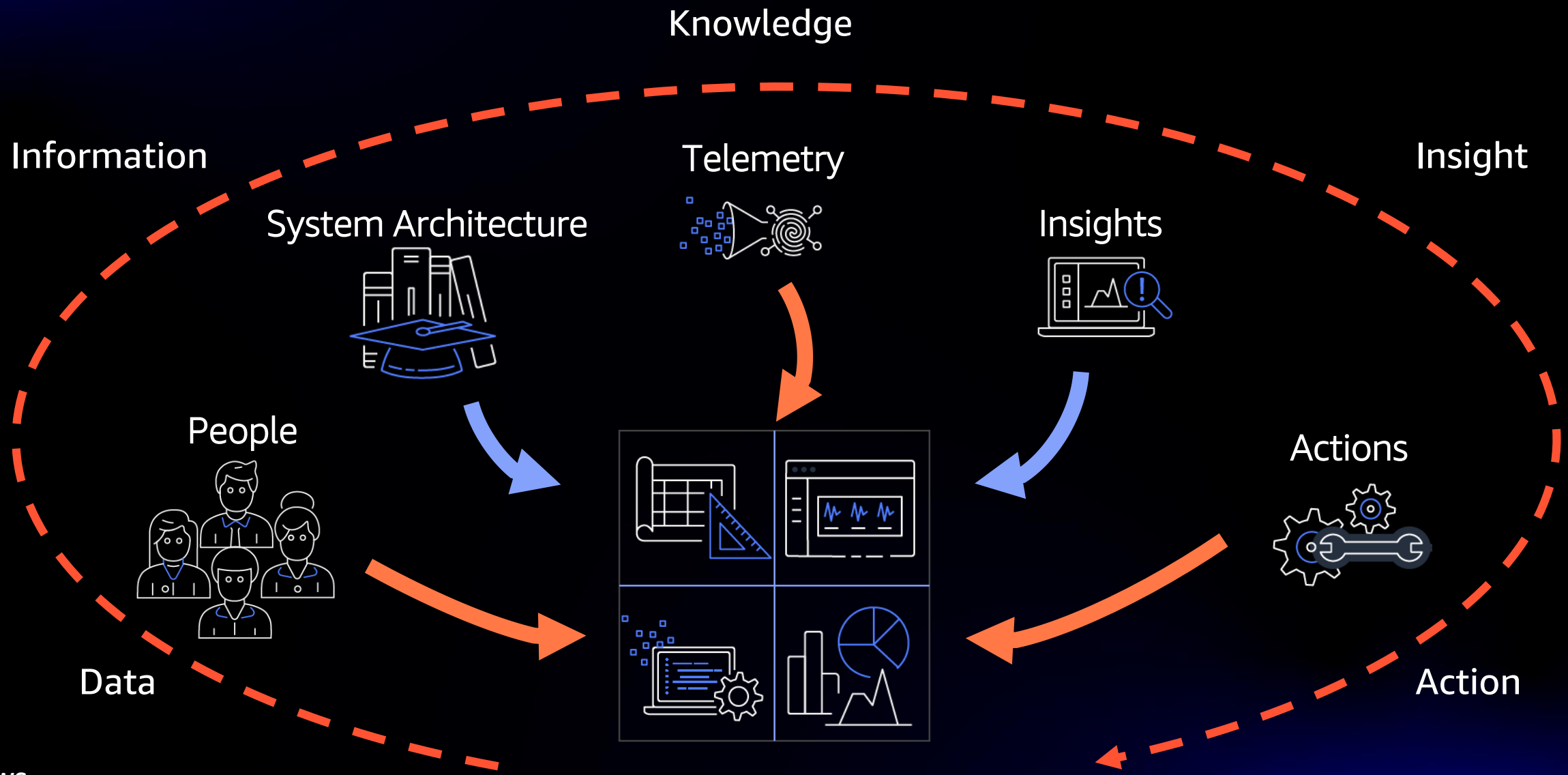
HOW DO YOU UNDERSTAND THE HEALTH OF YOUR WORKLOAD?

Define, capture, and analyze workload metrics to gain visibility to workload events so that you can take appropriate action

- Identify key performance indicators
- Define workload metrics
- Collect and analyze workload metrics
- Establish workload metrics baselines
- Validate the achievement of outcomes and the effectiveness of KPIs and metrics

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What goes into an observability plan?



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Observability sessions this week

BREAKOUT SESSIONS

COP201 – Gain enterprise visibility with AWS cloud operation dashboards

COP206 – Observability the open-source way

CHALK TALKS

COP315 – Observability on a single platform on AWS

DOP202 – Increasing availability with AWS observability solutions

WORKSHOPS AND BUILDER SESSIONS

COP307 – Observability best practices for modern & traditional applications

COP316 – Open-source observability

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Resources

- Visit https://observability.workshop.aws/ to get a hands-on experience of all AWS observability features
- Visit https://aws.amazon.com/blogs/ to read new blogs on observability and best practices
- Visit https://aws.amazon.com/cloudwatch/pricing/ to learn more about CloudWatch's pricing

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Thank you!

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