# AWS Monitoring & Observability

## Why observability is critical for your organization

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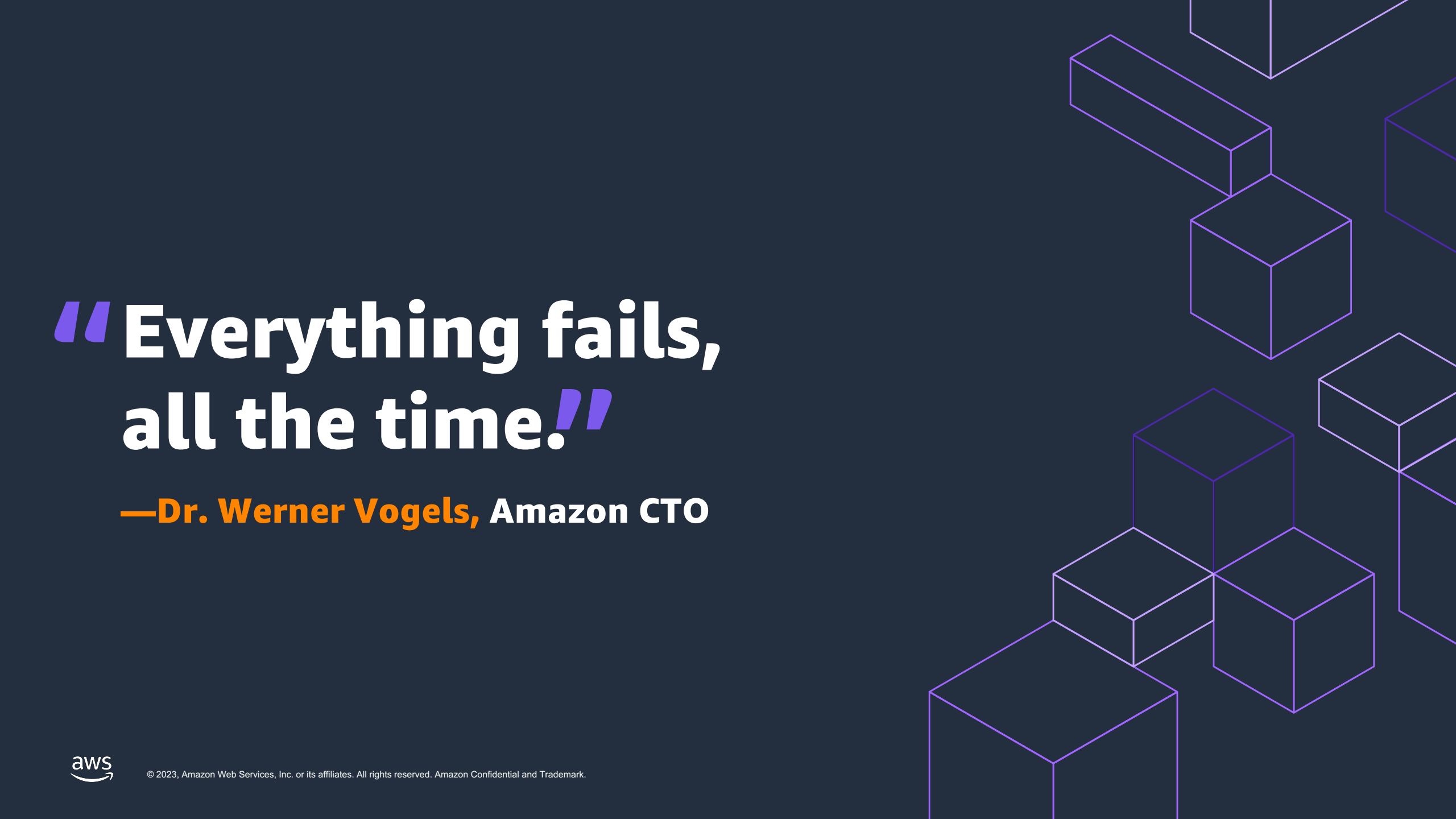


# Macro Customer Trends

## The need for customers to…

- React to situations efficiently by having visibility into their infrastructure and applications
- Provide optimal user experiences, beyond SLAs being green
- The need to know the exact cause and time when an incident happens
- Have visibility to ensure that applications are performing as intended
- Drive infrastructure efficiency and reduce cost

## Has led them to…

- Develop a monitoring and observability strategy
- A proactive approach to incident management
- Modernize application monitoring
- Tool consolidation to reduce operational burden and costs

# Monitoring more than failures

Is it behaving as expected?

What is the usage?

What is the business impact?

# What is observability?

# Foundation for observability: data drives decisions

Logs

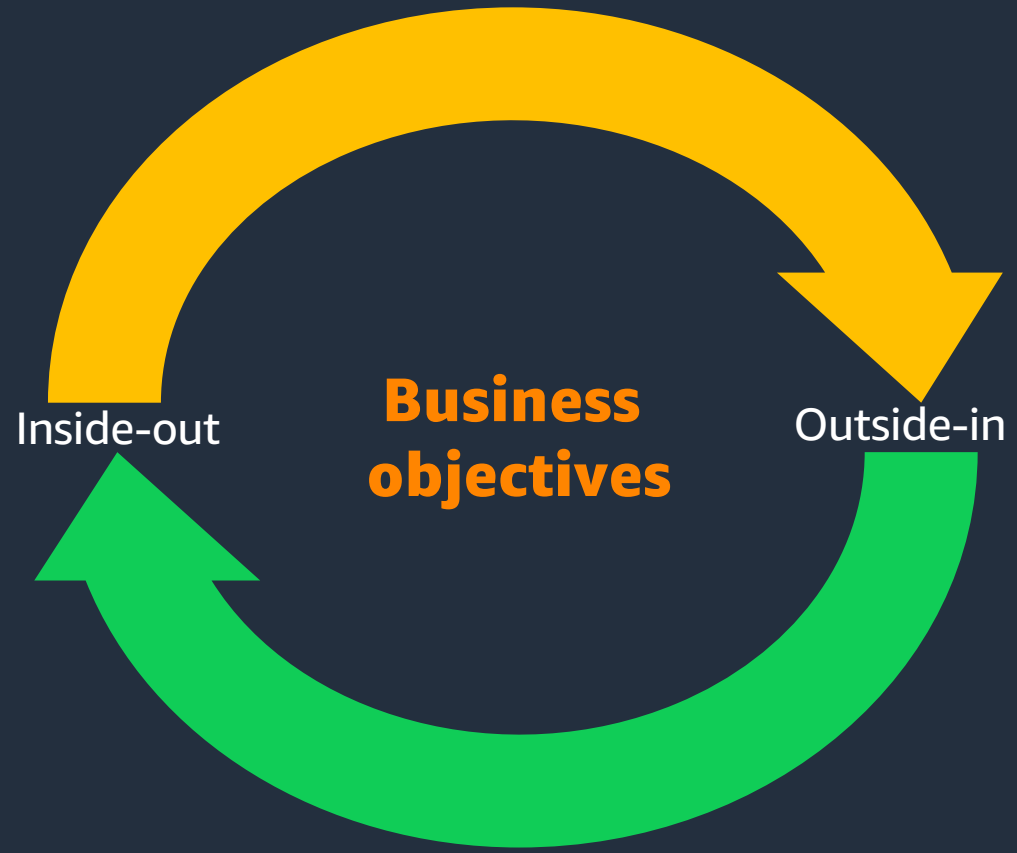
Metrics

Traces

Which help you maintain SLAs by **detecting, investigating, and remediating problems** to achieve

Availability Reliability Performance

# Full-stack observability strategies



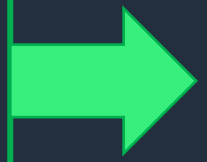

Your goals, objectives, and approach to observability should be shaped by your **business objectives**

This will determine what signals you receive from your workloads, what to create alarms and notifications around, and how to build a full-stack observability solution that reduces your **mean time to resolution**

# Outside-In

Begin with establishing what good looks like to your **end users**

Examples include
- Web page response times
- Failed purchases
- JavaScript and HTML errors



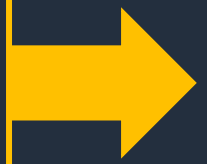
Typical SLO
- Page load time
- Purchases completed successfully
- Conversion rates and new customer acquisition
- New feature adoption rates

- **All are related to end-user behavior and performance**

# Inside-out

Begin by establishing what good looks like for your **backend applications**

Examples include
- Slow queries
- Integration health
- Container restarts



Typical SLO
- Query time
- High/low CPU utilization
- Disk usage, IOPS
- API response time
- Errors, faults, and retries rate

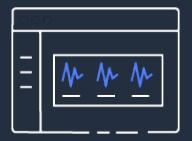
- **These are internal-facing signals**

# Business insights come from signals

Business insight

Customer sentiment, SLAs

Business-level metrics



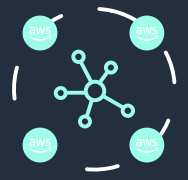
Webpage response time, job run length

System-level telemetry

CPU wait %, disk queue depth

# Why AWS Observability

Understand Application Health



Improve Performance & Availability

Reduce Operational Cost

Improve End-User Experience

Booking.com

Collected and measured real-world performance metrics of websites

CloudPassage

Faster discovery and fixes of potential bugs accelerated feature development

mapbox

Alleviated operational burden to set up, configure, and learn third-party systems

rego consulting

Resolved problems before their customers notified them of issue

# AWS Observability helps you achieve your business goals

Understand application health

Improve your end-user experience

AWS Observability:

- Out-of-the-box
- Streamlined data collection
- Flexible visualizations
- Analytics

Improve performance & availability

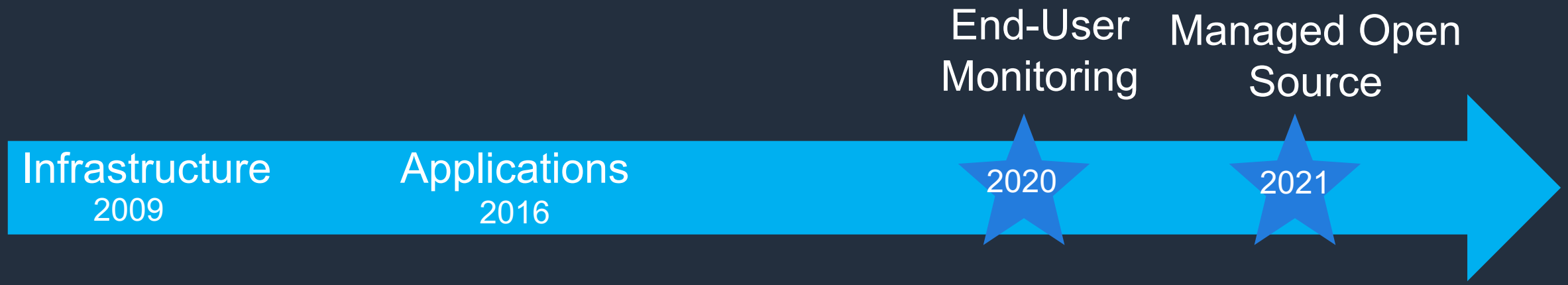
Reduce operational costs

# AWS Observability: Monitoring at scale

**Millions**
of AWS Observability customers

**6 exabytes**
of logs per month

**11 quadrillion**
metric observations per month



# AWS Observability: Powerful choice for your observability needs

## Sources & Workloads

- Integrates with more than 120 AWS services
- Consumes multiple data sources from third parties
- On-premises, hybrid and, containerized systems
- Open source systems

## Data Collection

- Open source or AWS native, via AWS Distro for OpenTelemetry and Amazon CloudWatch Agent
- Traces, metrics, logs

## Data Processing

- Contextualize your data points of traces, metrics, logs
- Enrich your data to be used for monitoring your applications and systems
- High cardinality

## Data Insight & Analysis

- Monitoring
- Dashboards & Visualization
- Alarms
- Correlated Telemetry
- Insights
- Anomaly Detection
- Root cause analysis
- AI Ops

## End-to-end Observability

- Infrastructure and Serverless Monitoring
- Network Monitoring
- Application Performance Monitoring and Management
- Cost monitoring & optimization
- Increased reliability and availability
- Achieve SLO/SLA
- Improve MTTD and MTTR
- CI/CD

# Coming up next…

- Build better customer experiences with observability
- Get actionable insights using Log Analytics
- Curated container observability experiences
- Monitor modern applications - The cloud-native way
- Monitor modern applications - The managed open-source way

# Resources

One Observability Workshop

AWS Observability Best Practices

Skill Builder – AWS Observability

# Thank you!