2023 Cloud Native Observability Report

Overcoming Cloud Native Complexity

chronosphere

2023 Cloud Native Observability Report
Overcoming Cloud Native Complexity

Customer expectations are higher than ever. To survive, leading organizations are turning to cloud native (that leverage containers and microservices) to increase efficiency and revenue. While that shift has brought many positive benefits, it's also introduced exponentially greater complexity, higher volumes of data, and more pressure on engineering teams who support customer-facing services. When managed incorrectly, it has significant negative customer and revenue impacts.

To get ahead of this, observability solutions have purported to manage this complexity to make the most out of a company's infrastructure and applications data. When done right, observability helps improve both the top and bottom lines. It allows businesses to quickly and efficiently mitigate incidents that cause customer pain, helps teams innovate faster, and improves ROI on precious engineering time.

But cloud native is only beneficial when it's paired with observability that can alleviate these pain points. This lets companies enjoy the benefits of their cloud native infrastructures while overcoming the built in risk.

To understand the implications that cloud native complexity puts on technical teams, Chronosphere surveyed over 500 U.S. workers in engineering and software development. The survey looks at the challenges they face, the time they waste, and how they wished things were different.

Organizations that have fully embraced cloud native techniques are more likely to be more competitive and release software faster that provides more value to their users than their legacy counterparts. As organizations move to adopt cloud native, there can be a cost of complexity that can be managed with improved architecture and modern observability solutions to tame the complexity and realize all the cloud native benefits.

Chris Aniszczyk

**CTO, Cloud Native
Computing Foundation**

Observable Benefits

Why Observability Impacts The Bottom Line

Without observability, operating a cloud native environment is nearly impossible. Engineers agree — observability is essential to cloud native and business success:
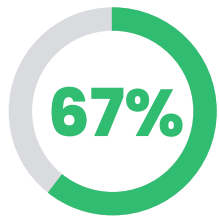
67% say having a *strong observability function* provides the foundation for all business value.
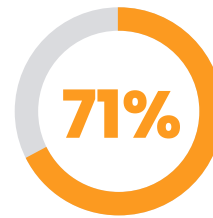
71% say their business *can't innovate effectively* without good observability.

The Cost of Complexity

In a cloud native environment, interdependence, volatility, and the sheer amount of data makes it nearly impossible for engineers to quickly detect, triage, and troubleshoot problems, especially if they are relying on home-built tooling.

87% of engineers say using cloud native architectures have *increased the complexity* of discovering and troubleshooting incidents.

With greater complexity comes greater costs such as dramatic increases in solution charges and increasingly inefficient use of engineer's time — both big issues in today's economy. Observability solves the problem of exponentially increasing complexity.

Carlos Casanova

**Forrester Research,
The Forrester Observability
Reference Architecture:
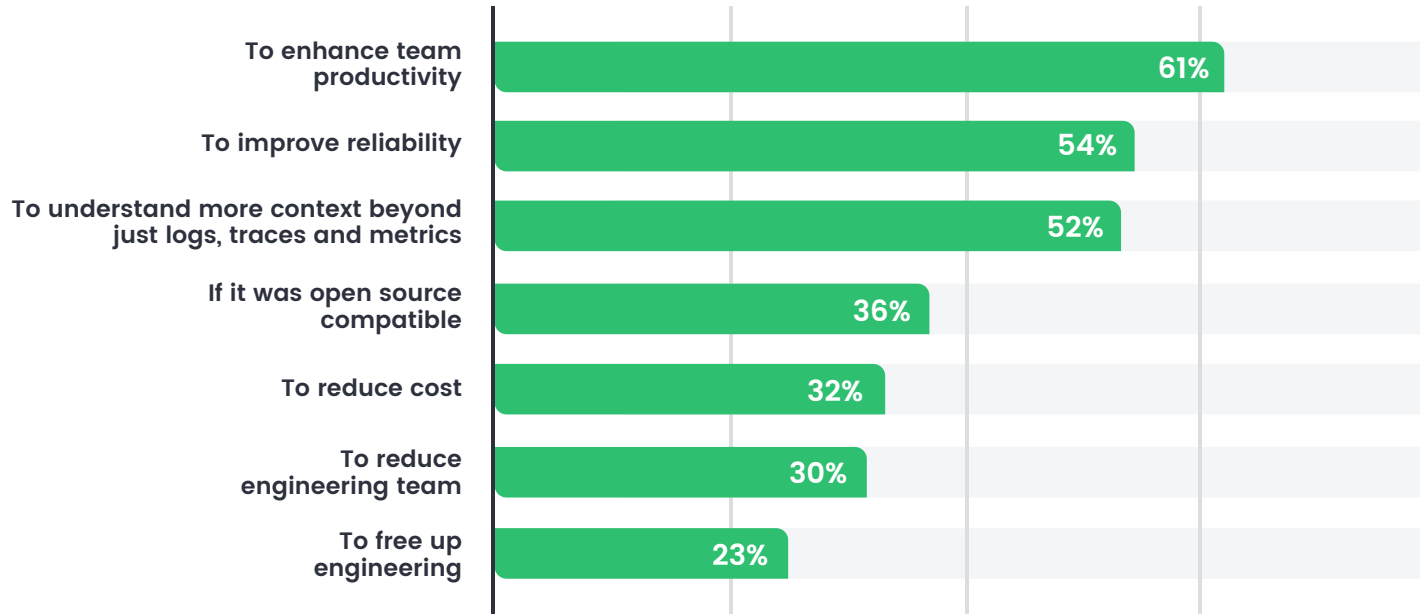Putting It Into Practice,**
October 20, 2022

> *One of the biggest challenges that cloud-native environments have brought with them is exponential data growth. Our IT environments contain more entities than ever, and they're establishing and releasing relationships countless times per second...The solution you design and the technologies you select to implement the design must be able to mitigate the risk that this poses in the form of runaway data volumes, associated cost overruns, and the resulting poor service quality."*

What Matters Most?

To manage the complexity of a cloud native environment, engineers want an observability solution with fast speeds, high performance, and ample context.

But they're split on what's most important when it comes to an observability solution. Among those using a vendor solution, **40% say speed & performance are their top priority**. For companies not using a vendor solution, **54% would consider doing so to improve reliability**.

## What would make you consider using a vendor solution for observability?

Category	Percentage
To enhance team productivity	61%
To improve reliability	54%
To understand more context beyond just logs, traces and metrics	52%
If it was open source compatible	36%
To reduce cost	32%
To reduce engineering team	30%
To free up engineering	23%

Engineers Are Overwhelmingly Underwhelmed

Paying The Price For Unmet Needs

Not all observability solutions are created equal. Few engineers are fully satisfied with their current solution, saying it's too slow, lacks context, and is generally unhelpful.
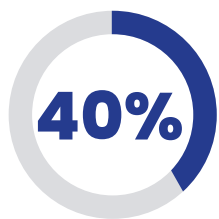
40% of engineers frequently get alerts from their observability solution **without enough context** to triage the incident.
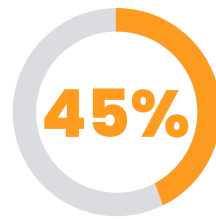
45% say their current observability solution requires a lot of *manual time and labor.*
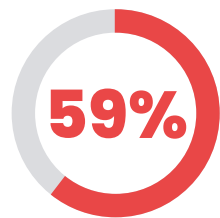
59% say half of the incident alerts they receive from their current observability solution *aren't actually helpful or usable.*

> *Take it from me - on-call rotations that frequently page on low-context signals, un-actionable alerts, and require manual toil to maintain leads to alert fatigue, and in extreme cases severe burnout. When I practiced SRE an organization's on-call health played a major role in deciding who to work for and when to leave.*

Paige Cruz
Senior Developer Advocate, Chronosphere

Engineers are also struggling with inconsistent performance, data complexity, and information deluge. For companies further along in their cloud native adoption, they're particularly struggling with too much low value observability data that is growing too quickly and doesn't actually help improve outcomes.
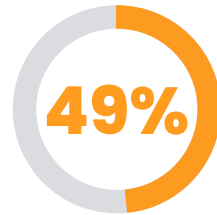
49% *say they struggle with **inconsistent performance** with their current approach to observability.*

"We struggle with data complexity (cardinality) with our current approach to observability"

Top quartile of cloud native adopters	54%
Bottom quartile of cloud native adopters	34%

Better Tools Yields Better Returns

Best-in-class cloud native observability solutions provide context with alerts, enabling quick issue triage and remediation — this ensures superior customer experiences and a competitive advantage. Companies using a vendor solution also report less frequent high-severity issues, quicker issue detection, and faster resolution.

> *Best-in-class observability optimizes an engineers' ability to move from alert to contextualized investigation. Connecting symptoms – alerts – to causes and navigating the complexity of that problem space in modern architectures is critical when every minute of downtime can represent millions of dollars of revenue and brand impact.*

Ian Smith
Field CTO, Chronosphere

42% of those using a vendor solution said they experienced high severity incidents quarterly or more. Yet, those using their DIY observability solution were 50% more likely to report these types of events (**at 61% of those surveyed**)

Those using a vendor solution are detecting issues **65% faster** than those without a cohesive approach, and 30% faster than those with an in-house solution.

Given this, it comes as no surprise that those using vendor solutions were **3x more satisfied** (49%) than those using home-built observability solutions.

How often does your company experience a high severity incident with a large customer-facing impact?

Observability vendor solution

In-house observability solution
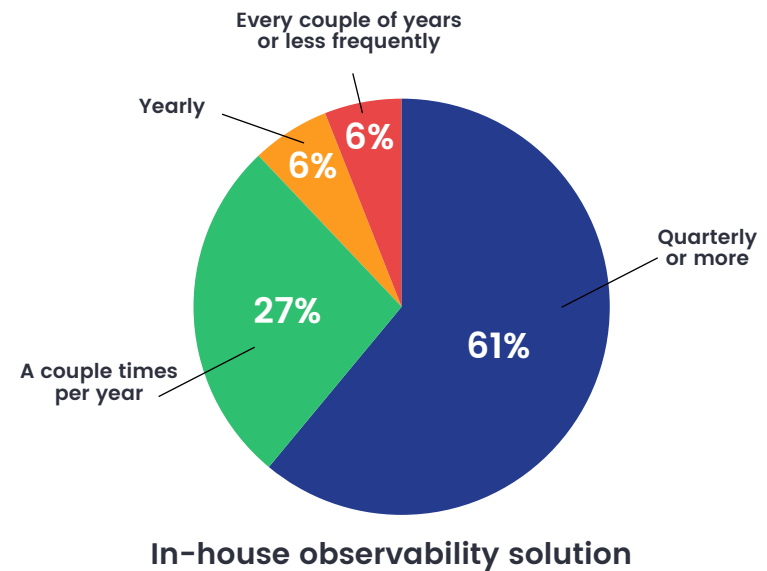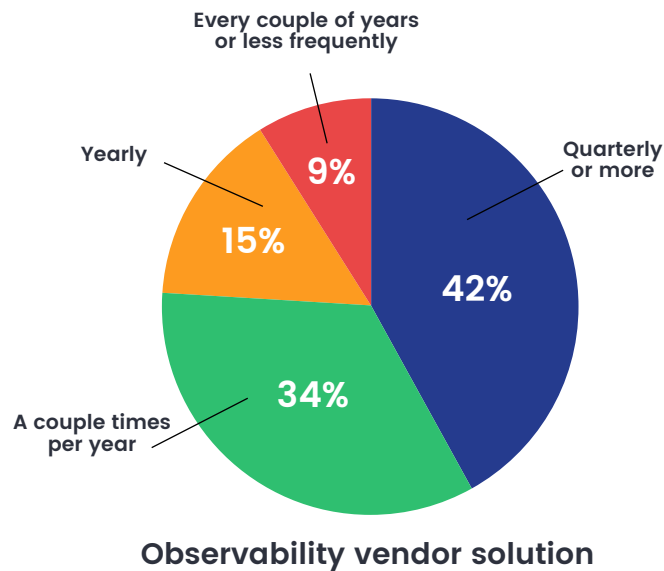
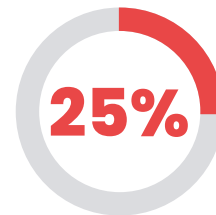# The Human Impact Of Poor Observability

The High Cost Of Low-Level Work

Engineers spend more than **10 hours** on average, per week, trying to triage and understand incidents — a quarter of a **40 hour** workweek.

25% of the workweek

96% *of individual contributors spend most of their time resolving low level issues but say what they really want to do is innovate.*

25% *of engineering time is spent trying to understand and triage incidents.*

Spending so much time on repetitive and unrewarding work is jeopardizing employee retention with over 1 in 5 wanting to quit.
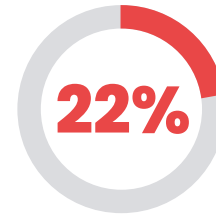
88% report *negative impacts to themself* and their career from spending so much time troubleshooting.

39% say they are *"frequently stressed out."*

33% say it *disrupts their personal life.*

22% say it makes them *want to quit.*

The wasted time engineers spend amounts to billions lost annually for businesses[1].

Complexity Is Wasting Everybody's Time

Complexity issues are heightened for individual contributors — those most responsible for monitoring, identifying and responding to outages and issues day-to-day. Individual contributors spend three times as many hours troubleshooting compared to senior leaders — clocking in at 12 hours on average weekly.

90% of individual contributors spend time on *nights and weekends monitoring* and resolving issues or being on call.
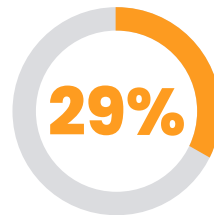
29% say spending so much time trouble shooting means they *can't progress and develop in their career* like they want to.
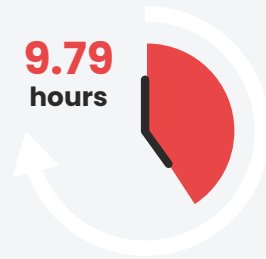
To Buy or To Build?

Observability pros using a vendor solution spend the least amount of time troubleshooting and receive less frequent after hours pages and alerts that lack context.
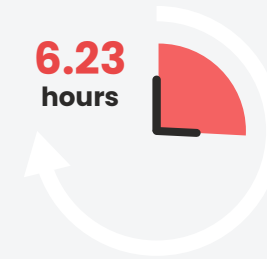
16.47 hours — *No cohesive approach*

9.92 hours — *Using their own solution*

9.79 hours — *Using a combination of a vendor and their own solution*

6.23 hours — *Using a vendor solution*

• Less than half the engineers using a vendor solution for observability get frequently paged after hours for non-urgent alerts, compared to those using their company's self-built solution (**21% vendor** vs. **46% self-built**).

• Vendor solution users get alerts that lack context a third of the time as much as their self-built solution counterparts (**17% vendor** vs. **57% self-built**).

Leadership Has Their Heads In The Clouds

With not a single complaint about their observability solution, senior leaders may be oblivious to — or outright ignoring — the plight of their teams.

100% of individual contributors have complaints about their current observability solution. 54% of individual contributors say their job is boring because of so much troubleshooting — ZERO directors+ found their job boring.

Individual contributors

45%
say they are frequently stressed

39%
say the time they spend troubleshooting disrupts their personal life

Directors+

20%
say they are frequently stressed

9%
say the time they spend troubleshooting disrupts their personal life

The Rise of the Central Observability Team

To offset some of the challenges facing engineers, organizations are creating a centralized team of experts, whose skillset is focused on cloud native observability as a means to faster and more cost effective problem-solving.

- **50%** of companies have a central observability team and nearly a quarter (**23%**) plan to create one in the next 12 months.
- **62%** of companies with high cloud native adoption levels (75%+) have a central observability team, compared to just **38%** among those with less than half cloud native adoption.

Rob Skillington

Co-Founder, CTO
Chronosphere

"*The central observability team supports the engineers and developers involved with delivering your service to end users. Their core responsibility is to provide a consistent and streamlined observability service to different teams, departments, and business units. They do this by defining standards and practices, managing tooling and storage of data, and ensure reliability and stability of solutions. The result is less engineering toil, improved governance, and less tool sprawl.*"

Curing Complexity And Beyond

Observability is an often untapped solution for business organizations. Done right, it can improve customer experiences, help with employee retention, and improve top and bottom lines.

As companies continue on their cloud native adoption journey, investing in a best-in-class observability solution provides a foundation for business value, increasing efficiency, profitability and innovation. The 2023 Cloud Native Observability Report underscores the tremendous upside that companies can achieve with observability – beyond preventing critical incidents and negative business comes. It also provides breathing room for engineers so they can focus more of their working hours on innovating instead of putting out fires. In the end it saves not only time and money but makes teams happier and more productive along the way netting greater returns across the entire business.

Learn more about Chronosphere at
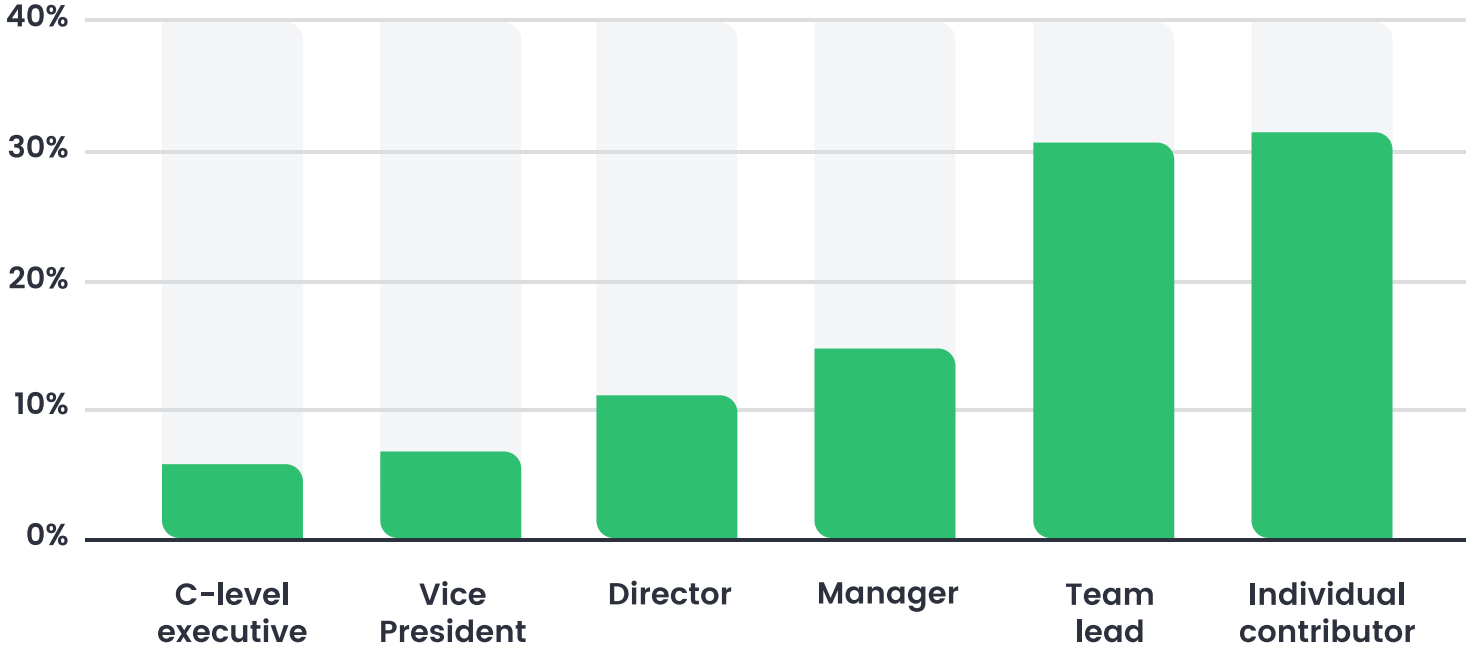
www.chronosphere.io

Appendix: Survey Demographics and Methodology

Between September and October 2022 Chronosphere partnered with Method Communications to field a survey to 500 full-time software developers who are familiar with observability. Respondents were located in the US and came from companies with more than 500 employees.

How many employees work at your company worldwide, including all offices and locations?
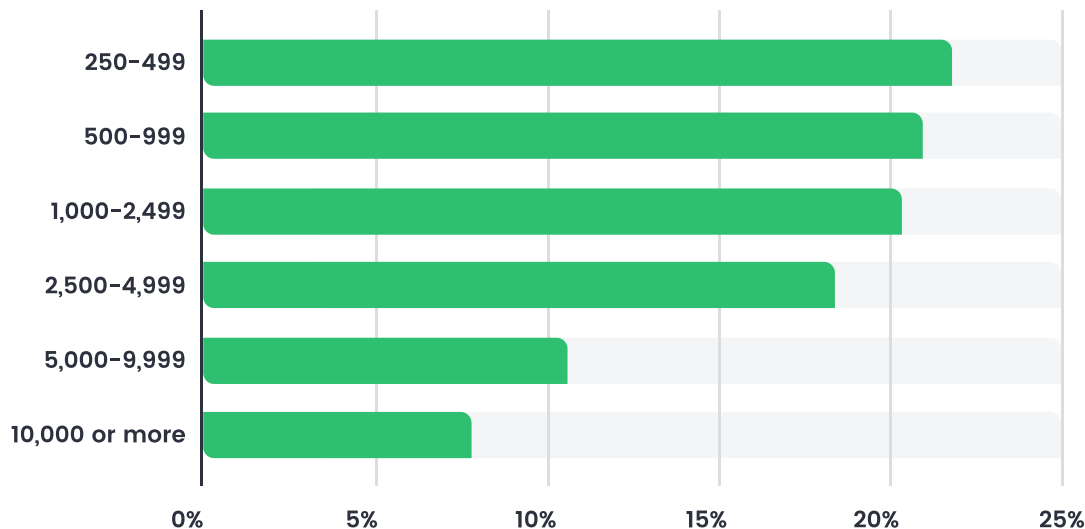
Which of the following job titles most closely describes your current position?

What industry do you work in?

- Agriculture — 1%
- Chemical — 5%
- Construction/Contracting — 7%
- Education — 5%
- Energy — 3%
- Entertainment — 4%
- Financial services — 16%
- Food — 2%
- Health care — 12%
- Hospitality — 4%
- Manufacturing — 6%
- Media — 2%
- Public sector (government) or non-profit — 3%
- Retail — 14%
- Technology — 10%
- Telecommunications — 5%