

# DISTRIBUTED CLOUD SERIES: Observability and Demystifying AlOps

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### **Research Objectives**

The need for observability in IT operations management is driven by the desire for organizations to reduce downtime, increase operational security, and improve customer, digital, and employee experiences. This is important because software, in many cases, contributes directly to an organization's bottom line. In IT operations management, the addition of distributed and multi-cloud, cloud-native development and architectures as well as the increasing importance of security mean that the infrastructure is much more complex and significantly more dynamic. For software developers and DevOps teams, understanding the behavior of their code in production and integrated development environments empowers them to troubleshoot and deliver better-performing code and applications in less time.

Against this backdrop, IT and DevOps teams are embracing observability and, to a lesser extent, AIOps to help them instrument and monitor their infrastructure and applications.

In order to gain further insights into the trends surrounding observability, TechTarget's Enterprise Strategy Group (ESG) surveyed 374 IT (58%) and DevOps/AppDev (42%) professionals responsible for evaluating, purchasing, managing, and using observability at large midmarket (500 to 999 employees) (11%) and enterprise (1,000+ employees) (89%) organizations in North America (US and Canada).

#### This study sought to:



**Identify** the value that organizations receive from observability as well as the challenges they face.



**Determine** the current state of observability in the enterprise, and characterize firms that intend to purchase observability tools.





**Establish** business and technical challenges, and uncover the roadblocks to observability deployment and operation.

**Monitor** the adoption of observability and AIOps tools in enterprises and midmarket organizations.



Observability and Demystifying AlOps



#### The Observability Market Stays **Hot Amid Continued Evolution**

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# KEY FINDINGS

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# The Observability Market Stays Hot Amid Continued Evolution



## **Observability Now Sees Widespread Adoption across Multiple Use Cases**

Observability is well-established within organizations, with use cases spanning from detection and resolution to compliance with SLAs and enhancing security. Cost attribution (e.g., chargeback and FinOps) is a rising use case due to the increased popularity of infrastructure Opex models, which make costs easier to allocate, and a generally pessimistic macroeconomic outlook. In turn, IT teams are increasingly challenged to manage costs.



Providing insights into application and/or infrastructure environments to assist with tracing, accelerated fault isolation, root cause analysis, and resolution Providing real-time insights into application and/or infrastructure environments to ensure that service level agreement (SLA) and performance commitments are met Providing insights to improve security posture/help with 41% vulnerability detection and impact analysis Providing insights into application and/or infrastructure 40% environments to automate operations 34% Providing insights into resource cost attribution and cost optimization 31% Ensuring adherence to regulatory compliance requirements 28% Providing digital experience and/or end-user monitoring







### **Observability Tools Are** Widespread—and Sprawl Lurks

The toolkits organizations use to achieve observability are extensive, with a vast majority of organizations reporting at least 6 different tools in use. Even while tool deployment is widespread, organizations are not finished building out their observability practices, as many have plans to invest across multiple areas in 2023. The continued desire for more observability tools must be weighed against a potential rise in management complexity and other issues related to sprawl.

Number of observability tools in use.

10%

5 or fewer

# Even while tool deployment is widespread, organizations are not finished building out their observability practices.





6

## Security and ITSM Lead a Long List of Deployed Tools

Security monitoring is the most commonly deployed observability tool, reflecting the overall critical role of security in the observability realm. ITSM, often considered the center of cross-group collaboration and work management, is similarly widespread. The average organization has multiple observability tools in place, though security and ITSM are most commonly selected as most important.

Observability tools in use.





# Observability Delivers Tangible Impacts



### In-house Apps Account for a Significant Portion of Revenue, **Reinforcing the Need to Minimize Downtime**

For many organizations, in-house applications are responsible for a significant portion of their revenue. In turn, this eases cost justification for investments in observability tools. The continued modernization of IT environments through DevOps and similar initiatives inevitably sparks a rising need for more thorough, trustworthy observability.

Revenue percentage tied directly to internally developed applications.



# 92% of organizations derive revenue from internally developed apps.

37%

26% to 50% of revenue derived from internally developed apps

26%

51% to 75% of revenue derived from internally developed apps



76 to 99% of revenue derived from internally developed apps

1%

All of our revenue is derived from internally developed apps

**ESTIMATED MEAN = 39%** 



#### Most impactful benefits of observability.

Improved security detection and response capabilities Improved SLA performance Tightened alignment between IT, developers, and security teams Improved operational costs Reduced risk Improved end-customer experience Accelerated time to problem detection Provided integration with incident management tools Accelerated time to problem resolution Improved ability to tie IT operations to business KPIs Increased visibility across cloud-native and traditional applications Increased innovation Increased utilization of infrastructure Helped control/reduce public cloud services costs Accelerated digital transformation initiatives Helped control/reduce on-premises data center infrastructure costs Improved budget projections/forecasting Simplified asset/change management or auditing activities



7%

23%

### **Observability Boosts Security and SLA** Capabilities

From security and risk management to operational performance metrics and operational cost savings, the impacts of an observability practice are felt organizationwide. The effect on team relationships is also evident, as organizations point to tightened alignment between IT, developers, and security teams. By making more data available in a timelier fashion, IT operations teams can integrate and serve the business better.









### **Observability Leads to More Time Spent Innovating**

Organizations with observability practices spend 4% more time on new software development/innovation, 3% more time on modernizing applications to be cloudready or cloud-native (and migrating them to cloud), and 6% less time on maintaining/ troubleshooting. In larger organizations, this can have a highly meaningful impact.

Observability and Demystifying AlOps

Observability practice in place

#### New software creation/innovation



Percentage of time spent on innovation, maintenance, and cloud modernization/migration by observability practice presence.

No observability in place

Maintaining/troubleshooting existing production applications



Migrating and modernizing existing applications to be cloud-ready or cloud-native



30%

## **Organizations Report Increased Comfort with Cybersecurity Visibility**

The ability of observability practices to transform environments is undeniable, but not all of that change is positive. For example, 72% of organizations agree that the number of tools they use adds complexity, while 69% agree that their observability data is growing at a concerning rate. However, the percentage of organizations that said their organizations are at risk due to insufficient cybersecurity visibility declined from 62% in 2022 to 53% in 2023, suggesting that observability is improving on its ability to perform in this area.







Challenges<br/>Surround the<br/>Deployment<br/>and Use of<br/>Observability





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Biggest challenges when deploying observability.

Scalability and reliability of solutions

Lack of visibility into edge environments and remote locations

Too time consuming to instrument applications and infrastructure for observability

Lack of visibility into cloud-native, container-based application environments

Automation too complex to implement effectively

Cultural resistance from organizationally separate teams (developers, operations, security, infrastructure, etc.)

Tools too expensive/costs growing too quickly

Lack of visibility across public and/or hybrid cloud environments

Lack of funding (no budget or limited budget for observability solutions)

Too hard to use or learn observability solutions

No single vendor can provide an end-to-end solution

Cross-silo integration

We have no challenges or concerns

## **Observability Deployments Encounter Scaling, Reliability,** and Edge Challenges

There is room for improvement with the deployment of observability solutions, as 91% of organizations report challenges that prevent them from realizing the full potential of these technologies. With ongoing usage of observability technologies, scalability and usability issues tend to surface, indicating the need for improvements across a variety of areas. Nonetheless, this broad range of challenges also indicates that organizations are using observability tools for an extensive number of use cases.



16%

13%

27%

9%





This broad range of challenges indicates that organizations are using observability tools for an extensive number of use cases."

Scalability and reliability of solutions Prioritizing severity of issues/alerts when presented Amount of data collected growing too quickly Lack of visibility into edge environments and remote locations Pace of technology change too difficult to effectively manage Cross-silo integration

Lack of visibility across public and/or hybrid cloud environments

Inability to correlate data from multiple sources in a timely fashion Ongoing support, maintenance, and security of an open source solution

> Cultural resistance from organizationally separate teams (developers, operations, security, infrastructure, etc.) Inability to allocate shared costs to responsible teams Inability to pinpoint root cause of problems

Lack of visibility into cloud-native, container-based application environments

#### Biggest challenges when using observability in production.

Slow or inconsistent delivery of alerts

We have no challenges or concerns



Tactics for managing observability data sprawl.



# The reality is that most organizations are employing a combination of two or three of these tactics."

## **Increased Storage Spending and Log Optimizers Targeted as Solutions to Observability Data Sprawl**

Observability data sprawl can quickly emerge as a challenge among organizations that deploy observability technologies. In turn, many organizations use (or plan to use) a host of methods to overcome that challenge. Limiting the number of applications and limiting the observed metrics per application (i.e., the information layer) is less popular than mitigating at the raw storage layer. The reality is that most organizations are employing a combination of two or three of these tactics.

# Midmarket Growth Is on the Way





## **Appetite Is Strong for Additional Investment in Observability and Monitoring**

The outlook for growth in this market is highly favorable over the next 12 months, with strength in the midmarket where 67% of organizations plan to expand their observability tools or services immediately. For organizations seeking to invest across the observability ecosystem, now is the time to seek high-level and technical evaluation materials to better understand the appropriate fit and benefits for their environments.



# Organizations Are Split on Observability Decision Makers



# **G** The prevalence and importance of security monitoring in observability is a manifestation of 'shift-left' security."

Who makes the final decision about which observability tools to use?



**20%** SREs, DevOps, and platform engineering teams

**18%** Application development/engineering teams

**9%** Cloud architecture/engineering team

## **IT Operations Lead Observability Tool Decisions** for Many

While security monitoring is a top function for observability practices, the security team is rarely the team that makes the final decision about which tools to use. Observability is most commonly the domain of operations teams, DevOps/ platform engineering, and application development/engineering teams. Arguably, the prevalence and importance of security monitoring in observability is a manifestation of "shift-left" security, whereby security is integrated into application development, DevOps, and other areas outside of the security team.

The AlOps Market Teems with Opportunity, but Current Results Are Mixed





## AlOps Is Widely Used, but Value Remains in Question

AlOps adoption is progressing rapidly in enterprise organizations, but hurdles remain in the perception of value from AlOps tools. Large, complex infrastructure firms with three or more cloud providers are most likely to have AIOps in use today while those with fewer cloud providers have the strongest implementation plans over the next 12 months. Organizations are divided on the future of AIOps in observability decisions, with only 29% indicating that they believe AIOps is table stakes in any observability investment, meaning that the value of AIOps isn't strong or deemed necessary for 70% of organizations.



Opinions on the importance of AIOps in future observability decisions.



#### 29%

AlOps is table stakes and must be included in any observability investment

25%

AlOps needs to offer more to be part of our consideration process

#### 24%

AlOps is a beneficial differentiator but does not have to be included in an observability investment

21%

AlOps is nice to have once our other needs are met

# Many organizations are in the early stages of leveraging Al in a production capacity."

Reasons for not yet adopting Alops.





42%

Not enough in-house expertise

## If AIOps Isn't Adopted, Consideration Is Likely Still in the Mix

AlOps remains relatively nascent in the market at large, and the majority of organizations that have not implemented it are still evaluating their options. Many organizations are in the early stages of leveraging AI in a production capacity, while some lack in-house expertise required for adoption. Others see technology immaturity and complexity as factors that are slowing their adoption of AI in IT operations. Although some of these challenges are driven by limitations inherent with organizations' overall IT ecosystems, customers likely will find a clearer path to adoption moving forward as the technology matures and eases evaluation and integration.





28%

Too complex to deploy and manage



## **AIOps Delivers a Tangible Impact on Observability and Operations**

While AIOps in observability promises faster problem resolution and simplified operations, in turn leading to better scalability, organizations report mixed results. Just under half who leverage AIOps report that it has led to greater scalability, while 4 in 10 report sufficient simplification of operations to free up resources and accelerate operations. This means that the majority of organizations are still experiencing operational difficulties deriving optimum value from the AIOps capabilities of their solutions. Some of this may be due to inflated expectations, and some may be due to the immaturity of product capabilities.



- **40%** The AIOps-related benefits of our observability solution have simplified operations to the point where we have freed up resources and accelerated operations
- **36%** The AIOps capabilities of our observability solution experience limitations and often require manual diagnosis to be useful
- **24%** The AIOps-related benefits of our observability solution have not had a meaningful impact on operations





# 

Cisco is the worldwide technology leader that helps customers to reimagine their applications, power hybrid work, secure their enterprise, transform their infrastructure and meet their sustainability goals. For observability, Cisco provides real-time visibility, insights, and recommended actions enriched with business context, enabling ops teams to proactively identify, prioritize, and resolve issues to deliver exceptional digital experiences. The Cisco Observability Platform correlates real-time telemetry from data sources across multiple operations domains—including applications, multicloud infrastructure and cloud services, network, security, end users, the business, and more—to help teams understand risks and dependencies across environments, strengthen security measures, and optimize resources across the full technology stack before it impacts the business.

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#### ABOUT ENTERPRISE STRATEGY GROUP

TechTarget's Enterprise Strategy Group is an integrated technology analysis, research, and strategy firm providing market intelligence, actionable insight, and go-to-market content services to the global technology community.



### **Research Methodology and Demographics**

To gather data for this report, Enterprise Strategy Group conducted a comprehensive online survey of IT professionals from private- and public-sector organizations in North America (United States and Canada) between January 23, 2023 and February 10, 2023. To qualify for this survey, respondents were required to be IT professionals personally responsible for evaluating, purchasing, managing, and building application infrastructure. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on a number of criteria) for data integrity, we were left with a final total sample of 374 IT professionals.



20%

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