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DISTRIBUTED CLOUD SERIES:

Observability and Demystifying AIOps

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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.

KEY FINDINGS

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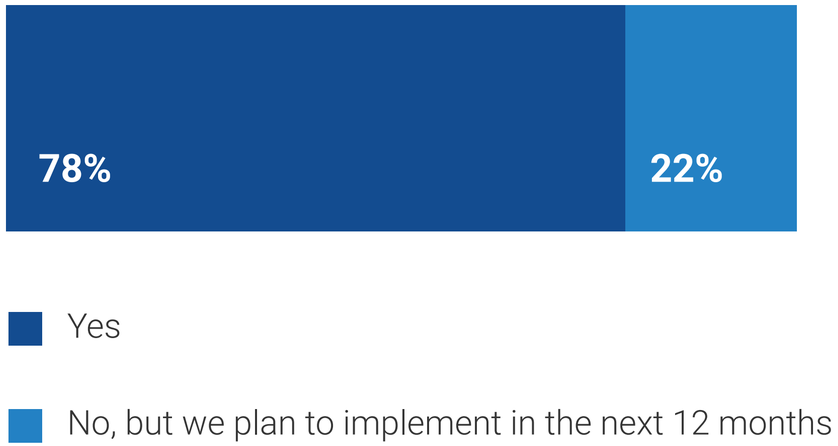
The Observability Market Stays Hot Amid Continued Evolution

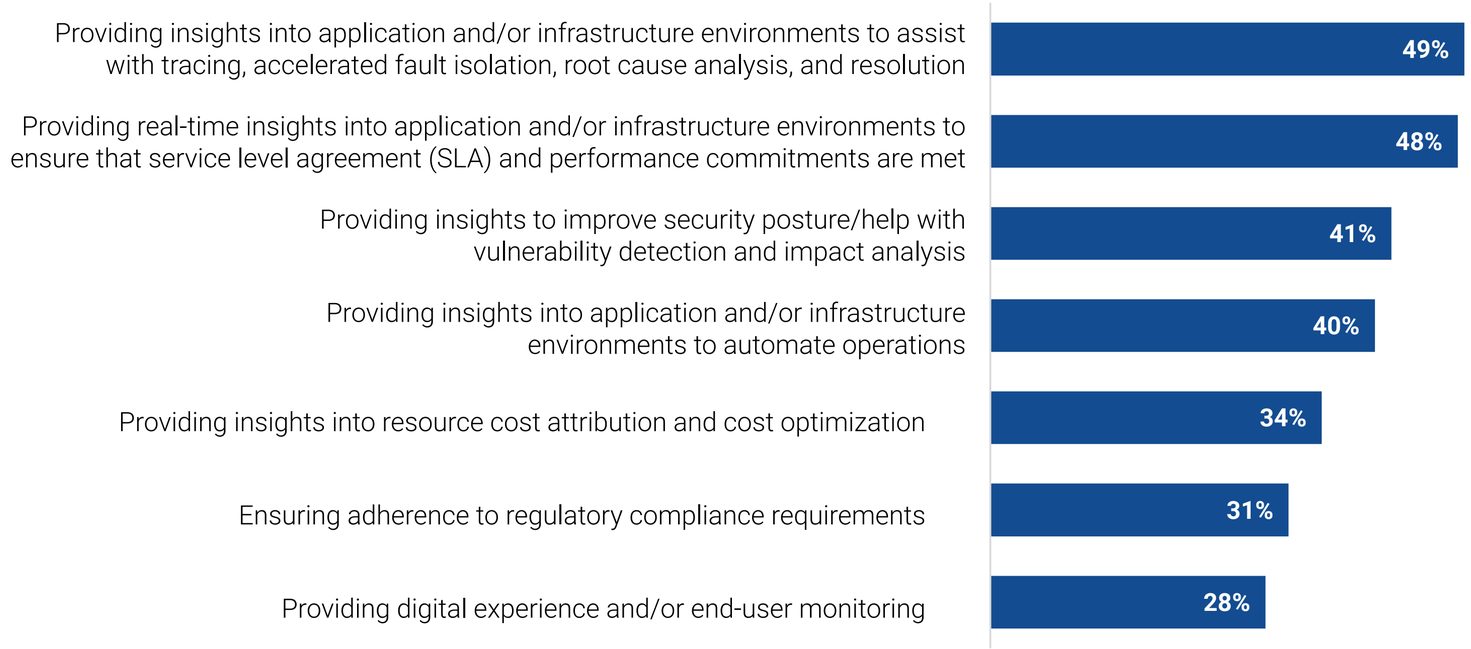
Observability Now Sees Widespread Adoption across Multiple Use Cases

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.

Is an observability practice in place at organizations?



Use cases for observability.



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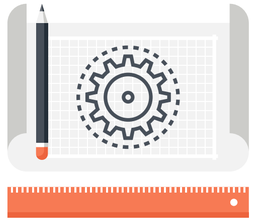
Observability Tools Are Widespread—and Sprawl Lurks

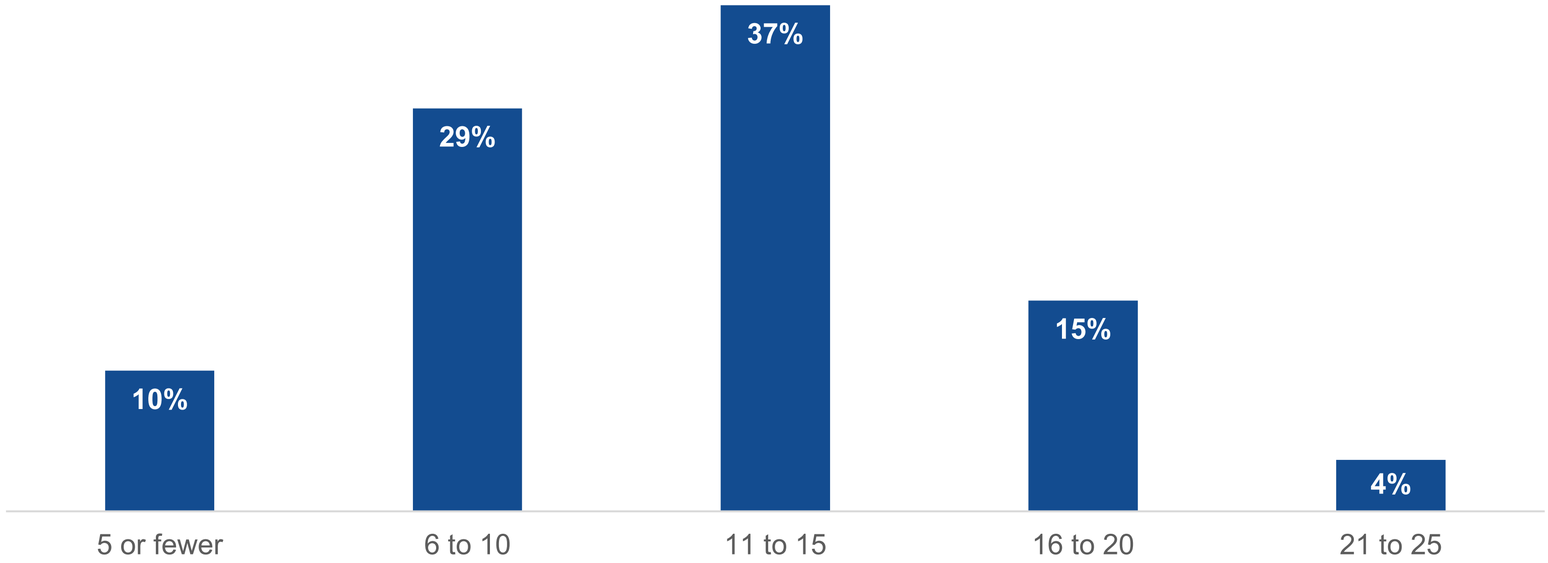
The toolkits organizations use to achieve observability are extensive, with a vast majority of organizations reporting at least 6 different tools in use. Even while tool deployment is widespread, organizations are not finished building out their observability practices, as many have plans to invest across 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.



Even while tool deployment is widespread, organizations are not finished building out their

observability practices.

Number of observability tools in use.



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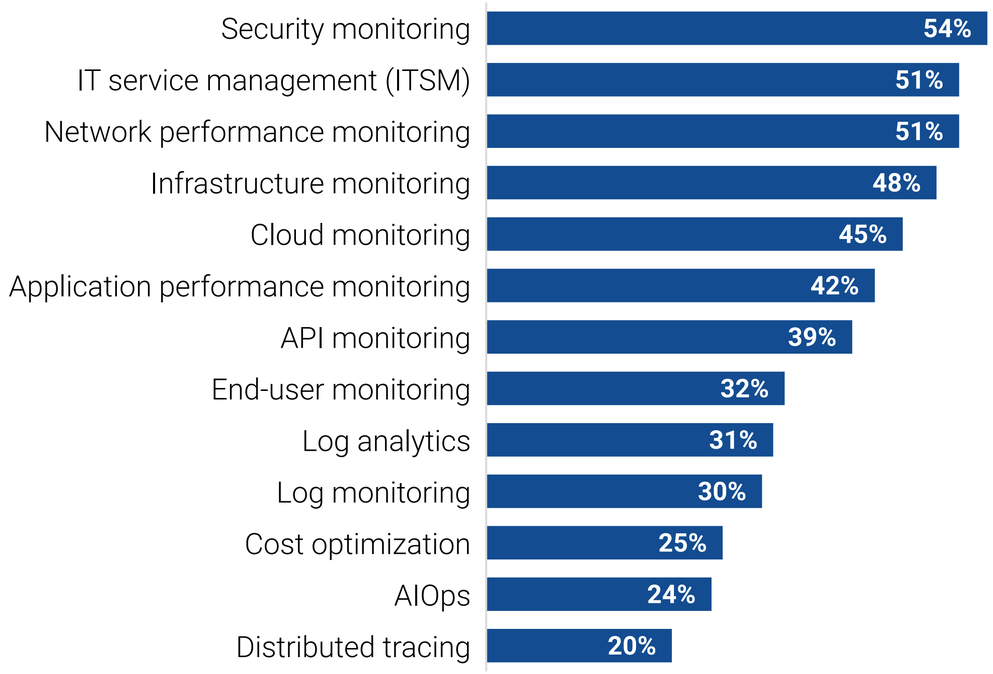
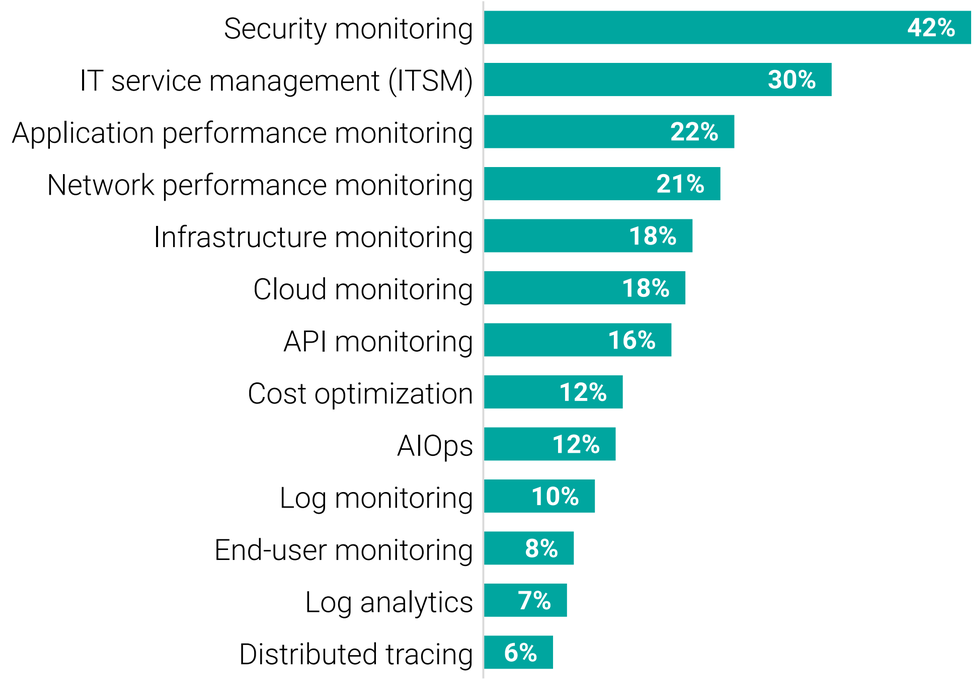
Security and ITSM Lead a Long List of Deployed Tools

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.



Most important observability tools.



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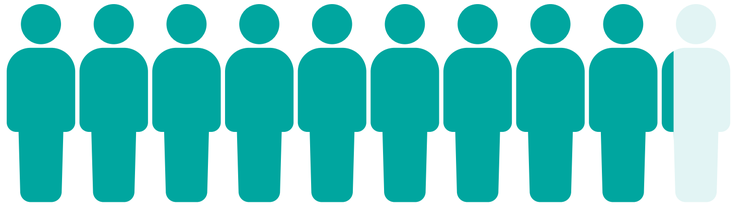
Observability Delivers Tangible Impacts

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

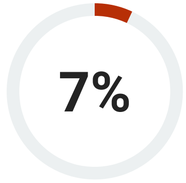
For many organizations, in-house applications are responsible for a significant portion of their revenue. In turn, this eases cost justification for investments in observability tools. The continued modernization of IT environments through DevOps and similar initiatives inevitably sparks a rising need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



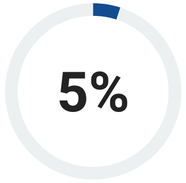
92%

of organizations derive revenue from internally developed apps.

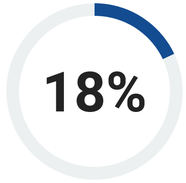
Revenue percentage tied directly to internally developed applications.



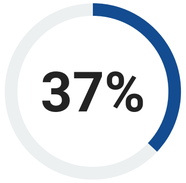
We do not derive revenue from internally developed apps



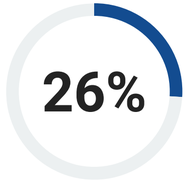
1% to 10% of revenue derived from internally developed apps



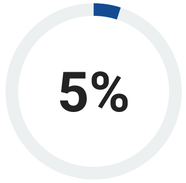
11% to 25% of revenue derived from internally developed apps



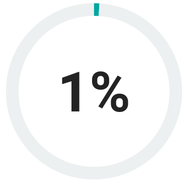
26% to 50% of revenue derived from internally developed apps



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



76 to 99% of revenue derived from internally developed apps



All of our revenue is derived from internally developed apps

ESTIMATED MEAN = 39%

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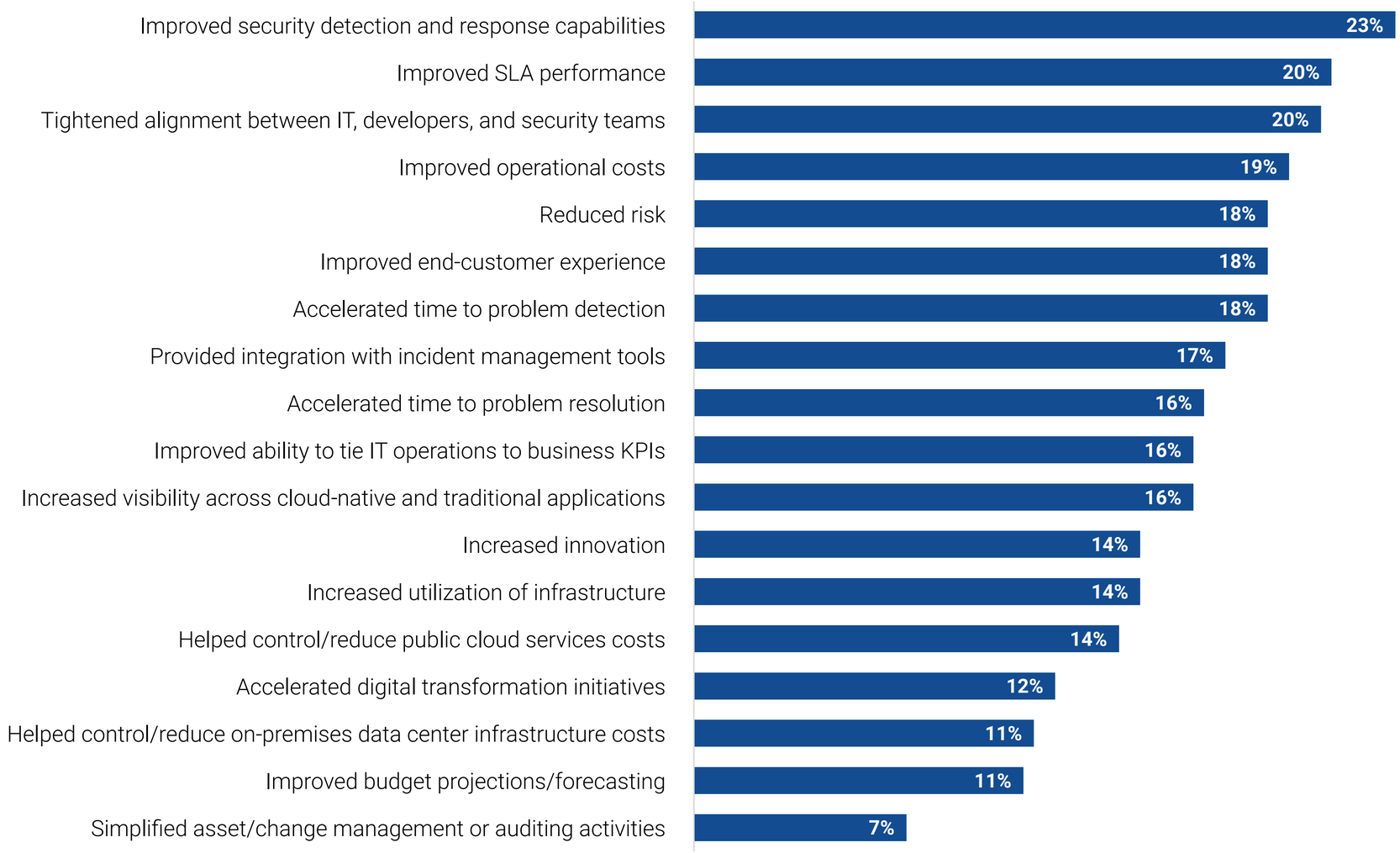
Most impactful benefits of observability.



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 organization-wide. 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.

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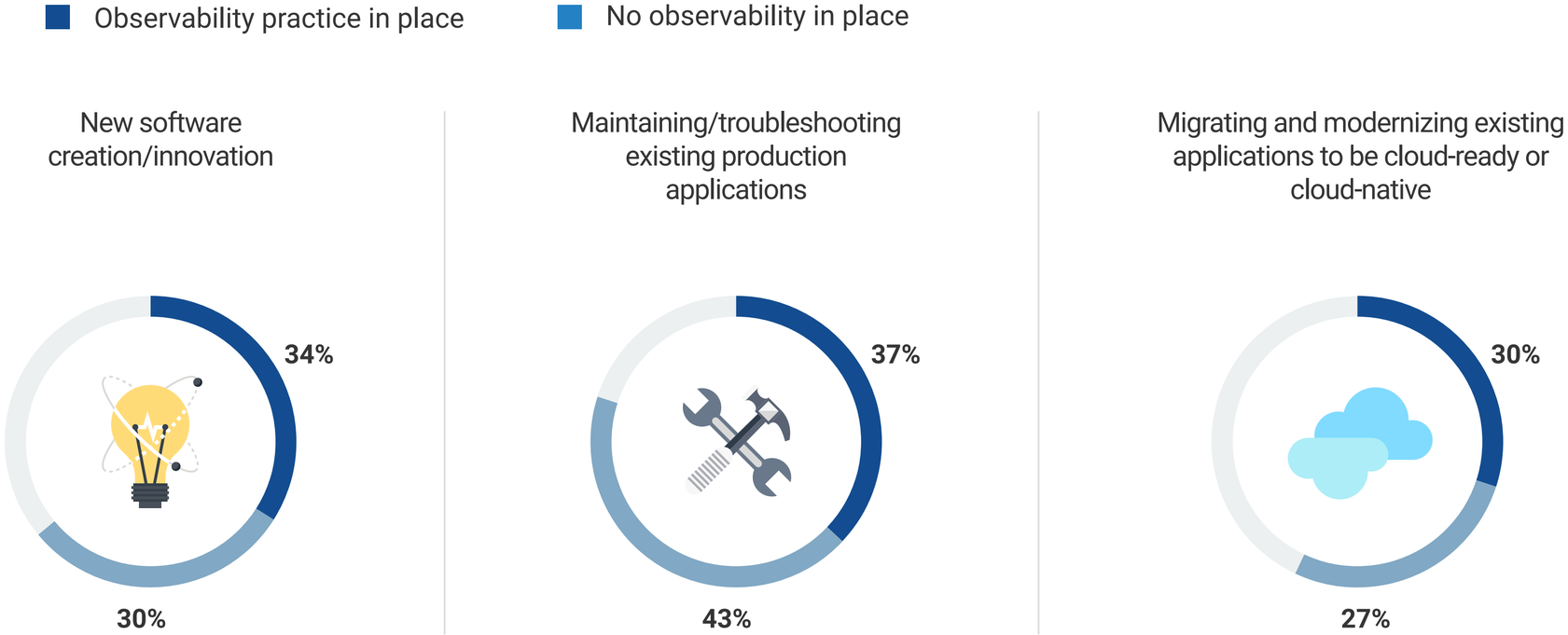
Observability Leads to More Time Spent Innovating

Organizations with observability practices spend 4% more time on new software development/innovation, 3% more time on modernizing applications to be cloud-ready 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.

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



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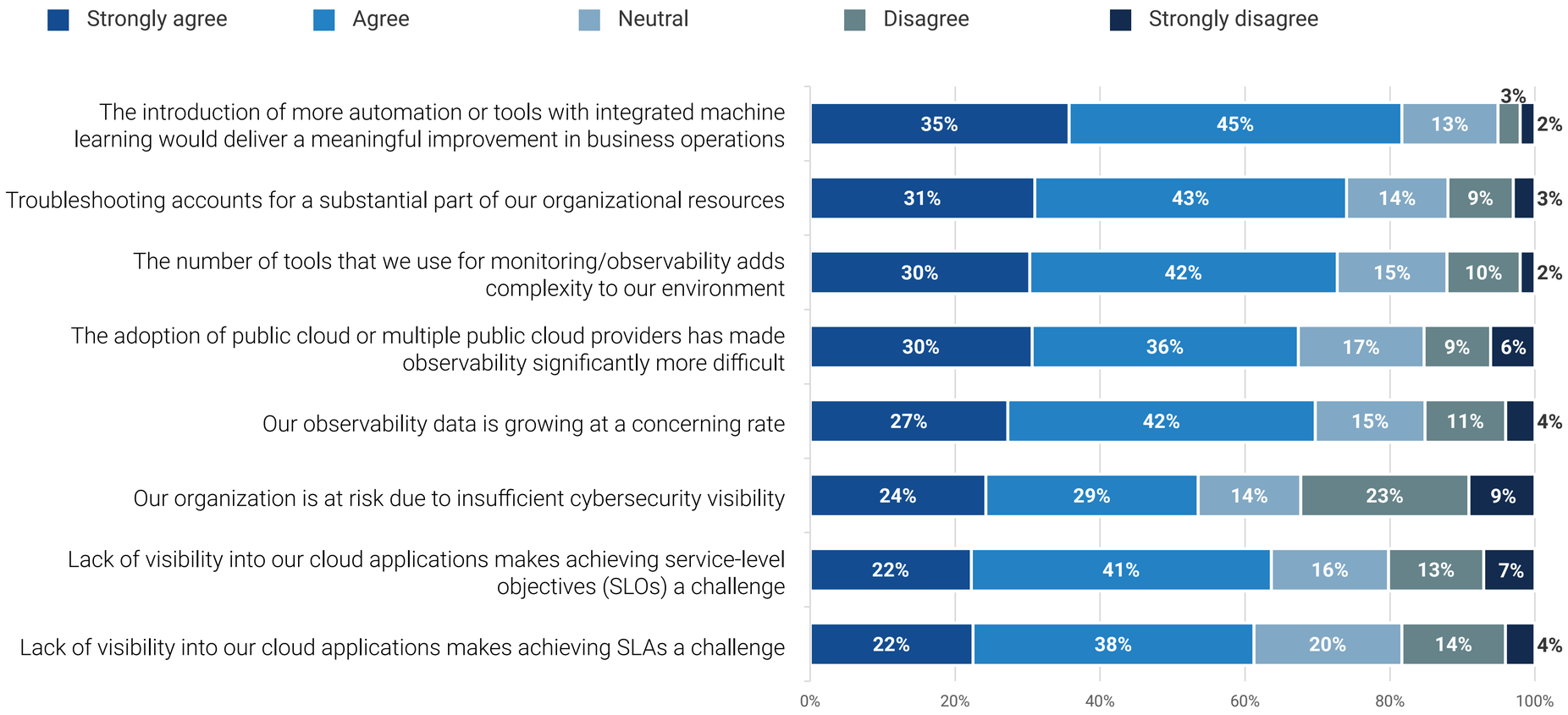
Organizations Report Increased Comfort with Cybersecurity Visibility

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.

Level of agreement with statements related to observability.



“72% of organizations agree that the number of tools they use adds complexity.”

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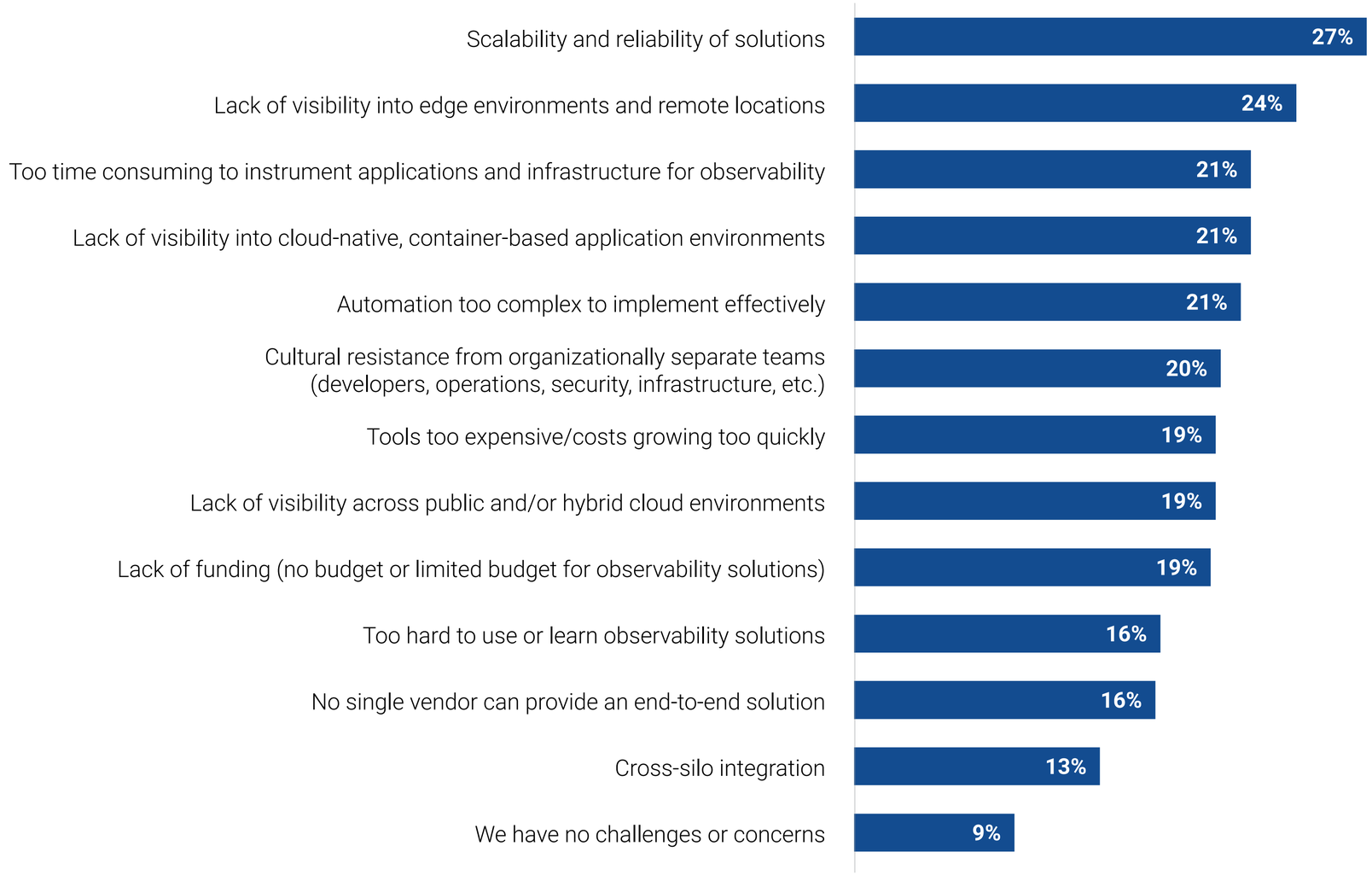
Challenges Surround the Deployment and Use of Observability

Biggest challenges when deploying observability.



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.

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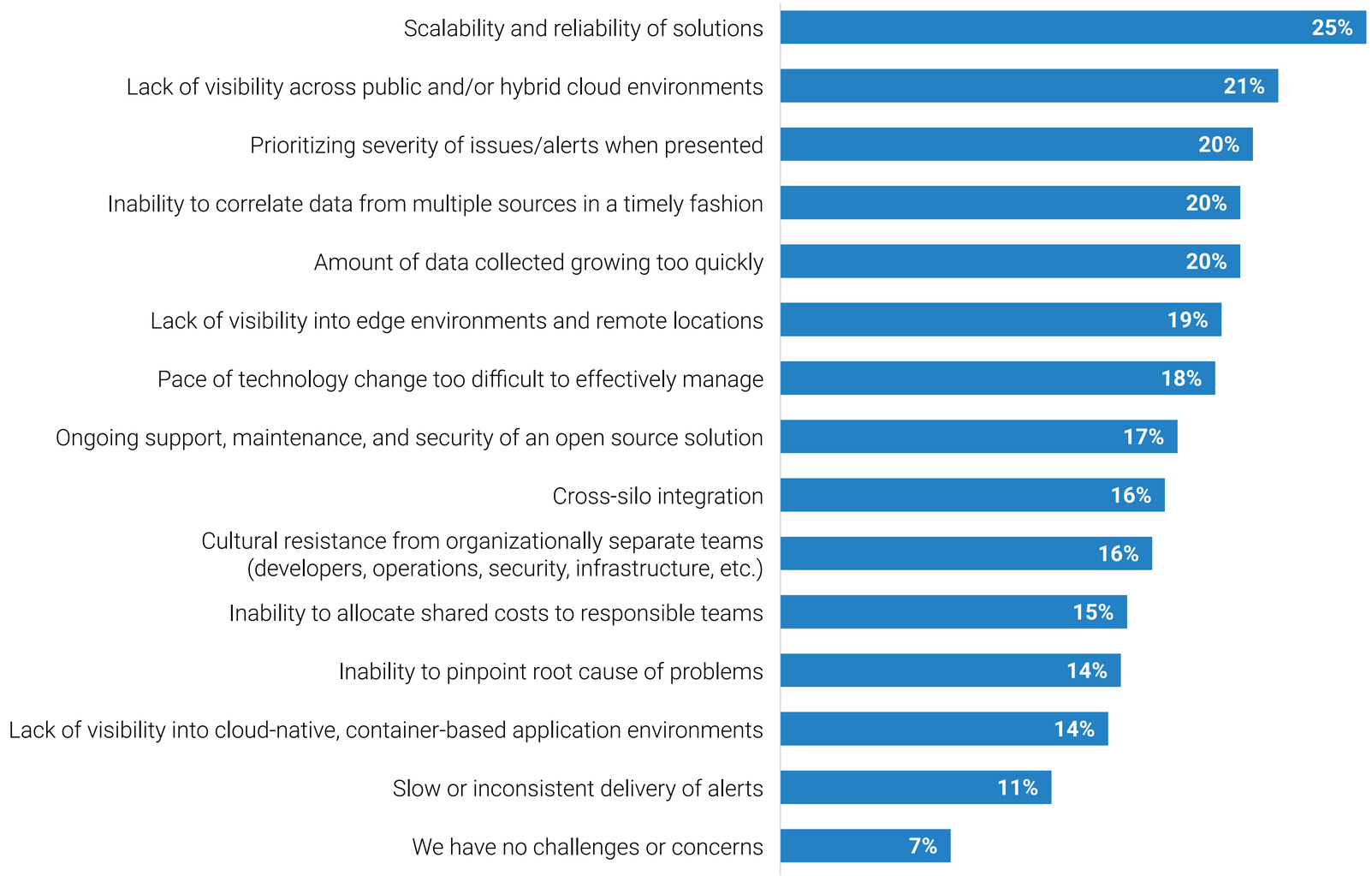
“This broad range of challenges indicates that **organizations are using observability tools for an extensive number of use cases.”**

Biggest challenges when using observability in production.



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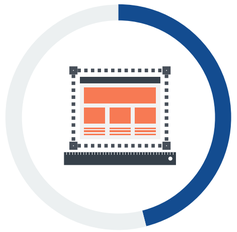
Tactics for managing observability data sprawl.

52%
Increasing storage spending

51%
Adopting tools that optimize log volume/using sampling to reduce data footprint (e.g., Cribl and Mezmo)



46%
Moving data to a lower-cost tier/platform

44%
Limiting number of observed applications

43%
Limiting observed metrics per application

37%
Shortening log retention period

> “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.

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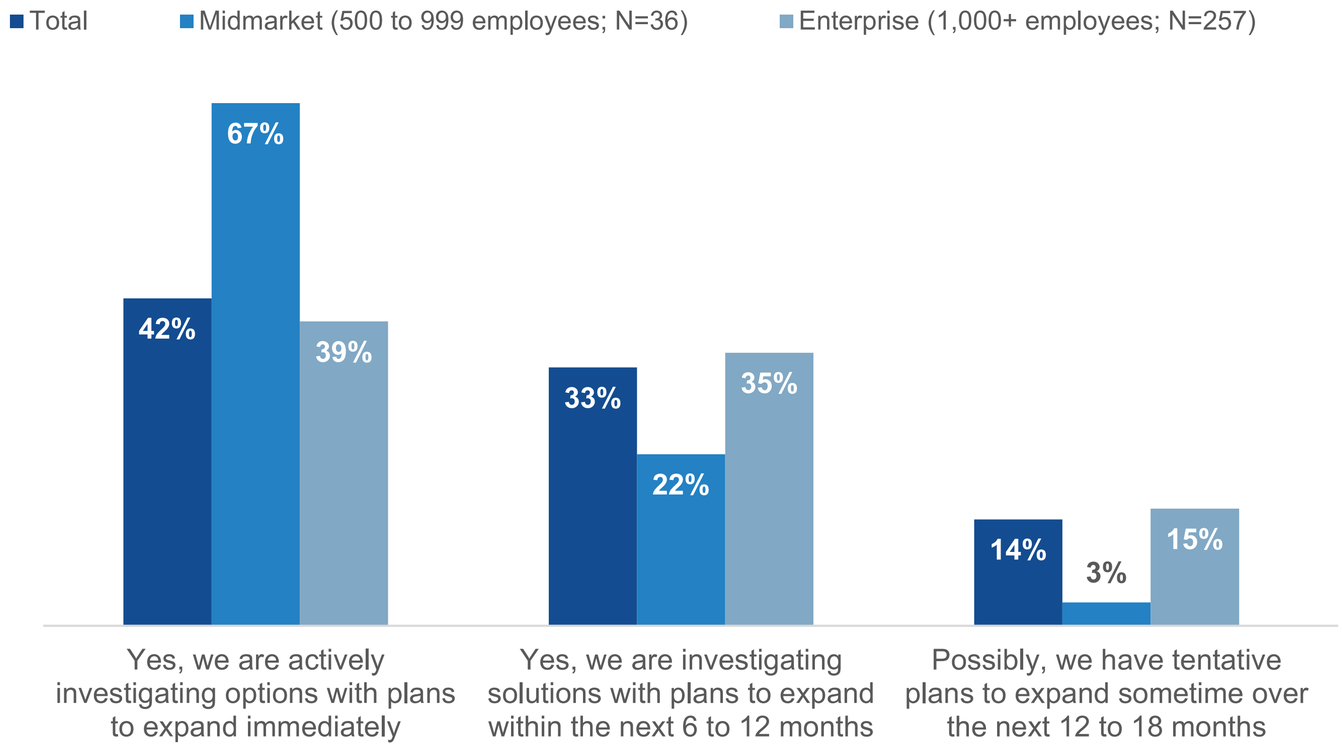
Midmarket Growth Is on the Way

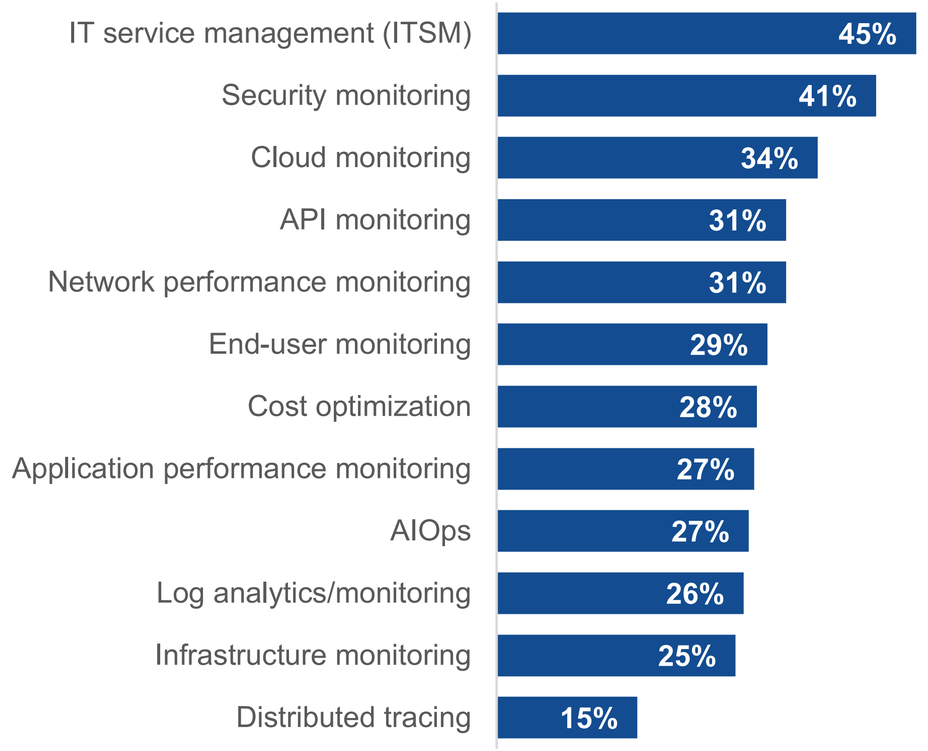
Appetite Is Strong for Additional Investment in Observability and Monitoring

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.

Do organizations have plans for observability investments?



Monitoring and observability investment areas (2023).



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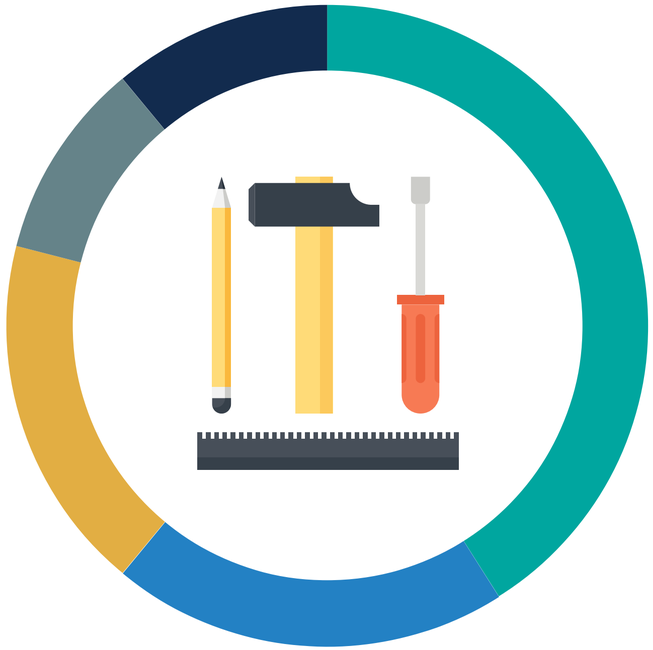
Organizations Are Split on Observability Decision Makers

> “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?



- **41%** IT operations team
- **20%** SREs, DevOps, and platform engineering teams
- **18%** Application development/engineering teams
- **10%** Security team
- **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.

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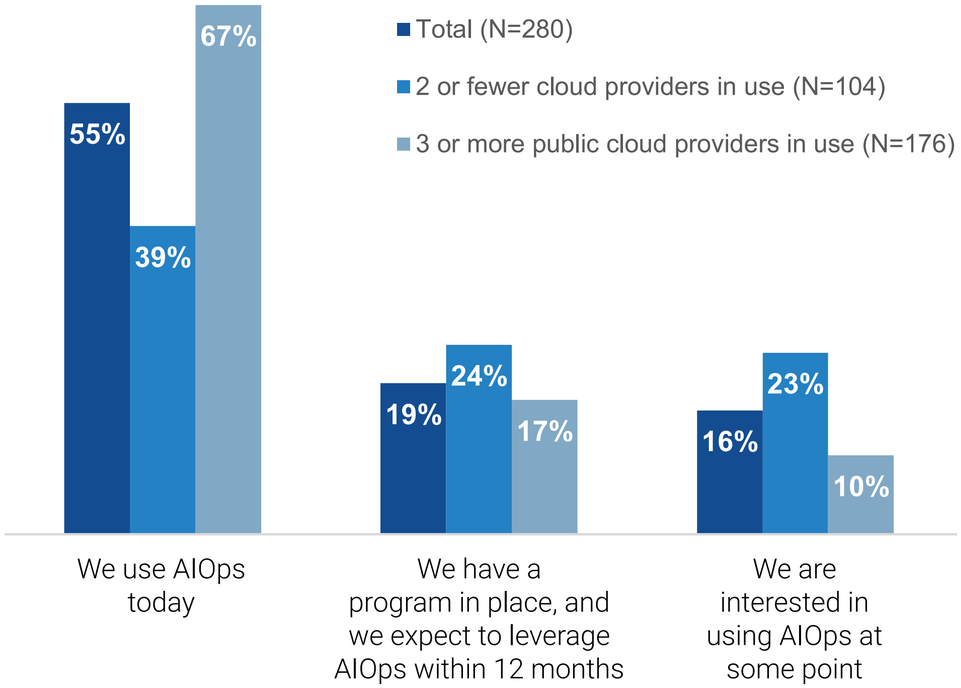
The AIOps Market Teems with Opportunity, but Current Results Are Mixed

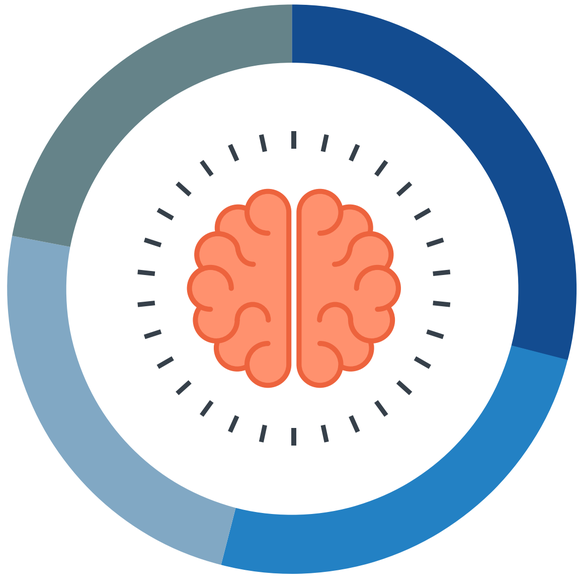
AIOps Is Widely Used, but Value Remains in Question

AIOps adoption is progressing rapidly in enterprise organizations, but hurdles remain in the perception of value from AIOps 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.

AIOps implementation status.



Opinions on the importance of AIOps in future observability decisions.



29%
AIOps is table stakes and must be included in any observability investment

25%
AIOps needs to offer more to be part of our consideration process

24%
AIOps is a beneficial differentiator but does not have to be included in an observability investment

21%
AIOps is nice to have once our other needs are met

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> “Many organizations are in **the early stages of leveraging AI in a production capacity.”**

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

AIOps 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.

Reasons for not yet adopting Alops.

61%

Still evaluating options

42%

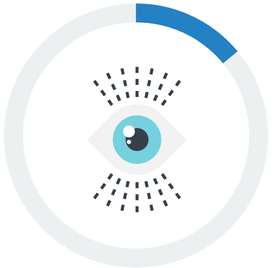
Not enough in-house expertise

30%

Technology is immature

28%

Too complex to deploy and manage



14%

Don’t see the value

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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.

Impact of AIops on scaling observability.

46% Simplified operations and allowed us to accelerate the pace of scaling our observability practice

28% Has not had an impact on the pace of scaling our observability practice

27% Added complexity at scale, which can slow the pace of scaling our observability practice

Impact of AIOps on operations.

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

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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

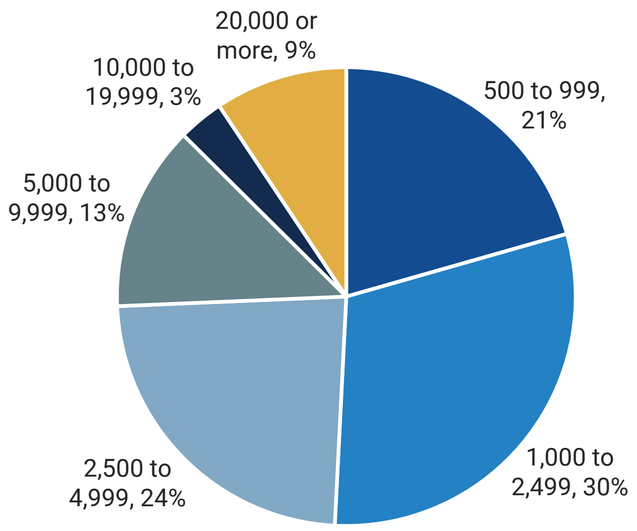
TechTarget's Enterprise Strategy Group is an integrated technology analysis, research, and strategy firm providing market intelligence, actionable insight, and go-to-market content services to the global technology community.

Research Methodology and Demographics

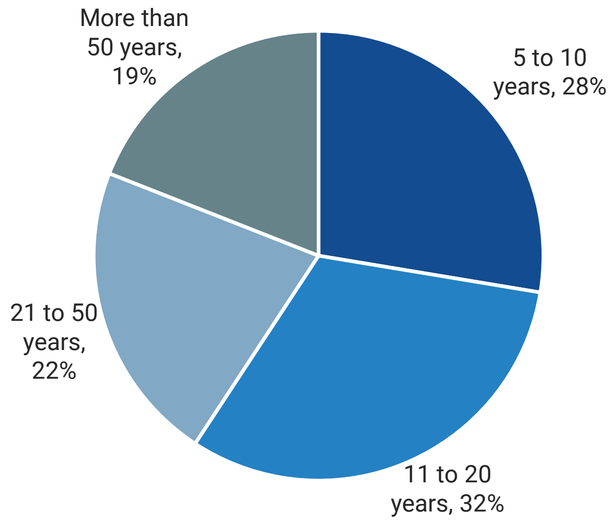
To gather data for this report, Enterprise Strategy Group conducted a comprehensive online survey of IT professionals from private- and public-sector organizations in North America (United States and Canada) between January 23, 2023 and February 10, 2023. To qualify for this survey, respondents were 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.

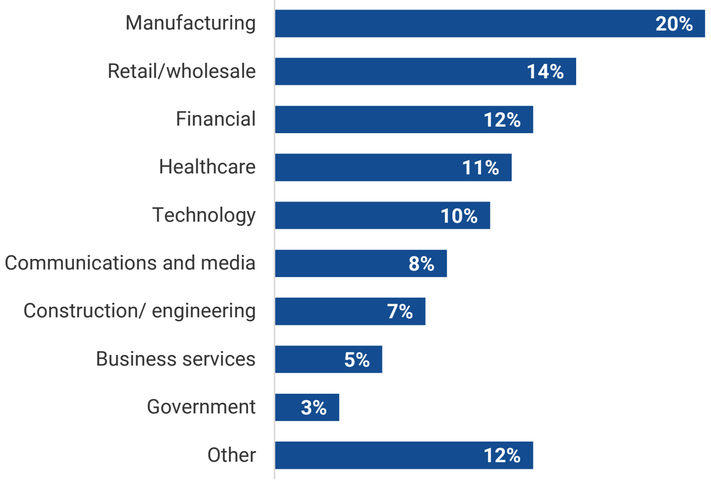
RESPONDENTS BY NUMBER OF EMPLOYEES



RESPONDENTS BY AGE OF COMPANY



RESPONDENTS BY INDUSTRY



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