



State of Observability for IT and Telco

Insights and analysis on the adoption and business value of observability
for the information technology and telecommunications industries

Report / May 2024

Contents

- 03** Overview
- 04** Outage frequency and downtime
- 05** Outage cost
- 07** Trends driving IT/telco observability adoption
- 08** Observability capabilities deployed
- 10** Number of IT/telco data monitoring tools and preference
- 12** IT/telco observability spend
- 13** The business value of observability
- 15** Challenges preventing full-stack observability
- 16** The future of observability for IT/telco
- 18** Summary
- 19** Next steps
- 20** About this report



Overview

The ways we work, live, travel, and communicate are undergoing large-scale changes and redefining customer expectations for the information technology and telecommunications (IT and telco) industries.

Rapid digital advancements are causing systematic changes to products and the broader ecosystem. For example, the expansion of 5G is dramatically expanding and improving connectivity, with 6G poised to amplify this even further. Near-limitless connectivity is paving the way for new services—such as self-driving cars, virtual dressing rooms, and conferences held entirely in the metaverse—and is propelling IT and telco industry leaders to provide a service that is fast, affordable, and reliable.

While established players have leveraged frameworks to support their growth and scalability, new players have the benefit of being more agile—quickly working to adopt and use new tools and approaches as the need arises. On the flip side, the maturity of established players can mean they are less chaotic and have more clearly defined structures and processes in place.

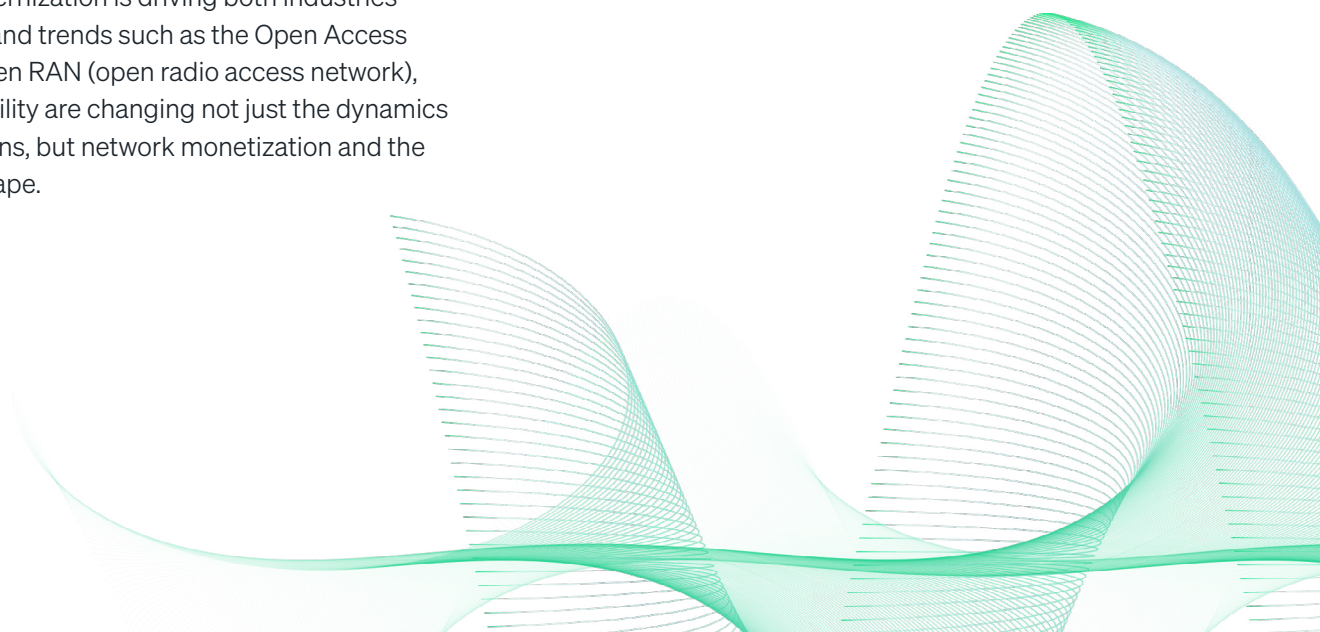
For organizations with legacy infrastructure, they must modernize rapidly to keep pace with their digital-native counterparts, as younger generations expect providers to roll out advancements across the services they know and love.

Technological modernization is driving both industries forward. Initiatives and trends such as the Open Access Network (OAN), Open RAN (open radio access network), as well as sustainability are changing not just the dynamics of network operations, but network monetization and the competitive landscape.

In addition to being responsible for managing critical consumer infrastructure, IT and telco providers face high levels of industry regulation. Security and privacy are a constant concern. Consumers expect IT and telco providers to take their data management seriously and adhere to regulations such as the General Data Protection Regulation (GDPR) in the European Union, the Federal Information Security Management Act (FISMA) in the United States, and the Consumer Data Right (CDR) in Australia. These concerns translate to a strong focus on the adoption of security and compliance policies, data controls, and user privacy.

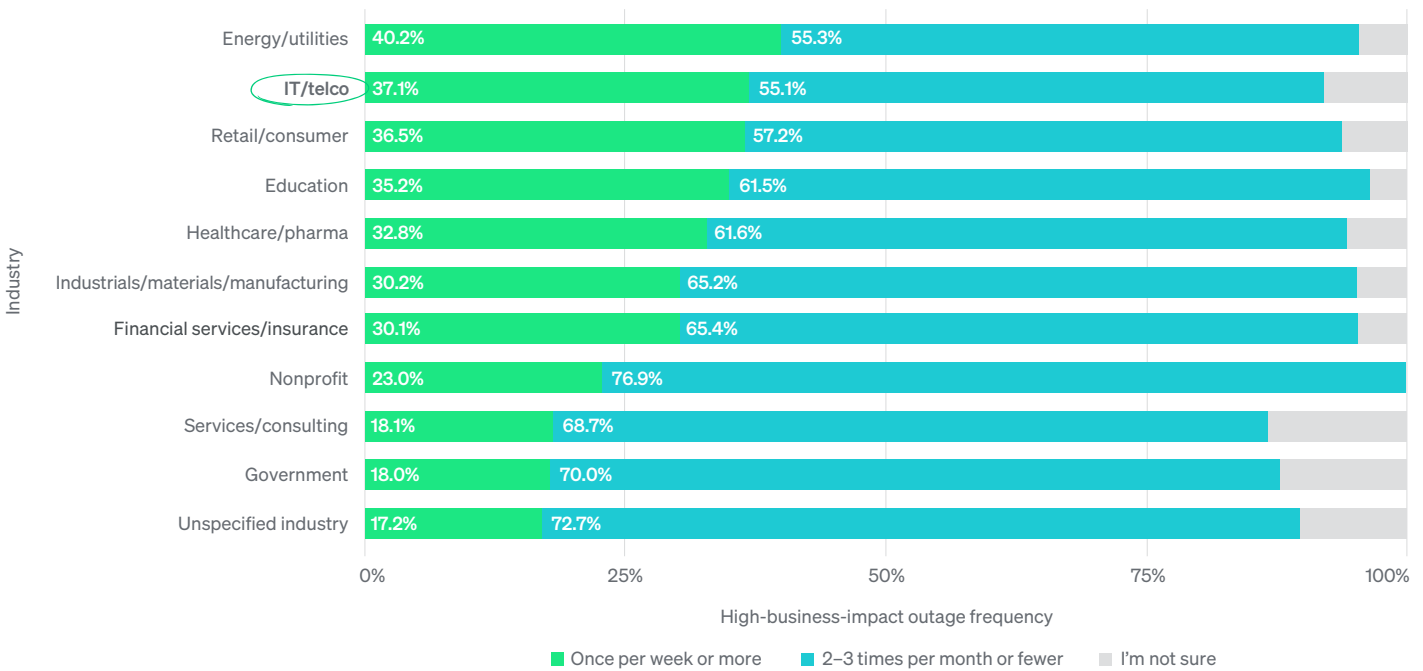
Additionally, consumers expect to engage with IT and telco providers not just online, but via their mobile devices. This mobile-first expectation requires organizations to provide an optimal digital customer experience (DCX) as well as seamless connectivity.

This report focuses on the adoption and business value of observability across the IT and telco industries and is based on insights derived from 423 respondents surveyed in association with the [2023 Observability Forecast](#).



Outage frequency and downtime

IT/telco organizations experienced high-business-impact outages at a higher frequency than other business types, with 37% reporting these outages at least once a week compared to the average of 32%. This finding means that IT/telco organizations had the second highest outage frequency across all industries.



High-business-impact outage frequency by industry

Nearly half (44%) of IT/telco respondents said it takes at least 30 minutes to detect high-business-impact outages, and 23% said it takes at least an hour. Three in five (60%) indicated that it takes at least 30 minutes to resolve them, and 35% said it takes at least an hour.

60%

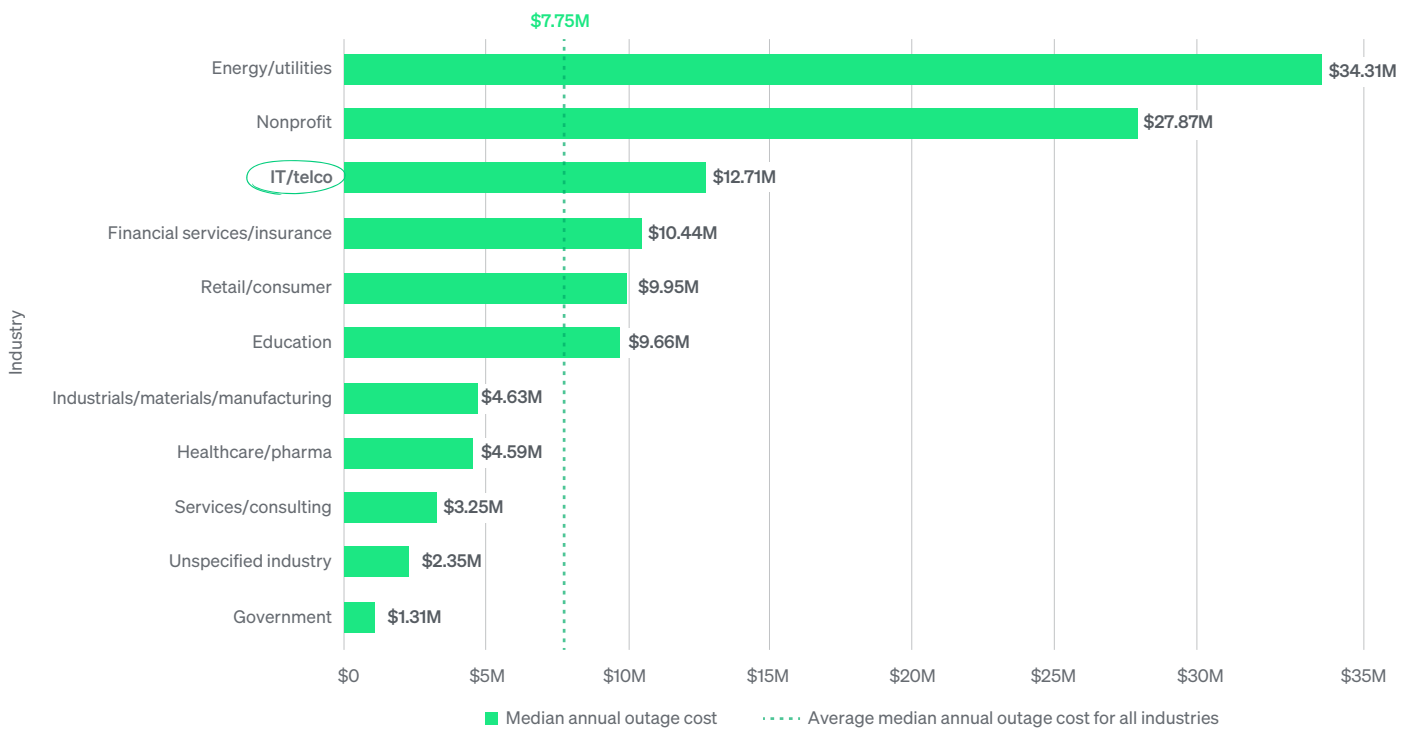
took 30+ minutes to resolve high-business-impact outages

Given the relative frequency of outages noted above, this mean time to detect (MTTD) and mean time to resolve (MTTR) adds up to considerable downtime. In fact, the median annual downtime for IT/telco organizations was 26 hours, which is higher than the overall average of 23 hours.

Outage cost

All that downtime comes with a price tag. More than a third (35%) of IT/telco respondents said critical business app outages cost more than \$500,000 per hour. Almost a quarter (22%) estimated these outages cost their organizations more than \$1 million an hour.

This adds up to a median annual outage cost of \$12.71 million, which is notably higher than the \$7.75 million annual outage cost across all industries surveyed and third highest overall compared to other industries.



Median annual outage cost by industry

It's clear that the stakes are high. If an IT or telco provider's website goes down or services are interrupted for 30 minutes, it could cost them millions of dollars and negatively influence its customers' brand perception.

But observability can help. For example, 65% said their MTTR has improved to some extent since adopting an observability solution. Additionally, IT/telco organizations that had achieved full-stack observability reported even more substantial MTTR improvements: 40% of those with full-stack observability said MTTR improved by 25% or more since adopting observability, compared to just 29% of respondents without full-stack observability.

Nearly half (48%) of IT/telco practitioners said observability helps improve their life the most by increasing productivity so they can find and resolve issues faster. Plus, 40% of all IT/telco respondents said observability improves system uptime and reliability, and 37% said it mitigates service disruptions and business risk.

65%



said adopting observability
has improved MTTR



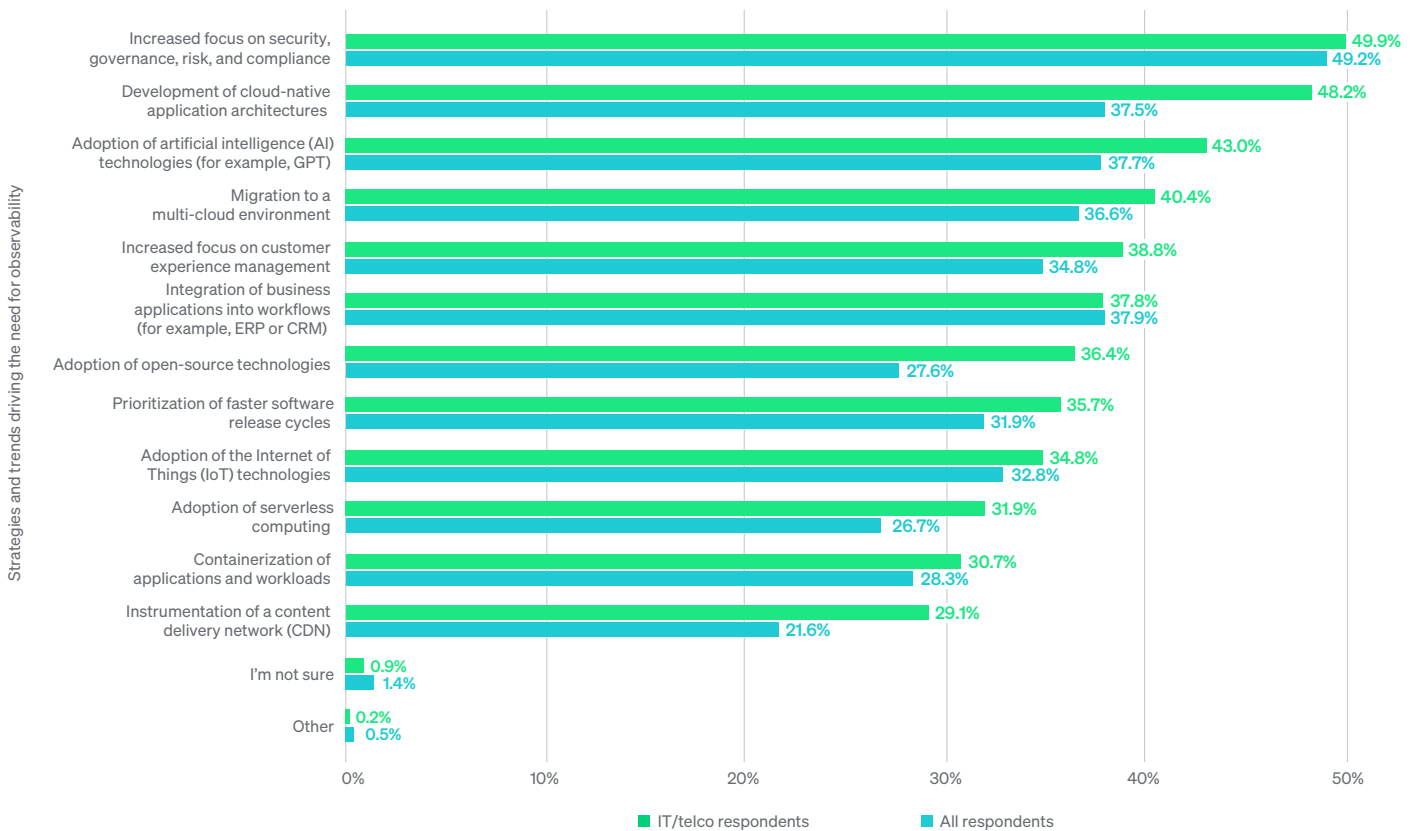
Trends driving IT/telco observability adoption

The top technology strategy or trend driving the need for observability amongst IT/telco organizations was an increased focus on security, governance, risk, and compliance (50%).

Notably, IT/telco respondents were more likely than average to say some strategies and trends drive the need for observability than others, including development of cloud-native application architectures (48% compared to 38% overall), adoption of AI technologies (43% compared to 38% overall), migration to a multi-cloud environment (40% compared to 37% overall), an increased focus on customer experience management (39% compared to 35% overall), adoption of open-source technologies (36% compared to 28% overall), and instrumentation of a content delivery network (CDN; 29% compared to 22% overall).

48%

said development of cloud-native application architectures is driving their need for observability



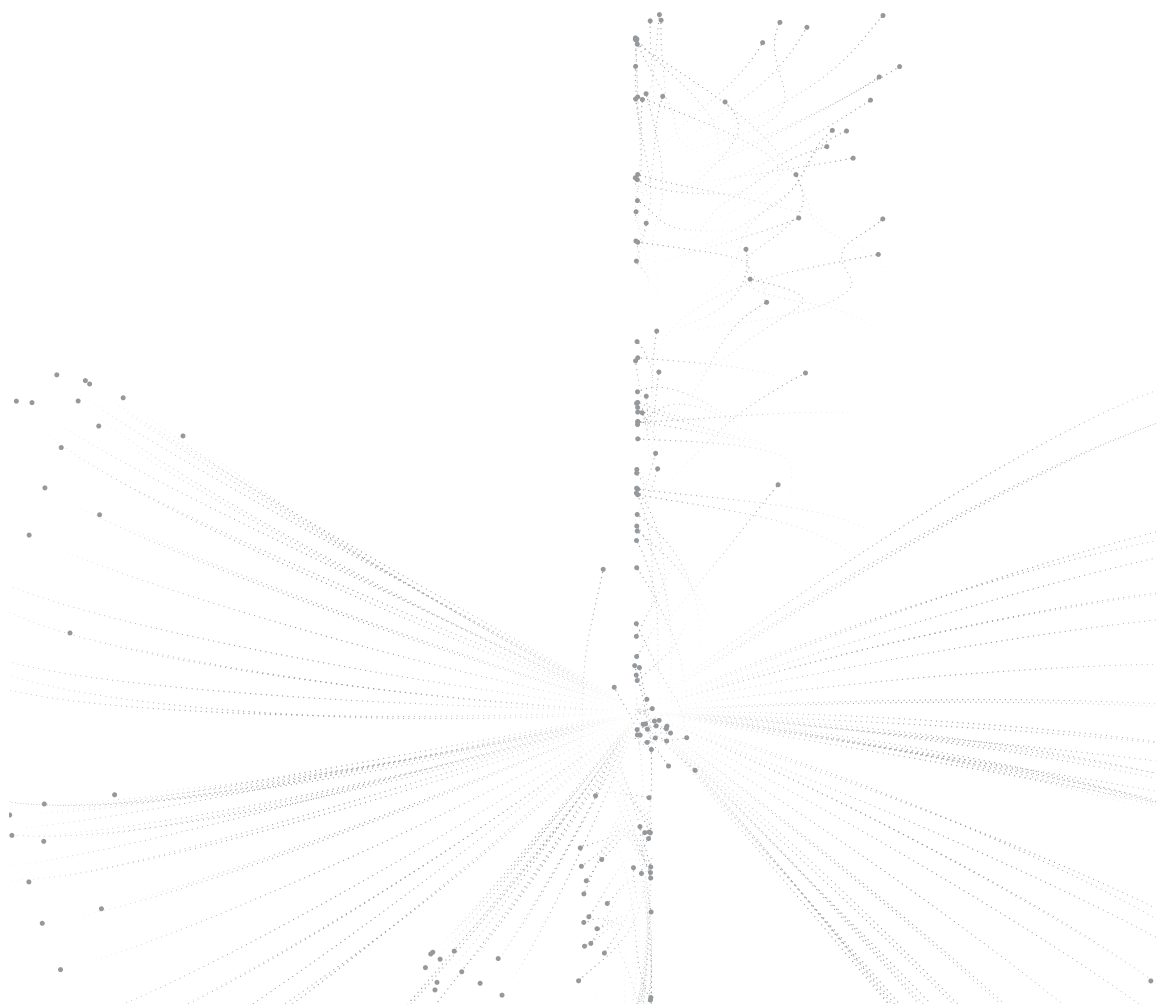
Technology strategies and trends driving the need for observability for all respondents compared to IT/telco respondents

Observability capabilities deployed

With billions of dollars of consumer and business spending being driven via digital channels, it's more important than ever for IT and telco organizations to accelerate their speed to market, improve uptime and reliability, double down on DCX strategies, and create seamless engagement with end users.

Digital experience monitoring (DEM) involves tracking and optimizing performance and reliability to deliver flawless online customer experiences, which is especially important for the IT/telco industry as it provides a critical customer-facing service. DEM consists of real user monitoring (RUM)—which includes browser monitoring and mobile monitoring—as well as synthetic monitoring.

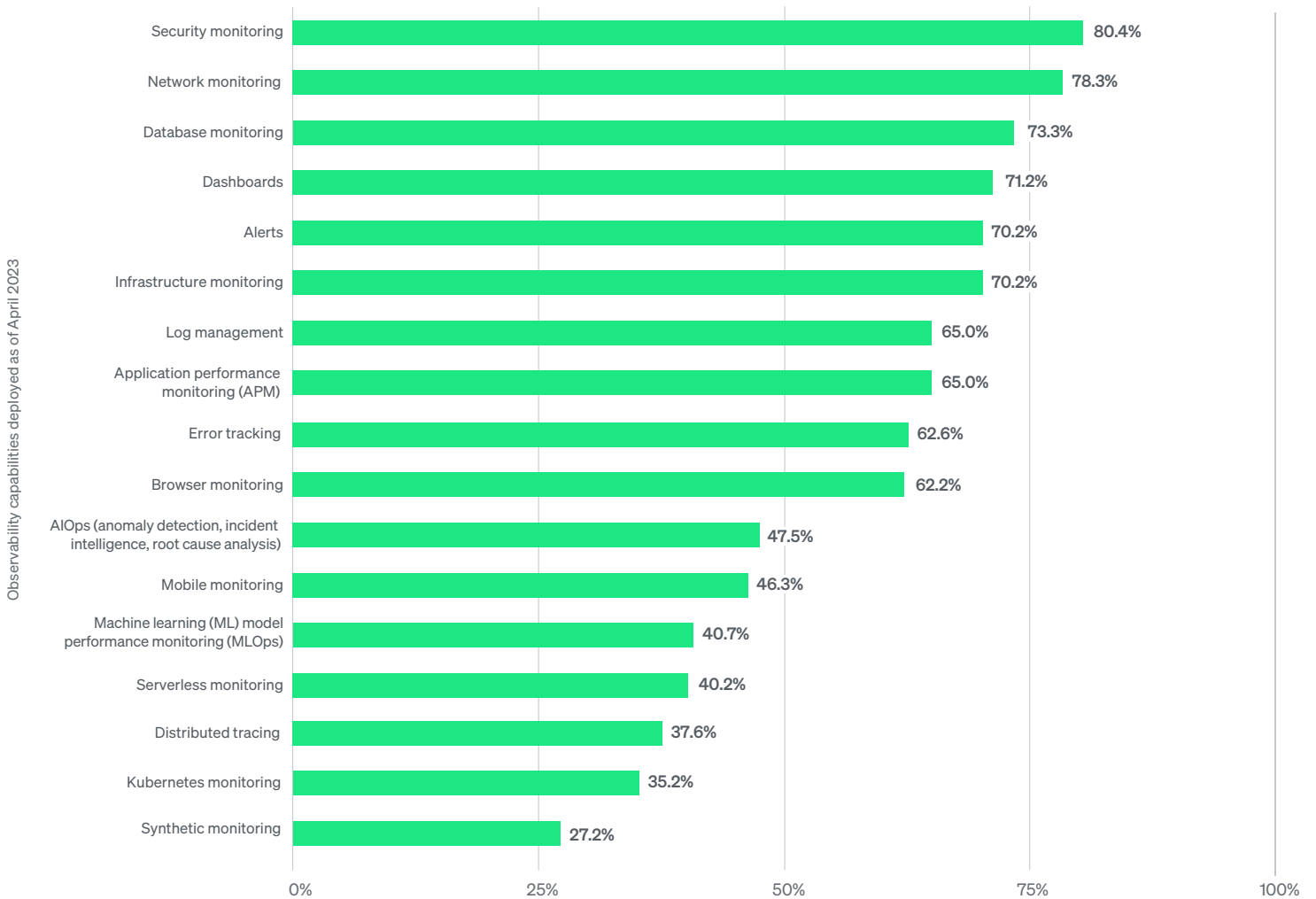
Respondents from IT/telco organizations reported notably higher levels of deployment for mobile monitoring (46% compared to 41% overall), browser monitoring (62% compared to 55% overall), and synthetic monitoring (27% compared to 23% overall).



As far as other key capabilities IT/telco organizations are deploying, security monitoring was the most widely deployed capability for this industry vertical (80%). Network monitoring was the second most widely deployed (78%), followed by database monitoring (73%), and dashboards (71%). Generally, IT/telco organizations had more widely deployed each observability capability than those from all other industries.

80%

have deployed security monitoring



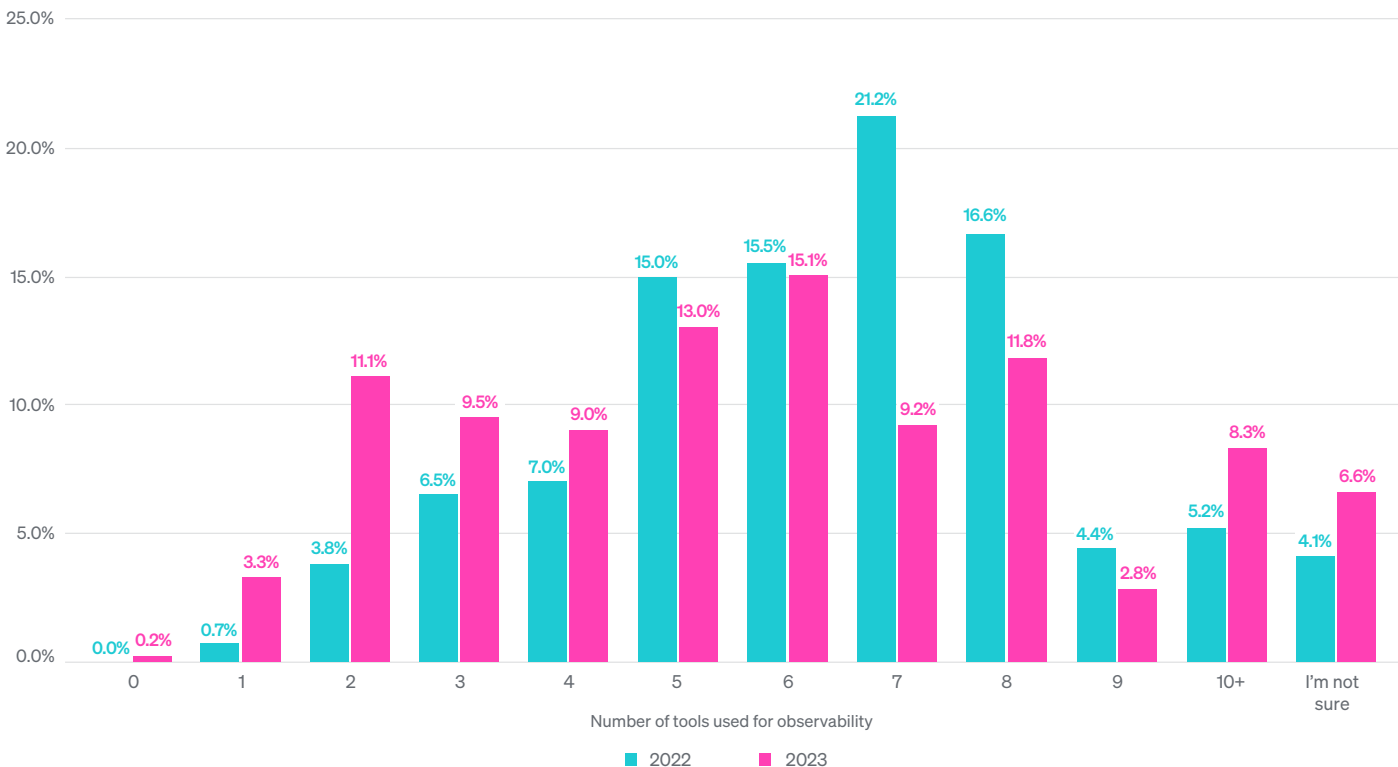
Deployed observability capabilities for IT/telco respondents

Number of IT/telco data monitoring tools and preference

IT/telco organizations were more likely than average to use multiple monitoring tools for the 17 observability capabilities included in this study. More than two-thirds (69%) used four or more tools for observability compared to 63% overall. And 23% used eight or more tools.

The proportion of IT/telco respondents using a single tool has tripled since last year, growing from 1% to 3%. However, the average number of tools has gone down by almost one tool, from an average of six tools in 2022 to five tools in 2023.

The data indicate that IT/telco organizations are spending time and money tool-hopping to understand the different aspects of their business and avoid costly outages.



Number of tools used by IT/telco organizations for observability capabilities in 2023 compared to 2022

When asked how unified their organization’s telemetry data (metrics, events, logs, traces) is, 39% said it’s more unified, 42% said it’s more siloed, and 18% said it’s roughly equally unified and siloed.

Moreover, IT teams in IT/telco organizations detected software and system interruptions primarily from one or more monitoring tools (77%), though about a fifth (21%) said they detect outages through manual checks or tests, complaints, or incident tickets.

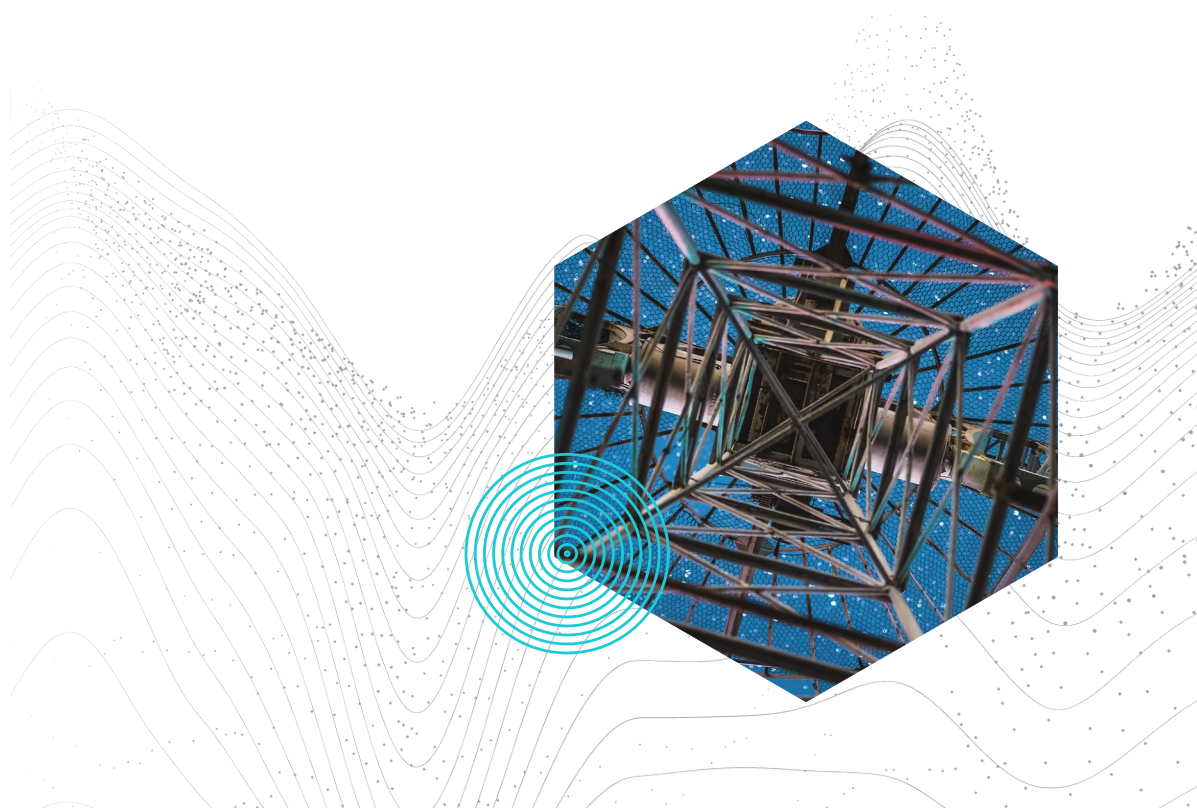
That said, the prevailing preference among IT/telco respondents was for a single, consolidated platform (56%). And 41% said their organization is likely to consolidate tools in the next year to get the most value out of their observability spend.

77%

detected interruptions primarily from one or more monitoring tools

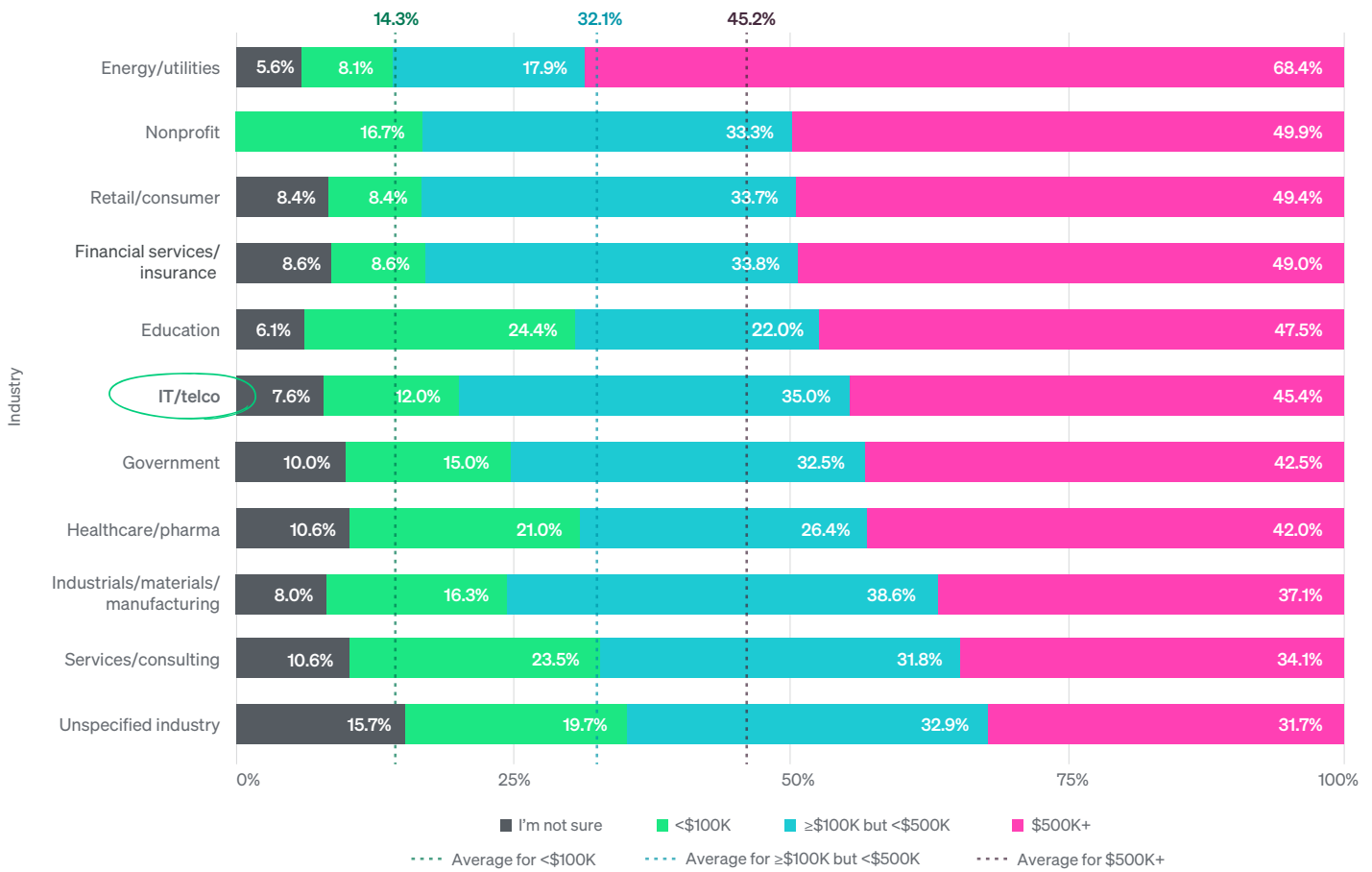
“My teams aren’t disconnected or buried in the complexity of our services, alerts, logs, or data. Our integration platform gives one clear view, so issues can be identified and fixed before it impacts our customers. That’s what truly matters.”

Daniel Gomez Blanco
Principal Software Engineer, Skyscanner



IT/telco observability spend

IT/telco organizations were in the middle of the pack relative to other industries regarding annual observability spend—45% said they spend \$500,000 or more, and 33% said they spend \$1 million or more per year on observability. Just 12% said they spend less than \$100,000 per year.



Annual observability spend by industry

The business value of observability

We also asked IT/telco respondents what ways observability helps improve their life the most. The top two answers for IT decision makers (ITDMs) were that it helps establish a technology strategy (39%) and achieve technical key performance indicators (KPIs) (37%). For practitioners, the top two answers were that it increases productivity so they can find and resolve issues faster (48%) and enables less guesswork when managing complicated and distributed tech stacks (32%).

As far as business outcomes enabled by observability, 55% said observability improves collaboration across teams to make decisions related to the software stack—which was more than all other industries and 19% more overall. In addition, more than a third said observability shifts developer time from incident response towards higher-value work (41% compared to 36% overall), mitigates service disruptions and business risk (37% compared to 33% overall), and improves revenue retention by deepening their understanding of customer behaviors (36% compared to 34% overall).

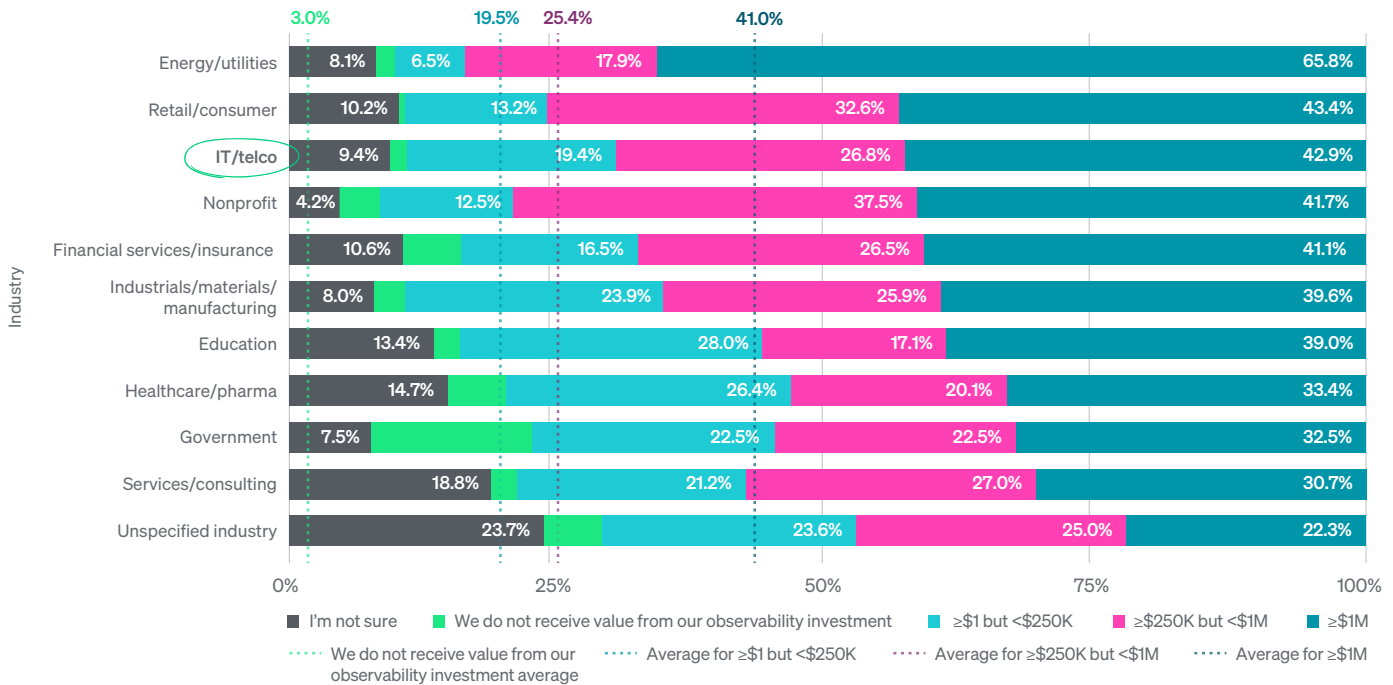
IT/telco respondents also indicated that the primary benefits enabled by observability were improved system uptime and reliability (40%), security vulnerability management (35%), increased operational efficiency (34%), and improved developer productivity and real-user experience (both 28%).

55%

said observability improves cross-team collaboration



When we asked them how much total value their organization receives from its observability investment per year, 57% said more than \$500,000, including 43% who said \$1 million or more. A fifth (20%) estimated they receive \$5 million or more per year in total value. IT/telco organizations reported a somewhat higher total annual value received from observability than average and more than all other industries except energy/utilities and retail/consumer.



Total annual value received from observability investment by industry

Based on annual spend and annual value received estimates, IT/telco organizations receive more than a 2x median annual return on investment (ROI), or 114%.

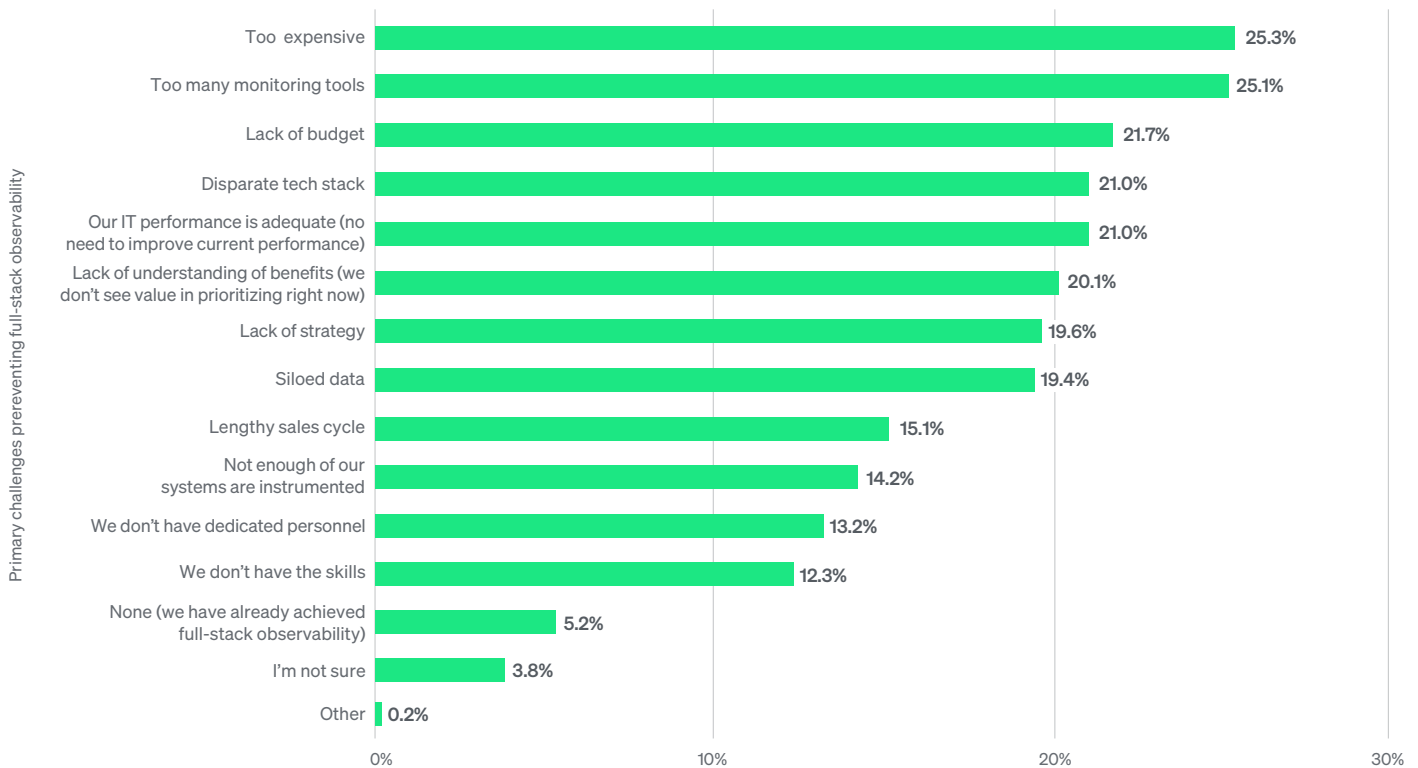
Several factors had an even more positive impact on ROI. Respondents whose organizations had:

- Achieved full-stack observability (by the report’s definition) had a higher median annual ROI (114%) than those who hadn’t (100%).
- A mature observability practice (by the report’s definition) had a higher median annual ROI (250%) than those with less mature practices (100%).
- Five or more capabilities currently deployed had a higher median annual ROI (114%) than those with 1–4 deployed (0%).
- Five or more observability practice characteristics currently employed had a higher median annual ROI (114%) than those with 1–4 employed (100%).

These findings strongly suggest that IT/telco organizations receive a minimum 2x ROI from observability and that the ROI is even higher for organizations that monitor more of their tech stack or have a more mature observability practice.

Challenges preventing full-stack observability

The top challenges preventing IT/telco organizations from achieving full-stack observability were that it's too expensive and there are too many monitoring tools (both 25%).



Primary challenges preventing IT/telco organizations from achieving full-stack observability

When asked what the most significant business outcome would be if their organization did not have an observability solution, 31% said higher operation costs due to increased operational effort.

In addition, the top three pricing- or billing-related issues experienced by IT/telco organizations with their observability vendor(s) in the past year were rapid data growth significantly impacting their bill (46%), paying for the whole month or year at the peak usage level (37%), and frequent reforecasting and recontracting for multiple SKUs (35%).

46%

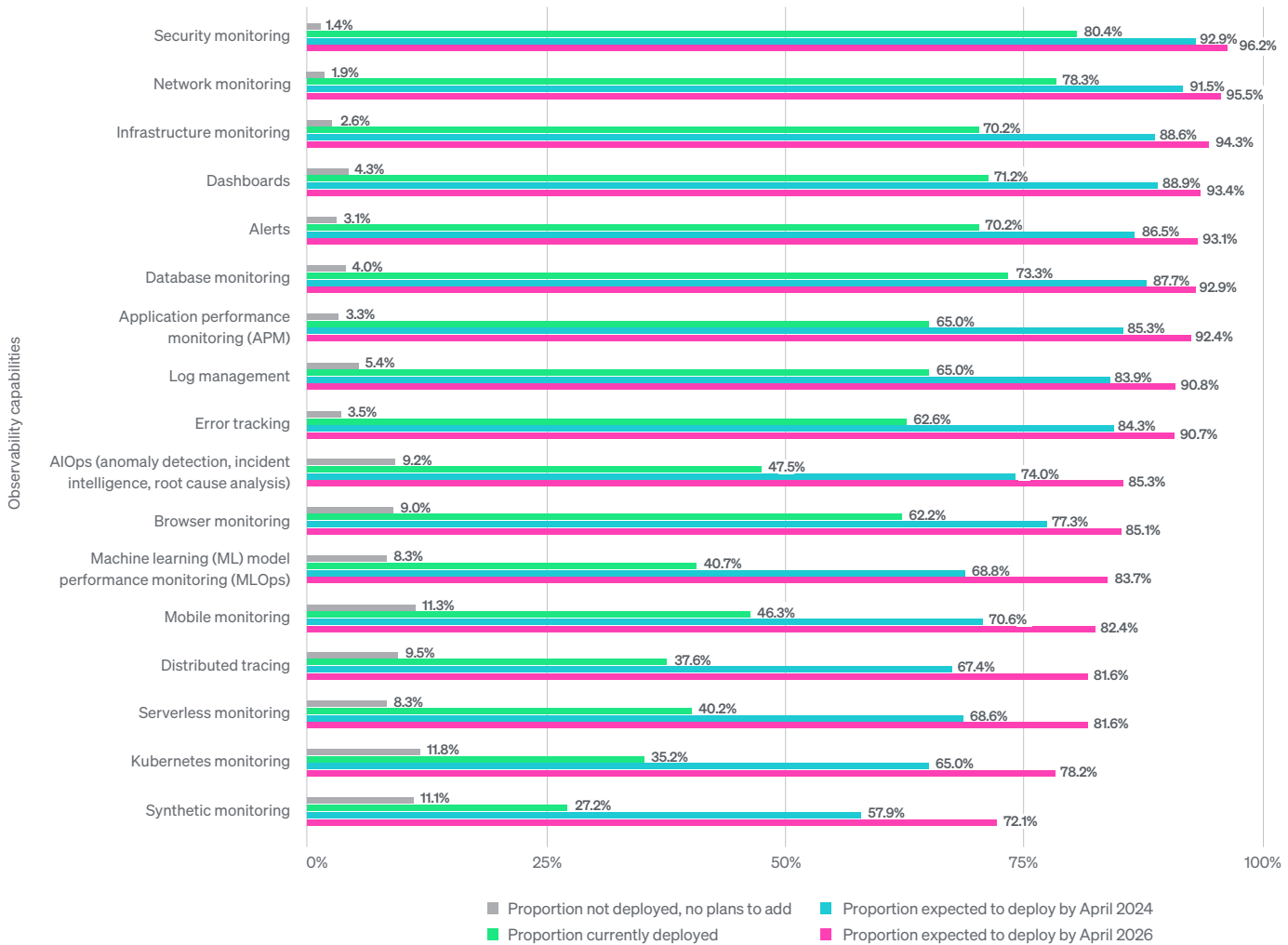
said rapid data growth significantly impacted their bill in the past year

The future of observability for IT/telco

IT/telco organizations had ambitious observability deployment plans for the next one to three years. For example, by mid-2026, most expected to have deployed security monitoring and network monitoring (both 96%), followed by infrastructure monitoring (94%).



DEM is also an important focus to create the best possible customer user experience. Nearly half (45%) expected to deploy synthetic monitoring in the next one to three years, 36% expected to deploy mobile monitoring, and 23% expected to deploy browser monitoring. These findings indicate that by mid-2026, 85% expected to have deployed browser monitoring, 82% expected to have deployed mobile monitoring, and 72% expected to have deployed synthetic monitoring.



Observability capabilities deployment summary for the IT/telco industry from 2023 through 2026

To get the most value out of their observability spend in the next year, 44% planned to train staff on how to best use their observability tools, and 41% planned to consolidate tools.

41%

planned to consolidate tools in the next year

Summary

The emergence of AI, 5G, edge computing, and other technologies is greatly impacting IT and telco organizations and contributing to the creation of large amounts of data that are often contained within siloed environments. When combined with evolving consumer expectations for a reliable, mobile-first experience, high levels of industry regulation, and user privacy requirements, it's clear that organizations in this arena are facing a gamut of challenges and changes.

Insights from the *State of Observability for IT and Telco* show that the IT and telecommunications industries are experiencing a high number of outages. Engineering teams are spending significant time and money tool-hopping to understand the different aspects of their business and resolve issues that lead to costly outages and poor customer experiences.

The data suggest that IT and telco organizations are beginning to consolidate tools. Given their strong interest in deploying more capabilities in the next few years, signs indicate that these organizations will move from point solutions to more robust platforms that provide end-to-end visibility. As the complicated networks of information that sit behind these organizations grows, the need for observability does too.



Next steps

New Relic is uniquely positioned to help IT and telco organizations deliver on the cutting-edge technological advancements defining their industries while maintaining security and privacy and improving the DCX to outshine the competition.

The first step is to model data from field instrumenting sources like sensors and other Internet of Things (IoT) devices along with system-level telemetry such as user interactions, cloud service metrics, and business data from customer relationship management (CRM) systems, transactions, and post-interaction activities. Then both technical and business teams can use the New Relic all-in-one observability platform to monitor important business metrics in real time, gain insights into critical metrics that directly impact the business such as revenue lost during an outage, make data-driven decisions about software investments, and build better customer experiences across all channels to maximize ROI.

IT and telco providers can use New Relic capabilities that are critical to backend and core system operations such as infrastructure monitoring, application performance monitoring (APM), alert quality management (AQM), and dashboards.

Teams can use the New Relic core web vitals quickstart (a pre-built, open-source integration that includes dashboards and alerts) to monitor their site's core web vitals with New Relic browser monitoring agent data and then take action on low scores.

Consolidating monitoring tools on the New Relic platform enables IT and telco organizations to achieve greater visibility into and across their often complicated technology stacks.

They can also use the New Relic Pathpoint business observability app to merge customer, product, and services paths into a single business journey and quantify the financial impact of business metrics. For example, if their website went down, Pathpoint could show not only that the outage occurred, but also how much potential revenue was being lost for every minute of downtime.

With New Relic capabilities like service level management and DEM (browser monitoring, mobile monitoring, and synthetic monitoring), teams can detect and resolve issues proactively and ultimately deliver an optimal user experience across all channels.



Core web vitals are metrics Google uses to gauge overall site user experience, which can influence search engine optimization (SEO) rankings and provide valuable insight into how users perceive the business. The benefits of understanding core web vitals include an improved user experience, better SEO, enhanced performance optimization, greater insights and analytics, and increased business value.

Request an in-depth, customized demo to find answers to your tough technical questions and get competitive pricing information.

[Request a Demo](#)

About this report

All data in this report are derived from a survey, which was in the field from March to April 2023 as part of our work in publishing the [2023 Observability Forecast](#) report. It's the only study of its kind to open-source its raw data. View the [2023 Observability Forecast](#) survey results.

IT/telco respondents comprised 423 of the total respondents surveyed in the [2023 Observability Forecast](#) report, or 25%.

ETR qualified survey respondents based on relevant expertise. ETR performed a non-probability sampling type called quota sampling to target sample sizes of respondents based on their country of residence and role type in their organizations (in other words, practitioners and ITDMs). Geographic representation quotas targeted 15 key countries. All dollar amounts in this report are in USD.

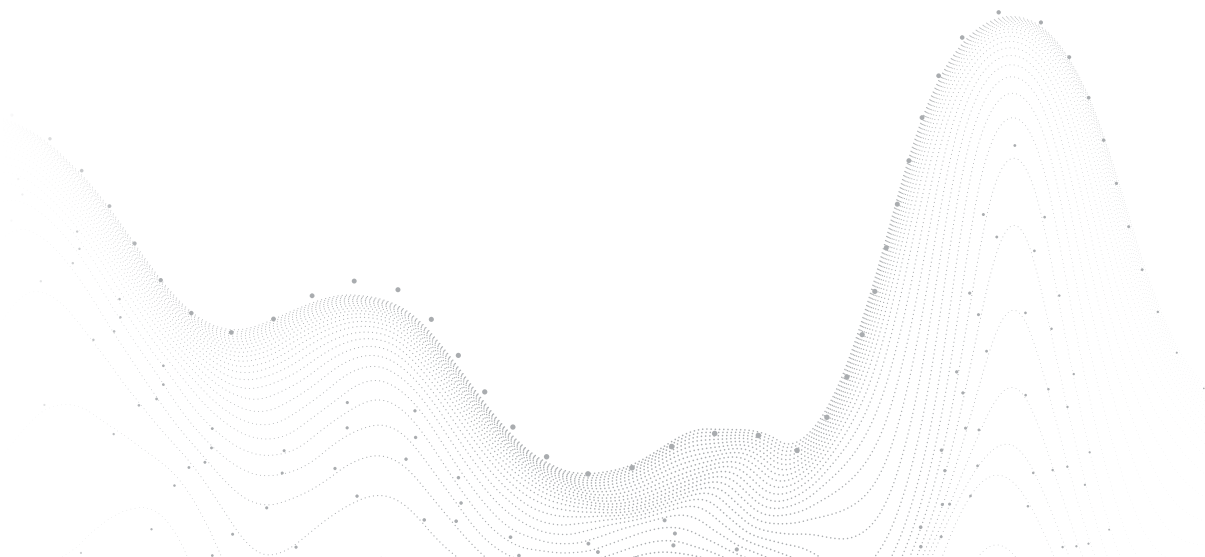
Definitions

View the [definitions](#) used in this report.

“New Relic is now acting as a proxy for our customer expectations. And we are able to get feedback from New Relic on whether there is a breach of that expectation. If there is, it alerts us and we're able to go back and take quick action on it and resolve it quicker. These alerts act as feedback to our teams, and they are immediately able to identify that there is something going wrong and to go ahead and act on it.”

Piyush Kumar

CTO at Capillary Technologies



About New Relic

As a leader in observability, New Relic empowers engineers with a data-driven approach to planning, building, deploying, and running great software. New Relic delivers the only unified data platform with all telemetry—metrics, events, logs, and traces—paired with powerful full-stack analysis tools to help engineers do their best work with data, not opinion.

Delivered through the industry's first usage-based pricing that's intuitive and predictable, New Relic gives engineers more value for their money by helping improve planning cycle times, change failure rates, release frequency, and MTTR. This helps the world's leading brands and hypergrowth startups to improve uptime, reliability, and operational efficiency and deliver exceptional customer experiences that fuel innovation and growth.

About ETR

Enterprise Technology Research (ETR) is a technology market research firm that leverages proprietary data from its targeted ITDM community to deliver actionable insights about spending intentions and industry trends. Since 2010, ETR has worked diligently at achieving one goal: eliminating the need for opinions in enterprise research, which are typically formed from incomplete, biased, and statistically insignificant data.

The ETR community of ITDMs is uniquely positioned to provide best-in-class customer/evaluator perspectives. Its proprietary data and insights from this community empower institutional investors, technology companies, and ITDMs to navigate the complex enterprise technology landscape amid an expanding marketplace.



[Request a Demo](#)

