



The Shift to Unified Observability: Reasons, Requirements, and Returns

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Introduction

In an ideal state, observability delivers comprehensive intelligence and insights focused on current and trending operating conditions across the digital infrastructure, from networking to computing to security to applications to end-user experience. The visibility and control provided by detailed observations of such important items as business workloads, technology components, secure exchanges, and system anomalies assure that infrastructure delivers on its full promise in service to business demands.

To better understand how observability solutions are being evaluated, applied, and judged now and into the future, IDC conducted a worldwide survey focused on observability as it relates to the measurement, monitoring, and management of the digital infrastructure. More than 1,400 respondents qualified and contributed to this research effort that covered three regions, 10 countries, and 7 industries (financial, manufacturing, healthcare, energy, technology, government, and professional services). Over 75% of the respondents represented large enterprises (1,000+ employees), and 70% held positions of director or above within their respective IT organizations. All had managerial responsibility for observability and/or IT performance management functions, use, staff, and budgets.

Digital Acceleration and Observability

Observability, a Match to Digital Business Priorities

Observability solutions are meant to deliver comprehensive intelligence and insights focused on current and trending operating conditions across the digital infrastructure, from networking to computing to applications to security. The visibility and control provided by detailed observations of such important items as business workloads, technology components, network exchanges, and system anomalies assure that the infrastructure delivers on its full promise in service to business demands and end-user expectations.

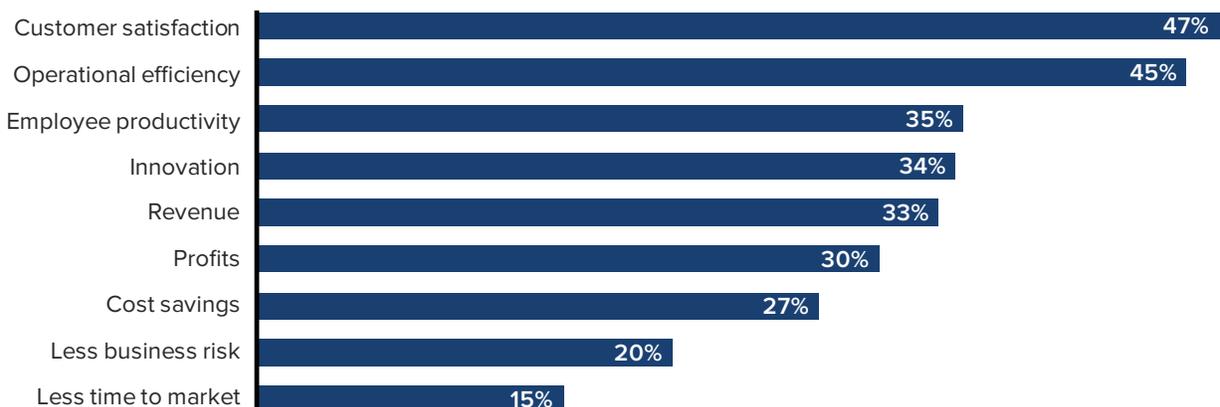
An examination of business priorities readily reveals the breadth and depth of the value of observability as the digital business model accelerates across all industries and within organizations of all sizes (see **Figure 1**). No matter the set of priorities for any organization, improved observability drives a positive impact. Business consultant Peter Drucker famously stated, *“If you can’t measure it, you can’t manage it”*. Observability provides the measurements of your digital infrastructure that drive excellence in serving customers and employees, operating efficiently, working productively, and, ultimately, growing revenue and profitability.

FIGURE 1

Business Priorities Drive the Need for Improved Observability

(% of Respondents)

Q. What are your organization's top 3 business priorities?



Source: IDC WW Future of Enterprise Resiliency and Spending Survey, 2021

Interestingly, in IDC’s 2022 *Worldwide Unified Observability Survey*, there was strong recognition of IT usage of observability by 95% of respondents. However, it should be noted that there is much confusion and disagreement about the exact definition of observability as a technical solution addressing the challenges of measuring, monitoring, and managing digital infrastructure.

For some, observability is narrowly focused on application testing and management. For others, observability represents a comprehensive approach to viewing, controlling, and enhancing the entire digital infrastructure, from core to client, from private to public, from systems to services. The results from this IDC survey certainly indicate that all organizations — no matter how narrow or wide their view today — have big demands and high expectations for observability solutions into the future.

Barriers to Digital Success Drive Observability Requirements

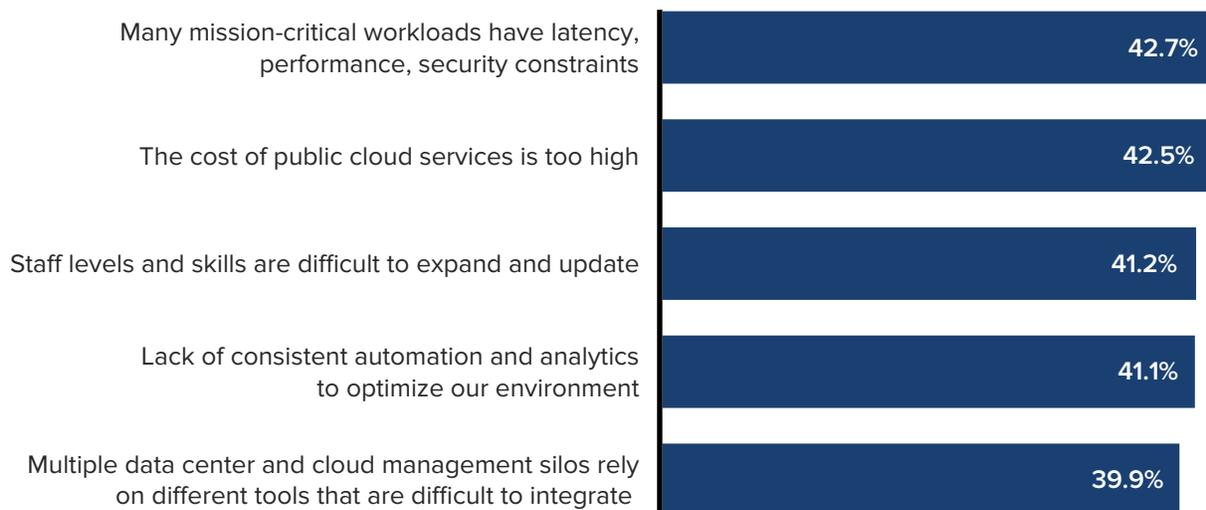
When it comes to achieving digital success, organizations face several challenges that impact their ability to build and operate a resilient digital infrastructure (see **Figure 2**). More than 40% of organizations reported that they must use legacy systems to support mission-critical workloads. Managing a complex mix of on-premises hardware/software systems and cloud-based SaaS subscription services reduces the visibility and control enterprises require to ensure digital service quality.

FIGURE 2

Top Barriers to Success When Building a Resilient Digital Infrastructure

(% of Respondents)

Q. What are the greatest barriers to achieving your organization’s digital infrastructure resiliency goals over the next two years?



Source: IDC *WW Future of Enterprise Resiliency and Spending Survey*, 2021

Other barriers include the high cost of public cloud services, staffing, lack of consistent automation, and the use of multiple tools to manage hybrid IT environments. According to the survey, 54% of organizations use six or more discrete tools for IT monitoring and management. Yet, 60% of respondents agree that most monitoring tools serve narrow requirements and fail to enable a unified and complete view into current operating conditions. Furthermore, 61% of respondents believe that IT staff productivity and collaboration is limited by specialized tools and siloed data views. And with the IT skills crisis, this barrier becomes even more detrimental to digital infrastructure resiliency and IT efficiency.

Expected Gains from Unified Observability — from Business to IT to End-User

Just as all components forming a digital infrastructure — and serving digital workflows and transactions — must work in concert to deliver maximum efficiency and effectiveness, so too must the IT management systems and staff that monitor and manage the digital infrastructure. The more comprehensive the observations, the more visibility and control systems and staff are afforded. This unified view into and across the digital infrastructure is seen to address current gaps, limitations and inefficiencies, as well as drive significant business and IT benefits (see **Figure 3**, next page).



FIGURE 3

More Comprehensive Observability a Requirement for Business and IT Success

(% of Respondents)

Q. Considering IT management practices and commitments at work within your organization, to what extent do you agree with each of the following statements?



n = 1,419, Top 2 Box Summary Table
 Source: IDC WW Unified Observability Survey, 2022

For example, the digital experience of the end-user (employee, partner, or customer) has become a critical measurement of digital success. And yet, the positive digital experience is determined by a complex web of hardware, software, data sources, and services all working together to satisfy an end-user digital exchange. When the digital experience is poor, IT teams must determine which component (or connected component) is driving the negative experience. This kicks off a flurry of activities spread across multiple IT groups and management systems, all aimed at identifying the root cause. If management systems and staff work in concert with unified data and insights, problems can be resolved faster and, even more significantly, can be avoided altogether.

Current State of Observability

How and Where Is Observability Applied Today?

According to IDC's survey results, over 90% of IT organizations are using observability solutions today. However, use of these solutions tends to be narrowly focused or singularly applied. For example, 43% of organizations align observability with an ability to collect and analyze just four types of telemetry, and 41% of organizations align observability with DevOps tools and practices for only application performance management (see Figure 4).

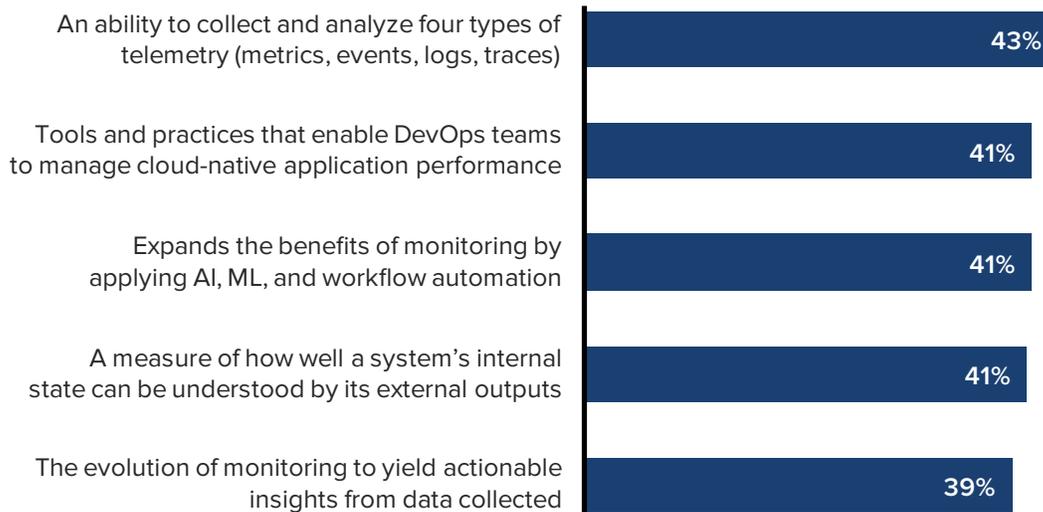
With that said, expectations for observability solutions are expanding. Similar percentages of respondents align their understanding of observability to include artificial intelligence (AI), machine learning (ML), and workflow automation, as well as evolving monitoring to yield more actionable insights from data collected.

FIGURE 4

Perception of Observability Solutions and Specific Capabilities

(% of Respondents)

Q. When hearing the industry term 'observability' applied to monitoring and management solutions, which of the following best aligns with your understanding of observability?



n = 1,419, Source: IDC WW Unified Observability Survey, 2022

Who is Using Observability Solutions Within the IT Organization

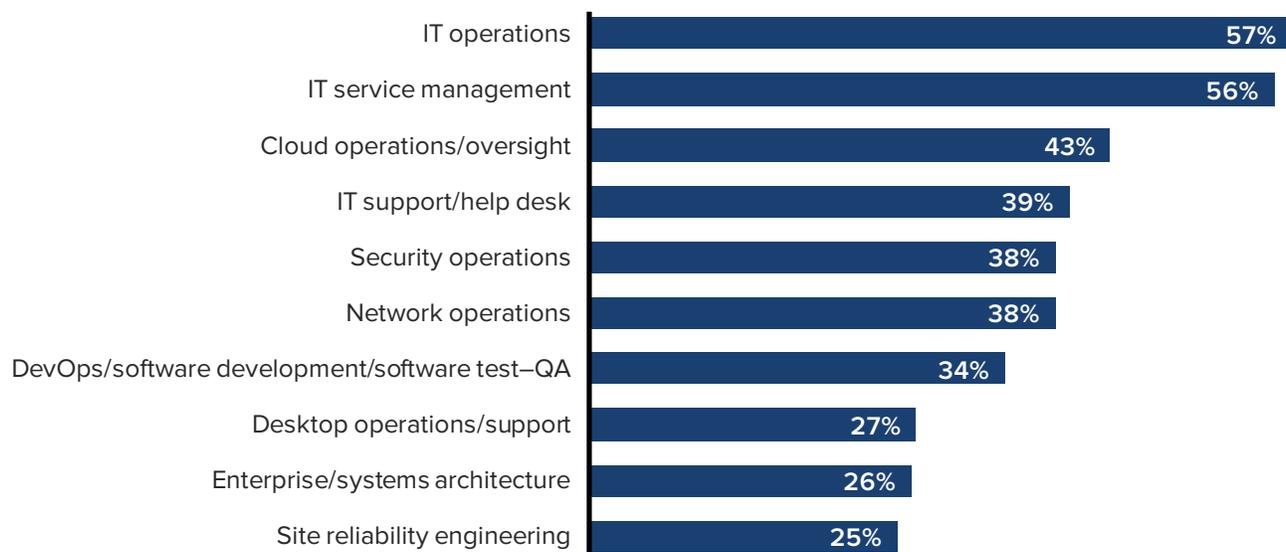
While many organizations cite their use of observability tools, all IT areas are lagging in taking advantage of the detailed visibility and precise control offered by these tools. From operations to engineering, from development to support, from networking to security, from IT service to cloud service management, observability capabilities are being applied on a limited basis within most IT organizations (see Figure 5).

FIGURE 5

Observability Responsibilities Form a Top-Down Hierarchy

(% of Respondents)

Q. What teams in your organization use observability solutions today?



n = 1,419,

Source: IDC WW Unified Observability Survey, 2022

Not only are specific IT areas being held back by the lack of observability capabilities, but holistic management is also blocked by limited contributions of key functional areas of technology. For example, limited or (worse yet) complete lack of network intelligence and insights serve to constrain overarching IT service management in this age of hyper-connected digital systems.

Increasing demand for data exchanges among specialized tools, shared intelligence and insights across IT, contributions to artificial intelligence operations (AIOps) efforts, and support for standardized and open source technologies (e.g., open application programming interfaces [APIs]) all point to the need for heightened interactions not only between observability and related management solutions but also among those IT staff members and teams collaborating to solve problems, bolster performance, mitigate threats, improve resource efficiency, and boost innovation.



“A complete lack of network intelligence and insights serve to constrain overarching IT service management in this age of hyper-connected digital systems.”

What Are the Challenges with Existing Observability Solutions?

There are many challenges seen with today's observability solutions (see Figure 6). Most enterprises use multiple observability solutions, yet 81% of respondents said it is still difficult to collect all of the data necessary to provide IT staff with a unified, comprehensive view into network conditions, infrastructure components, application performance, end-user experience and security threats. In addition, the limited and compartmentalized nature of using multiple solutions restricts integration and collaboration across IT domains.

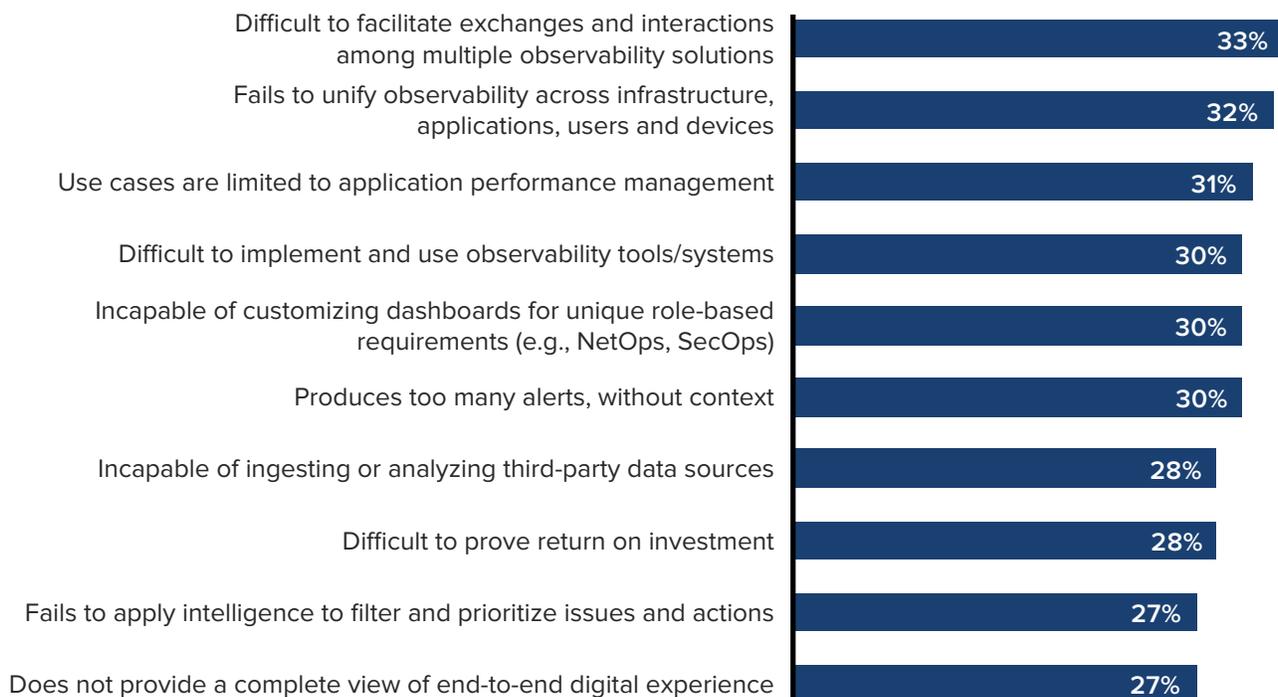
When it comes to data and insights, respondents cited that they are incapable of ingesting or analyzing third-party data sources or creating customized dashboards. They also said that their tools produce too many alerts that are without broader context or insights, making it difficult for them to filter and prioritize actions.

FIGURE 6

Shortcomings Across the Board with Current Observability Solutions

(% of Respondents)

Q. What are the limitations of current observability solutions?



n = 1,419, Source: WW Unified Observability Survey, IDC, 2022

The Movement Toward Unified Observability

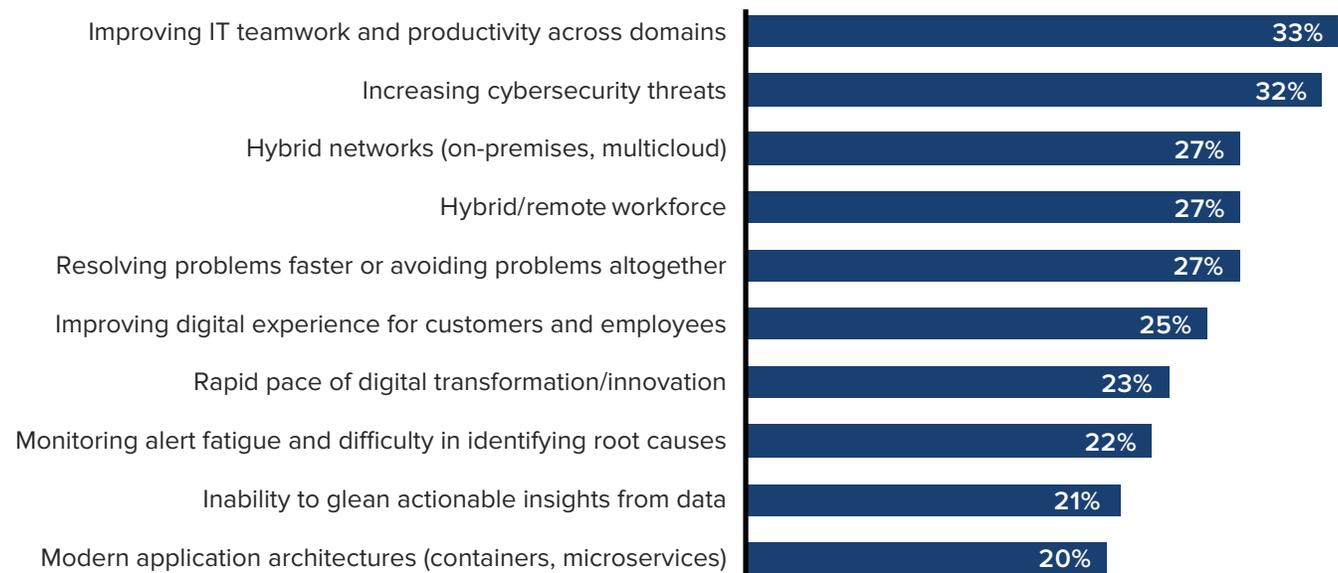
A “containerized” approach to observability fails to meet the demands of the digital business model — a model that succeeds based on all infrastructure components working as one and managed as one. It also fails to address the complexities of today’s hybrid workforce and distributed IT architectures, which raises several issues and challenges for IT teams (see Figure 7).

FIGURE 7

Staff, Security, Cloud, and Resiliency Are Top Drivers for Observability

(% of Respondents)

Q. What is driving the need to unify observability across all IT domains (applications, network, infrastructure, cloud, end-user services, smart end devices)?



n = 1,419, Source: IDC WW Unified Observability Survey, 2022

The strategic importance of other top drivers of unified observability should also be noted. Improving security measures, cloud oversight, digital innovation, experience management, and problem avoidance all reflect the increasing match between business and IT priorities.

Advantages of Unified Observability

According to the survey, more than 70% of respondents believe that unified observability is critical to delivering the best possible digital experiences for customers and employees. A majority also believe that the lack of unified observability restricts the IT organization’s ability to meet business requirements (60%) and makes their job and the jobs of their staff/peers more difficult (59%). They are looking for an observability solution that unifies data, insights, and actions to deliver many potential benefits for IT and the business (see Figure 8, next page).

FIGURE 8

Strategic Benefits of Unified Observability

(% of Respondents)

Q. What are the biggest benefits from applying unified observability across the entire digital ecosystem?



n = 1,419, Source: IDC WW Unified Observability Survey, 2022

Given the limited use of observability solutions within IT technology areas and the restrictions imposed on the use of observability intelligence and insights across IT management silos, the industry is far from realizing the full potential of observability solutions. Enterprises must demand and suppliers must develop more comprehensive unified observability solutions.



“The industry is far from realizing the full potential of observability solutions. Enterprises must demand and suppliers must develop more comprehensive unified observability solutions.”

Keys to Success in Unified Observability

Implementation of a comprehensive unified observability approach requires commitment along multiple fronts (see **Figure 9, next page**).

Technically, systems and services supporting observability functions must be fully evaluated and funded. From a talent standpoint, staff must be trained not only to properly operate specific solutions but also to readily integrate multiple solutions and common useful datasets. Culturally, the IT organization must promote teamwork and acceptance of shared tools and datasets.

Structurally, the organization must tighten the bonds among teams (e.g., network operations (NetOps) and security operations (SecOps)), practices (e.g., problem resolution), and tools (e.g., network and application performance management).

FIGURE 9

Improved Management Drives Improved Business and IT Execution

(% of Respondents)

Q. In examining IT management tools in use within your organization, to what extent do you agree with each of the following statements?



n = 1,419, Source: IDC WW Unified Observability Survey, 2022

Critical Requirements of a Unified Observability Solution

Data stands at the core of observability solutions. The ability to collect full-spectrum, full-fidelity data determines the success or failure of an observability solution, no matter whether that data supports a specific technology area (e.g., cloud oversight) or a larger end-to-end IT management initiative (e.g., digital experience management). IDC’s survey research indicates that over 80% of organizations have difficulty collecting the data they need for complete visibility and control. For these organizations, data shortfalls result in infrastructure blind spots and incomplete analysis. More specifically, survey results indicate that 75% of organizations have difficulty analyzing correlations and deriving actionable insights. The completeness, currency, and accuracy of observability data is paramount to the in-depth analysis, automated actions, systems integration, and staff efforts that follow (see Figure 10, next page).



“The ability to collect full-spectrum, full-fidelity data determines the success or failure of an observability solution.”

“Survey results indicate that 75% of organizations have difficulty analyzing correlations and deriving actionable insights.”

FIGURE 10

Observability Solutions Must Deliver Complete Analysis and Drive Action

(% of Respondents)

Q. What are the most important attributes of a unified observability solution?



n = 1,419, Source: IDC WW Unified Observability Survey, 2022



Evaluating Unified Observability Solutions and Suppliers

Solution Development: Judging Technical and Practical Capabilities

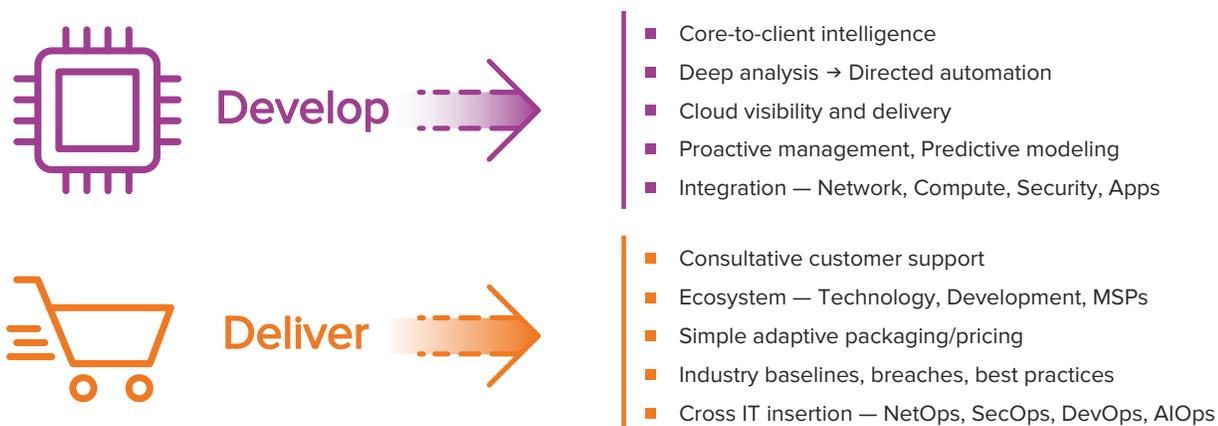
To realize all of the potential gains associated with observability solutions and their detailed intelligence and insights, organizations must closely examine solutions across two key fronts: solution development and solution delivery (see **Figure 11, next page**).

In examining functional capabilities, end-to-end measurements (e.g., from overall digital experience to specific device performance), in-depth analysis (e.g., root cause identification and anomaly detection), and directed actions are core functions of observability solutions. Insights into cloud services and developing trends enable a complete and forward-looking view. In addition, ready exchanges and role-based dashboards enable a solution to serve multiple IT groups and cross-functional teams.

While often overlooked, practical capabilities must be examined as closely as solution functionality. Enterprises should place a high importance on such areas as commitment to customer success, proven and high-impact partnerships, a flexible and cost-effective solution structure, and contributions derived from industry and experience and delivered across the IT organization.

FIGURE 11

Evaluating Observability Solutions and Providers on Two Key Fronts



Source: IDC, 2022

Supplier Criteria: Judging Observability Vendors and Service Providers

Survey respondents indicated that this two-pronged approach to evaluating observability solutions is favored by the vast majority of organizations (see Figure 12). A mix of functional and practical capabilities is used to judge the fit for a specific observability solution and provider.

FIGURE 12

Preference for Solution Suppliers That Ease Integration, Drive Best Practices

(% of Respondents)

Q. What are your top expectations for the vendor/provider of a unified observability solution?



n = 1,419, Source: IDC WW Unified Observability Survey, 2022

In examining the key characteristics of observability suppliers, strong ties to solution requirements are evident. For example, ready integration is cited as a vital solution requirement and supplier capability — e.g., partner ecosystem, open APIs, hybrid cloud/multicloud management, and best practices. Similar conclusions can be drawn between solution and supplier capabilities across such areas as staff effectiveness, professional services, and sustaining roadmap.

The Impact of Unified Observability on the IT Organization

Heightened Responsibilities, Teamwork, and Impact for IT Staff

Survey results relating to IT staff indicate the need for change with respect to IT practices and toolsets. Staffing issues are not just about shortages and gaps — they also include a misappropriation of talent that drives up costs and job dissatisfaction. Consider the following:

- Sixty-three percent of respondents agreed that their organization needs to find ways to enable lower-skilled IT staff to find and fix issues.
- Fifty-nine percent of respondents agreed that their organization's IT staff must manually troubleshoot issues to identify root causes and determine specific remedies.
- Fifty-eight percent of respondents agreed that their organization's most expert staff spend far too much time on tactical responsibilities.
- Fifty-six percent of respondents agreed that their organization struggles to hire and retain highly skilled IT staff.
- Fifty-three percent of respondents agreed that their organization struggles to train IT staff in new and needed technical and operational skills.

Further IDC research into IT management priorities reveals a strong desire to redirect staff from tactical duties (e.g., problem solving, configuration management, operational monitoring) to strategic responsibilities (e.g., predictive modeling, infrastructure optimization, digital innovation). Here, the business impact of the IT staff is heightened, while IT staff satisfaction and retention is increased.



“Staffing issues are not just about shortages and gaps — they also include a misappropriation of talent that drives up costs and job dissatisfaction.”

This staff redirection can only be achieved if the time and energy spent on tactical duties is reduced. The detailed intelligence and actionable insights provided by unified observability solutions serve to relieve tactical pressures and bolster strategic contributions for individual staff members. In addition, IT teamwork is improved by sharing observability tools and data, collaborating to solve problems and mitigate threats, and executing cross-IT projects that call for detailed insights into potential risks and readiness. It is no coincidence that survey respondents indicated that the number 1 driver for unified observability is improved IT staff teamwork and productivity across technology domains.

The importance of unified observability to IT staff productivity and enrichment and the above strategic IT initiatives certainly influences survey respondents' decisions to assign responsibility for observability to the CIO or another C-level technology executive (e.g., CTO, CDO). Observability is indeed a strategic imperative. Interestingly, owing to the growing need for observability capabilities beyond application management, only 5% of respondents believed that their DevOps/software development team should be responsible for unified observability. Observability is now an overall IT thrust, requiring C-level oversight.



“Observability is now an overall IT thrust, requiring C-level oversight.”



Future Outlook for Observability

Investment: Rising Budgets, Hybrid Solutions, Proactive Management

The COVID-19 pandemic caused all organizations to reassess their digital infrastructure. Designs were reexamined. Traditional deployments were scaled back. Flexible service models were prioritized. Management toolsets and practices were matched to an environment that was suddenly more virtual, visible, and vulnerable.

Enter management analytics and automation. Both are core tenets of observability and strong contributors to consistent service levels, faster problem solving, stronger security postures, efficient resource management, and successful digital rollouts. Strong value drives solid financial support. Over 50% of respondents indicated that their observability budgets will increase over the next two years, with 30% indicating an increase of 25% or more!

In terms of solution format, survey respondents indicated an almost equal level of investment in on-premises hardware/software systems and cloud-based SaaS subscription services — now and over the next two years. Hybrid observability solutions will be required for most organizations.

In terms of solution focus, 20% of survey respondents indicated that observability will enable them to move from a reactive to a proactive management stance. While this number indicates that only one in five organizations is moving in this direction, the rather limited use of observability across all of IT serves to restrict most from taking on such a significant transition. With increased use of unified observability solutions and the resulting buildout of forward-looking management functions (e.g., workflow automation, trend analysis, predictive modeling, and capacity planning), more and more organizations will see the greater value of problem avoidance, well-timed upgrades, and accelerated digital rollouts.



“Over 50% of respondents indicated that their observability budgets will increase over the next two years.”

Automation: Driving Precise Actions

IT automation is a high priority (and a big challenge) for organizations. The detailed data and in-depth analysis provided by observability solutions form a cornerstone of an effective automation effort. The following survey results indicate strong ties between observability and automation:

- Seventy-three percent of respondents believe that automating investigative workflows would drive faster problem solving.
- Seventy-two percent of respondents use or plan to use advanced analytics to support their automation efforts.
- Forty percent of respondents align observability with the evolution of monitoring to yield actionable insights from the data collected. (Automation would then execute those indicated actions.)

The more complete the data, the more accurate the analysis and the more precise the directed automated action. The greater the precision, the far more likely these actions are to drive the greatest benefit to the digital infrastructure, the IT staff, and, ultimately, the end-user and the business.



“The more complete the data, the more accurate the analysis and the more precise the directed automated action.”

AI/ML: More Data. Deeper Insights. Improved IT Services!

Digital infrastructures have outstripped the abilities of IT organizations to keep pace with both business and technology requirements. Infrastructure complexity, component interdependencies, staff pressures, downtime costs, increased threats, and the pace of innovation dictate the need for AI/ML-driven data collection, correlation, and analysis within observability solutions. The following survey results highlight this need for AI/ML support in observability:

- Seventy percent of respondents believe AI/ML technologies must be incorporated within unified observability solutions for them to fully deliver on their promise.
- Forty-one percent of respondents believe observability expands the benefits of monitoring by applying AI/ML and workflow automation.
- Twenty-eight percent of respondents require AI/ML-driven insights to readily identify root causes, anomalies, and threats.

Final Words of Advice

Position and Equip the Organization for Success

Staff capabilities, team collaboration, and solution intelligence are critical to a successful observability thrust. Key steps should include:

- Developing an IT organizational structure, culture, practice, and skillset that is forward-looking, fast-acting, fail-safe, and team-oriented
- Streamlining the management toolset, while advancing tool intelligence and integration
- Maximizing system/service contributions, while minimizing IT staff analysis and actions

Solidify Observability Capabilities and Practices Within Technology Domains

The digital infrastructure is only as resilient as its weakest component. Best practices and fully functional observability solutions must be built up equally across technology domains — e.g., networking, computing, cloud, security, and applications. Key steps should include:

- Assuring complete, timely, and secure data collection, distribution, and processing.
- Emphasizing usability features that enable efficient and effective use by many domains
- Comprehensive analysis that drives actionable insights or even automated actions that can be leveraged by IT staff at all skill levels

Leverage Intelligence and Insights Up, Down, and Across the Management Hierarchy

AIOps and engineering teams must often draw intelligence and insights from multiple domains. Multiple operations teams (e.g., NetOps and SecOps) must often share data and use common tools. Observability solutions must often serve other management solutions, from ticketing to reporting to automation. Key steps should include:

- Leveraging standardized, open source, or (at the very least) similar components wherever possible
- Emphasizing simplicity when evaluating integration and “programming” requirements
- Prioritizing ready fit — or ease of fitting — with your current/planned infrastructure



About the Analyst



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Mark Leary is Research Director for Network Analytics and Visibility responsible for worldwide technology market research and analysis. Mark's core research coverage focuses on the broader network management/monitoring and service assurance domains, including the related analytics, AI/ML, automation and programmability aspects as they apply to a secure agile network. Based on his current work and background, Mark's research also examines advancements in enterprise and cloud network technologies; adoption of cloud services and software-defined systems; network management best practices; and the evolution of IT staff roles and skills in this demanding hyper-connected digital era.

[More about Mark Leary](#)

Message from the Sponsor

Riverbed Alluvio Unified Observability captures full-fidelity user experience, application, and network performance data on every transaction across the digital ecosystem. It then applies AI and ML to contextually correlate data streams and alerts to provide actionable insights. This intelligence also automates the investigative workflows of IT experts, empowering staff at all skill levels to solve problems, fast. With Alluvio Unified Observability, IT can eliminate data silos, resource-intensive war rooms, and alert fatigue. They can enable cross-domain decision-making, apply expert knowledge more broadly, and continuously improve digital service quality.

Learn how the Alluvio Unified Observability portfolio extracts the value of data with actionable insights and intelligent automation by visiting:

www.riverbed.com/products/unified-observability

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