Managing and monitoring cloud technologies demand updates to people, processes, and tools. Enterprises that modernize the operations function in tandem with cloud adoption will ensure availability, performance, capacity, and compliance.

IT Operations Modernization: A Cloud Technology Adoption Requirement

January 2024

Written by: Nancy Gohring, Research Director, Enterprise System Management Observability and AIOps Software

Introduction

The IT operations (ITOps) function at most enterprises is undergoing a notable transformation. Gone is the ITOps team that fills requests from developers for CPUs. Today's operations organizations are asked to deliver a targeted level of service for applications built on a complex foundation of public and private clouds that support legacy apps as well as microservices applications running on Kubernetes. The skills, processes, and tools that were once used to support the infrastructure and applications of the past don't match the requirements of this type of modern hybrid technology deployment. Delivering availability, performance, capacity, and compliance in this environment requires that IT operations teams take a new approach that demands the modernization of:

> **AT A GLANCE**
>
> **KEY TAKEAWAYS**
> The top factors driving observability tool selection are:
> » Superior use of AI
> » Ease of use
> » Customization capabilities

» **People:** Operations organizations require new skills to manage a hybrid, cloud-native technology environment. For instance, to support efficient infrastructure provisioning that doesn't slow down the development process, some organizations have adopted platform engineering, where a team builds processes that enable self-serve access to infrastructure for developers. The approach allows operations teams to ensure policy compliance while allowing developer teams to quickly push new code into production. Likewise, to drive reliability of applications running in these complex environments, new site reliability engineers (SREs) are building automations and orienting performance goals around service-level objectives rather than the performance of individual components.

There are many other roles emerging that support IT operations in the enterprise including observability engineers as well as MLOps and SecOps experts. These roles, which require experience managing cloud-native and hybrid systems, are designed to drive efficiency into IT operations and deliver high-performing services built on a complex technology foundation. All this work — and more — requires new skills.

As new operations roles are emerging to support new technologies, the line of business is more involved than ever in the delivery of applications and services. Product managers and senior executives are increasingly aware of the relationship between digital technologies and the delivery of business outcomes. These executives want telemetry-based intelligence about applications and services, with a business perspective. With the right skills and tools, operations teams can better serve these stakeholders.

» **Process:** In a modern technology environment, collaboration is required not just between senior IT operations and business leaders but also across the many teams responsible for delivering an application or service. An organization might have many DevOps teams, each responsible for a microservice and each potentially situated in a different group. Those teams might have to work together with infrastructure operations teams, platform engineers, SREs, and others during incidents and as part of optimization efforts. New workflows and processes may be required to support collaboration across the relevant teams and stakeholders.

Plus, as operations teams orient around new types of goals, they take new approaches to prioritizing their work. Paying attention to service-level objectives (SLOs) means that teams can become proactive, taking the time to examine and improve infrastructure performance before problems arise. They may adopt new processes like post-incident reviews that drive improvements in the incident response process. These shifts in the way that teams think about reliability and performance require new processes.

» **Technology:** Tools used by IT operations organizations are key to supporting new processes and collaboration across the many roles involved in delivering digital applications and services. A modern observability tool should deliver a centralized view of the IT environment, allowing a variety of roles to examine that view to make decisions. Modern tools can also help with architecting and tracking SLOs.

Some tools deliver opinionated views and recommendations while still allowing users to customize and query data. A tool that guides users in the right direction — toward the cause of a performance problem and to solutions for solving it — is particularly helpful in the many organizations that don't yet have deep experience managing some of the technologies in use in the enterprise. Also, when a tool automates the pinpointing of a problem's source and suggests a resolution, responders solve problems more efficiently and quickly. To deliver on that promise, a tool must include sophisticated analytics, including machine learning (ML) and artificial intelligence (AI), to draw intelligence from potentially large volumes of alerts and data.

Many enterprises are examining their monitoring tools to determine whether they can support the needs of a modern approach to operations. In a recent IDC study, large enterprises said that AI, ease of use, customization, support, and a comprehensive set of capabilities were the top factors that drove their observability tool buying decision (see Figure 1).

FIGURE 1: *Factors Driving Observability Vendor Selection*

Q *Thinking of your observability vendors, what are the most important factors that set them apart from the competition and drove your buying decision?*
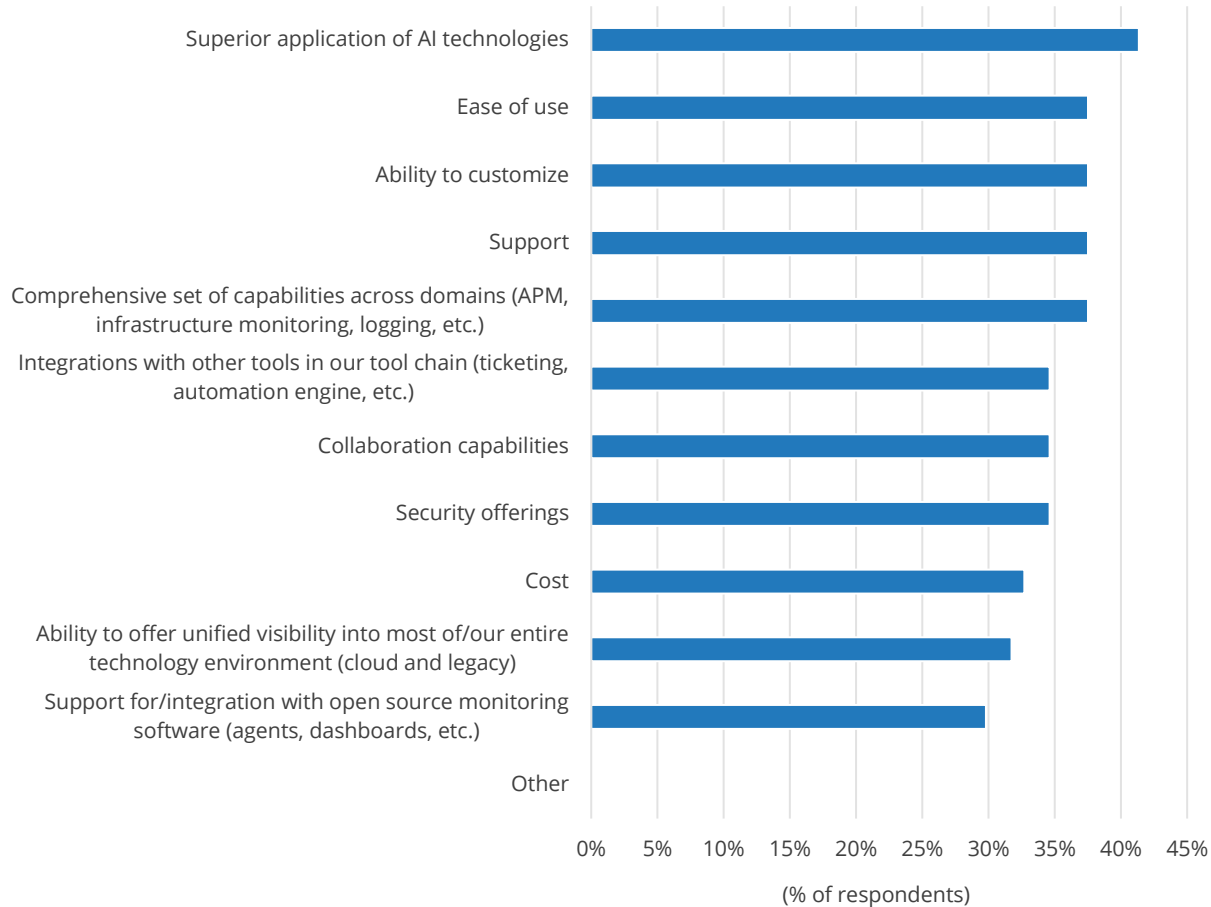
n = 104

Base = all respondents

Notes:

Data is managed by IDC's Global Primary Research Group.

Data is not weighted.

Multiple responses were allowed.

Use caution when interpreting small sample sizes.

Source: IDC's AIOPS and Observability Survey, October 2023

These are the factors that enable an enterprise to modernize its approaches to monitoring and management in line with its adoption of cloud and cloud-native technologies. AI-driven observability tools are key to quickly identifying the cause of a problem in a complex technology implementation that generates large volumes of varied telemetry data. Ease of use may include features that guide users to the cause and resolution of a problem while allowing for the customization

required for every enterprise's unique demands. Finally, a comprehensive tool that delivers a unified view of the IT environment allows for more accurate root cause analysis and better collaboration across teams.

Benefits

Enterprises that modernize their approaches to infrastructure monitoring and management to match their hybrid technology environment will realize a host of benefits. With the right people, processes, and technology in place, enterprises stand to gain from both an operations team and business team perspective.

Operations Teams Benefits

With the right observability data and analytics in place, teams that perform operations tasks should gain efficiencies related to several functions including:

» **Availability and performance:** Operations teams can improve availability and performance when they have access to tools that collect the right data set and surface intelligence about the cause of problems. Without tools, processes, and skills designed to support complex hybrid environments, operations teams face visibility gaps that significantly slow their ability to pinpoint when and why performance problems occur.

» **Capacity optimization:** Once an IT operations organization is collecting granular data about the hybrid environment, it is well positioned to analyze capacity in order to optimize deployments. Rather than overprovision, teams can make strategic decisions about where to run workloads and potentially drive efficiencies into cloud spending.

» **Improved IT operations efficiency:** When tools use AI and ML to automate incident detection and pinpoint the source, team members resolve issues more quickly and easily. Opinionated tools can help improve efficiency too, pointing users toward changes that enhance performance. With this added efficiency, team members have more time to be proactive and focus on higher-value work. In addition, such tools allow organizations to more quickly onboard new team members who can rely more on the tools for guided recommendations.

Business Benefits

The benefits realized in the IT operations teams will prove to be benefits to the business as well, including in the following ways:

» **End-user experience:** When IT operations teams have the tools, people, and processes that allow them to support high-performing infrastructure and applications, the end-user experience improves. Customer satisfaction is a key metric for business teams, potentially driving revenue or other important business objectives.

» **Reduced time to market:** Improving IT operations efficiency often has a notable impact on the delivery of new services to users. When IT operations teams can speed the delivery and management of infrastructure, new digital capabilities can reach users quicker. In addition, intelligent tools may allow operations teams to solve — or prevent — problems that might otherwise have to involve other team members, including developers. When operations teams can solve problems, software developers have more time to dedicate to building business impacting capabilities.

Trends

The transition from a traditional approach to ITOps to a modern organization isn't linear. For most organizations, there is no beginning and no end: it's an ongoing evolution that often occurs in line with new technology adoption. For instance, public cloud adoption and Kubernetes deployments each require a set of skills and tools. As those technologies are brought on board, enterprises adapt, adding the people, processes, and technology required to ensure the efficient delivery of technology and top availability and performance.

Also, the IT operations modernization journey rarely looks the same from one enterprise to the next. In addition to the speed of change and makeup of different teams, individual roles often vary considerably in different organizations. For example, in some companies, SREs have a very similar role as a platform engineer, with a mission of delivering shared infrastructure to which developers deploy. In other organizations, SREs build or manage tools that developers or operations teams use to measure application reliability. Some SREs have roles that aren't very different from their IT operations peers.

Enterprises can learn from each other but shouldn't be overly concerned about differences of implementations. Rather than aim for a particular description of observability maturity or job description, organizations are more successful when they aptly match their operations function and culture to the infrastructure in use at the company and the needs of the business.

Consider VMware

VMware Cloud Foundation aims to enable organizations to implement an agile, secure, and efficient operating model for a distributed, hybrid infrastructure environment. The platform was designed to harness VMware's deep knowledge of managing cloud environments, with prescriptive and customizable workflows and SLO recommendations for delivering high-performing infrastructure. VMware Aria Operations — a component of VMware Cloud Foundation — is targeted at ensuring infrastructure availability, capacity, compliance, and sustainability while optimizing cloud costs and performance.

Challenges

In some enterprises, the proliferation of new ops-related teams (SREs, DevOps, platform engineering, and observability engineering) exacerbates monitoring tool sprawl. Teams with each of these roles may purchase their own tools that only deliver insight into a segment of the technology stack and typically reduce the ability for experts across the organization to collaborate. When enterprises decide to address tool sprawl, they encounter a very competitive market of vendors promoting their ability to serve as a central source of intelligence that can serve multiple teams and use cases. Enterprises face a daunting task of determining whether they should eliminate some tools and which to integrate in order to support the collaboration and intelligence needs of teams tasked with delivering high-performing services to end users.

Conclusion

Modernizing IT operations can't be an afterthought that follows the adoption of cloud and cloud-native technologies. A complex, hybrid enterprise technology environment demands changes to people, processes, and technology. Teams require new skills to manage a modern hybrid cloud environment. Those that orient their processes around outcomes rather than around the performance of individual components will generate wins for the business due to improved availability and reliability. The adoption of new skills and processes are supported by tools including those that harness AI

and ML to intelligently guide users to solutions that resolve issues quickly and proactively avoid performance problems. Finally, the organizations that assess the demands of their technology environments and continually evolve their IT operations function to match it will be in the best position to deliver reliable, performant applications and services.

About the Analyst

Nancy Gohring, Research Director, Enterprise System Management Observability and AIOps Software

Nancy Gohring is research director for IDC's Enterprise System Management, Observability and AIOps Software service. She publishes research describing trends impacting the application, infrastructure, and log monitoring and observability sectors as well as AIOps. Ms. Gohring offers competitive intelligence and guidance to sector leading vendors, advises enterprises about the tools and tactics required to drive the top performance and user experience for their most important applications, and offers trend insights to the investor community.

MESSAGE FROM THE SPONSOR

VMware Aria Operations — a component of VMware Cloud Foundation — delivers self-driving operations from apps to infrastructure to optimize, plan and scale your Private Cloud and Hybrid Cloud deployments.

Using a forward-looking analytics engine, VMware Aria Operations predicts future demand, provides recommendations, and automates reclamation and rightsizing. It helps with Intelligent Remediation to predict, prevent and troubleshoot faster with actionable insights. The solution automatically balances workloads to avoid contention to assure high performance at minimum costs. It ensures your environment's adherence to regulatory standards with integrated compliance and thus reduces risk. Discover more on how VMware Aria Operations provides Full-Stack Visibility: https://www.vmware.com/in/products/aria-operations.html.

IDC Custom Solutions

The content in this paper was adapted from existing IDC research published on www.idc.com.