# Demand for AI in IT Ops Rises as Personnel Shortages Persist

The 451 Take

Cloud-native technologies such as serverless functions and Kubernetes are, in a vacuum, complex new paradigms in which to build, deploy and manage applications. In practice, this inherent complexity is compounded in enterprise deployments where new code retains a reliance on or integration with existing business logic. Often this makes the prospect of gaining insight into applications dependent on a hodgepodge of new tools to capture and process information for cloud-native applications, while maintaining existing tooling for traditional applications.

Advanced tooling that utilizes artificial intelligence/machine learning (AI/ML) is a practical requirement for IT Ops teams, and one for which practitioners have expressed a strong preference. In 451 Research's Voice of the Enterprise: Storage, Transformation 2021 survey, 57% of practitioners strongly agreed with the premise that AI/ML-enabled observability tools simplifies IT management at their organization. This preference has solidified year over year, as the percentage of respondents indicating they strongly agree with this premise doubled from 2020 to 2021.

AI's Ability to Simplify IT Management
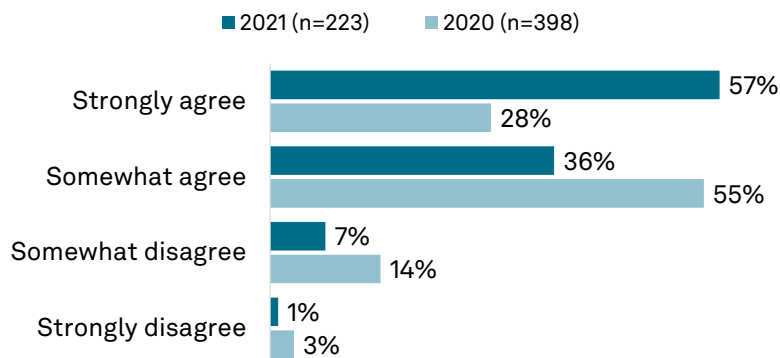
Q. Do you agree or disagree with the following statements about IT management and monitoring tools with artificial intelligence/ machine learning (AI/ML) capabilities? -The addition of these tools to vendor products simplifies IT management at my organization
Base: All respondents, limited sample (n=223)
Source: 451 Research's Voice of the Enterprise: Storage, Transformation 2021

Throughout the application lifecycle, proactive AI/ML-guided response to performance or security incidents, as well as general resource optimization, can lighten the load for IT Ops practitioners. Given protracted personnel shortages, as well as the oft-cited "Great Resignation," empowering practitioners not just to work more efficiently, but to focus positively on more meaningful work (e.g., building applications, modernizing IT estates) rather than reactive firefighting of regressions and outages can provide better outcomes for applications and also in job satisfaction – and by implication, retention – of IT Ops professionals.

Business Impact

Everything is everywhere. Cloud-native development is exciting, although it does not necessarily result in existing infrastructure being spun down. To avoid being shortsighted, observability tools must provide visibility into traditional or legacy infrastructure, private cloud solutions and multiple cloud platforms, without favoring one venue over another in terms of feature parity or support.

Cloud-native complexity compounds observability needs. While virtual machines abstracted environments from hardware and cloud platforms rendered hardware fungible, cloud-native architectures further compartmentalize and shorten the lifespan of individual components of modern applications. Manually inspecting an ephemeral instance that may already be destroyed by the time an engineer notices a problem is tedious and problematic. AI/ML-powered observability tools that ingest and process logs, metrics and traces in real time to deliver actionable insights eliminate the need to chase rainbows.

Site reliability engineers are in short supply. SREs play a critical role in ensuring reliability and performing root-cause analysis, but many organizations lack SREs entirely. According to 451 Research's Voice of the Enterprise: Cloud, Hosting & Managed Services survey data, only 15% of organizations currently have SREs as a defined job role, while 13% plan to add them in the next year. This compares with 40% of organizations that have DevOps engineers, and we can reasonably expect the number of organizations with developers to be even higher. With a scarcity of SREs, enterprises must work to capitalize on their time as much as possible, which may include adopting processes and tooling that can be implemented earlier in the application lifecycle. This can help developers and DevOps teams minimize the number of incidents making their way into production to reduce the need for troubleshooting later.

Looking Ahead

In pursuit of greater insight into applications and the infrastructure that operates them, enterprises accumulate a variety of tools, optimally with some degree of integration, or alternatively just listings in a service catalog. This introduces its own complexity: multiple overlapping tools with not necessarily synchronized views into applications or infrastructure will provide shortsighted or incomplete results, with intelligence (or, worse, environmental data) siloed within individual tools.

Over 95% of respondents in 451 Research's Voice of the Enterprise: Storage, Transformation 2021 survey prefer buying as many monitoring and incident-response tools from a single vendor as possible, in order to gain efficiencies and new capabilities. Although cost and complexity are valid concerns that have driven some companies to scrutinize their existing and future choices in observability tooling, the need to address such challenges must ultimately be weighed against the need to give personas across IT the tools they need to accomplish their work. Utilizing AI/ML to analyze multiple types of data from a variety of sources can provide a transformative understanding of an enterprise IT estate, saving time and effort around correlating data and insights derived from multiple tools.