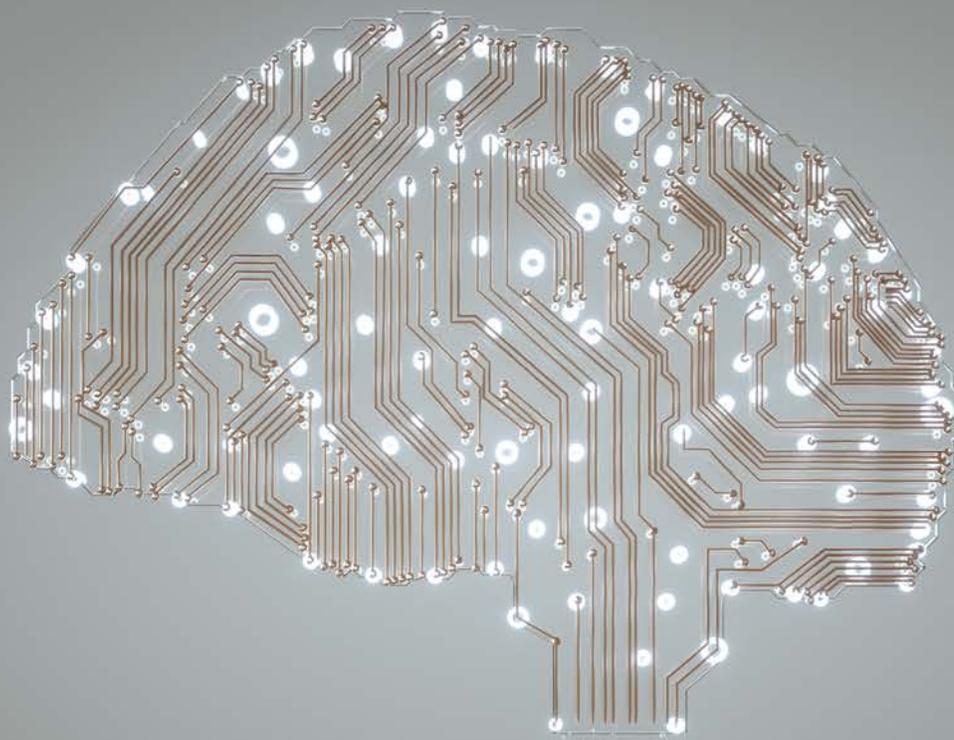accenture

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How AIOps Can Help IT be a Better Partner to the Business

IT's Worst Nightmare

An order processing department in a very large enterprise is dependent on a business service supported by IT resources in both the data center and the cloud. The service is usually quite responsive—something the IT organization is proud of—but suddenly one day it starts to get sluggish. Over the next few days, the service gets increasingly slow and, finally, simply shuts down. It's a major crisis—after all, order processing is in many ways the heartbeat of any company. The business will take a huge hit if it can't quickly and efficiently get customers what they want.

The IT organization needs to move fast to determine what went wrong and get the service back online. But that's not easy. Literally thousands of events coming from siloed monitoring systems are now flooding the IT operations team, who have to sort through every event to find the needle in the haystack— the handful of issues that are the root cause of the business service failure. Because the team is using legacy IT operations tools and largely manual processes, it takes eight hours—a full business day—to first figure out on which servers the service is running, and to eventually pinpoint the cause.

The preceding anecdote, while hypothetical, is based on the reality that all IT leaders grapple with on a daily basis: the fear of constantly missing Service Level Agreements (SLAs) and major IT failures that have a material impact on the business. IT leaders know that such failures impede their ability to achieve their most critical overarching goal: building and sustaining the business's trust in the IT organization.

Meeting SLAs, addressing outages and service degradations are just one of the few issues that artificial intelligence for IT operations (AIOps) addresses.

A major factor in gaining and keeping the business's trust is continually improving the IT organization's efficiency and responsiveness. The technology and business worlds are evolving rapidly, and the IT organization itself must ensure it can keep pace.

Trust also hinges on the technologies themselves. IT leaders need to continually evaluate the technologies they provide to the business—retiring antiquated, outdated tools that no longer serve the business and, in fact, may be holding it back.
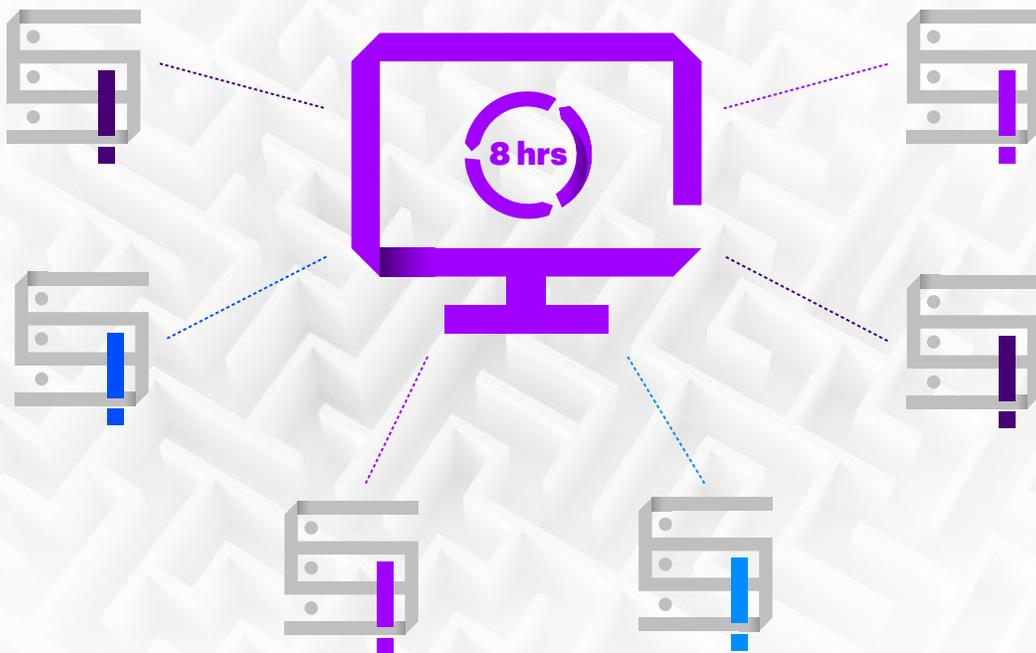
Lagging Behind the Business

Today IT leaders find these goals difficult to consistently achieve. In fact, serving the business effectively and efficiently, while never truly "easy" in the past, has become exponentially harder today—for two big reasons: complexity and speed.

In large organizations, operational complexity and scale are skyrocketing.

7 in 10

40%
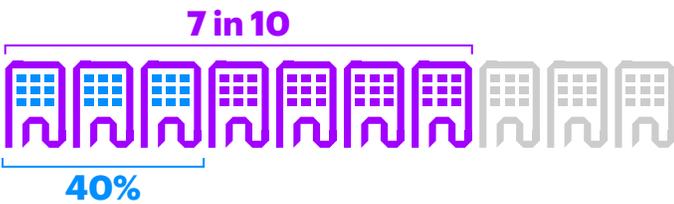
Most big companies—about 7 in 10—now run multiple cloud environments in addition to their on-premise data centers.[1] And in 40 percent of those cases, there's low interoperability across those cloud environments.[1] Application and infrastructure problems are hard to find in such complex, distributed, and typically disconnected environments, and failures due to this complexity result in significant, but avoidable, costs.

In addition to growing complexity, the business is innovating more quickly than ever. By adopting cloud-first strategies, digital transformation, and DevOps, in parallel, organizations can innovate very quickly. Just look at ever-accelerating software development cycles.

48%
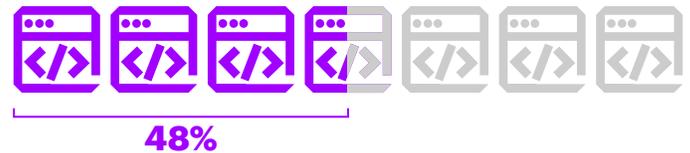
Nearly half of companies that employ DevOps release new code monthly or weekly.[1] Companies are churning out new digital products and services so fast that IT operations teams can no longer keep up with the business units they support.

Best Practices for Adopting AIOps: From Cost Center to Business Partner

AIOps can dramatically improve the IT organization's ability to be an effective partner to the business. An IT operations platform with built-in AIOps capabilities like ServiceNow® can help IT operations proactively identify potential issues with the services and technology it delivers to the business and correct them before they become problems. And when there is a service outage, the platform filters out all the unnecessary events and only presents the critical few in a single console in the context of the affected service; and also provides the historical incidents and changes associated with the infrastructure and applications services items in question—which it gets from the platform using machine learning (see next page). That's the value of having a single data model that service and operations management applications can share seamlessly.

Think back to the scenario we discussed above. How would that company's experience have been different with AIOps? Instead of its IT operations team having to manually sort through thousands of events from its data centers and cloud estates flashing across dozens of siloed monitors, a machine learning engine does it for them in the background, and much faster. It then presents to the team, via a single console, the few critical alerts that are actually related to the cause of the problem and the priority business services that are affected. In this instance, the engine also can automatically kick off the remediation process with no human intervention—getting the problem fixed and the order processing system back online in a matter of minutes, instead of the full day it took with legacy tools and manual processes.

PRIORITY

Machine Learning's Role in Alert Management

The number of alerts handled by IT operations teams and tools has become overwhelming—even with the increasing use of rules-based event processing. That's why the machine learning component of an AIOps platform is so important. Machine learning can create alert groups that contain related alerts based on historical alert data, so instead of seeing individual symptoms, IT operations professionals see a single underlying issue with its list of associated symptoms.

Take, for instance, an alert for an application whose processes are consuming too many system resources. Initially, the alert may be a low priority. But, if the condition persists and gets worse, it can lead to the host server running out of memory or overloading its CPU, which creates a critical alert. Machine learning identifies these temporal alert patterns, analyzing historical alert data to look for repeating sequences. When it identifies the same pattern in current alerts, it groups these alerts and displays them on a timeline. Not only does this reduce noise, it also dramatically simplifies diagnosis because professionals can see how the pattern unfolds.

In addition to understanding historical temporal alerts, machine learning also uses its knowledge of how a company's IT environment is interconnected to learn how symptoms—and corresponding alerts—propagate across the infrastructure and business services. An example of this is identifying the upstream symptoms of an unresponsive web server supporting a business service. Upstream CIs that depend on the web server are affected and generate alerts. Machine learning understands the relationships between these CIs and uses this information in concert with the arrival time of the alerts to group the alerts.

However, while machine learning excels at identifying patterns, it still needs feedback to improve the model accuracy over time. Operators provide such feedback when they add or delete alerts in automatically generated alert groups. The machine learning engine sees and learns from these changes, and uses this knowledge to improve its future alert grouping behavior.

With a cloud-based platform incorporating AIOps capabilities, IT organizations gain the tools and insights they need to move IT from being a cost center to a true partner to the business without having to upgrade and integrate existing IT operations tools and data, deploy a machine learning solution, and add a huge number of additional staff to its IT operations team—all of which would be financially unfeasible. **AIOps:**

Gives IT leaders complete, up-to-date visibility across their entire IT operations estate—on-premise and cloud. Because fostering and maintaining the business's trust in IT is one of the IT organization's biggest concerns, it's critical for the IT organization to be able to keep the systems and applications the business depends on up and running. AIOps enables IT to keep tabs on what's happening across the business, in real time, with the same level of staffing.
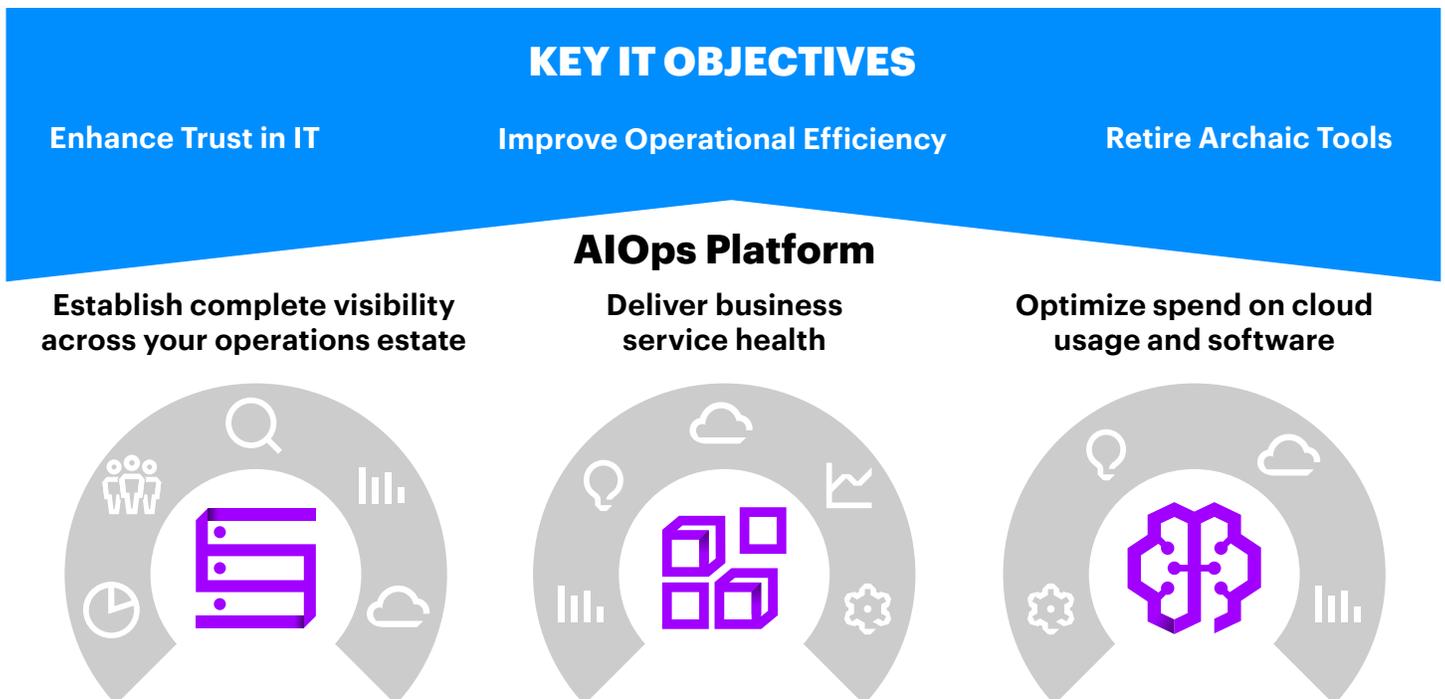
Enables IT to proactively identify service health issues, and then quickly pinpoint and remediate the root cause. Nothing erodes trust in IT as much as an application failure. With AIOps, IT can avoid being surprised by

a critical application or infrastructure going down, and identify and fix potential issues before they become big problems.

Helps IT leaders optimize their spend on cloud usage and software so they can provide what the business needs, when it needs it. Spending money on technology to support the business is a lot like the Goldilocks conundrum: Too little, and the business can't do what it needs to do to continue to grow and be competitive; too much, and money's being wasted that could be put to better use. AIOps methodologies help IT organizations ensure that what they spend on technology is "just right."

Companies are Gaining Significant Quantifiable Results Deploying AIOps with ServiceNow

KEY IT OBJECTIVES

Enhance Trust in IT   **Improve Operational Efficiency**   **Retire Archaic Tools**

AIOps Platform

Establish complete visibility across your operations estate

Deliver business service health

Optimize spend on cloud usage and software

These benefits are reflected in the real-world experiences of three different companies, each of which have generated significant, quantifiable results from an IT operations management platform with built-in AIOps capabilities like ServiceNow.

One of these organizations is a Fortune 50 global aerospace company, which challenged itself to hit an aggressive revenue target. The problem was, it was saddled with siloed legacy systems and many manual processes, as well as significant technical debt due to sprawling shadow IT. The ServiceNow platform's AIOps capabilities enabled the company to cut IT overhead by $47 million and improve IT productivity 22 percent, thus positioning the IT organization to support the company's anticipated growth.

Another company, a Fortune 100 chemical business, wanted to increase its legacy IT environment's reliability to accelerate service-driven change. But its legacy service management capabilities couldn't be easily upgraded or extended in line with the company's strategy, and its legacy service management tool wasn't aligned with IT priorities and goals. The company used ServiceNow to reduce the mean time to resolution and to populate its CMDB which, in the process, improved IT productivity by 80 percent.

The third company, a global financial corporation, was focused on boosting its IT organization's productivity and needed automation to do so. But its robotic process automation, machine learning, and artificial intelligence solutions were disaggregated and the company had no way to connect them. Using the ServiceNow platform to integrate these solutions, the company increased overall IT productivity by 5 percent and reduced mean time to resolution of incidents by 11 percent.

Is Your Organization Ready for AIOps? Here's How to Get Started.

As the preceding examples demonstrate, AIOps can help the IT organization dramatically improve service health, responsiveness, efficiency and productivity. However, while powerful, AIOps also introduces significant change, both in the IT operations tools and processes used and in the prevailing IT culture. People are comfortable with the tools they know, and can be resistant to automating what they've traditionally done by hand.

That's why companies considering a move to AIOps should start small. Instead of introducing an AIOps platform across all of IT operations and retiring existing tools in one big bang, they should look for specific pockets of work where they could get an end-to-end process up and running on the platform. Doing so will enable the IT organization to quickly demonstrate results that will encourage others to adopt the platform, while minimizing the risk of disrupting an area of the IT organization's work that's critical to the functioning of the business. For example, often the low-hanging fruit a pilot can capture is to discover the physical topology and dependencies of a specific business service.

Importantly, such pilots should include both the IT organization and representatives from the business, collaborating closely on implementation to maintain the business's trust that the IT organization has worked so hard to build.

Today's companies are changing rapidly, driven by evolving customer expectations and intense competition most have never experienced. AIOps can help IT organizations ensure that they can be there when the business needs them and not get left behind.

References

[1] "The Journey Towards Optimized IT Operations,"
IDC and ServiceNow InfoBrief, November 2018

About Accenture

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About ServiceNow

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