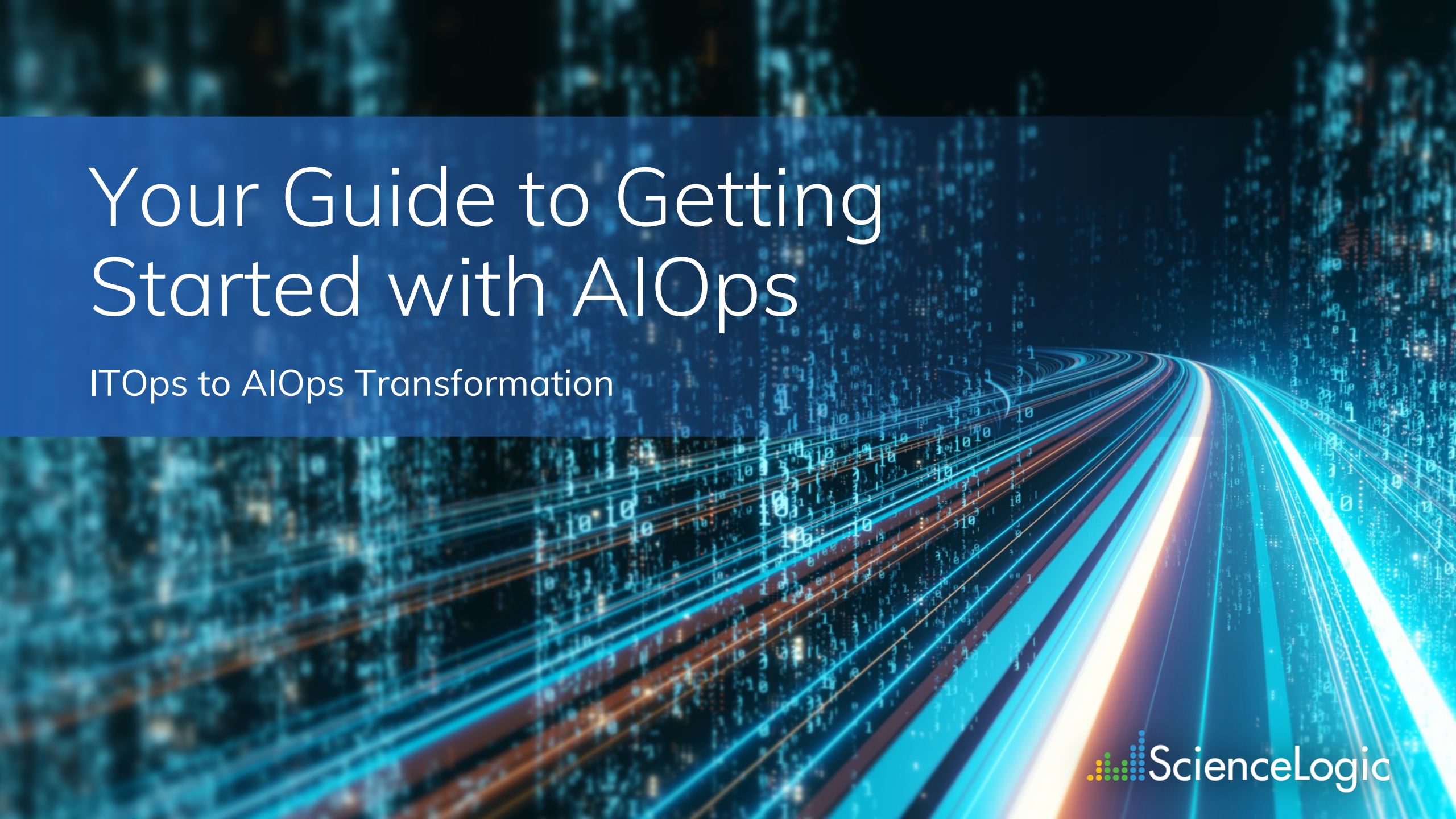
Your Guide to Getting Started with AIOps

ITOps to AIOps Transformation



ScienceLogic

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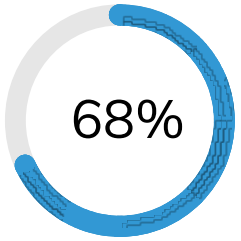
Introduction: AIOps, Beyond the Buzzword

You're watching TV. You hear "AI". You're reading the news on your phone and see "AIOps is the future of IT operations management." Buzzwords aside, it looks like AIOps is going to be a permanent fixture.



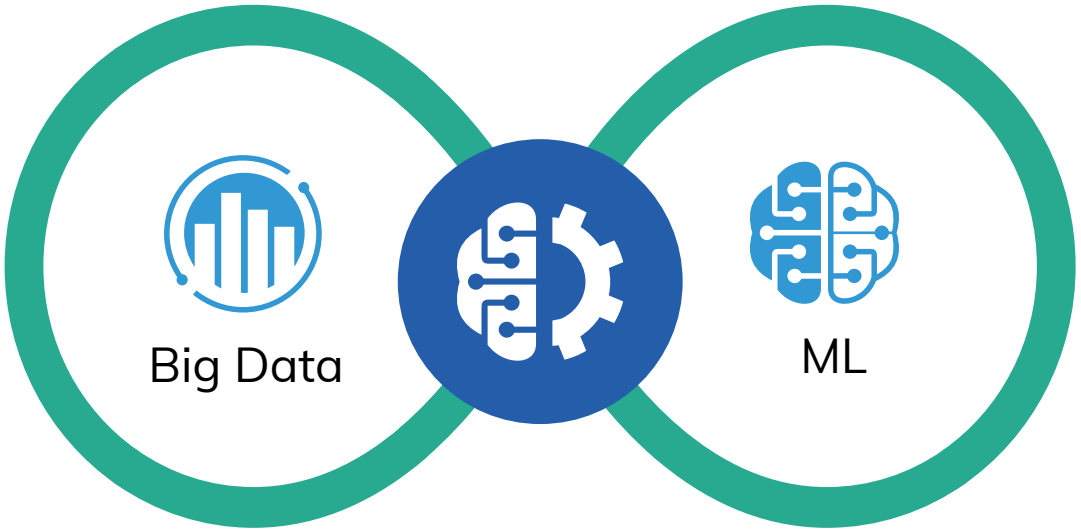
In fact, a recent study by Forrester states that "68% of companies surveyed are actively investing in AIOps-enabled monitoring solutions within the next 12 months."

Well, let's back up a little. What exactly is AIOps? And why should you care about it?

In this eBook, we'll answer these questions and more. So that next time you hear about AIOps in the boardroom or on your phone in the waiting room, you'll hear much more than just buzz.

Part 1: What is AIOps?

AIOps or artificial intelligence for IT operations entered the IT lexicon in 2016 when Gartner coined the term as part of an effort to understand how data analytics were enabling new efficiencies for ITOps teams. AIOps is the application of advanced analytics—in the form of machine learning (ML) and artificial intelligence (AI), towards automating operations so that your ITOps team can move at the speed that your business expects today.



Gartner also defines AIOps as the marriage of big data with ML to create predictive outcomes that help drive faster root-cause analysis (RCA) and accelerate mean time to repair (MTTR).

By providing intelligent, actionable insights that drive a higher level of automation and collaboration, ITOps can continuously improve, saving your organization time and resources in the process.

Part 2: Why is AIOps important?

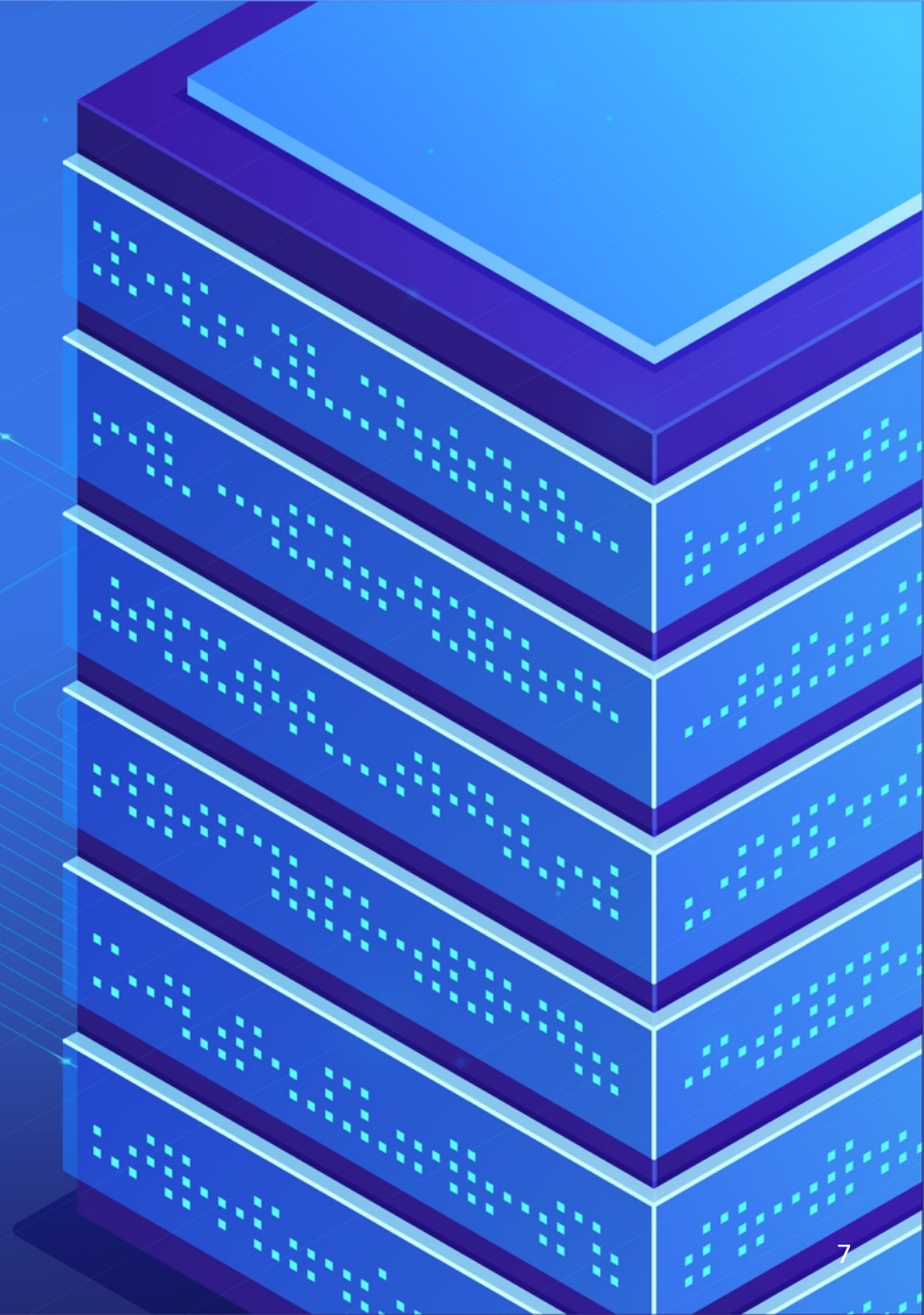
A successful digital transformation requires AIOps. And the push for business agility leaves an undesirable by-product in complexity—making it extremely difficult for humans to keep up. While agility is core to business innovation and customer experiences, executing to it has created a highly ephemeral state of IT workloads and processes.

Major advances in distributed architectures, multi-clouds, containers, and microservices, just to name a few, have created copious, multi-dimensional data flows that create excessive noise and stifle IT's ability to identify and resolve service incidents.

And because there are so many different layers of technologies making up your IT infrastructure, there are an increasingly complex set of dependencies between these technologies. Adding to the complexity, your IT infrastructure is shared across an ever-expanding set of business services and applications.

Any type of change to one of these services, applications, or the underlying infrastructure occur so fast and frequently that we are beyond the point where humans can figure out how these parts are related. We need a machine to do it for us.

AIOps builds real-time systems in the form of context-rich data lakes that traverse the full application stack in order to reduce noise in modern performance and fault management systems and drive automation—with the ultimate goal of improving time to resolution.



Why is AIOps important?

Because it can empower your ITOps team to:

- Determine the service health of mission-critical services or applications.
- Gain control and visibility to spiraling consumption of cloud resources.
- Accelerate MTTR with automated incident management and real-time configuration management database (CMDB) updates.
- Build context-rich data lakes integrating disparate, third-party data sources.

Part 3: What problems can AIOps help solve?

Gartner states that, “The long-term impact of AIOps on IT operations will be transformative.” But if you’re not a believer yet—let’s go through the everyday problems that enterprises face and how AIOps can help solve them.

Use case #1: Identify business service impact, reduce risk, and bridge the information gap between business and IT.

No CIO wants to be woken up in the middle of the night to a phone buzzing about an outage causing a cascading impact on the business services on which their company relies. Inversely, every CIO wants to know how their business services are performing. And rather than offering a superficial response of “working or not,” they need to know how well everything is performing as well the health, availability, and risk of key IT and business services.

Swiftly identifying the impact to a mission-critical business service as dynamic changes occur within related applications and their underlying infrastructure is really hard to do in ephemeral IT systems. Modern IT must continuously optimize workloads and processes while also mitigating the risk of unintended consequences to primary, secondary, and tertiary systems.

The right AIOps platform allows you to take a business service view comprised of dependency and topology maps that stitch multiple applications and infrastructure layers—spanning multiple data centers and clouds—with real-time context, allowing you to visualize service impact. Understanding the relationships between your business services, apps, and IT infrastructure gives you the insights to automate and reduce MTTR.

In other words, the right AIOps platform keeps that 3 a.m. phone buzzing to a minimum.

Use case #2: Extend the reach of your application performance management (APM) tools to resolve issues faster.

If there's an application outage, the APM tools you're currently using might miss it. Typically addressing only 5-10 percent of apps in service, legacy APM tools often leave users with glaring blind spots, despite costing as much as $200–or more–per server, per month. Eliminating application blind spots requires complete insight and understanding of which app components rely on what infrastructure and the context to see how they all relate together. Why?

Because every application lives within the context of a complex IT environment. If your focus is on the application and not on all the things that influence the application, you can overlook important information and influences because you aren't getting the complete picture. Every application your organization is running affects the performance of your infrastructure—and vice versa.

If you lack a complete, real-time view of the dependencies of both, you can never achieve a meaningful level of automation. And by possessing the ability to map your applications to all of your infrastructure–and not just one app–you'll have the insight necessary to prevent blind spots.

AIOps can extend the reach of your current APM tool because it:

- Is inclusive of the entire infrastructure stack as well as the application
- Uses multiple types of data fused together with context, not just the one type of data or the one layer
- Provides analytics in the form of AI and ML
- Enables ITOps to actively change, modify, heal, and optimize

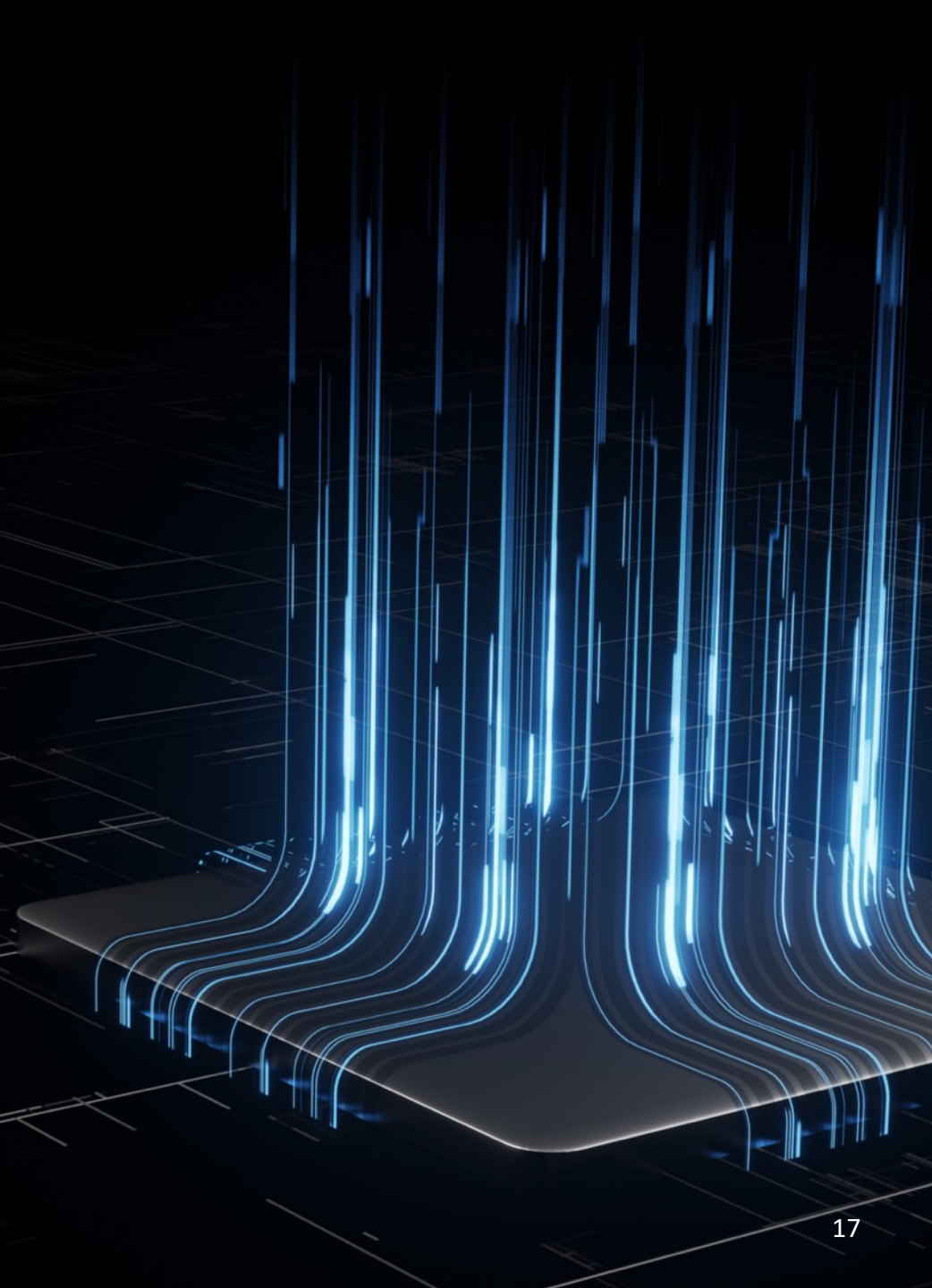
Use case #3: Automate incidents with an accurate CMDB.

For most of us, the CMDB is an annoying necessity. A data warehouse where all the information about the configuration items (CIs) that comprise your IT operation lives, the CMDB is more than just an accounting of what is in your datacenter. It must include hardware, software, applications, and the relationships between them.

Your CMDB is not a static inventory of components. It must be dynamic, updating as often as today's ephemeral IT environments do. That means data inputs must be automated, providing a real-time, moment-to-moment account of the rate of change inherent with today's cloud-forward, IT environments.

The CMDB is only as useful as the accuracy and timeliness of the information that it contains. And in today's ecosystem where you have virtual technology that appears and vanishes at a moment's request, it's increasingly difficult to keep the CMDB updated.

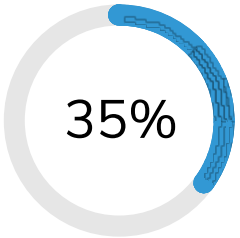
If your CMDB is incomplete, out of date, or if the data that populates it are inaccurate, the effects on operations management and the health of your IT enterprise will suffer. An inaccurate CMDB means you can't effectively automate, leading to the continuation of painstaking manual processes and a wasted ServiceNow investment.



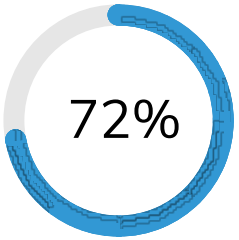
Use case #4: Tame cloud sprawl and reduce cost.

For many organizations, the cloud's efficiencies are diluted by the potential for sprawl and escalating costs. Cloud sprawl happens if an enterprise inadequately controls, monitors, and manages its different cloud instances. This can result in numerous individual cloud instances which may then be forgotten but they continue to use up resources.

According to the EMA report, "Artificial Intelligence and Machine Learning for Optimizing DevOps, IT Operations, and Business":



of enterprises are leveraging four or more public cloud providers



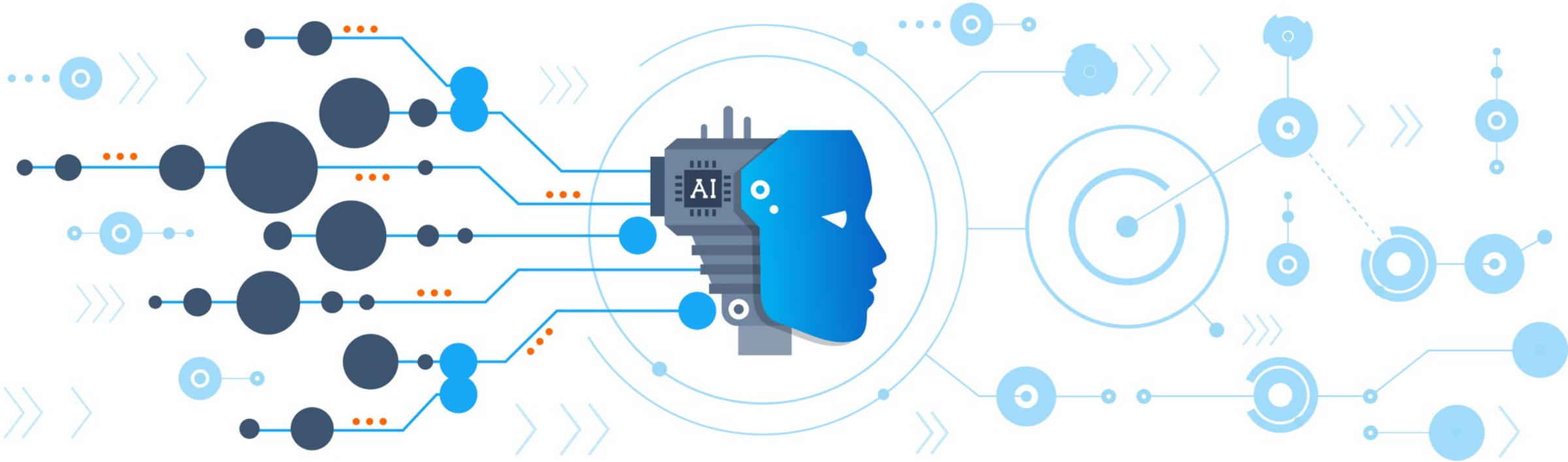
of enterprises are struggling with unsanctioned and often ungoverned Kubernetes environments

The quest for traditional infrastructure visibility is nothing new, but losing insight into cloud consumption exacerbates the issue, often leading to employees unnecessarily using cloud resources, which costs time, money, and productivity.

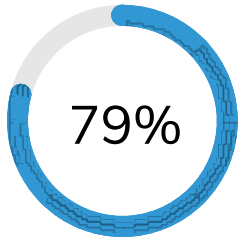
If your organization is already convinced that it’s time to go cloud, there won’t be a better time to change the way you also monitor and manage your assets that will inevitably reside there. Doing so will be easier for the staff tasked with keeping the lights on, but it will also pay off in reduced hard costs, not to mention numerous soft cost benefits.

Part 4: Two Approaches to AIOps

Now that you know what AIOps is, why it's important, and what problems it solves, you're ready for the two approaches to AIOps.



The first is a data-agnostic approach. This approach entails applying analytics to a bunch of data—data that can be disjointed or incomplete—thrown together, not grouped or organized in anyway. This approach assumes that there will be a large body of data scientists to help make sense out of the data. But the vast majority of enterprises do not have access to a whole team of data scientists.

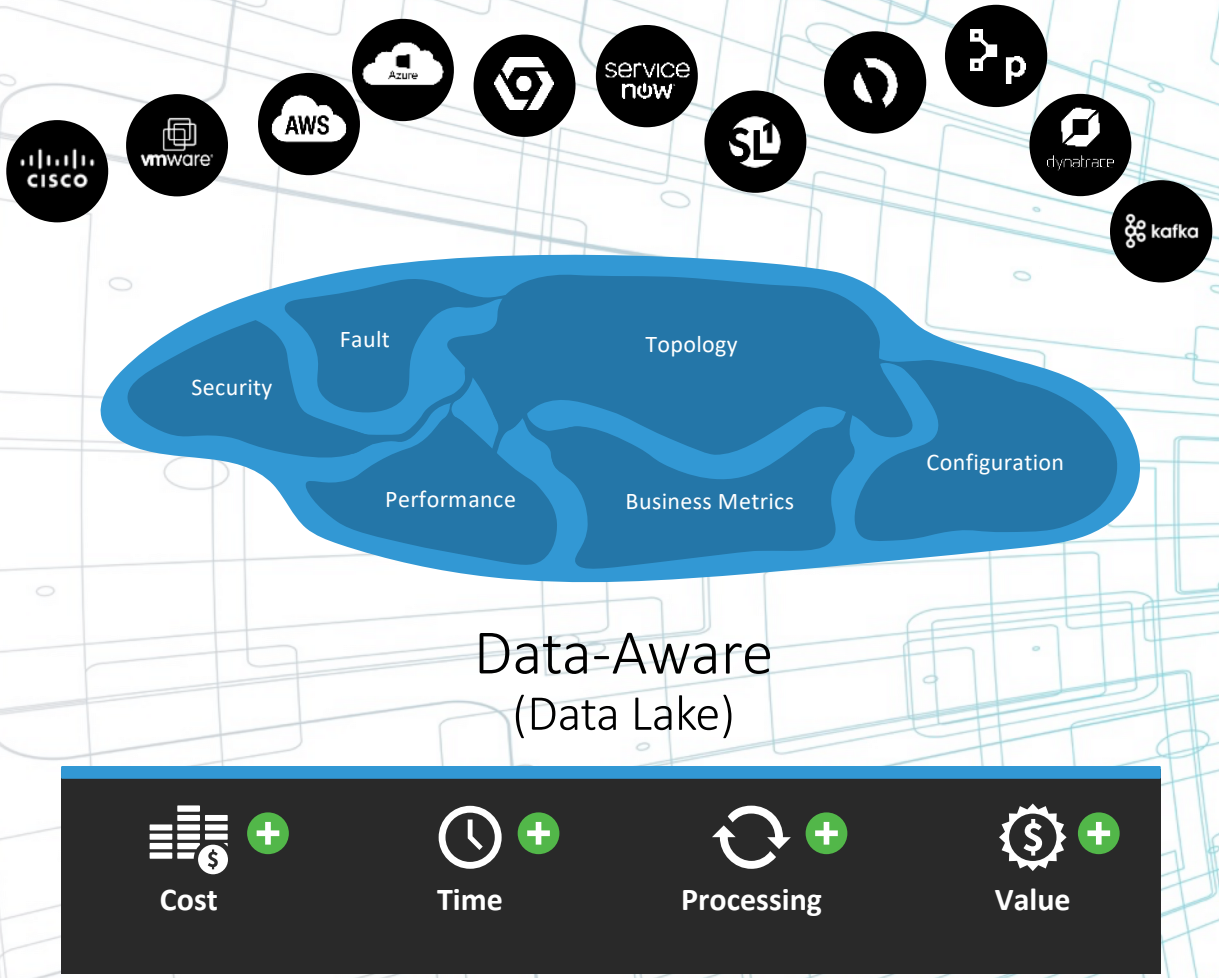


Data scientists spend 79% of their time collecting, cleaning, and organizing data.

Source: Gartner

The second is a data-aware approach. A data-aware approach means you don't need a team of data scientists to clean and structure your data before applying analytics. This helps you build a common data model, enriched with context (through topology) to solve a broad set of business challenges.

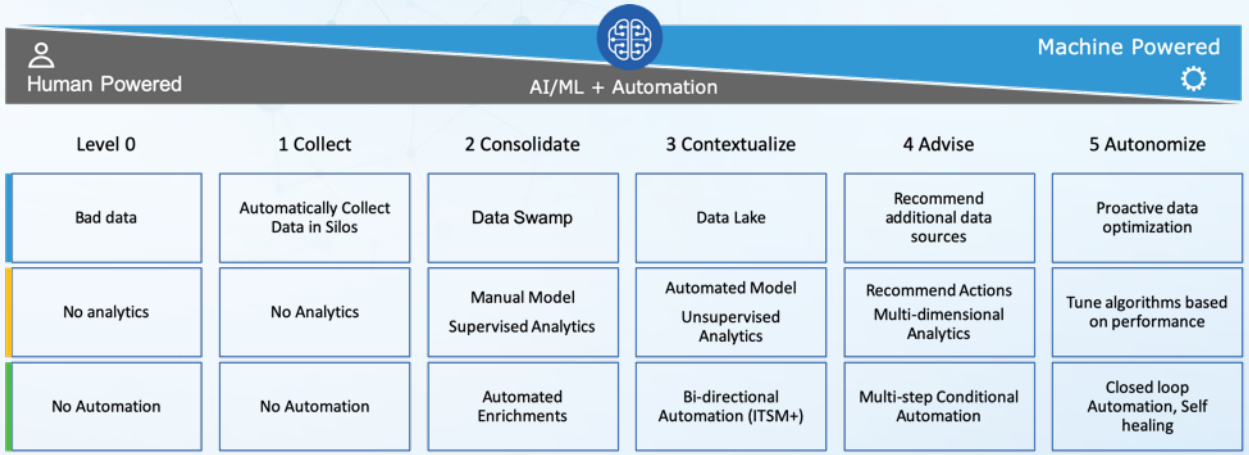
A data-aware approach enables your IT teams to craft automated workflows and analyses such as incident management, change management, configuration management, and self-healing, in addition to intelligent RCA (root-cause analysis) and MTTR.



Part 5: The ScienceLogic SL1 Platform

ScienceLogic believes strongly in a data-aware approach.

- SL1 takes any data from any infrastructure and uses a variety of collection methods to feed the data into a data lake–in **real-time**, so you can see what's in your environment.
- Our AIOps platform then applies **context** to that data to make it more meaningful–and actionable. If you think about it, operational patterns leave "breadcrumbs". SL1 connects the dots between them, providing layers of abstraction–so you understand how each layer interrelates and interconnects.
- This allows you to apply machine learning and analytics, and drive **automations**.



AIOps is a journey. But every journey begins with a single step. At ScienceLogic, we have created a maturity model to help our customers and partners think through their current starting point on the AIOps journey.

If you are not achieving your operations goals and are ready to take the first steps along the journey of AIOps—embracing a unified vision, one rooted in a data-aware approach—with automation as its final goal, then ScienceLogic is here to help you each step of the way.

Learn more about how ScienceLogic can help you on your AIOps journey>

About ScienceLogic

ScienceLogic is a leader in IT Operations Management, providing modern IT operations with actionable insights to predict and resolve problems faster in a digital, ephemeral world. The ScienceLogic SL1 Platform sees everything across multi-cloud and distributed architectures, contextualizes data through relationship mapping, and acts on this insight through integration and automation. Trusted by thousands of organizations across the globe, our technology was designed for the rigorous security requirements of United States Department of Defense, proven for scale by the world's largest service providers, and optimized for the needs of large enterprises.

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