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Artificial Intelligence for IT Operations (AIOps)

AIOps

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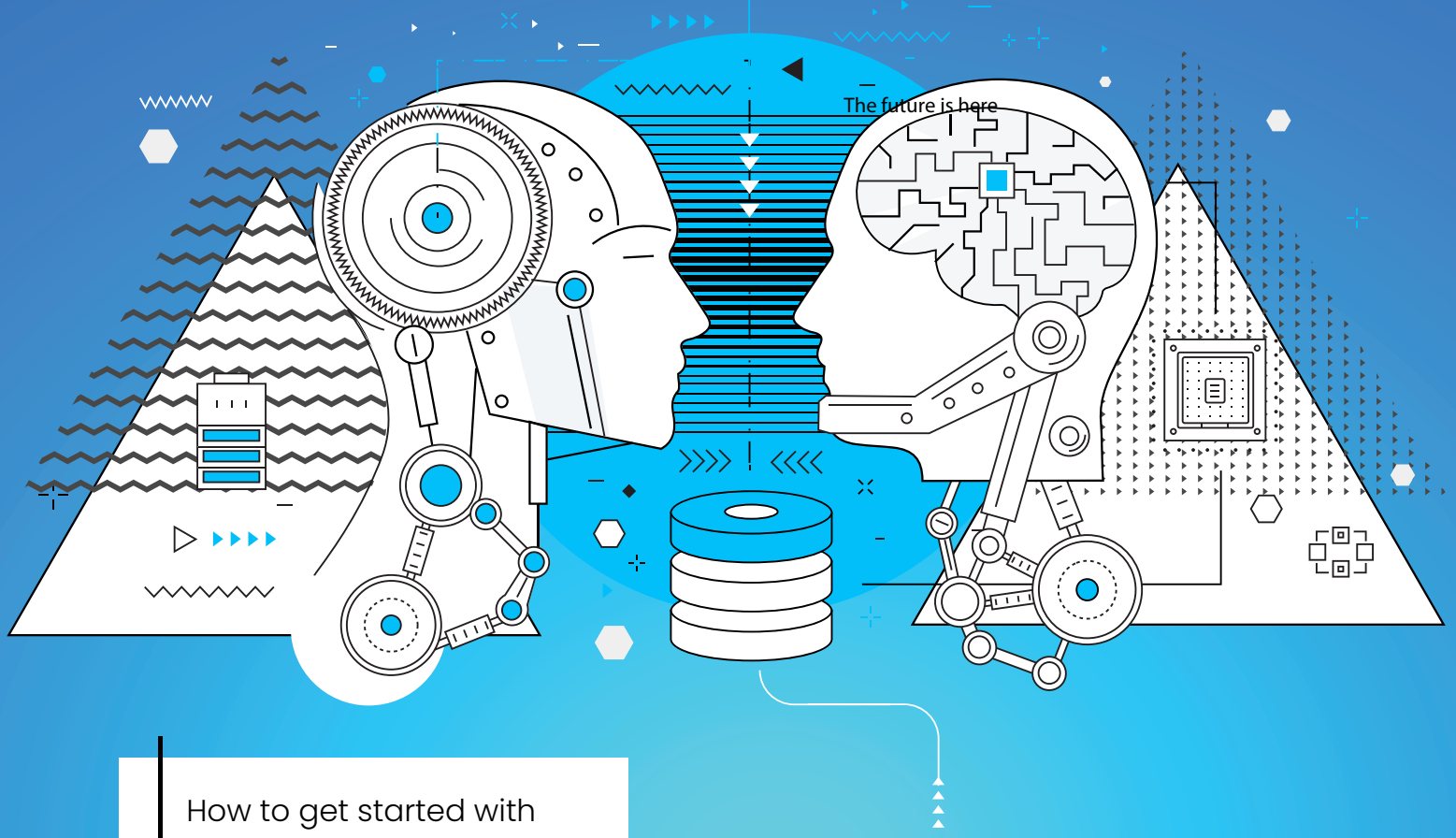

How to get started with AIOps by adopting a bite-sized approach

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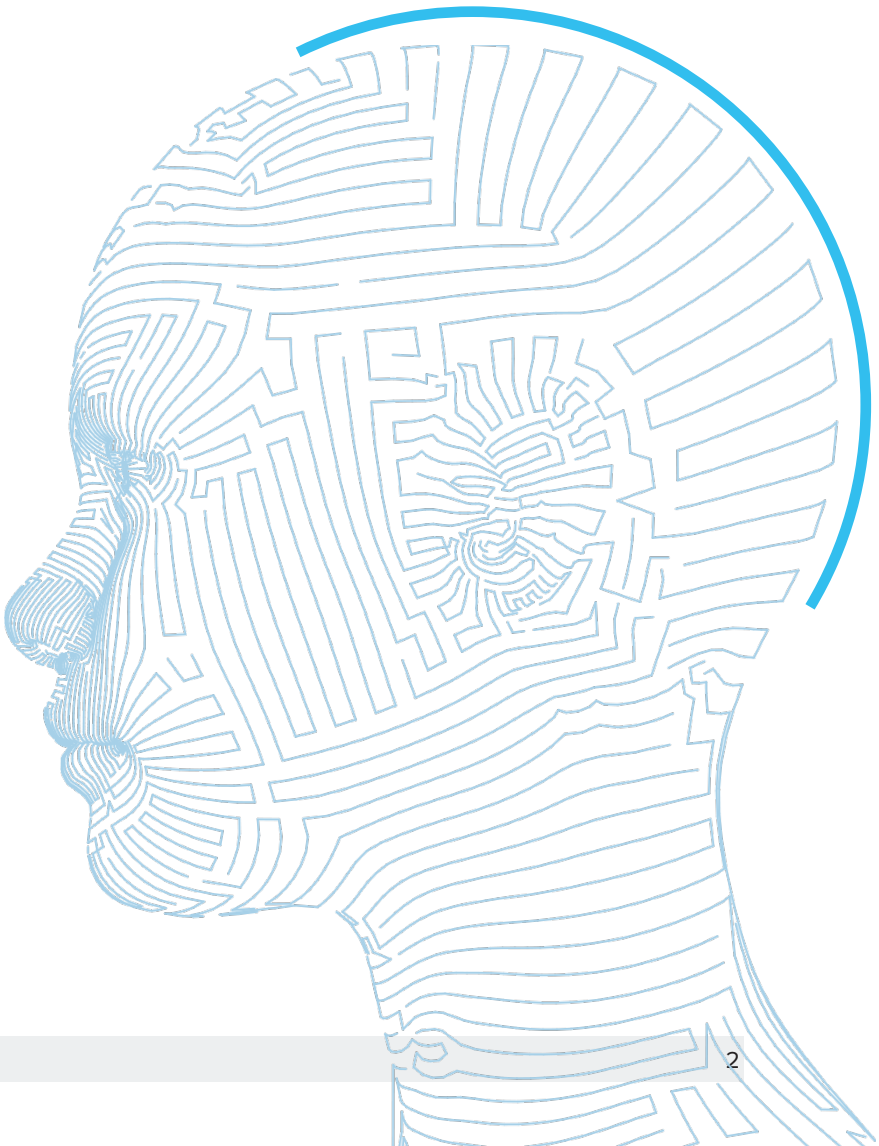
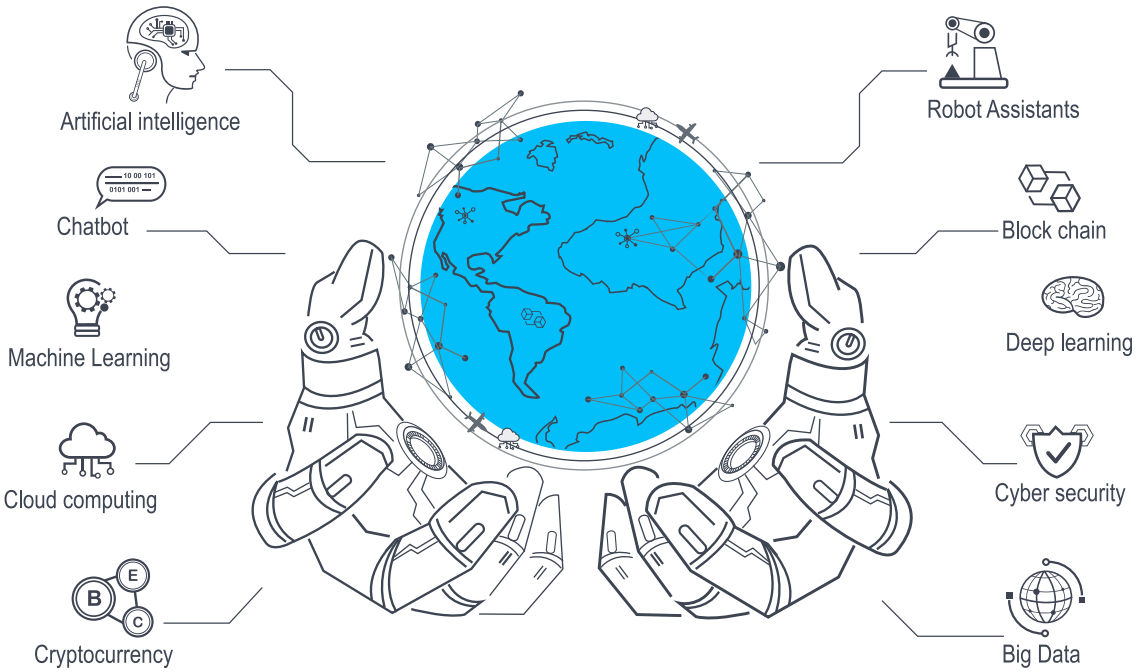


1. Introduction

The term Artificial Intelligence for IT Operations (AIOps) combines big data and machine learning to automate IT operations processes, including event correlation, anomaly detection, and causality determination.

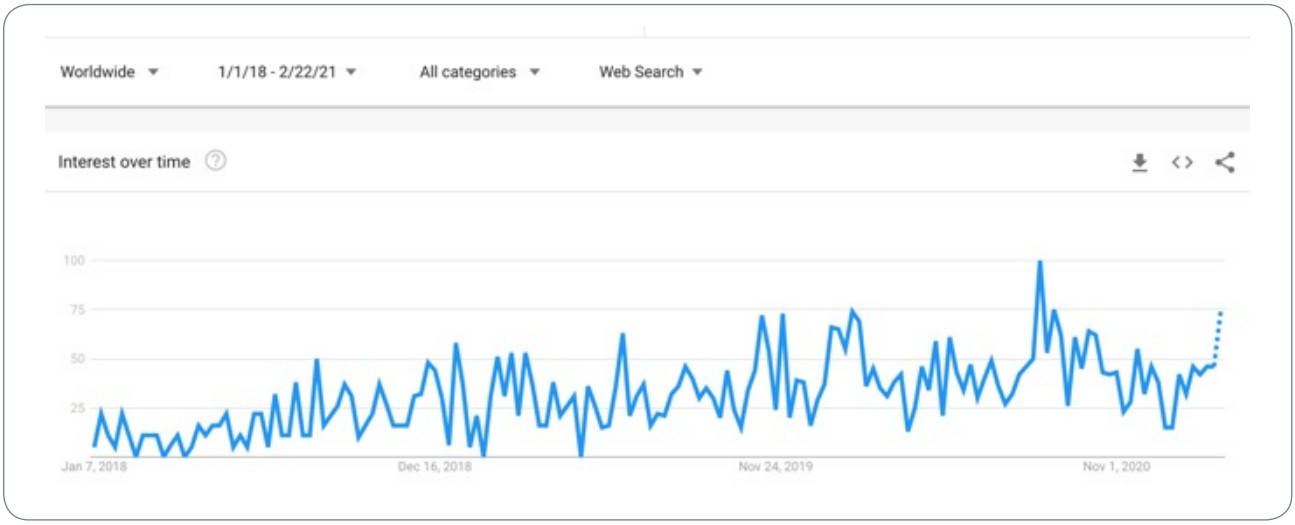


According to International Data Corporation (IDC), spending on cloud services, the hardware and software components underpinning cloud services, and the professional and managed services opportunities around cloud services will surpass $1 trillion in 2024. With the rise of products that can be run on c loud p latforms, more data and applications are going onto the cloud, making it easier for a non-tech company to move all its data onto these platforms. This trend raises concerns about security challenges in cloud migration and data protection.

Most organizations are working within the constraints of legacy apps, networks, and investments. The demands of today's digital world coupled with the increasing complexity of modern application architectures have made the role of IT operations more challenging. Successfully navigating these challenges will empower companies to pivot towards far greater agility and greater speed. Companies will become more responsive to customer needs and launching products and services more quickly driving revenue growth and new opportunities.

Today's application environments are exploding in complexity. According to the Wall Street Journal, midsize to large companies now use an average of eight different cloud providers for various enterprise applications and services. Compounding this complexity is the sheer volume of data produced by application infrastructure, and the high potential for performance problems each time an update or change is made to that existing infrastructure. While application performance monitoring (APM) solutions provide real-time alerts for performance problems, there's evidence that IT teams need more support to effectively monitor this increasingly complex landscape.

That's where AIOps comes in to fill this void. Figure 1 shows the Google search trends for "AIOps" since the term was initially coined in early 2018. AIOps is trending up and is expected to increase further over time.



Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

Figure 1: AIOps Google Search Term Results
Image source: Google Search Pattern

This white paper covers the basic premise of AIOps, covers the challenges faced by the organisations and also provides an overview on how to get started with AIOps by adopting a bite-sized (or Incremental) approach.

2. What is AIOps

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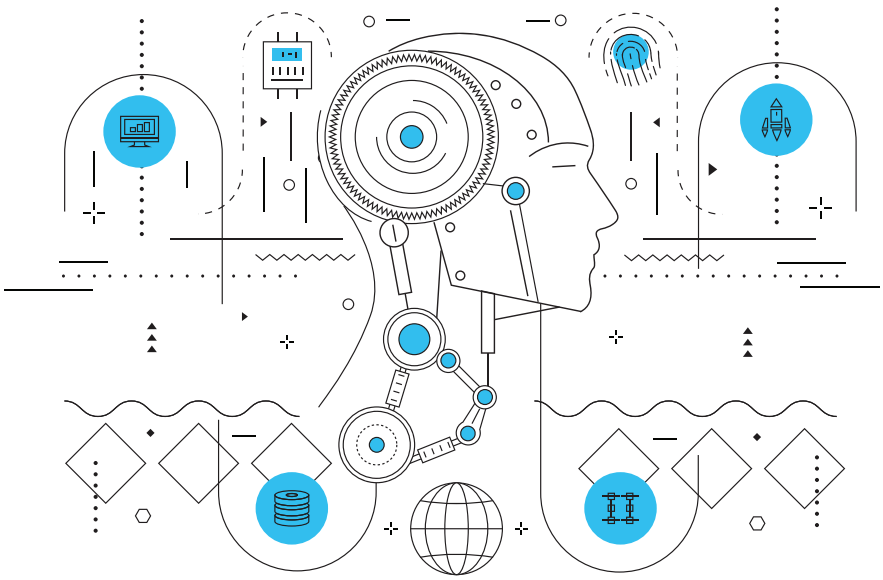


"AIOps platforms utilize big data, modern machine learning, and other advanced analytics technologies to directly and indirectly enhance IT operations (monitoring, automation, and service desk) functions with proactive, personal and dynamic insight. AIOps platforms enable the concurrent use of multiple data sources, data collection methods, analytical (real-time and deep) technologies, and presentation technologies."

Gartner 2017

Figure 2

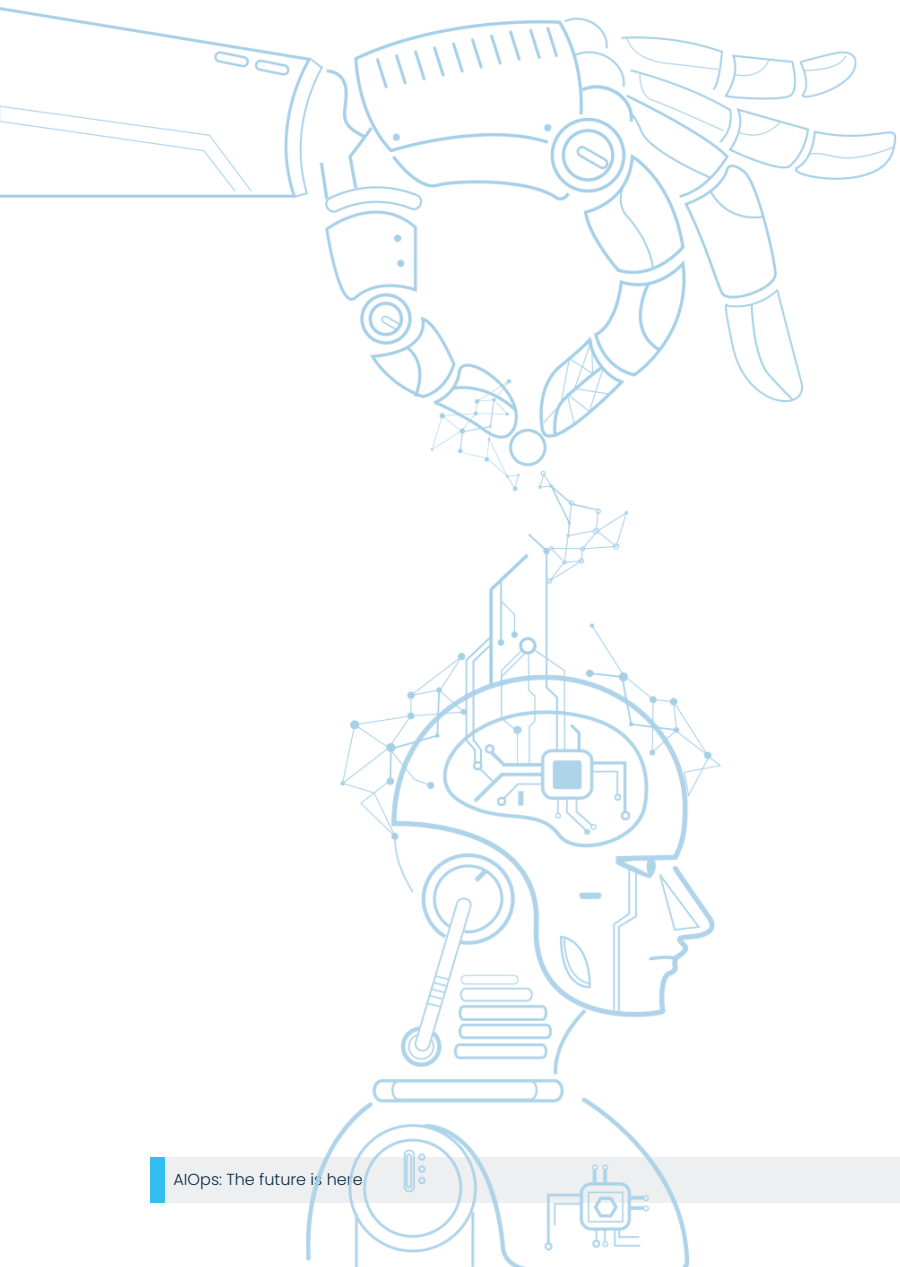
AIOps is the proactive answer to many lingering issues in application development environments. It approaches IT infrastructure and systems through real-time monitoring and addresses issues before they spread across the system. This is possible mostly because an AIOps platform ingests all the data from across all the systems in the application landscape, applies AI principles to analyze it, and creates opportunities to proactively identify and improve, optimize, or correct these areas.

AIOps toolsets make the operations teams more agile and enable them with the knowhow to prevent issues. It is not a replacement for tools like Puppet or a new way of containerization, but rather a new AI tool that provides insight on available systems data and continuously monitors it. AIOps allows for self-monitoring of operations and alerts administrators to issues in real-time reducing the time and effort to fix issues and disruption to the business.

AIOpstoolsalsousemachinelearningtechniques to help system administrators identify what they routinely monitor, solve problems faster, and allow greater collaboration to minimize the impact to the business. It reduces the friction between developers and operations by enabling developers to solve operations problems on their own. , Developers will get the insights that rely on through machine learning techniques, thus avoiding dependency on Ops to share data and insights.

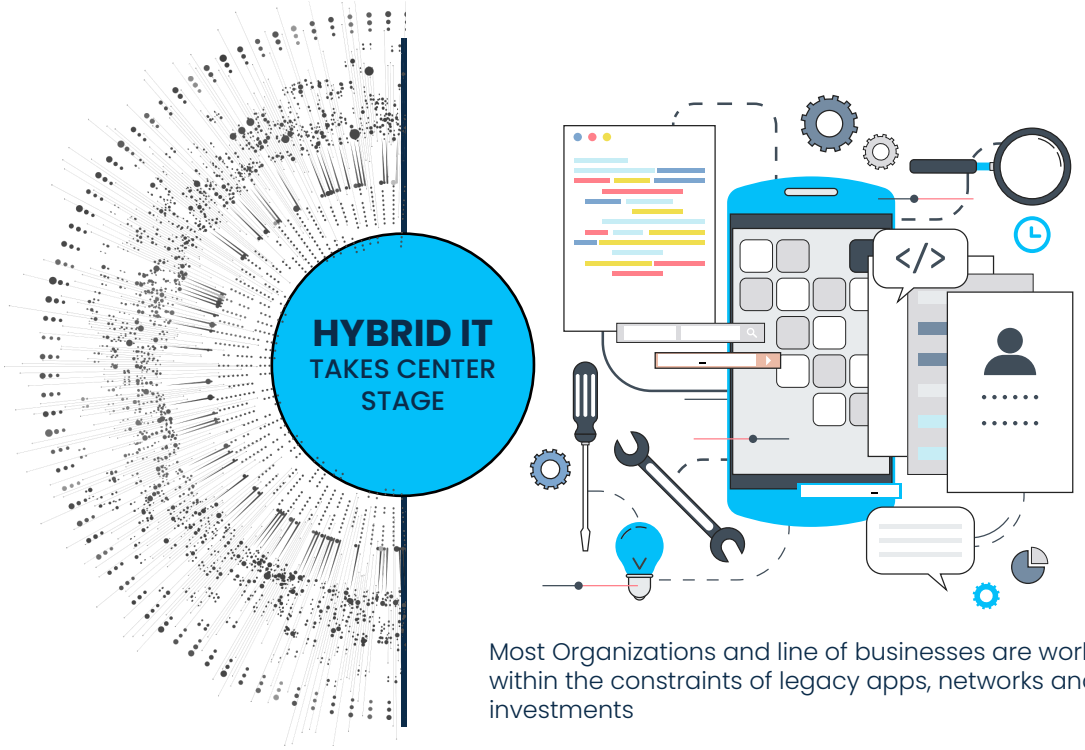
AIOps is not just another industry buzzword, its time has arrived because of the proliferation of technologies and growth of AI. Old approaches to event management are simply not suited to the infrastructure that the organizations are adopting today, let alone to the release cycles that developers want to push from a code and infrastructure point of view. Until now there hasn't been a solution for the highly dynamic IT infrastructure models that are quickly becoming the new normal.

Once of the most important changes AIOps enables is the improvement IT and Operations effectiveness due its ability ingest and monitor vast amounts of data. AIOps correlates data across users, applications, cloud-native architecture, hybrid infrastructures, and network services and applies machine learning, advanced analytics, and automation to deliver a new level of visibility and data-driven insights. This helps an operations team respond appropriately and take preventive measures. It turns data into action and provides comprehensive insights across the digital delivery chain, driving continuous improvement to speed service delivery, increase IT efficiency and accelerate innovation through adoption of ML a lgorithms.



3. Challenges implementing AIOps

More and more companies are trying to sort through the myriad of options they have in developing a comprehensive approach to cloud services and containerization. Faced with as many as 8 Cloud Service Providers addressing various infrastructure needs and containerization technologies, CTOs/CIOs are unsure how to proceed. They understand the benefits of modern infrastructure choices but choosing among the many options can stall the decision making process. This is a frustrating time for IT staff that have the will to adapt but may lack the knowledge or skill.



Most Organizations and line of businesses are working within the constraints of legacy apps, networks and investments

Figure 3

While many enterprises maintain their on-premise infrastructure, they also want to reap the benefits and flexibility of modern cloud computing technology. This results in a hybrid multi-cloud environment, one that combines the on-premise infrastructure with private and public cloud architecture and enables increased efficiency.

63%
of organizations are now pursuing a hybrid IT approach.

57%
say increased agility or speed to market is a key benefit of AVAILABLE TECH.

32%
of organizations struggle to integrate cloud with other systems.

Figure 4 Source: IDC Industry trend in pursuing Hybrid IT approach

According to IDC (see Figure 4) 63% of organizations are now pursuing a hybrid IT approach because of its benefits, especially increased agility and speed to market. AIOps is particularly well suited for the decentralized nature of the hybrid IT infrastructure but many organizations struggle to integrate a hybrid infrastructure. The fear of failure and diving into unknown territory is holding back most organizations, and this is slowing them down or causing a hard stop to move forward. CXOs should view this not as a roadblock but rather as an opportunity to create a modernized cloud-based infrastructure powered and monitored by AIOps.

Given the benefits in terms of flexibility, cost structure, and agility moving to Cloud is inevitable however, many are still dependent on their legacy systems. Any transition away from legacy systems needs to be handled in small bite-sized pieces to mitigate the risk to the business and its customers. While 57% of those organizations understand that the increased agility or speed to market is a key benefit of cloud technology, it is the legitimate concerns that they need to address first. Rather than accepting inertia CXOs need to map out a well thought out roadmap to ensure the company is not adversely impacted by the transition.

What does this mean for IT Operations?

With these older platforms being very difficult to replace, close to 32% of companies still struggle to integrate Cloud with their existing systems. This is why migration to hybrid or multi-cloud environments requires companies to address stakeholder alignment and systems integration concerns upfront. Knowing what to expect and when it will happen helps to alleviate any ambiguity about a transition. There are typically five areas of concern for IT Operations (Figure 5).

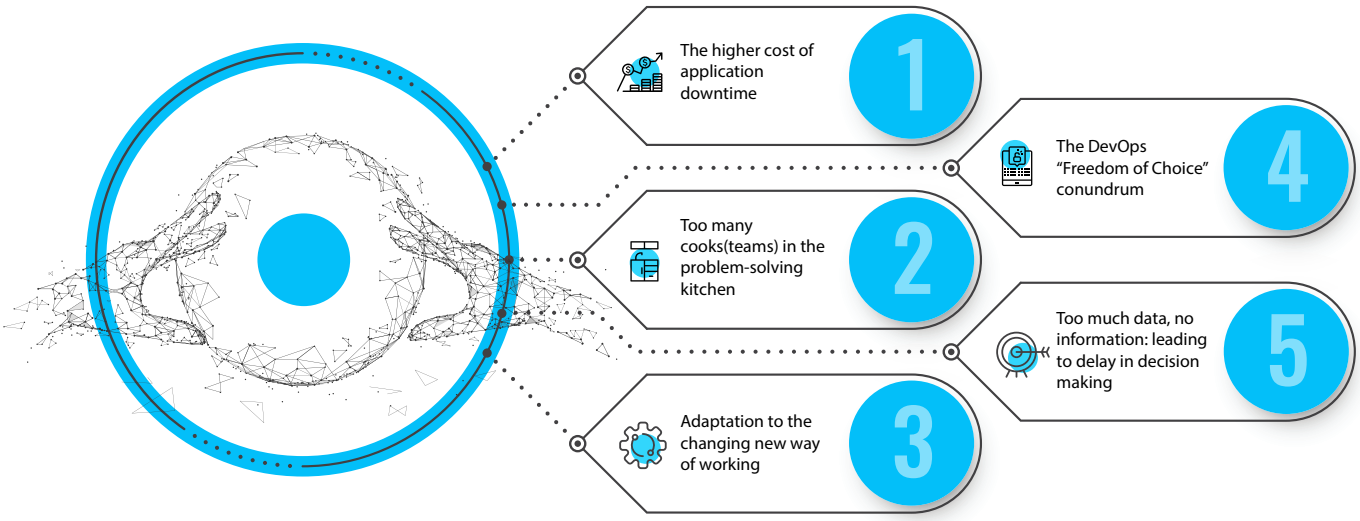


Figure 5

1. The Higher Cost of Downtime

According to Gartner's recent study, the average cost of IT downtime costs a company $5,600 per minute. Because there are so many differences in how businesses operate, downtime costs vary greatly but can reach as high as $300,000 per hour. Given the large expense associated with downtime, there is a strong business case for reducing them.

Based on the response, it was observed that the complexity of how organizations operate has a large influence on the cost per hour of downtime, as shown in the graph below (Figure 6)

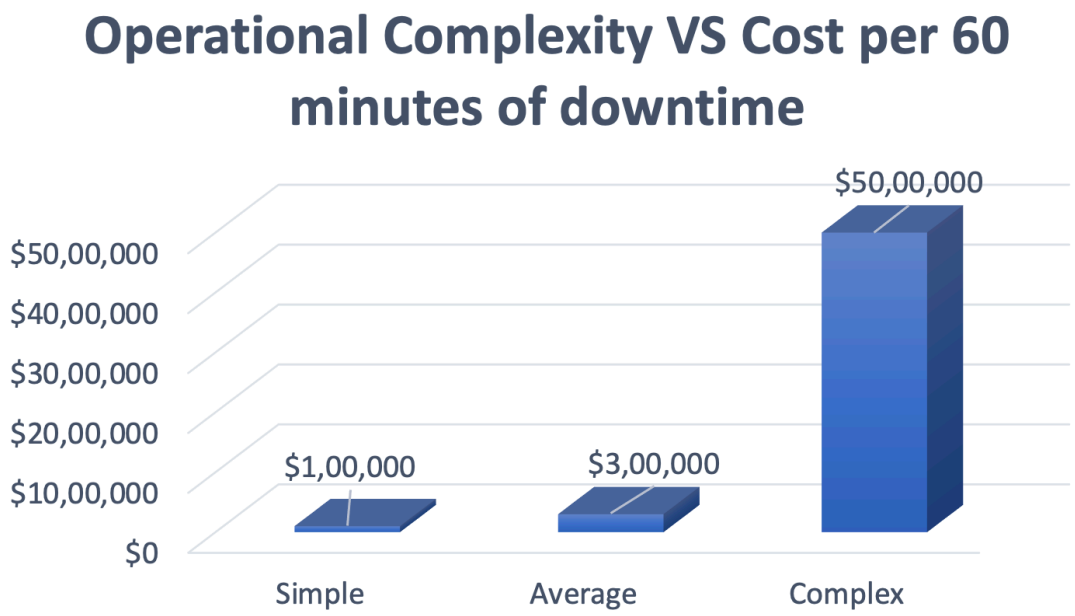


Figure 6

As the operational complexity increases, downtime cost continues to increase.

2. Too many cooks (teams) in the problem-solving kitchen.

Figuring out what caused a problem is complicated but it gets compounded when multiple teams are trying to resolve the same issues. Every DevOps team has its own part to play in controlling and maintaining the total tech-stack. But when problems occur, this often makes it difficult to determine where they originated and once identified how to remedy the situation. Hence comes the need for having an automated approach for anomaly detection.

Root Cause Analysis

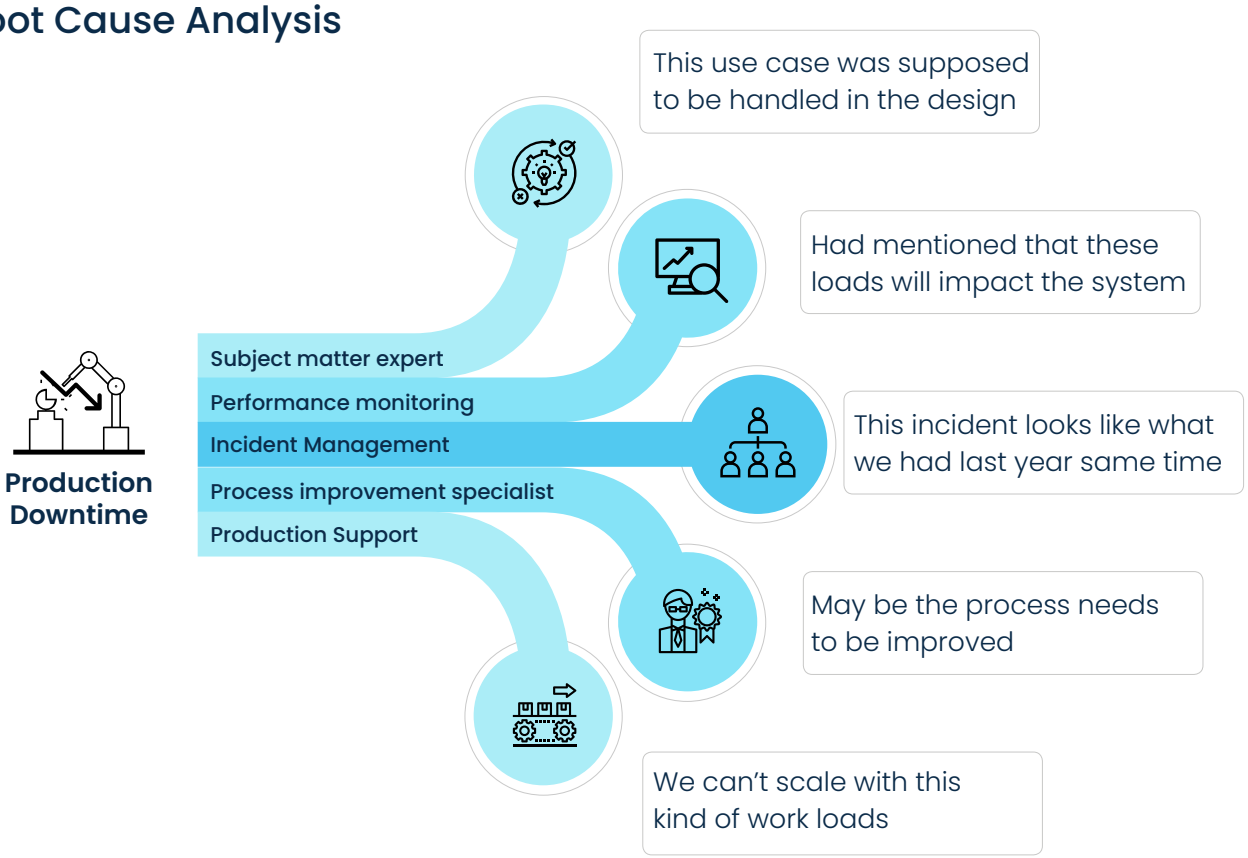


Figure 7

3. Adaptation to the changing new way of working

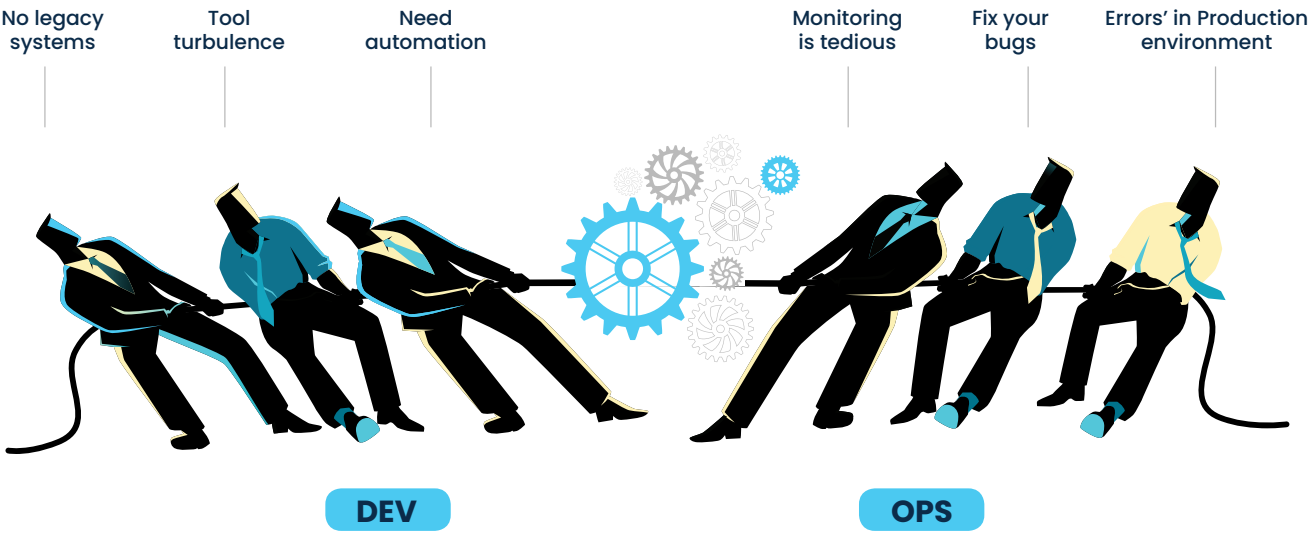


Figure 8

Newer agile methodologies and processes, such as DevOps, continuous deployments, containerization, micro services, and private/public/hybrid cloud computing keep evolving and changing. They are coming at a greater frequency, are more granular, and introduce a more complex environment. As application updates and changes in the IT landscape grow exponentially, adapting becomes a complex challenge greatly impacting IT operations. It's time to deal with the dilemma of adaptation head on, by implementing an automated and integrated approach.

4. The DevOps “Freedom of Choice” conundrum

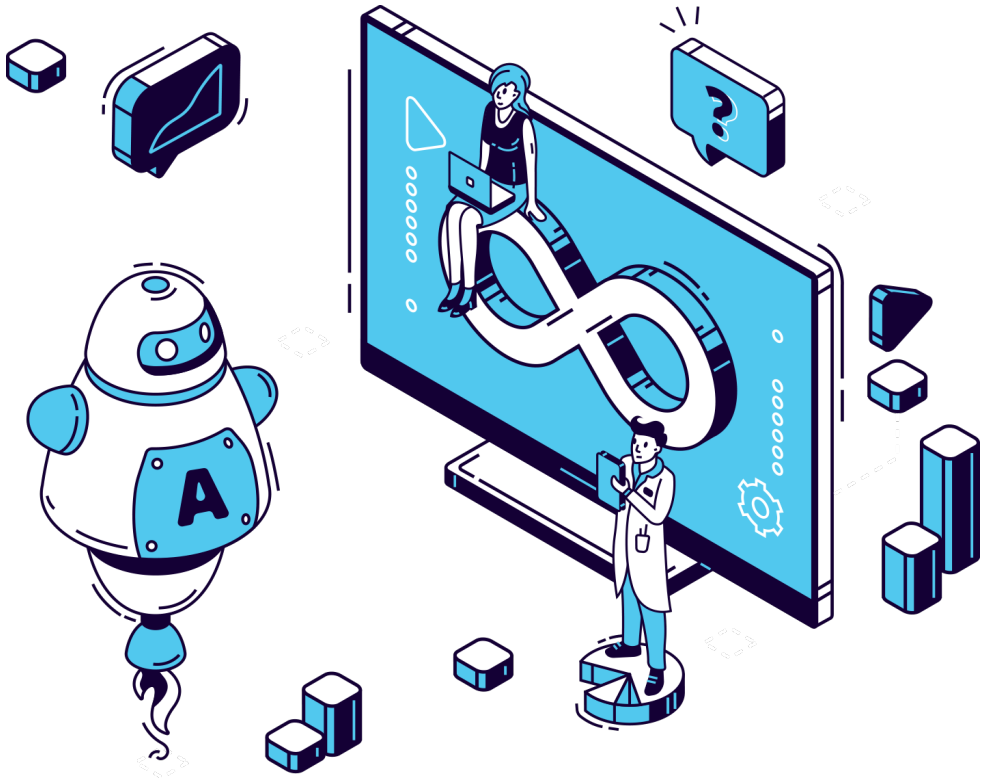


Figure 9

Freedom of choosing a solution(s) seems like a good thing at first because it is important for DevOps teams to choose the tools that best meet their needs. However, this becomes a problem when too many different tools are used by teams across the organizations. They build integrations across systems into localized architecture solutions. However, teams need to think locally and build globally. The risk of isolated actions will lead to multiple dashboards and data streams that require continuous reconciliation to understand the overall health of the organization’s stack. This process is manual, time-consuming, and error sensitive raising the risk of disruption and runaway costs. Since most teams use different tool sets while also depending on services from other teams, the lack of unified health data between them is a real and tangible threat to the company. It is time to optimize the toolsets and get the benefits of an automated, self-driven approach.

5. Too much data, no information leads to delays in decision making

Figure 10: The Data Corundum

Organizations are using a wide variety of tools and systems for monitoring, deployment and incident management, producing a deluge of data. Too much data isn't a challenge if it's turned into useful information. The challenge for many in IT Operations is translating their data into something meaningful and actionable to the business.

IT Operations stores information in different silos or systems. Some organizations have started to apply big data analytics to a single type of operations data, like huge sets of metric streams, and this helps a bit in analyz ing the problem at hand, especially while addressing an outage. But without context, it doesn't always show how a problem relates to critical business services. The availability of multiple and different data sources degrades the ability to quickly aggregate the data for timely decision making. Data just for data's sake doesn't produce solutions. I t may, in fact, stymie the decision making process.
There is a need for better root cause analysis and to look for predicting potential problems before they occur.

4. AIOps – A More Detailed Overview

AIOps is the application of machine learning (ML) and data science to IT operations problems

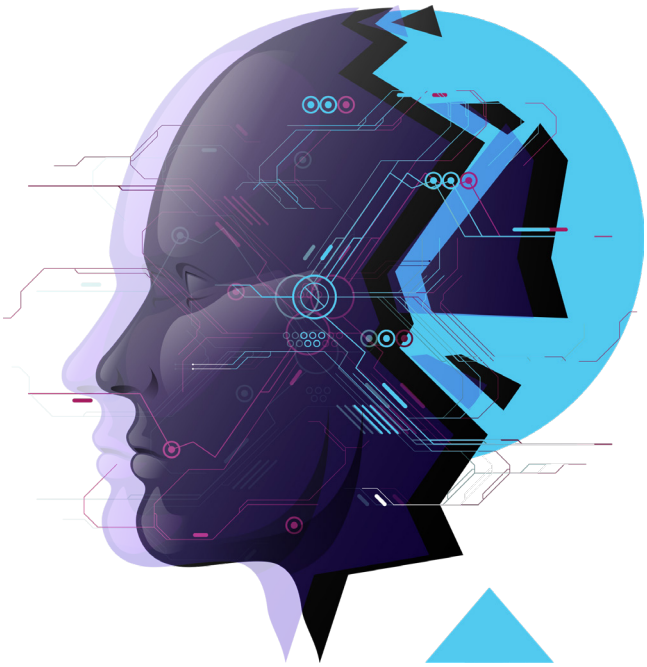


Figure 11

Key observations from Gartner's report on AIOps suggest:

- Exclusive use of AIOps and digital experience monitoring tools to monitor applications and infrastructure will rise to 30% by 2023.
- Over the next five years, wide-scope domain-agnostic AIOps platforms and narrow-scope domain-centric AIOps tools such as ITIM, APM or ITSM suites will become the two paths for delivering AIOps functionality.
- AIOps platforms consume and analyze the ever-increasing volume, variety, and velocity of data generated by IT and present it in a useful way.
- AIOps tools are designed to make modern Ops teams work more efficiently. In five years, data centers without some form of AI support to augment their human care-takers — giving the hybrid team the ability to learn and improve over time — will be looked at much like we would look at a car from the 1950s today.

AIOps platforms ingest numerous data points from across various IT operations tools and devices and leverage the big data technologies to automatically identify and react to the issues in a real time. With Machine Learning and Big Data, the approach lies in aggregation of observational data (job logs, monitoring data) along with the engagement data (tickets, incidents, event recordings, audit trails). These sources are merged into a big data platform used to more efficiently run the business.

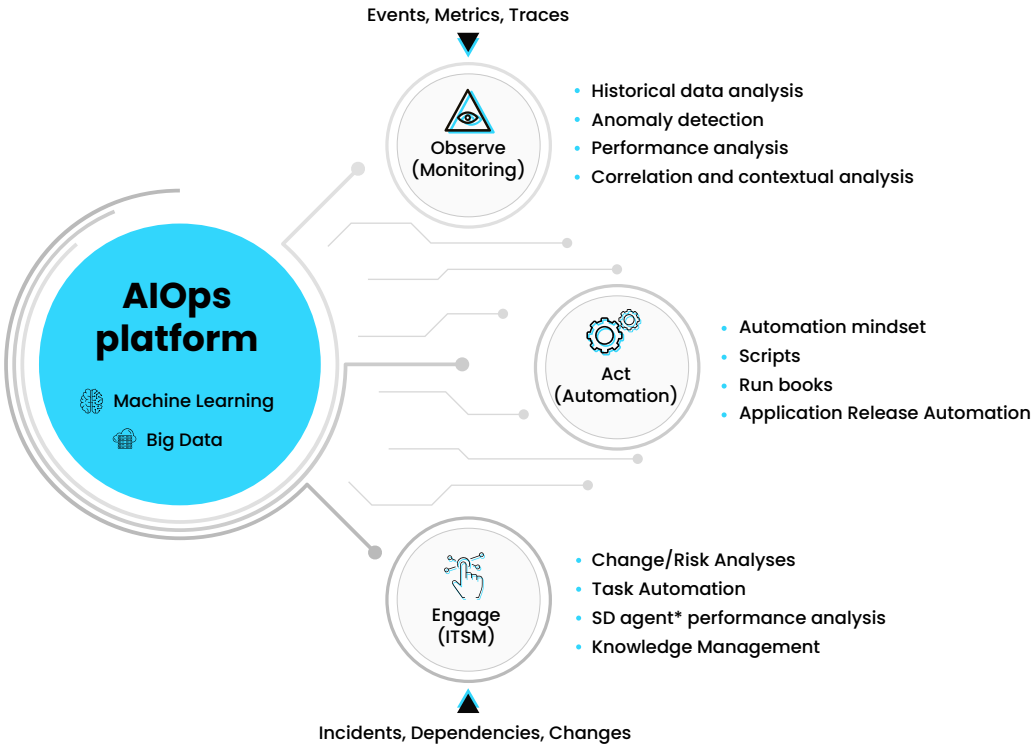


Figure 12: AIOps Platform – enabling continuous insights across IT Operations Monitoring

An AIOps strategy is to implement a comprehensive set of analytics and machine learning tools to ingest and action combined IT data that is collected into a single data repository. The result is a central repository powered by an automation driven capability that provides insights and enables continuous improvements and fixes. AIOps is the engine for continuous integration of data, deployment and improvement to monitoring and change management across IT functions.

The goal of the leveraging AI and ML is to create a set of analytics to uncover patterns, clusters, or groups naturally occurring in the data that are used to predict possible incidents and emerging behavior. These patterns are used to determine the root causes of current system issues and to intelligently drive automation to resolve them reducing business disruption. The company better identifies and manages risk far better, ultimately leading to a better and more consistent experience for its customers.

A deeper dive into AIOps platform diagram (Figure 12) above reveals how each of the modules contribute to AIOps.

- **Extensive and diverse IT data.** AIOps is predicated on bringing together diverse data from both IT Operations Management (ITOM) (metrics, events, audit trails) and IT Service Management (ITSM) (incidents, changes, logs). This helps breakdown silos and brings data together from disparate tools so they can be integrated to each other and accelerate root cause identification. This data can also be used to enable automation tools for issue resolution.
- **Aggregation through big data platform.** As seen in the Figure 12 above, big data is at the heart of the AIOps platform. As the data is collected from disparate sources, and brought together it lays the foundation to support next-level analytics. This needs to occur not just offline—as in a forensic investigation using historical data—but also in real-time as data is ingested at run time as systems continue to run performing their intended objectives.

- **Machine learning paradigm.** Big data enables the application of Machine Learning to analyze vast quantities of data collated from various IT systems. This is not possible by simply bringing the data together or by manual effort. ML automates existing, manual analytics and enables new analytics on the totality of the data collected—all at a scale and speed which is not possible without AIOps.

- **Observe (Monitoring).** This is the evolution of the traditional ITOM domain that integrates development (traces) and other non-ITOM data (topology, business metrics) to enable new modalities of correlation and contextualization. In combination with real-time processing, probable-root-cause identification becomes simultaneous with issue occurrence through pattern recognition.

- **Engage (ITSM).** The evolution of the traditional ITSM domain includes bi-directional communication with ITOM data to support the root cause analyses and auto-create documentation for audit and compliance/regulatory requirements. AI/ML expresses itself here in cognitive classification plus routing and intelligence at the user touchpoint, e.g., chatbots.

- **Act (Automation).** This is the "last mile" of the AIOps value chain. 'Act' means the codification of human domain knowledge into the automation and orchestration of remediation and response. Automating analysis, workflow, and documentation can fall through the cracks if action is dependent on human interaction. This would be possible if everyone involved develops an automation mindset.

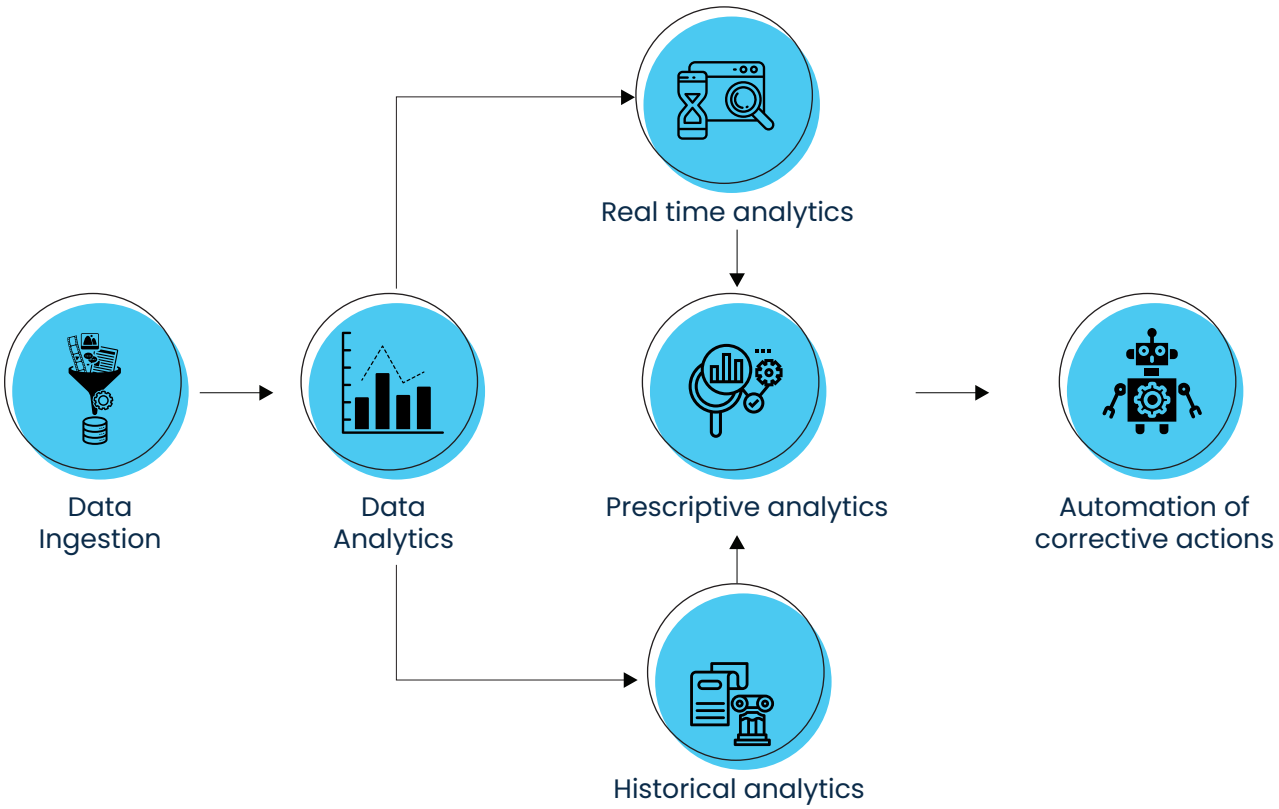


Figure 13: Typical functional flow in AIOps platform

* An SD agent is role assigned to agents who can log, view, reply, update, resolve tickets, and manage contacts.

The typical functional flow in an AIOps platform:

- Ingesting data from multiple sources including infrastructure, networks, apps, the cloud, or existing monitoring tools (for cross-domain analysis)
- Enabling data analytics using machine learning at two points
  - Real-time analysis at the point of ingestion (streaming analytics)
  - Historical analysis of stored data
- Storing and providing access to the data
- Suggesting prescriptive responses based on the analysis
- Initiating an action or next step based on the prescription (result of analysis)

Areas to be addressed by AIOps

AIOps platforms must be able to support the ability to incrementally deploy the four stages of IT operations monitoring.

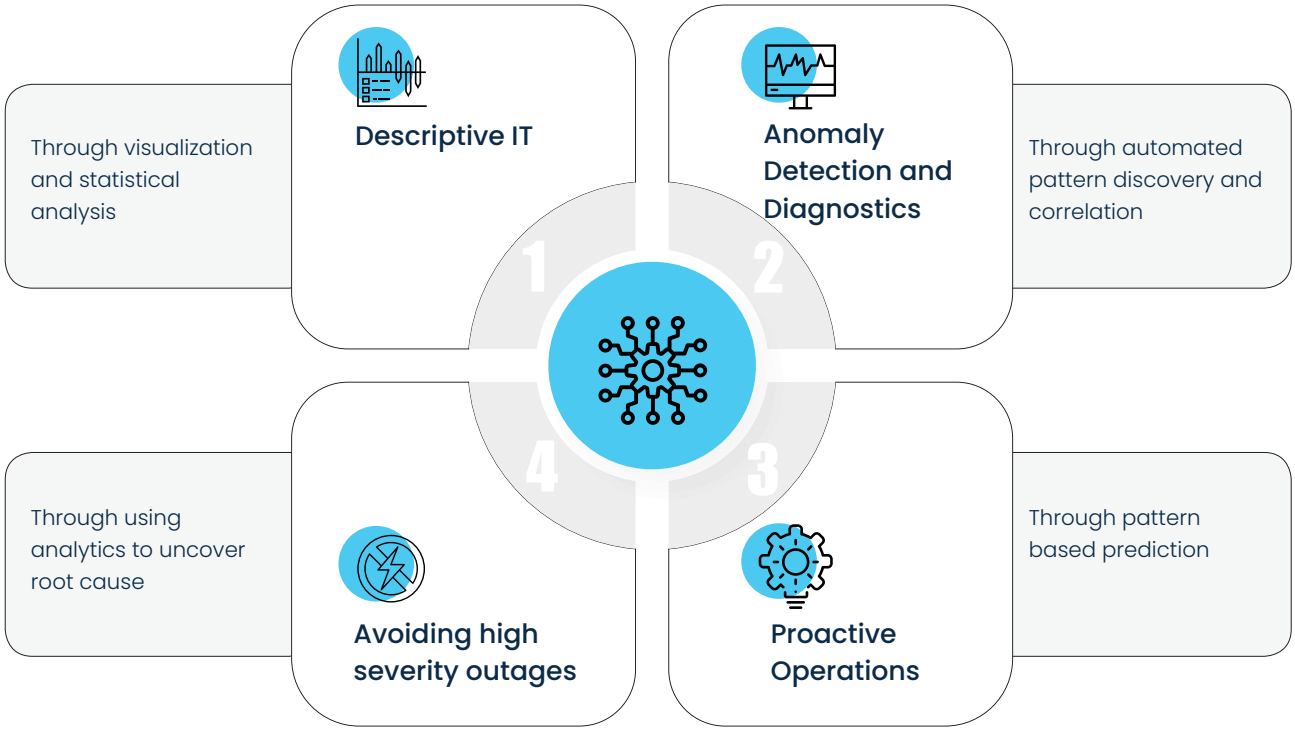


Figure 14

AIOps Platforms will be addressing:

- Rapid growth in data volumes generated by IT systems, networks and applications.
- Increasing data variety with the need to analyze events, metrics, traces (transactions), wire data, network flow data, streaming telemetry data, customer sentiment, and more.
- The increasing velocity at which data is generated, as well as the increasing rate of change within IT architectures and challenges in maintaining observability.
- Improving engagement due to the adoption of cloud-native and ephemeral architectures. The need to intelligently and adaptively automate recurring tasks and predict change success and SLA failure.

Applying AIOps Platforms Across the Life Cycle of an Application

The AIOps adoption strategy will need to cover the entire life cycle of application development in order to make the necessary changes to collate the data points that are necessary for AIOps to be operational. This essentially calls for actions in the areas of Development, DevOps, ITOM and ITSM.

In Development, there are two essentials: risk identification in the code and plausible exception and defect handling mechanisms. This can be supplemented with the right level of logging mechanism, which can be easily retrieved by the DevOps teams to perform log file analytics. Adoption of the proper toolsets enable data retrieval and availability. The correlation of events with anomalies can be easily done by understanding the event logging flow and following up with the audit trails. This correlation can help in making the root cause analysis (RCA) process easier and predictable. With the adoption of chatbots, the ITSM space can enjoy more interactive data collation thanks to the automation they provide.

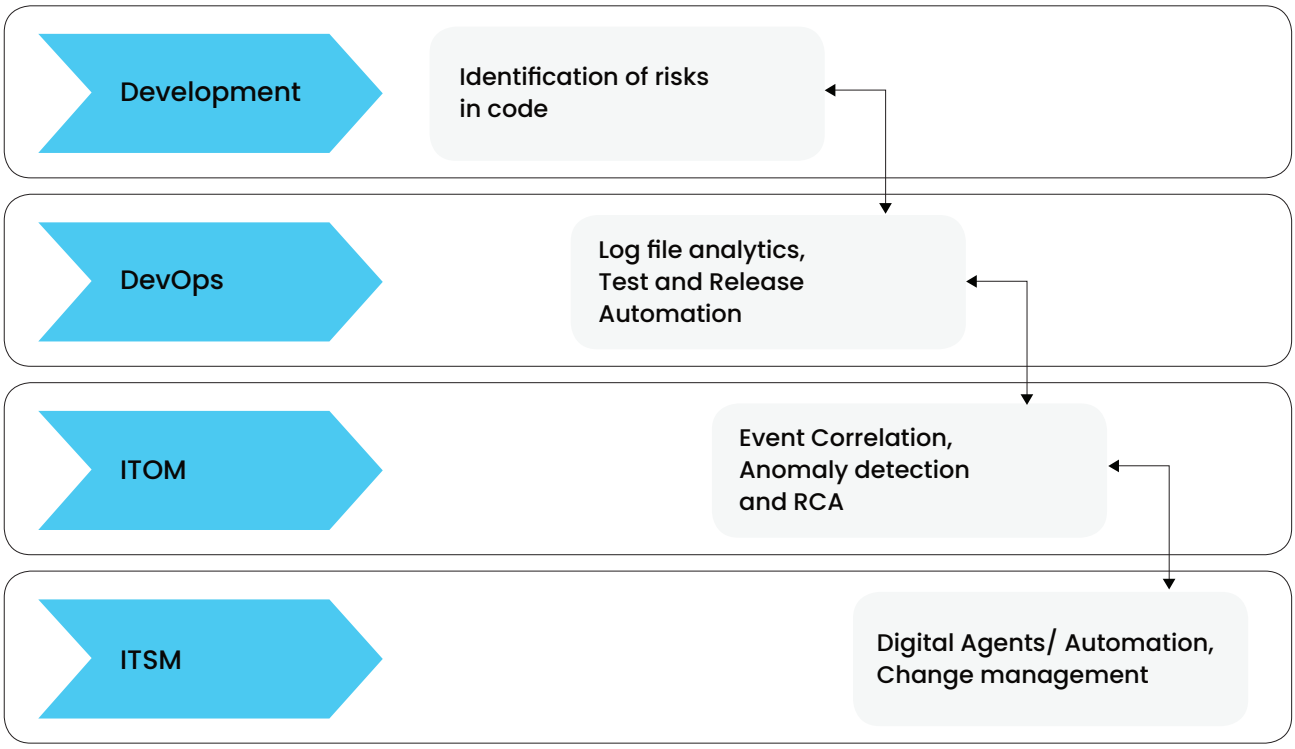
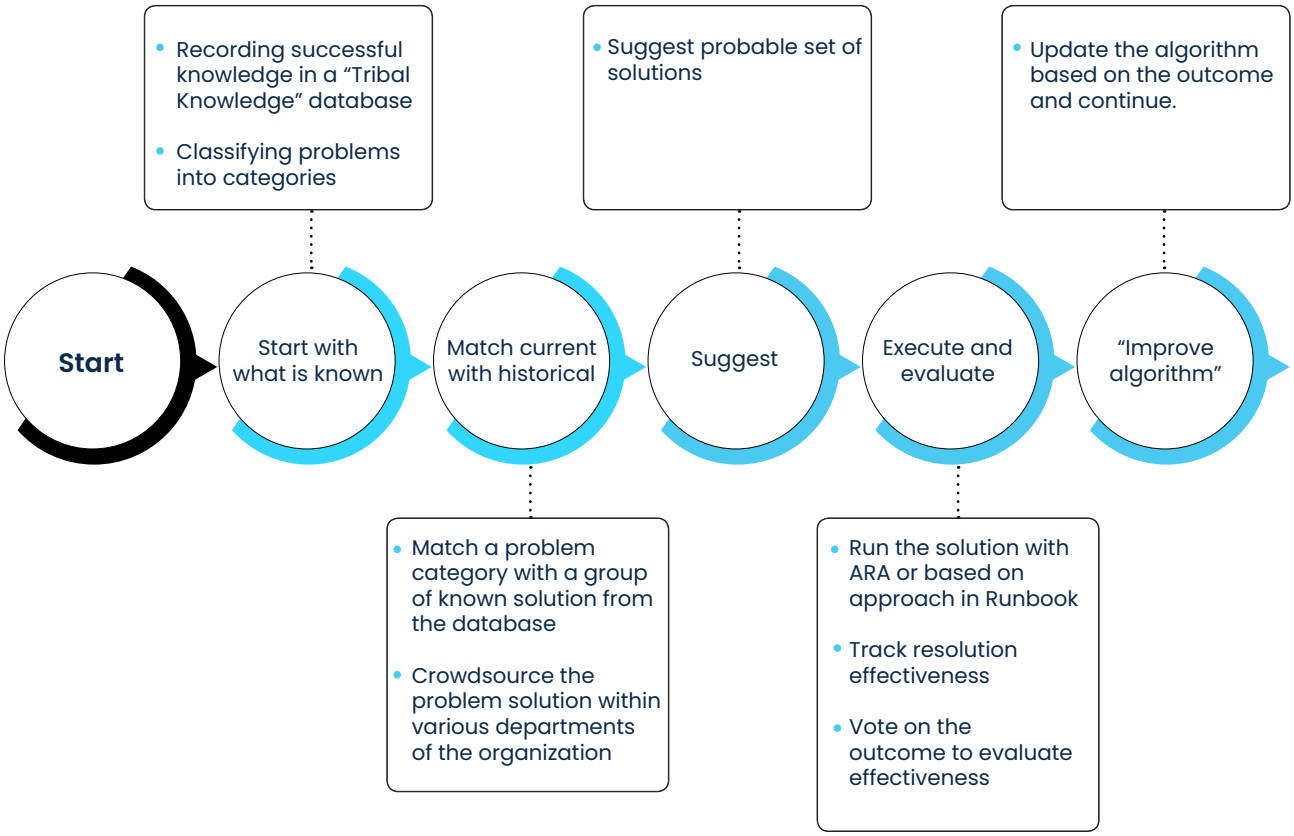
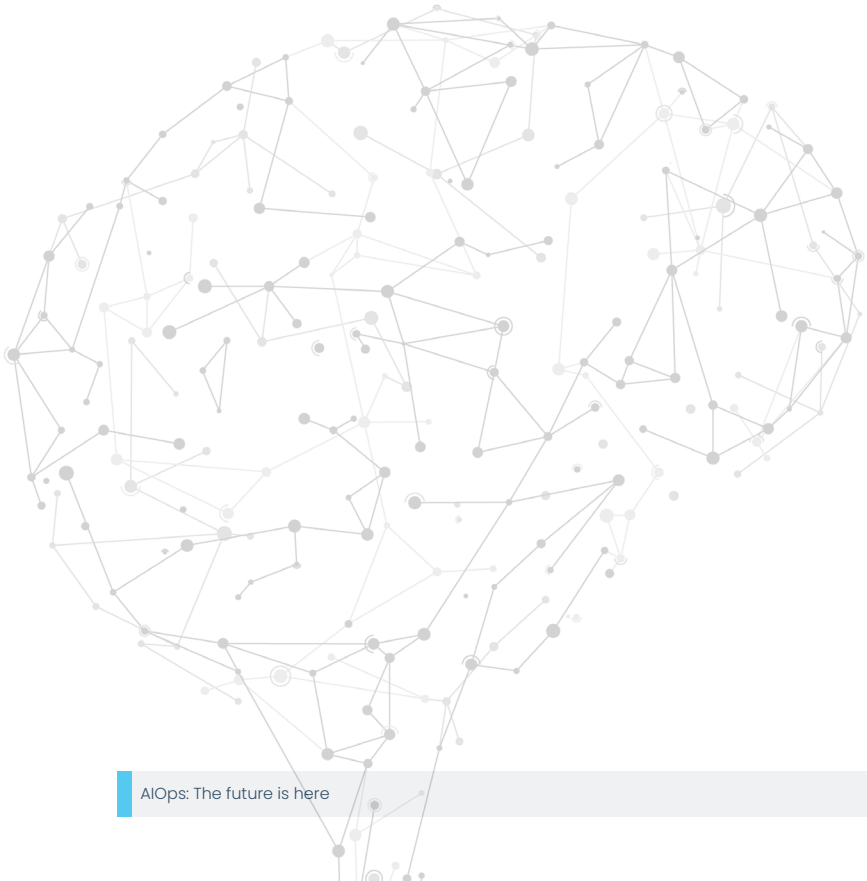


Figure 15: Applying AIOps across the life cycle of an application

AIOps offers unique problem solving capablities when it comes to remediation . Algorithms keep getting better as issues and the data used for remediation grows in quantity. In case of AI-assisted automation, the ML model is trained with the ML algorithm, to address the problem at hand. This model will need to be retrained on a regular basis, based on the effectiveness of the algorithm and the corrective steps taken, for the ML Model to be more efficient. This is an ongoing process as per the MLOps standards.





5. How to launch an AIOps initiative – A simpler approach

The following approach suggests taking an incremental method through bite-sized steps, enabling us to learn at each step creating a more effective transition.

Don't wait.

Become familiar with AI and ML and their capabilities that are available today, even if an AIOps project isn't imminent. In a shifting technology landscape , priorities and capabilities will also change, and the journey may start sooner than expected. It is good to start with a strategy that focuses on continuous adoption and continuous improvement.

Choose initial test cases wisely

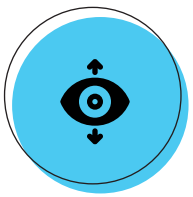
Transformation initiatives benefit from starting small, capturing lessons along the way, and building from there. Take the same approach to incorporating AIOps to improve the degree of success.

Develop and demonstrate your proficiency

It is important to explain AIOps to our colleagues and leadership by demonstrating simple techniques and clear business outcomes. Identifying the skills and experience gaps that exist in the organization can be rolled into a plan that is designed to close these gaps.

Experiment freely

Although AIOps platforms are often products of substantial cost and complexity, a great deal of open-source and low-cost ML software are available to enable the evaluation of AIOps and data science applications and their uses. It's best to experiment with a pilot team and see what works within the organization's IT environment and then adapt it across the organization.



Look beyond IT

Data management is a huge component of AIOps, and there is likely to be staff that are knowledgeable, who can take data to the next level and it is important to build on this foundation. Business analytics and statistical analysis are key components of any modern organization, as are the techniques used to build capabilities. Starting with this know-how can help accelerate AIOps adoption.

Standardize where possible, modernize where practical.

Tools, infrastructure, and architecture standardization are becoming a standard for enterprises that want to derive the benefits of digitalization. Lay out the groundwork for the infrastructure to support the eventual AIOps implementation. For example adopt a consistent automation architecture, infrastructure as code (IaC), and immutable infrastructure pattern

Visualize full adoption

There are many variables and decisions on how to proceed that must be considered. Although it may be overwhelming to plan for products, applications, and technology that are continuously evolving, it's important to consider a build-versus-buy strategy.

An example approach, with what can be adopted at each phase is illustrated below:

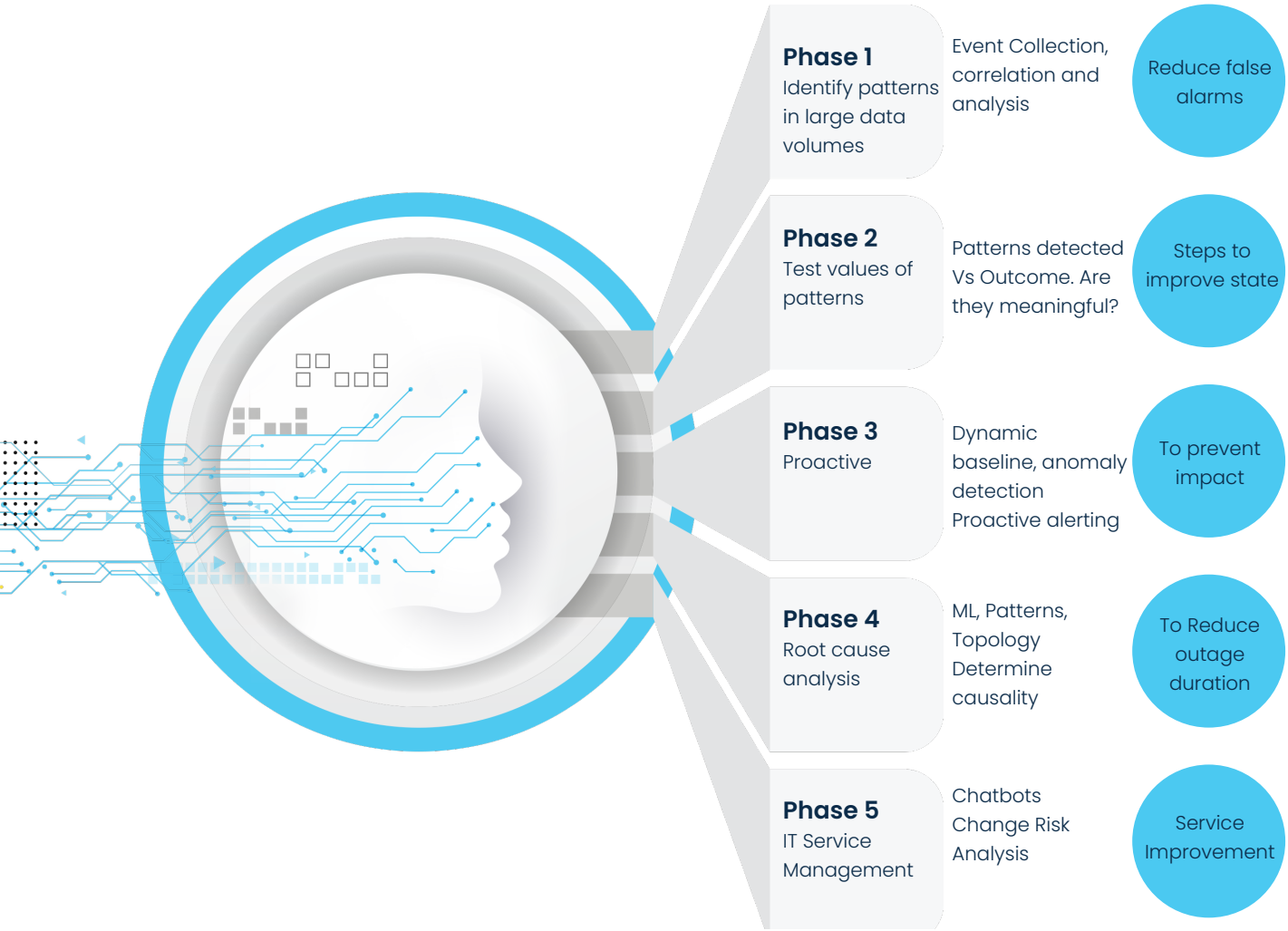
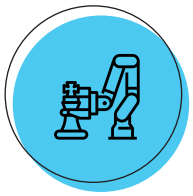


Figure 18: A phased approach of AI Adoption

6. AIOps maturity model

Applying Altimetrik's industry knowledge in the AI space and ITOps space, we propose the following five-stage maturity model:

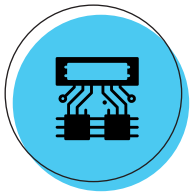
Level 1



Reactive

At this stage, organizations have siloed operations and collect data on events so they can react to them, but act independently with little to no communication across the business. As the saying goes, "one hand doesn't know what other is doing" and this puts the company at risk. Events and logs are collected after the fact, which leads to constantly extinguishing fires. This leaves IT teams stuck in an endless state of repairs rather than developing a proactive approach to solve the p perational issues. This is not a good use of company resources and drives up the cost of operations.

Level 2



Integrated

As organizations improve their AIOps competency, they will need to integrate data sources into a unified architecture to improve ITSM. In parallel they will need to break down silos and create greater collaboration between IT and the business. . When at the integrated stage of maturity, data sources come together into a unified architecture, improving ITSM processes. In addition, AI and ML start to layer into the process as the focus is to improve the current state of affairs in the area of anomaly detection and management.

Level 3

Analytical

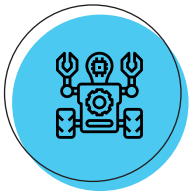
Implementing a unified analytics strategy with data transparency for all stakeholders happens at this stage. Organizations define measurement points and baseline metrics and new AI and ML capabilities drive dramatic improvement in ITSM processes. Data transparency is created among all stakeholders across the enterprise. As data becomes available, metrics become more measurable which expands the opportunity for IT teams to support AIOps and drive greater operational efficiency and ROI. Also there is a greater focus on how to prevent issues.

Level 4

Prescriptive

Organizations that have matured to this point increase automation, often by introducing machine learning algorithms to access the data collated and look for the patterns and apply predictive analytics. ITSM also leverages automation with human interaction. Businesses at this stage also use comparative analytics to measure improvements and business value. At the prescriptive level, teams implement ML and automation to provide access to more analytics and data to follow continuous improvements. This phase also involves a more optimized approach to ITSM processes. The focus is definitely on reducing MTTR (mean time to recovery), when organization is at this maturity level.

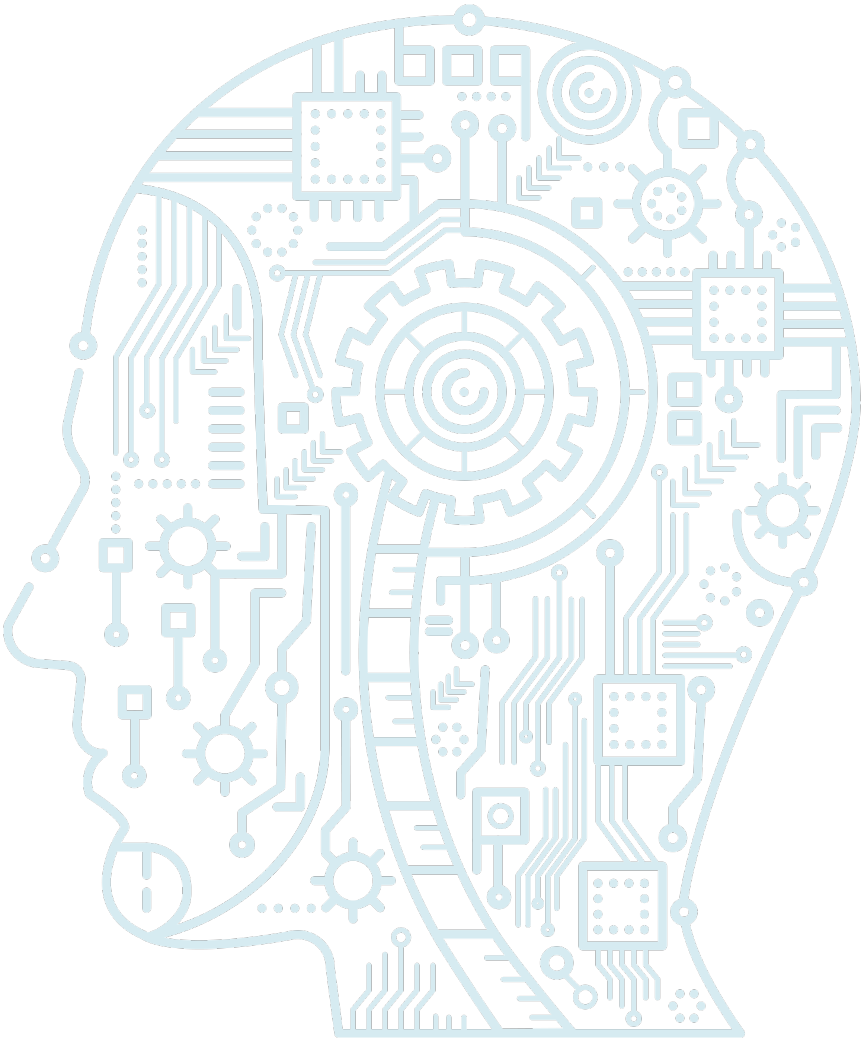
Level 5



Automated

The fifth and final level of AIOps maturity is full automation with no human interaction. At this stage businesses now have the capability for data sharing across all stakeholders and there is full transparency of data and analysis. Full automation, machine learning based on predictive models, and proactive decision making are now a reality, improving responsiveness and creating increased business value. It also empowers teams to play a more strategic role in business operations leveraging automation to drive better decisions. At this stage the focus is on the feedback mechanism and improvement in actions taken.

While manoeuvring through each level of maturity, it is necessary for the organizations to keep the long-term AIOps strategy and goals in focus to achieve its true potential. By taking the process one step at a time, organizations have the opportunity to look for continuous improvements at every stage and achieve maximum performance and long-term success of AIOps strategy.



7. Business Benefits of AIOps

AIOps enables the organization to realize numerous business benefits that drive better responsiveness and higher cost benefits, especially due to efficient outage management and anomaly detection . It does this by bringing key ML techniques into our IT operations, including pattern matching and recognition, predictive analysis, historical data analysis, and causal analysis that helps in real-time, root-cause analysis. This helps with decision making by enabling data-driven, automated responses. This new paradigm creates a faster, more agile response mechanism to incidents eliminating human error and the confusion that can come from data overload. Business benefits include:

1. **Organization wide insight and agility**
   AIOps enables a cohesive connection between business verticals that have their own data through ML algorithms. Aggregating and processing data that is scattered across the company requires almost zero manual effort, automated algorithms will perform needed due diligence. In other words, AIOps establishes meaningful connections across siloed data to deliver intelligent and actionable business insights. Business teams can work at their own pace while staying connected with each other through a single source of truth. AIOps' 24/7 monitoring leads to lower system downtime, using predictive analytics to spot potential problems before they occur and reduce downtime even if they occur.

2. **Efficient data collation and processing from the IT s ystems**
   The necessity for AIOps stems from the very fact that it's an extremely daunting task for humans to process large volumes of data from disparate systems. However, AIOps through smart algorithms powered by ML and big data, can masterfully derive cognitive insights from raw data sets.

   AIOps mitigates the risk of operational fatigue and maintenance issues, reducing metrics like the Mean Time to Detect and the Mean Time to Repair by about half. This intrinsic capability to process data at lightning speed will pave the way for automating mundane and repetitive tasks, saving ITOps teams a considerable amount of time, effort, and expense.

3. **Faster Digital Transformation through adoption of overall AIOps strategy**
   Since the era of Cloud infrastructure availability, Digital Transformation is all about innovation through new technologies and AIOps complements that change. Thanks to AIOps, advanced algorithms aid in detecting and, more impressively, reacting to events in real time, providing organizations with greater control over their business applications and IT infrastructure. AIOps enables the ITOps teams with predictive maintenance through the ML algorithms, and the teams can bid goodbye to those late night emergency calls because AIOps has got it all covered.

4. **Better data driven decision-making through ML algorithms.**
   AIOps leverages advanced algorithms that employ ML techniques, such as pattern matching, predictive analysis, historical data analysis, and causal analysis resulting in real-time anomaly predictions. As a result, AIOps solutions deliver data-driven automated responses to all incidents, with zero false positives. This not only helps eliminate human errors and data noise but also builds a strong base for pre-emptive and responsive IT infrastructure. From a business point of view, this strategy yields a higher ROI with minimal effort, once AIOps is put in place. Again, the approach should be start small and improve the adoption over a period of time.

8. Conclusion

Data has become the lifeline of IT Operations as it drives the day to day activities and decision making. The complexity of IT infrastructure data, however, is increasing along with the need for real-time predictive tools, overwhelming current manual capacity to comprehend this data remains the same. On the bright side, AIOps helps build a scalable ITOps strategy to foresee and pre-empt any possible issues in the future. An intuitively responsive IT infrastructure driven by AIOps puts enterprises at the forefront of an emerging tech revolution that will give them many advantages. Falling behind now will make it harder to catch up with those competitors that have already made or are on the verge of making the transition .

No matter what purpose and mission organizations have, success depends on how satisfied customers or clients are with a company's products or services. In a competitive environment, any disruption to operating the business could have adverse results. It is now essential to predict possible issues and bottlenecks in real time before they impact the company or its customers. This means IT operations must be able to predict and remediate performance issues across applications, services, and infrastructure before they manifest into something bigger. AIOps helps enable this shift, providing:

- Real-time insight about potential security incidents
- Using predictive analysis to offer pre-emptive solutions to users' problems
- Providing conversational assistance for efficient management of help desk requests.

Powered by AI and ML, AIOps will revolutionize the ITOps space and has the power to put those that successfully adopt it well ahead of its competition.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