# Market Guide for AIOps Platforms

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AIOps platforms enhance decision making across I&O personas by contextualizing large volumes of operational data. I&O leaders should use AIOps platforms to improve analysis and insights across the application life cycle, in addition to augmenting IT service management and automation.

## Overview

### Key Findings

- AIOps platform adoption is growing rapidly across enterprises. I&O leaders are planning for a post-COVID-19 environment dominated by practical outcomes rather than aspirational goals.
- AIOps platform offerings fall into two categories: domain-agnostic and domain-centric solutions. However, requirements for increased flexibility for processing highly diverse datasets are having a significant impact on the market and shifting AIOps platforms toward domain-agnostic functionality.
- Enterprises have started adopting AIOps platforms to compete with and replace some traditional monitoring tool categories. For example, monitoring IaaS and observability is being done entirely within AIOps platforms, especially if the enterprise has its entire IT footprint in the cloud.
- Enterprises are increasing their use of AIOps across various aspects of IT operations management (ITOM) and maturing their use cases across DevOps and SRE practices.

### Recommendations

I&O leaders focused on infrastructure, operations and cloud management should:

- Prioritize practical outcomes over aspirational goals by adopting an incremental approach that starts with replacing rule-based event analytics and expands into domain-centric workflows like application and network diagnostics.

- Choose between domain-centric or domain-agnostic AIOps by allowing the use case to determine the approach. Use domain-centric AIOps features built into a monitoring tool for a one-off, specific use case, and deploy a domain-agnostic stand-alone solution with a roadmap straddling multiple use cases.
- Enable task automation, knowledge management and change analysis by selecting an AIOps platform that supports bidirectional integration with ITSM tools. Beware of tools that provide only basic search-and-display capability.
- Enable continuous insights across ITOM by supporting these three aspects of AIOps platforms: observe, engage and act.

## Market Definition

This document was revised on 19 April 2021. The document you are viewing is the corrected version. For more information, see the Corrections page on gartner.com.

AIOps platforms address I&O leaders' need for operations support by combining data storage and analytics functionality to deliver relevant insights to the right personas based on data generated by IT in response to digital transformation. The capability is part of a pipeline that includes data ingestion and storage, followed by data curation and analysis, which leads to a visualization layer. The analytical capability includes a mix of statistical techniques and AI technologies but, given the maturity level of users, the interface for interaction with the AI layer is minimal to nonexistent for I&O.

## Market Description

AIOps platforms enhance a broad range of IT practices, including I&O, DevOps, SRE and service management. However, the more focused outcomes are within the I&O domain and include anomaly detection, diagnostic information, event correlation, and root cause analysis (RCA) to improve monitoring, service management and automation tasks.

The central functions of AIOps platforms include:

**Ingestion**

An AIOps platform can ingest, index and normalize events or telemetry from multiple domains, vendors or sources, including infrastructure, networks, apps, the cloud or existing monitoring tools (for cross-domain analysis) (see Note 2). The platform must further enable data analytics using machine learning at at least two points, including:

- Real-time analysis at the point of ingestion (streaming analytics)
- Historical analysis of stored data

### Topology

AIOps platforms discover and assemble unified topology of IT assets, including applications, across domains. Topology can include physical proximity, logical dependence or another dimension that captures the relationship between IT assets and services.

### Correlation

The AIOps platform correlates and compresses events across telemetry domains or sources, reducing unnecessary human intervention. The correlation combines time and topology to group related events.

### Recognition

An AIOps platform processes the event and telemetry data to detect or predict important events or incidents. The platform continually learns and refines individual patterns of important events from operator input and reinforcement mechanisms.

### Remediation

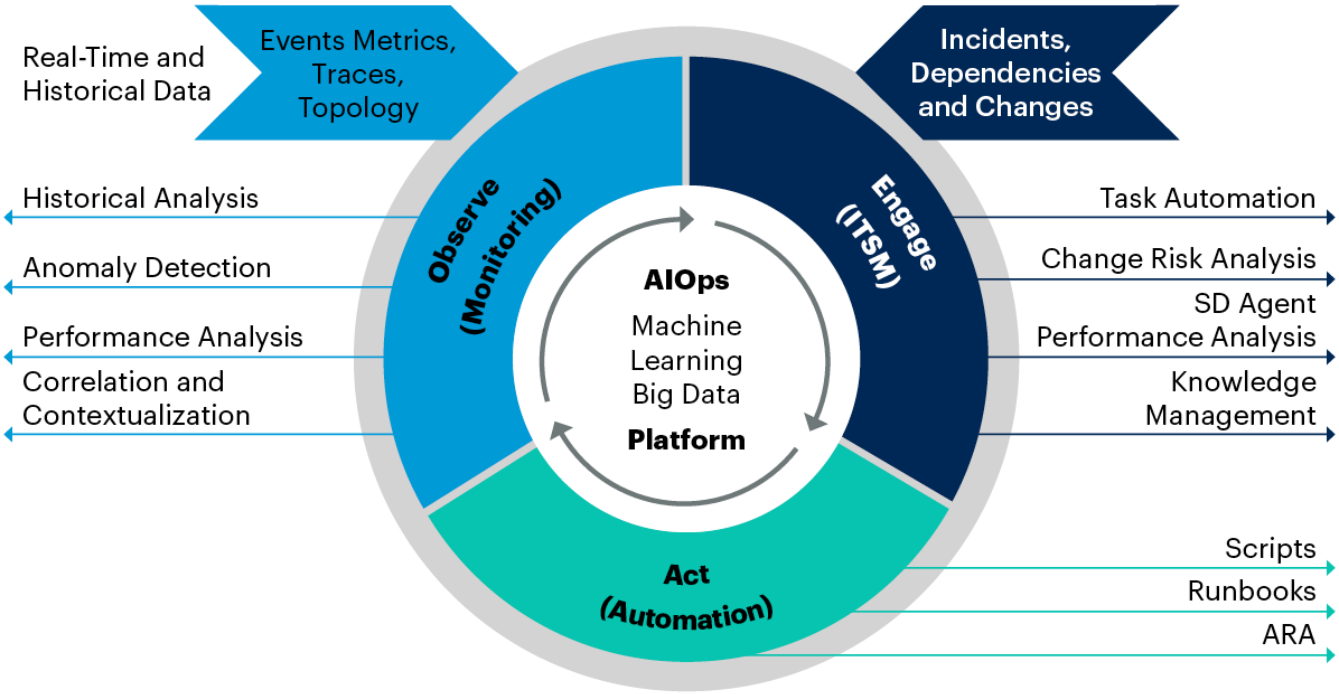
The AIOps platform continuously learns and improves associations between each important event and the operations response by either explicit operator specification or by observation. The AIOps platform might offer a recommendation, automate a response or trigger an external automation system.

AIOps is not just a data storage and retrieval system. Further, the platform is not limited to capabilities of trend analysis, forecasting and the ability to query vast datasets.

The goal of AIOps is to curate and enhance the quality of ingested data so I&O leaders can drive multiple use cases relevant to the appropriate practice or persona. For example, pattern discovery can help forecast emerging behavior, relationships across IT entities, and benchmarking behavior (of IT artifacts, users and agents) to identify anomalies and provide relevant context to business owners. Analytics also facilitates automated insights, eases root cause determination and enables automated actions for resolving identified issues (see Figure 1).

**Figure 1: AIOps Platform Enabling Continuous Insights Across IT Operations Monitoring (ITOM)**

**AIOps Platform Enabling Continuous Insights Across IT Operations Monitoring (ITOM)**




Source: Gartner
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## Market Direction

### The Market Shift to Domain-Agnostic AIOps

The domain-agnostic platform is emerging as a stand-alone market, distinct from domain-centric AIOps platforms (see Note 3). This is due to flexibility in ingesting increasingly diverse datasets across a progressive roadmap stretching from three to five years. Use cases on such roadmaps focus beyond anomalies and are inclusive of behavior analysis, customer engagement and identifying underlying opportunities. The future Market Guides will focus on domain-agnostic AIOps.

As organizations mature in AIOps adoption, they require a single domain-agnostic platform across I&O, DevOps, SRE and, in some cases, security practices.

Gartner is seeing I&O leaders discuss KPIs and dashboards with relevance to the executive layer. In all such scenarios, a clear distinction is emerging in domain-centric tools' focused relevance to anomaly detection and reduction in false alarms. AIOps has become a defining feature in many domain-centric markets.

## AIOps: A Mandatory Feature in Domain-Centric Tools

Domain-centric AIOps has expanded across multiple ITOM market segments, including the observation and automation tool markets. It is a defining feature in some markets. For example:

- AIOps capability is one of the defining features for APM tools (see Magic Quadrant for Application Performance Monitoring).
- In the ITIM and NPMD markets, analytics is considered a core capability, but vendors have started providing AIOps capabilities for supporting various outcomes like improved insights and diagnosis.
- Many ITSM vendors have included AIOps capabilities through investment in internal development or through partnerships with AIOps platform vendors (see Magic Quadrant for IT Service Management Tools). The concept of AITSM enables effectiveness, efficiency and error reduction for I&O staff, by applying context, advice, actions and interfaces of AI on ITSM tools (see Leverage 4 Domains of AITSM to Evolve ITSM Tools and Practices).

Domain-centric approaches to AIOps are relevant for organizations that have limited data variety (that is, only a few point solutions) and that prioritize a small number of focused use cases. Such organizations have limited need or ability to look at data across multiple silos simultaneously. As use cases within organizations grow, they are likely to move to domain-agnostic tools.

Vendors that focus solely on domain-centric approaches will have success with customers who are not ready to take advantage of the benefits of a domain-agnostic tool. However, as more organizations look to move to domain-agnostic options, vendors focusing solely on domain-centric technology will find themselves left out of the market discussion.

## Continued Interest and Growth

AIOps continues its growth and influence on the overall ITOM market, with an estimated market size of between $900 million and $1.5 billion in 2020 and a compound annual growth rate of around 15% between 2020 and 2025 (see Market Opportunity Map: IT Operations Management, Worldwide). Adoption and direction are being heavily influenced by two separate but ultimately related areas:

- Digital business transformation
- Transitioning from reactive to proactive response to issues

Digital business transformation is driving the AIOps market as more business operations are digitized and analyzing growing data volumes becomes both more critical and difficult. With data volumes reaching or exceeding gigabytes per minute across a dozen or more different domains, it is no longer possible for a human to analyze the data manually.

As organizations continue to undertake digital transformation, they no longer have the luxury of responding to issues after they occur. Instead, they must become proactive and address potential issues before they impact user experience.

The AIOps market continues moving toward broader and better solutions for these two issues while still maintaining the division between domain-centric and domain-agnostic approaches (see Note 3). A future state where a single AIOps platform attempts to replace domain-centric tools has more problems than solutions. Gartner expects to see increasingly specialized layers, up to and including analytics and trained models embedded in devices. Eventually, analytics will be embedded in different monitoring technologies that make up domain-centric AIOps, to the point that domain-centric AIOps is included as part of the definition across multiple monitoring markets.

Additionally, some vendors are trying a hybrid approach between domain-agnostic and domain-centric by providing domain-agnostic AIOps functionality on top of their siloed tool. In an increasingly dynamic IT architecture, rule-based event correlation has given way to AI-based correlation due to the speed at which correlation rules must be updated (see Use AIOps for a Data-Driven Approach to Improve Insights From IT Operations Monitoring Tools).

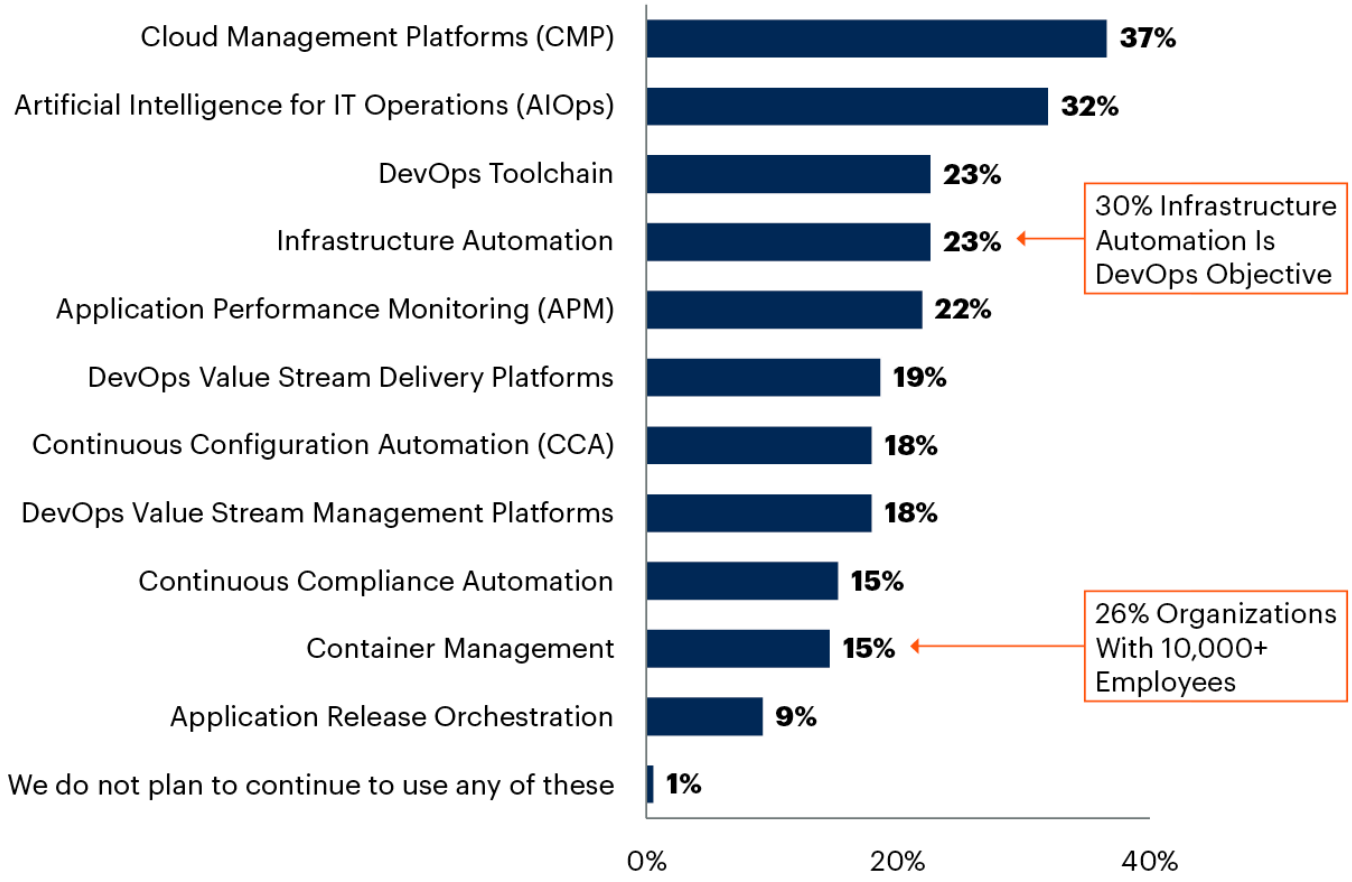
## Low Barriers to Entry

Commoditization of open-source technologies has lowered the barrier to entry for many vendors in this space, providing many options for data acquisition, storage and visualization tools. The relative ease of deployment and integration of these domain-agnostic acquisition, storage and display technologies has triggered either product developments or enhancements across many domain-centric vendors, including system integrators and managed service providers. Examples of open-source tools for domain-agnostic data acquisition across metrics, traces and logs include Prometheus, Elastic Beats, Jaeger and Fluentd. For data visualization, Gartner has encountered many implementations that leverage Grafana, regardless of where the data has been stored.

Although AIOps is yet to mature, with the right use case, AIOps is considered a valuable tool within enterprises and stays embedded in the long term (see Figure 2). [1]

**Figure 2: Organizations' Plans to Continue Using CMP and AIOps**

**Organizations' Plans to Continue Using CMP and AIOps**
Multiple Responses




n = 150 organizations started to use DevOps initiatives in response to COVID-19

Q: And which of these does your organization plan to continue to use?

Source: 2020 Gartner Achieving Business Agility with Automation, Continuous Quality and DevOps

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## Market Analysis

Although AIOps technology has existed for a number of years, successful deployments require time and effort, including a structured roadmap by the end user. Implementations typically run into a number of problems, including data ingestion, providing contextually relevant analysis and long time to value. The time to value of many AIOps platform tool deployments is measured in months or years, which has led to dissatisfaction and disillusionment with the market segment. Yet organizations should be in no doubt:

> There is no future of IT operations that does not include AIOps. This is due to the rapid growth in data volumes and pace of change (exemplified by rate of

**the rapid growth in data volumes and pace of change (exemplified by rate of application delivery and event-driven business models) that cannot wait on humans to derive insights.**

It is simply impossible for humans to make sense of thousands of events per second being generated by their IT systems.

To get a clearer picture of how the market is evolving and where vendors are positioned relative to one another, consider the following attributes:

- Data ingestion and handling
- Machine learning (ML) analytics
- Remediation

## Data Ingestion and Handling

AIOps platforms must be able to ingest data at rest (historical) and data in motion (real-time, streaming). These platforms allow for the ingestion, indexing, and storage of logs, event data, metrics, traces, and graph and document data (see Note 2).

These tools for IT operations must analyze data directly at the point of ingestion, in real time, without requiring data to be saved to a database before it can be analyzed. They also must provide a correlated analysis across multiple streams of real-time and historical data.

## Machine Learning Analytics

AIOps platforms use the following types of analytic approaches:

- **Statistical, probabilistic analysis.** A combination of univariate and multivariate analysis, including the use of correlation, clustering, classifying and extrapolation on metrics captured across IT entities.
- **Automated pattern discovery and prediction.** Discovering patterns, clusters or groups that implicitly describe correlations in historical and/or streaming data. These patterns may then be used to predict incidents with varying degrees of probability.
- **Anomaly detection.** Using the patterns discovered by the previous components to determine normal behavior and then to discern departures from that normal behavior, both univariate and multivariate. Transcending the mere detection of outliers, they must be correlated with business

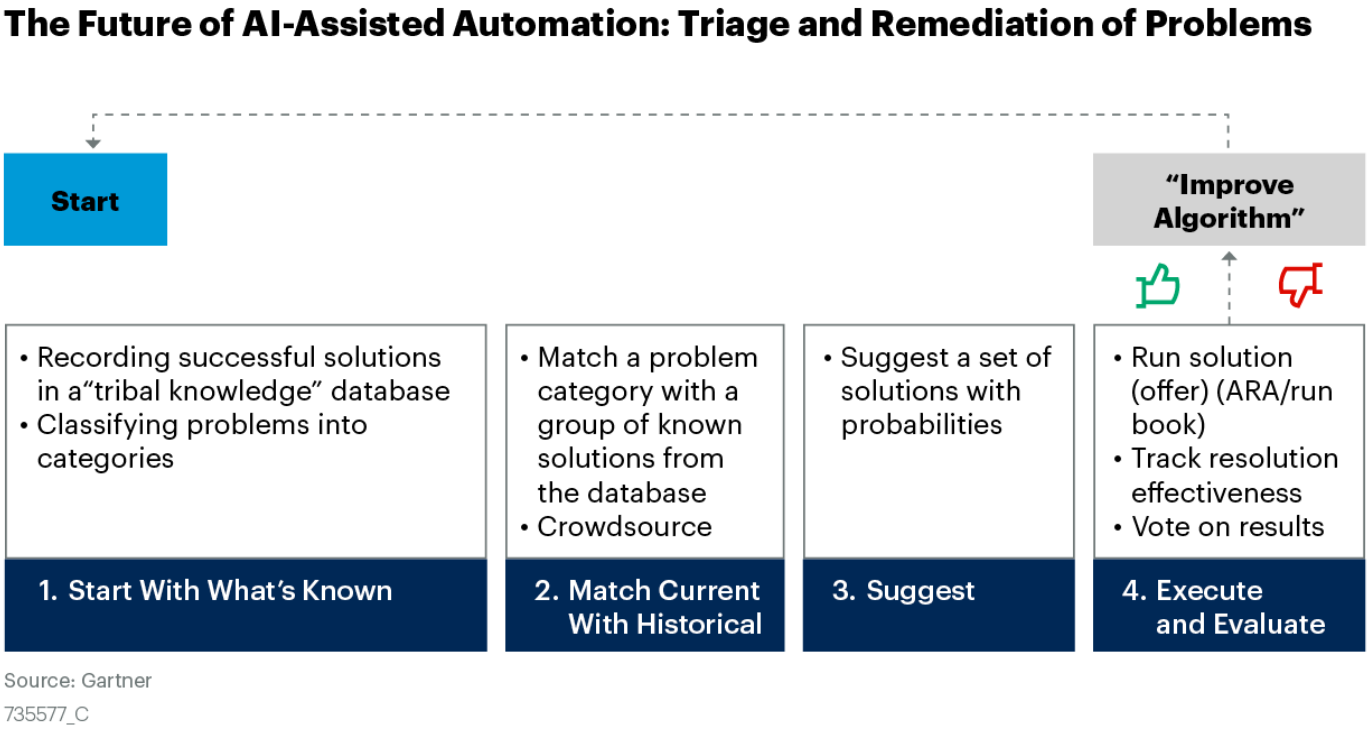
impact and other concurrent processes such as release management to be fully useful and not just create more alert noise (see Augment Decision Making in DevOps Using AI Techniques).

- **Probable cause determination.** Pruning down the network of correlations established by the automated pattern discovery and ingestion of graph data to define causality chains linking cause and effect.
- **Topological analysis.** AIOps platforms may use application, network, infrastructure or other topologies to provide contextualized analysis. Deriving patterns from data within a topology will establish relevancy and illustrate hidden dependencies. Using topology as part of causality determination can greatly increase its accuracy and effectiveness.
- **Prescriptive advice.** Suggesting solutions to resolve an issue. These suggestions may be based on a database of historical solutions (tribal knowledge) to recurring problems or determined via crowdsourcing.

## Remediation

As the technology matures, users will be able to leverage prescriptive advice from the platform, enabling the action stage (see Note 4). The steps for this are shown in Figure 3.

Figure 3: The Future of AI-Assisted Automation — Triage and Remediation of Problems




Source: Gartner
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An automated, closed-loop process referred to as “self-driving ITOM” is highly desired but still aspirational. Very few prescriptive solutions have been observed in commercial tools beyond ones that simply automate “bounce the server” or an “open a ticket” type of script. The likely candidates for automated actions from prescriptive tools are those that are low-risk. These are the ones that cause relatively little damage if they fail or cause unexpected side effects. Depending on the environment, manually predetermined actions such as a patch update could be successful, as well as actions to perform workload optimization, such as starting up an additional virtual machine (VM) or container.

### Time to Value

A common complaint among Gartner clients is that the length of time required to deploy, configure and receive value from an AIOps solution may be as long as six months and, in extreme cases, up to two years. AIOps is an emerging technology, which means that best practices in the area are still evolving. But organizations are reluctant to invest in a product when the potential payoff is so distant on the time horizon.

To counteract this, vendors are responding with initiatives to speed up deployments. These include:

- Moving to SaaS-based deployments
- Improving out-of-the-box integrations for common interfaces
- Repeatable workflows built into the system based on field-tested best practices
- Reducing the number of false positives generated by the system

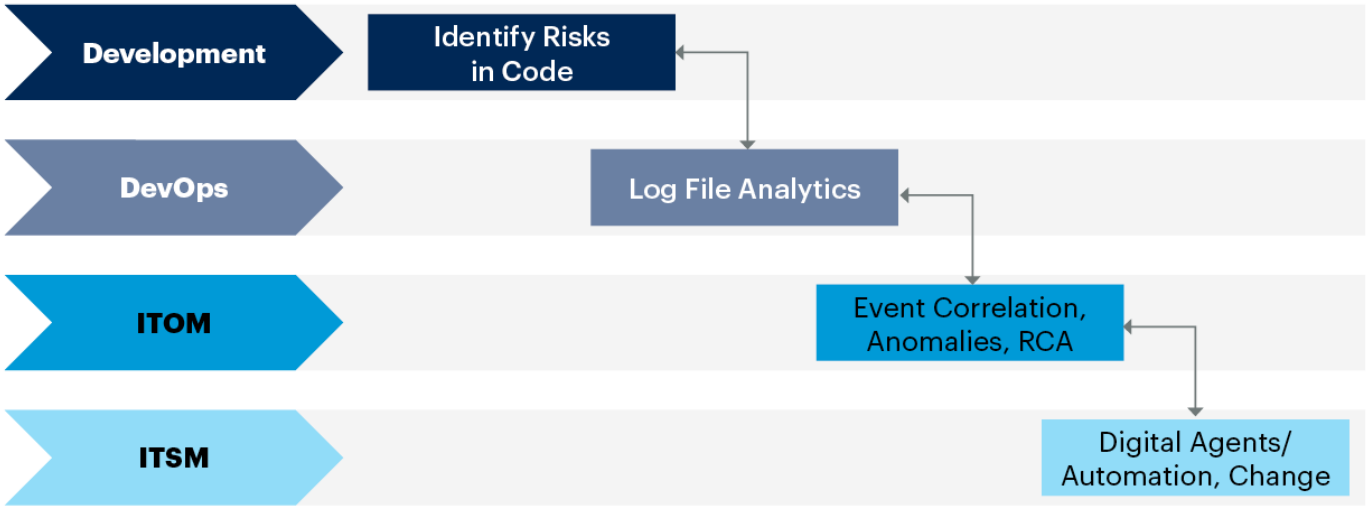
When building a business case for AIOps’ return on investment, I&O leaders must discuss with vendors the expected time to value of their implementation. In many cases, a limited proof of concept would be expected to demonstrate how integrations would work in a realistic setting.

### AIOps in DevOps

As part of the general trend of “shift left” that is the merging of IT operations tools with the DevOps pipeline, early adopters are experimenting with AIOps earlier in the development pipeline. Combined with increasing use of automation, developers are using AI to more quickly and securely deliver software that is easier to manage in production. Examples of AIOps in the DevOps pipeline are shown in Figure 4.

Figure 4: Applying AIOps Platforms Across a Spectrum of Use Cases Over the Life Cycle of an Application

**Applying AIOps Platforms Across a Spectrum of Use Cases Over the Life Cycle of an Application**




Source: Gartner
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NLP is heavily adopted in ITSM tools, but some APM vendors have started to include NLP as part of their AIOps capability. A major goal is to enable a more flexible ChatOps for the DevOps teams and offer a better interface to APM data and automation.

## Representative Vendors

### Market Introduction

AIOps platform vendors have a broad range of capabilities that continues to grow. Vendors differ in their data ingest and out-of-the-box use cases made available with minimal configuration. In Table 1, we provide a representative sample list of vendors providing domain-agnostic AIOps platform functionality. Some vendors in this table offer domain-centric products as well.

Table 2 includes domain-centric AIOps vendors that, in some cases, specialize in more than one domain. As AIOps capabilities start to become a defining feature in different domains like APM and ITSM, Gartner will focus on domain-agnostic AIOps vendors in future versions of this Market Guide.

**Table 1: Representative Vendors in the Domain-Agnostic AIOps Platforms Market**

| *Vendor* ↓ | *Product, Service or Solution Name* ↓ |
|---|---|

| *Vendor* | *Product, Service or Solution Name* |
|---|---|
| BigPanda | BigPanda |
| BMC | TrueSight Operations Management, Helix Platform |
| Broadcom-CA Technologies | DX Operational Intelligence |
| Devo (formerly Logtrust) | Devo |
| Digitate | ignio |
| Elastic | Elasticsearch |
| IBM | IBM Cloud Pak for Watson AIOps |
| Interlink Software | Interlink Software |
| Logz.io | Log Management |
| Moogsoft | Moogsoft |
| PagerDuty | PagerDuty |
| ServiceNow | IT Operations Management (ITOM) |
| Splunk | Splunk Enterprise, Splunk Cloud |

| *Vendor* | *Product, Service or Solution Name* |
|---|---|
| StackState | StackState |
| Sumo Logic | Sumo Logic |
| | |

Source: Gartner (April 2021)

**Table 2: Representative Vendors in the Domain-Centric AIOps Platforms Market**

| Vendor | *Product, Service or Solution Name* | *Domain(s) the Vendor Specializes In* |
|---|---|---|
| Aisera | Aisera | ITSM |
| Cisco | AppDynamics | APM |
| Datadog | Datadog APM | APM |
| Digital.ai | Numerify | ITSM |
| Dynatrace | Dynatrace | APM, ITIM |
| Espressive | Barista Case Management | ITSM |
| ExtraHop | ExtraHop Reveal(x) for IT Operations | NPMD |
| Harness | Continuous Integration, Continuous Delivery, Continuous Efficiency Platforms | DevOps |

| Vendor | *Product, Service or Solution Name* | *Domain(s) the Vendor Specializes In* |
|---|---|---|
| IPsoft (Amelia) | DigitalWorkforce.ai Platform | ITSM |
| Kentik | Kentik | NPMD |
| OverOps | OverOps | Dev |
| Pico | Corvil | NPMD |
| New Relic | New Relic One Platform | APM, ITIM |
| OpsRamp | OpsRamp | ITIM |
| ScienceLogic | SL1 Platform | ITIM |
| Virtana | Virtana Platform | ITIM |
| Zenoss | Zenoss | ITIM |

Source: Gartner (April 2021)

*The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.*

## Market Recommendations

### Use a Top-Down AIOps Framework

AIOps lends itself to use cases spanning the hierarchy from the IT operator up to a line of business owner or even a CEO.

In practice, these platforms are capable only of anomaly detection and event correlation capabilities out of box. This means the relevance is quite high for the IT operator straight out of box, and end users must create outcomes relevant to personnel, such as I&O leaders, system administrators, architects and LOB owners.

The analytics capability in the platform leverages algorithms and models to support outcomes based on datasets that may be of poor quality, incomplete and lack uniformity. Outcomes are not always generic or similar; hence, algorithms are of limited value. Due to the complexity and ever-changing nature of IT, even the models that the AIOps platforms leverage lose relevance without constant feedback mechanisms.

**Gartner recommends starting by drawing up a roadmap with an end-goal objective to be achieved through the use of AIOps platforms.** For example, within a monitoring strategy, determine how AIOps can transform data for relevance to the target persona and how it helps address the purpose for the respective persona (see Note 5). Follow this by mapping out the following steps leading up to the objective, starting with the current state of visibility within IT operations (see Solution Path for Adopting AIOps):

- Roadmap of objectives starting with the end goal in mind
- Intermediate steps leading up to the goal
- Existing state of IT operations (noisy events, static threshold-based alerts or leveraging dynamic thresholds)

Select the AIOps vendor best suited to deliver out-of-box capabilities for the first step on the roadmap and to provide a platform that is aligned to the organization's roadmap (for example, helping the organization to advance from event correlation to dynamic thresholds to behavior analysis with minimal effort). Keep your eyes open to portability challenges in these platforms as use cases mature (see Note 6).

## Automation for Insights

Some enterprises have a goal leading up to automated remediation of identified anomalies. Any automation initiative is based on a certain level of standardization. This is a major inhibitor of large-scale deployment of automated actions. IT organizations with a high level of maturity prefer automated insights over automated actions as a tangible goal. I&O leaders should prioritize tools that reduce visual overload on IT operators. For example, instead of visually analyzing multiple graphs, the AIOps platform should highlight areas that need human attention.

COVID-19 has required fundamental changes in how enterprises investigate and adopt AIOps use cases because the shift to work from home exposed drawbacks in existing practices. For example, in an operations center, someone would ask a "question" and various groups would shout out their view of an "answer." Executives saw an opportunity to look again at the fundamental aspects across I&O tools, processes and people in drafting a strategy that would hold long term (see Figure 5 in Note 5).

In 2019, Gartner clients had aspirational goals to design dashboards relevant to LOB owners. This journey took some enterprises anywhere from 10 months to two years. Two major elements were transparency and contextualized information for enabling business leaders to drive decisions, compared with reports designed to keep business leaders informed. After the pandemic began, most enterprises focused on fundamentals and reduced risk, limiting themselves to existing out-of-box use cases such as event correlation. Prior to the COVID-19 pandemic, Gartner had seen enterprises come up with aspirational goals that may not be available out of box in AIOps tools today.

## Relevance for Diverse Personas

AIOps platforms are adopted by different teams, like DevOps, SRE, IT operations, cybersecurity (see Magic Quadrant for Security Information and Event Management), and business leaders. The use cases and raw data required differ based on the team adopting the platform and its maturity.

DevOps teams mainly focus on log ingestion and analytics. As the DevOps practice matures, use cases broaden from a focus on preproduction to include production metrics like user engagement, quality and business relevance. This creates a need for new KPIs, comparisons across multiple versions, and a product and platform focus. Considering this scenario, select platforms that can ingest instrumented data (traces, metrics and logs) and ease the effort to provide platform and product views for DevOps.

IT operations teams usually need a combination of metric and log ingestion, followed by analytics. The journey starts with event correlation and, as the team matures, broadens to behavior analytics based on analysis of metrics and logs. The primary goal here is anomaly detection and diagnostic information, followed by root cause analysis. Other use cases include automated actions through the use of scripts, where AIOps identifies the trigger associated with an automated action. Select platforms that offer the flexibility to ingest events, logs, and metrics and offer out-of-the-box capabilities for at least one prioritized use case for I&O.

Business leaders are more focused on user engagement, and application performance is just one parameter influencing overall engagement. In some global organizations, business leaders have stopped distinguishing between an employee and a customer, so the "user" here refers to both employees and customers. This journey usually starts with correlation of user impact based on IT but broadens to include qualitative KPIs like efficiency and productivity of technology, people and existing processes. In mature organizations, better engagement rather than staff reduction is the driving force behind such KPIs. For such scenarios, select platforms that focus on clustering and

demographics and provide causal insights across diverse datasets, including sentiment and satisfaction.

SRE practices usually have goals overlapping the IT operations and DevOps use cases. Typically, these are mature use cases across both practices. For example, event correlation and log ingestion are not the primary goals of SRE teams. Their focus area includes IT architecture assessments. For SRE use cases, select platforms that provide real-time topological and dependency insights for the IT architecture as one of the primary use cases.

## Acronym Key and Glossary Terms

| | |
|---|---|
| APM | Application performance monitoring |
| BAM | Business activity monitoring |
| DA | Domain-agnostic |
| DC | Domain-centric |
| ITIM | IT infrastructure monitoring |
| ITOM | IT operations management |
| ITSM | IT service monitoring |
| NLP | Natural language processing |
| NPMD | Network performance monitoring and diagnostics |
| SIEM | Security information and event management |

## Evidence

[1] **Gartner's 2020 Achieve Business Agility With Automation, Continuous Quality and DevOps Study** was conducted online from June through August 2020 among 205 respondents working for service providers, cloud providers, and end-user organizations in North America and Western Europe that have deployed or are using DevOps. Qualified organizations had at least $500 million in annual revenue and were required to primarily operate in the banking and financial services, government, insurance, healthcare providers, and retail industries. Respondents were required to work in their

organization's IT function, have a job title less senior than C-suite level and be two or more layers away from the most senior executive in their organization. Respondent's role had to be primarily focused on application development, infrastructure and operations, or business intelligence and information management. In these focus areas, they were also required to perform relevant roles/activities. The study was developed collaboratively by Gartner analysts who follow digital business trends and Gartner's Research Data and Analytics team.

Results of this study do not represent global findings or the market as a whole but reflect sentiment of the respondents and companies surveyed.

Over the past 12 months, AIOps formed part of the conversation in 40% of all inquiries with Gartner clients on IT performance analysis. The topics of these inquiries included:

- Technology and market awareness
- Platform selection
- Build vs. buy decisions
- Optimization of existing AIOps deployments
- Deployment strategy in case of new deployments
- Pros and cons of a common platform shared across DevOps, I&O, security and SRE teams
- Multiple AIOps use cases within and outside IT to aid visualization, decisions and diagnostics

The pandemic saw a majority of use cases related to event correlation.

## Note 1: Representative Vendor Selection

The vendors listed in this research were picked as a sample based on having one or two of the following characteristics:

- Domain-agnostic solutions with the ability to ingest data from multiple sources, including historic and real-time streaming.
- Domain-centric solutions with the ability to ingest data from a specific domain or data specific to a framework or practice (for example, network, application, IT infrastructure, DevOps or ITSM domains).
- Different offerings that include proprietary, open-source, free and commercialized versions, including deployment that cuts across on-premises and SaaS-based options.

## Note 2: Data Sources for AIOps Platforms

Data sources for AIOps platforms include:

- API
- Application logs
- CRM data
- Customer data
- Events
- Graph
- ITSM
- Metadata
- Metrics
- Social
- Traces
- Wire

Unfortunately, no matter how large or how frequently updated a given dataset is, restriction to a single data source tends to limit the insights into system behavior. Modern IT systems — with their modularity and dynamism — require a multiperspective approach to understand what is happening as they are being observed.

## Note 3: Domain-Agnostic and Domain-Centric AIOps

**Domain-Agnostic AIOps** — Vendors going to market with a general-purpose AIOps platform. These products tend to rely mostly on monitoring tools to perform data capture and cater to the broadest use cases.

**Domain-centric AIOps** — Vendors that have the key components, but with a restricted set of use cases. They essentially do the same thing they did before, but now they're replacing rules, heuristics and fingerprints with math (algorithms). These vendors are focused on one domain (for example, network, endpoint systems or APM). However, there have been some efforts by domain-centric solution providers to hybridize these categories and evolve to ingesting data from sources other than their own instrumentation tools and including this data in their analysis.

## Note 4: Challenges in Automating Actions Based on Prescriptive Advice

Automated actions fall under multiple categories:

- Tasks of a predetermined nature that can be planned well in advance (for example, patch management or deployment of new builds).
- Tasks that can't be planned well in advance but have known triggers that may or may not recur frequently. In this case, the procedures are well-documented (for example, workload optimization in a virtualized environment).
- Tasks with unpredictable triggers where the actions are well-known but not well-documented (for example, known anomalies).

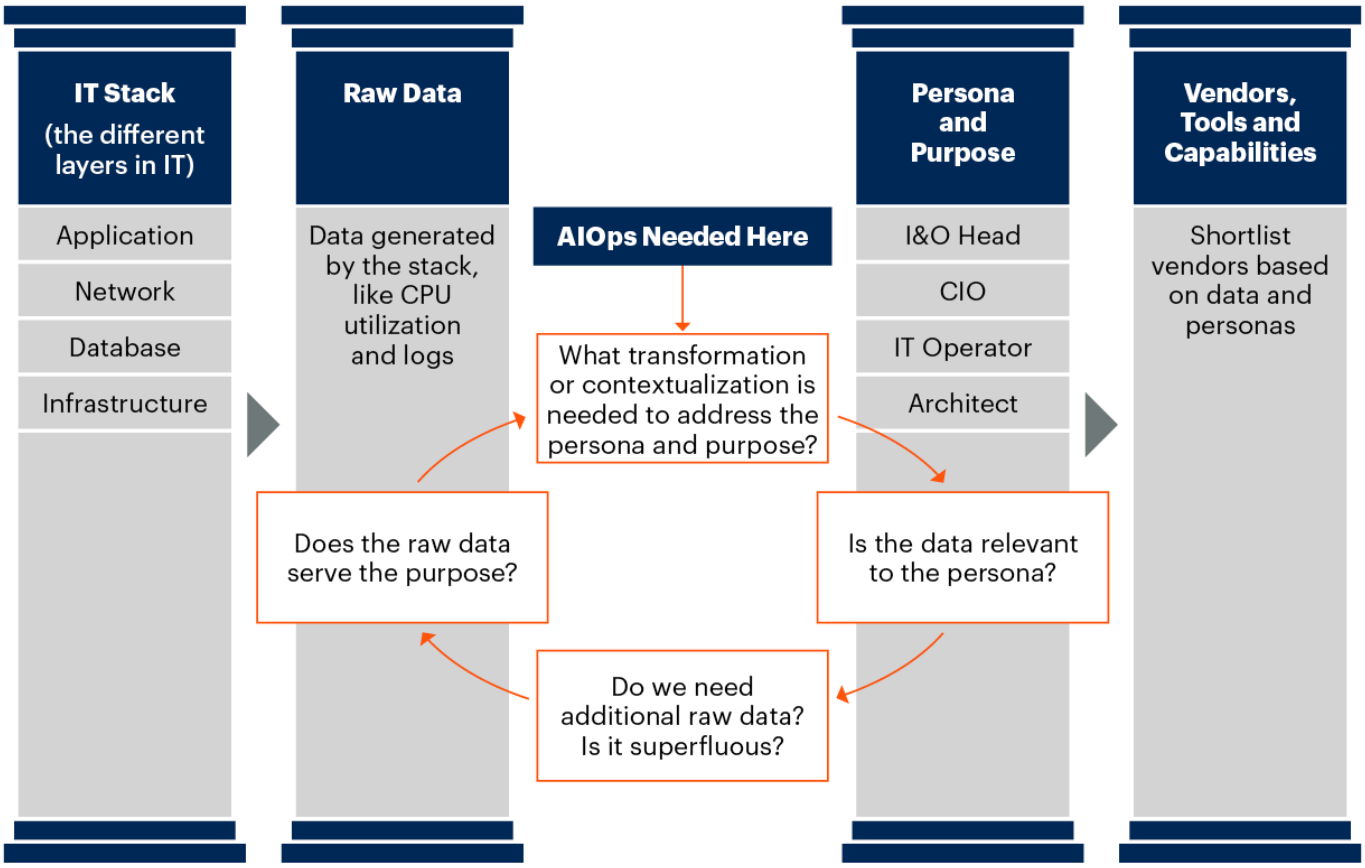
I&O leaders usually do not want to leave the action entirely to the machines and require at least a validation step before triggering an automation. This lack of trust is one of the main inhibitors preventing common usage of automated actions.

Of these three automated actions, we see the greatest interest in the third category; however, the technical difficulties in handling this are challenging and, thus, its adoption has been minimal to date.

## Note 5: AIOps as Part of an IT Monitoring Strategy

Figure 5: AIOps as Part of an IT Monitoring Strategy

**AIOps as Part of an IT Monitoring Strategy**




Source: Gartner
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## Note 6: Portability

As an enterprise's AIOps adoption matures with functional models and quality outcomes, vendor switching becomes difficult. Switching to a different vendor to replicate existing high-quality dashboards will take time, which eliminates any value gained through direct cost savings. Gartner has observed a reluctance to switch vendors during contract renewal precisely for this reason in enterprises with more mature deployments.

The need for viable options to challenge incumbents has given rise to questions regarding portability of algorithms across vendors. This need comes from a few mature enterprises, where AIOps adoption has matured within the enterprise. The market is still at a high-growth stage, and it will be at least a couple of years before we see rising pressures from enterprises for portability and a response from vendors as a differentiator.

Some vendors are coming up with transfer learning, which is still in nascent stages. In its simpler form, end users are offered the option of training a selected model by using historical data. The results from the algorithm are compared against real-time results. Once the outcomes show a fair amount of accuracy with acceptable error margins, the end user can use the same algorithm for analyzing real-time data. This capability works best between preproduction and production environments or between the edge and the data center environments. Evolution of more complex use cases will require maturity and advanced skills on both the vendor and end-user side.