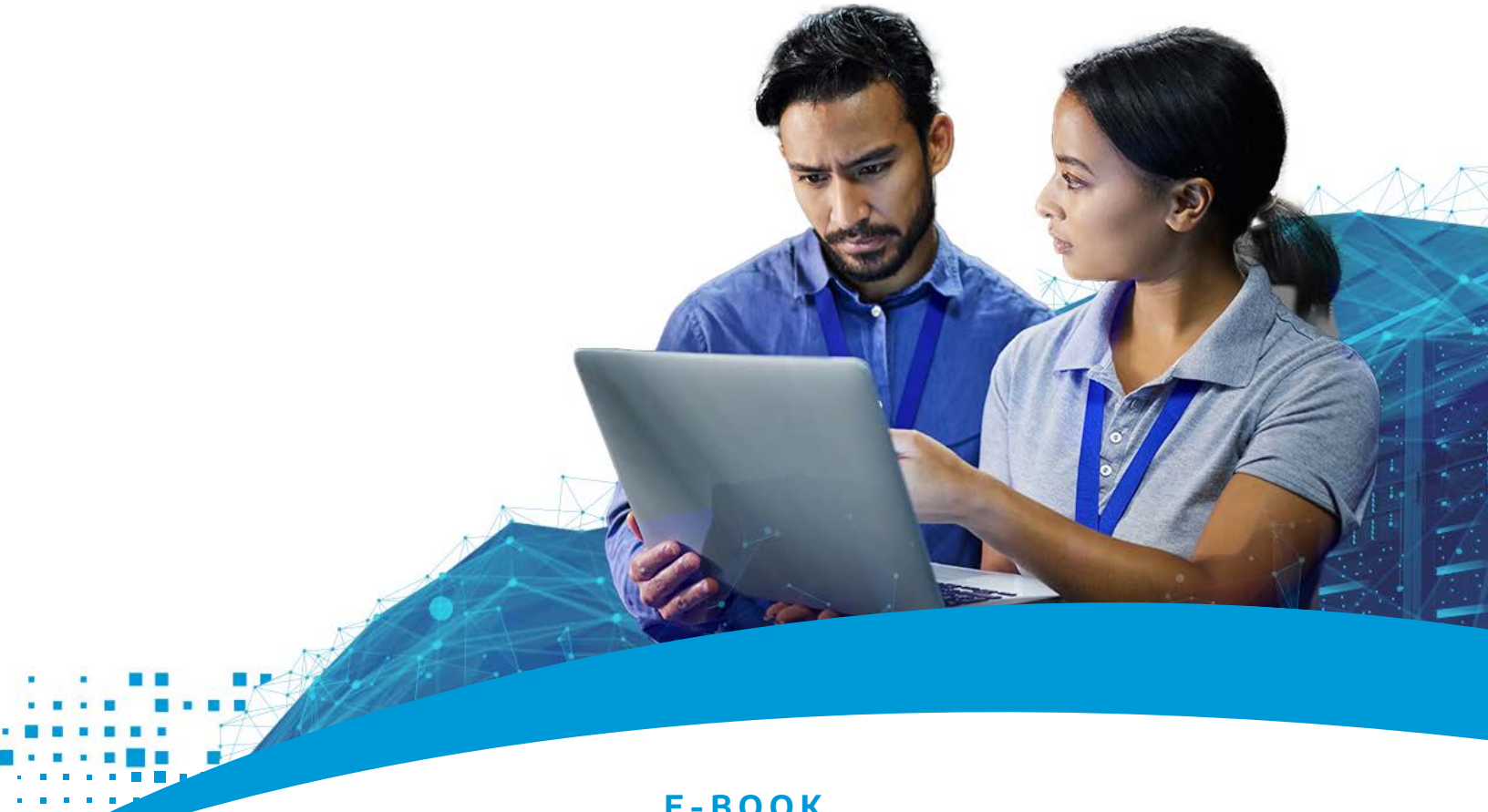
Connection
we solve IT

MODERN INFRASTRUCTURE AND MULTICLOUD SOLUTIONS

AIOps Buyer's Guide

IN PARTNERSHIP WITH

Hewlett Packard Enterprise



E-BOOK

Table of Contents

Introduction to AIOps. Revolutionizing IT Operations

Sign of the times. Managing IT infrastructure has become extremely complicated with adoption of advanced technologies such as cloud, the internet of things (IoT), artificial intelligence (AI), and explosive growth in data volumes.

This is where AIOps (Artificial Intelligence for IT Ops) comes in. An AIOps platform acts as an intelligent collaborator with IT teams and utilizes AI and machine learning (ML) on big data to analyze a large volume of real-time changes to catch issues and even anticipate and remediate incidents before they cause outages.

Long gone are the days of traditional IT operations where most of the processes were done manually. Originally, teams used primitive tools to monitor systems and networks as well as reacting after the issue occurred. In the past decade, automation tools appeared to lighten the infrastructure management load but those were useful mostly for simple, routine tasks. Now, with AIOps, a new era of IT management has arrived: one not just responding to alerts but gaining insights with intelligence that can be acted upon automatically, sometimes even before outages occur.

AIOps is a crucial weapon in managing hybrid infrastructures. Humans are neither efficient nor infallible — and manually sifting through the piles of logs and alerts for signs of trouble is endless work. AIOps turns this situation on its head, analyzing all relevant infrastructure data, correlating events across systems and finding root causes in seconds rather than the traditional hours over multiple meetings. That translates to faster resolutions, less downtime, and more satisfied customers.

The benefits of AIOps are compelling. The use of AIOps minimizes operational costs by eliminating processes to manage infrastructure, thereby relieving burdens on IT staff. It enhances system reliability by suggesting necessary fixes before these are even known to the users (predictive maintenance). AIOps also offers ML-generated insights which can help organizations manage infrastructure more efficiently over time.

AIOps is a very valuable addition in IT operations, integrating AI and traditional IT management to maintain a competitive edge in an ever more complex environment.

Understanding AIOps Capabilities and Components

AIOps represents a paradigm shift in modern IT infrastructure management. To figure out which AIOps platform will be a good match for your organization, it makes sense first to dive into the building blocks and capabilities of AIOps.

Artificial Intelligence and Machine Learning in IT Operations

The most significant advancement of AIOps over previous generations of infrastructure management tools is its use of ML and AI to make sense of the vast amounts of data generated by IT systems. In contrast to traditional methods that depend on manual intervention or static thresholds, AI algorithms are trained in historical data to find patterns, detect anomalies, and forecast problems before they turn critical. AIOps helps to free your IT team from being in firefighting reactive mode to be more proactive in identifying and solving issues – and to contribute more of their time to projects and innovations that enhance your business.

Data Ingestion, Analysis, and Event Correlation

Your IT environment undoubtedly includes countless sources of data that are unrelated to each other. AIOps tools are capable of ingesting data from these varied sources — logs, metrics, application monitoring systems, and the like. AIOps tools then take these data streams and analyze and correlate the events that flow across them to provide a single pane of glass view. Rather than drown in alerts from siloed sources, your team receives actionable context on what is (and isn't) going on and why, significantly cutting down the noise and zeroing in on the relevant details.

Automation and Predictive Analytics

Predictive analytics are a critical AIOps feature, allowing your team to predict and remedy issues before users see them. Your AIOps platform can predict possible failures or capacity problems by evaluating historical trends and real-time data. Look for an AIOps platform that is capable of automation so it can take automatic action — such as scaling resources or shifting traffic. The result? Increased up time and better performance for customers.

Self-Healing Systems

Self-healing systems refers to the ability to leverage AI to detect and fix issues automatically. Whether restarting a failed service, rolling back a faulty update or configuration change, or isolating a problematic node, these systems minimize downtime and reduce dependency on manual intervention, putting critical aspects of IT management on autopilot.

Integration With Existing IT Tools

AIOps is not a substitute for your current infrastructure management tools — it is a valuable addition. Before purchasing, make sure your AIOps platform will connect to existing tools within your monitoring, DevOps, and SecOps environments.

Considerations Before Investing in an AIOps[based Platform

Are you sold on the utility and benefits of AIOps? Great. Ready to buy? Not so fast.

Before you make your all-important selections, make sure you consider these five items:

1. **Identify Your IT Operational Needs**
   Start by understanding your specific IT challenges. Is your team swamped by too many alerts? Or are you struggling with proactive issue detection? Do you need greater automation? Clearly defining your operational pain points will help you focus on solutions tailored to your priorities, whether it's predictive analytics, noise reduction, or self-healing capabilities.

2. **Evaluate Your Current IT Infrastructure and Applications**
   Map your existing IT environment, including infrastructure, applications, and workflows. This evaluation will help ensure that your chosen AIOps solution will integrate seamlessly with your systems, avoiding disruptions and costly overhauls. To head off problems down the line, take the time to ensure compatibility with existing tools and product integrations (such as IaC and current automation tools, network monitoring and alerting, application dependency mapping and performance monitoring, CMDB, CI/CD pipeline, and log management).

3. **Identify Your Existing Product Sets and Any Custom Integrations**
   If your organization relies on specific monitoring tools, log management systems, or custom integrations, those need to be accounted for. Look for an AIOps solution that complements and enhances your existing product stack without requiring a full replacement, saving you headaches during implementation and maintenance.

4. **Assess Your Future Needs for Scalability, Flexibility, and Integration**
   AIOps solutions should not only meet your current needs but also grow with your organization. Evaluate your potential AIOps platform's scalability to handle expanding workloads, flexibility to adapt to changes in IT strategy, and ability to integrate with emerging technologies.

5. **Evaluate Where Your AIOps Platform Will Reside**
   A key consideration: whether your AIOps platform will be cloud-based, on-premises, or a hybrid model. Cloud-based solutions offer rapid deployment and scalability, on-premises platforms provide greater control and data security, and hybrid models balance the two. Your choice will depend on regulatory requirements, existing IT strategies, and operational preferences.

Features and Capabilities to Look For

Consider these functionalities and features when researching AIOps solutions:

1. **Root Cause Analysis (RCA) Automation**
   Automated RCA is one of the most popular features of an AIOps solution. Automated RCA shortens the mean time to resolution (MTTR) for identifying breakdowns in intricate IT environments by implementing ML and advanced analytics, which significantly limits downtime and enhances systems reliability.

2. **Predictive Maintenance and Capacity Planning**
   Another critical time and money-saving feature is predictive maintenance, which enables you to anticipate when a process or piece of equipment will need some sort of action. AIOps platforms use historical and real-time data to predict future failures or performance bottlenecks. Also, capacity forecasting puts organizations in good shape for responsible resource allocation as they have all the necessary information to avoid any overprovisioning or under provisioning situation that could prove to be disastrous.

3. **Event Correlation, Noise Reduction, and Incident Prioritization**
   The data generated by modern IT environments leads to a high rate of alerts, which leads to alert fatigue — then all alerts are effectively ignored. This is a common challenge, and AIOps solutions solve it by correlating related events together to filter out noise while prioritizing incidents based on their impact. Your IT team will be relieved to be able to focus on critical issues.

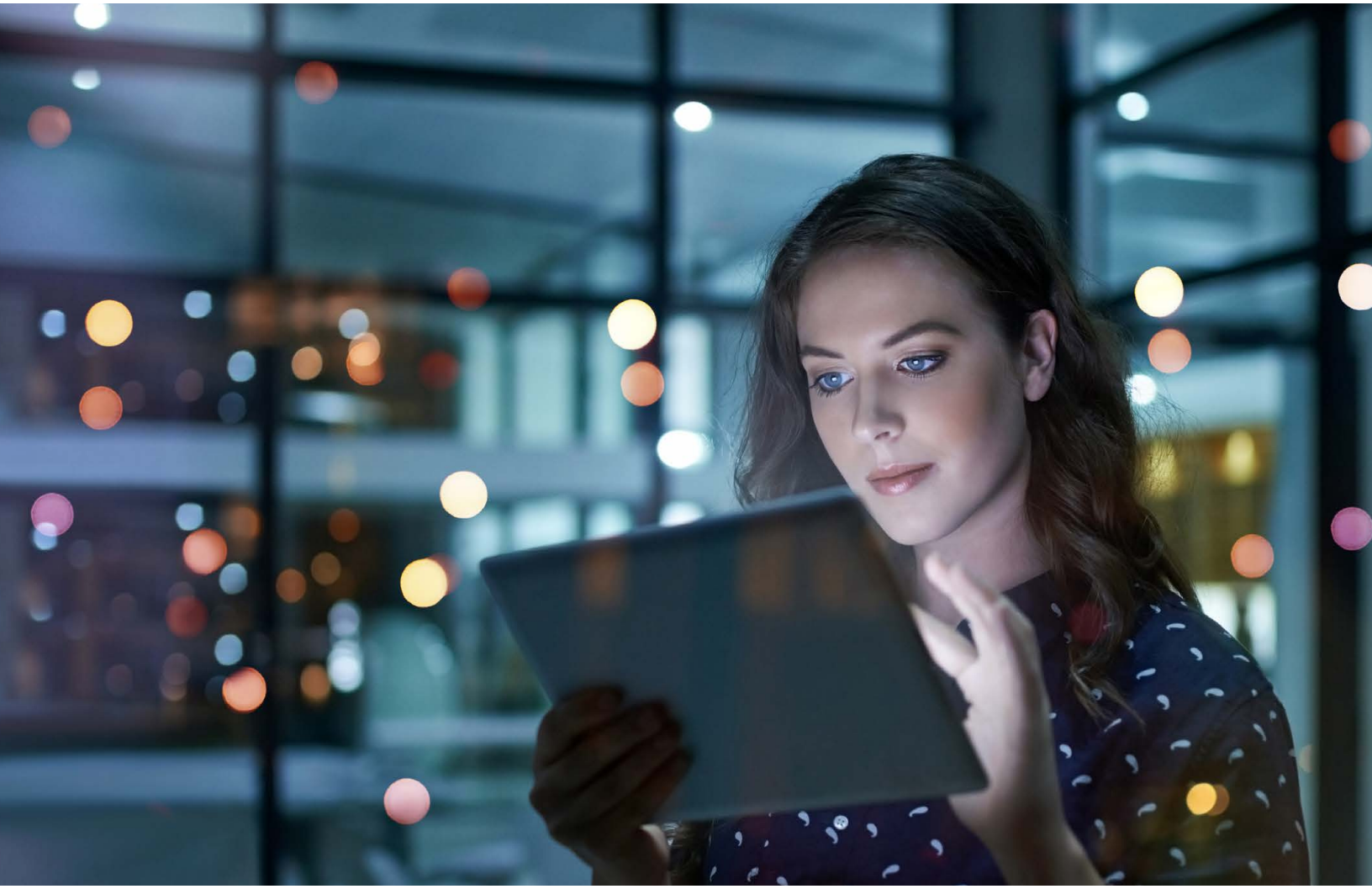
4. **Crowdsourced Data for Platform-Specific Insights**
   Some AIOps platforms leverage crowdsourced data to supply insights tailored to specific platforms or technologies. This feature allows organizations to leverage a broader dataset, gaining actionable intelligence from similar environments and reducing the learning curve for troubleshooting.

5. **Combined Monitoring and Observability**
   Unified monitoring is essential for modern IT operations, defined as a single pane of glass view across applications, infrastructure, and networks. AIOps platforms take this a step further with the inclusion of full-stack observability features allowing powerful insights into system behaviors, dependencies, and performance patterns.

6. **Security, Governance, and Compliance**
   Security and compliance features are some of the most important factors to consider when evaluating AIOps solutions. Many buyers will select the platform that provides the most robust security measures in encryption, data masking, and role-based access control (RBAC). With the ever-increasing regulatory pressures, especially in life sciences and similar industries, governance features like audit trails and compliance reporting will be essential to make sure the solution meets all of the regulatory requirements.

7. **Customization, Extensibility, and Co-Management Models**
Avoid buying an AIOps platform that may only serve your organization well for a year or two before you outgrow it. Avoiding this fate means your AIOps solution must be tailored to your unique IT environment and workflows. Extensibility gauges a platform's ability to integrate seamlessly with both the toolset already in use as well as newly evolving tech. Flexible in terms of deployment and operations, co-management models allow multiple IT teams to work alongside each other – or with service providers – within the AIOps platform to assume joint responsibilities.

8. **Real-Time Monitoring and Historical Data Analysis**
The ability to monitor systems in real-time or near-real-time is foundational for AIOps systems. The depth of historical data analysis is equally important, enabling long-term trend analysis and retrospective evaluations. Look for a platform that enables a balance between real-time insights and historical context, ensuring a comprehensive understanding of IT system behaviors.



The Role of AI and ML in AIOps

AI and ML are the heart of AIOps, enabling automation of complex IT operational tasks through better decision-making and actionable intelligence. These technologies allow IT teams to manage complex systems more efficiently, minimizing manual intervention in favor of automated efforts that help drive and improve overall system performance.

AI and ML drive AIOps' ability to ingest data, recognize patterns, and predict conditions that require attention. AIOps platforms analyze the large amounts of telemetry data coming from many sources, including logs, metrics, and events, and use AI to determine patterns and correlations. They are capable of identifying anomalies, forecasting possible problems, and even automating incident responses.

Unlike traditional algorithms, ML models keep learning by analyzing the historical data on an ongoing basis, adding to their accuracy and continuous improvement. They can understand the difference between a regular seasonal surge in traffic and an actual problem in your system. Together, AI and ML make RCA faster by identifying problems early and providing solutions before they escalate further and by automating many repetitive tasks such as alert triaging and remediation that take up much of IT operations staff time.

Real-World Use Cases of AI/ML-Based AIOps:

1. **Proactive Monitoring and Maintenance**
   AI-driven predictive analytics help organizations identify potential hardware failures or performance bottlenecks before they impact users, minimizing downtime.

2. **Incident Management and Noise Reduction**
   By correlating events and filtering irrelevant alerts, AIOps reduces noise and prioritizes critical incidents. This allows IT teams to focus on high-impact issues without being overwhelmed.

3. **Capacity Planning and Resource Optimization**
   ML algorithms analyze usage patterns and forecast future resource needs, helping businesses optimize infrastructure costs and avoid overprovisioning.

4. **Self-Healing Systems**
   AIOps enables automation in resolving recurring issues, such as restarting failed services or reallocating resources, ensuring minimal human intervention.

5. **Event Analysis**
   HPE OpsRamp's AIOps-based Event Analysis feature correlates probable cause and symptom events into "inferences." These inferences help the system understand trends and identify anomalies over time. Further, AI-based algorithms empower the system to learn and even unlearn patterns, allowing the system to tune to each unique infrastructure.

AIOps Implementation Considerations

Implementing an AIOps platform can revolutionize IT operations, but it requires careful planning and execution to maximize its benefits. Here are key considerations for a successful deployment:

Find the Right Partner for Deployment and Integration

Choosing the right AIOps partner is a critical success factor. Look for a vendor with proven expertise, robust support services, and a track record of successful deployments in industries that are similar to yours. Ask for customer resources you can benchmark with. The partner should offer scalable and flexible solutions that align with your IT environment while supporting seamless integration with existing tools and workflows. Conduct thorough evaluations, including demonstrations and client references, to ensure compatibility and reliability.

Prepare Your Teams for AIOps

AIOps isn't just a technological shift—it's a cultural one. To succeed, your IT teams will need to understand how the platform will change their daily job tasks. Be sure to get team members involved as early as possible in the selection and implementation of AIOps. This approach fosters buy-in and helps identify potential concerns. Clearly communicating the benefits of AIOps, such as reduced workload and improved efficiency, can ease the transition. Choose an influential member of your IT team to champion the deployment on the ground and help others manage the necessary changes.

Change Management and Training Needs

Adopting AIOps requires robust change management strategies. Develop a comprehensive training program to help teams understand the platform's capabilities, focusing on both technical skills and strategic use cases. Continuous education ensures teams stay up to date as the platform evolves. Designating champions or power users can further drive adoption and provide on-the-ground support.

Common Implementation Challenges and Solutions

Challenges such as data silos, integration complexity, and resistance to change are common during AIOps implementation. Address data silos by ensuring that the platform can ingest and correlate data from diverse sources. To simplify integration, leverage APIs and pre-built connectors. Overcome resistance by demonstrating early wins, like improved incident management or reduced alert noise, to build confidence in the platform.

Measuring the ROI of AIOps

Measuring the return on investment (ROI) for AIOps involves assessing various metrics that reflect operational efficiency, cost savings, and overall business impact.

Here are key factors to consider, supported by examples:

- **Reduction in Downtime**
  AIOps platforms can significantly decrease system downtime by proactively identifying and resolving issues. In fact, users of the HPE InfoSight AIOps platform have uptime of 99.999%, according to HPE.[1]

- **Automatic Problem Resolution**
  According to HPE, every second its InfoSight AIOps platform collects and analyzes data from more than 100,000 systems worldwide and uses that intelligence to make every system smarter and more self-sufficient. As a result, the HPE InfoSight AIOps platform predicts and automatically resolves 86% of customer issues.[2]

- **Reduction in Incident Resolution Time**
  By automating RCA and prioritizing incidents, AIOps solutions can reduce the mean time to resolution (MTTR). According to HPE, InfoSight users spend 85% less time managing problems.[2]

- **Optimized Resource Utilization**
  AIOps enables predictive analytics for capacity planning, preventing overprovisioning and underutilization of resources. Extended, enhanced AIOps capabilities are now available for specific HPE storage systems managed under HPE GreenLake cloud. These advanced capabilities, including advanced telemetry, predictive analytics and wellness, and intent-based provisioning, are designed to make the lives of your administrators and operators easier.[3]

- **Improved Employee Productivity**
  By automating routine tasks, AIOps allows IT staff to focus on strategic initiatives. HPE InfoSight helps you achieve a more autonomous IT environment where systems are self-managing and self-healing, freeing up IT staff to focus on higher-level initiatives rather than constantly firefighting issues.[2]

---

[1] HPE, Predict and Prevent Downtime with AIOps

[2] HPE, Infosight

[3] IHPE Community, The Evolution of HPE Infosigh, HPE's Game-Changing Approach to AIOps

Checklist for Your AIOps Platform Purchase

To ensure your choice of AIOps is successful, consider the following checklist:

Define Your Budget and Goals

Start your project off well by clearly identifying the objectives and pain points you hope to address by implementing AIOps. Are you aiming to reduce downtime, improve incident resolution times, or enhance overall operational efficiency? Establishing specific, measurable goals will guide your selection process and help in evaluating the platform's effectiveness post-implementation. Additionally, determine your budget constraints early on to narrow down the options that align with your financial resources.

Ask Vendors Key Questions

When engaging with potential vendors, it's crucial to ask targeted questions to assess the suitability of their solutions in these areas.[4]

- **Integration Capabilities**
  How well does the platform integrate with your existing IT infrastructure and tools? Ensure the AIOps platform can integrate with your current monitoring, logging, and incident management tools to provide a unified view of operations.
- **Data Sources**
  Can the platform ingest and process data from all relevant sources within your infrastructure?
- **Scalability**
  Can the platform scale to accommodate future growth and increased data volumes? Is there an ability to throttle back to meet troughs in demand?
- **Customization**
  Does the platform offer customization to align with your organization's specific workflows and processes?
- **Security and Compliance**
  What security measures are in place, and does the platform comply with relevant industry standards and regulations?
- **Support and Training**
  What level of support and training does the vendor provide during and after implementation?
- **APIs and Extensibility**
  What APIs are available? How does the platform integrate with other systems?

HPE AIOps products:

- HPE OpsRamp
- HPE Aruba Networking Central
- HPE Juniper Apstra
- HPE Juniper Marvis
- HPE Morpheus

[4] DevopsRoles, The Ultimate Guide to Choosing the Best AIOps Platform

Connection
we solve IT®

How Connection Can Help

Connection is your partner for modern infrastructure and AIOps solutions and services. From hardware and software to consulting and customized solutions, we're revolutionizing IT and AI operations.

Featured Partner:

Hewlett Packard Enterprise (HPE) is a global leader in IT solutions, empowering organizations to accelerate their digital transformation and adapt to the demands of a constantly evolving business environment. With cutting-edge technologies spanning cloud computing, AI, edge-to-cloud platforms, and data storage, HPE provides innovative solutions that help businesses optimize performance, boost efficiency, and stay ahead of the competition.

Explore our Solutions and Services
Artificial Intelligence
Modern Infrastructure
HPE Products Showcase

Reach out to one of our Connection experts today:

Contact Us
1.800.998.0067

IN PARTNERSHIP WITH

Hewlett Packard Enterprise