Prodapt

AIOps: Predict & resolve the next outage before it occurs

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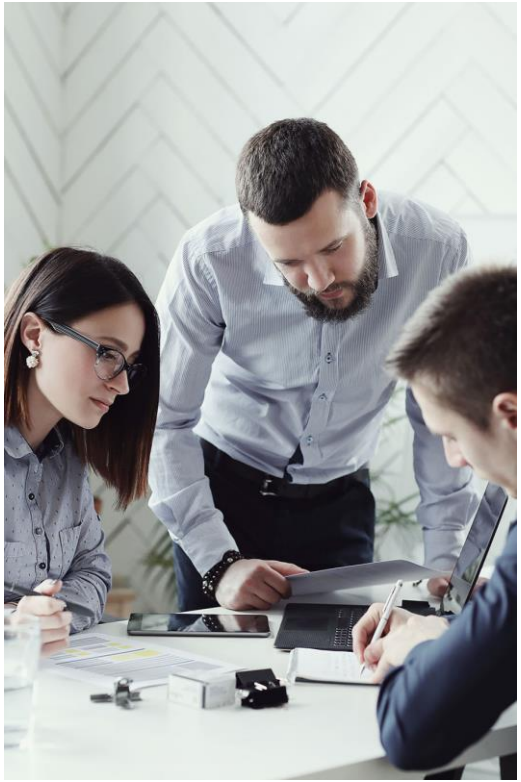
Current state of IT operations (ITOps) in the connectedness industry



- Data management costs and increasing complexity in IT environments are becoming major concerns for many service providers. – Gartner
- Exponential growth in data and transaction volumes, has made it difficult for traditional ITOps to manage the performance and reliability of applications and systems
- Proliferation of disparate monitoring tools has made it difficult to obtain end-to-end visibility across the service or application. It's also difficult to quickly analyze the performance metrics to solve complex issues before they impact end-user experience.

Problems with traditional ITOps

- Too much time spent on incident management bridges
- Performance degradation or outage of unknown origin
- Database performance issues
- Database replication issues
- Environment issues (CPU, disk space, etc.)
- Heterogeneous systems

Why enterprises need AIOps?

- Transition from a reactive to a proactive approach
- Deliver superior user experiences with predictive analytics
- Improve Mean Time to Identify (MTTI) issues and Mean Time To Resolve (MTTR) the incidents

Solution

Artificial Intelligence for IT Operations (AIOps)

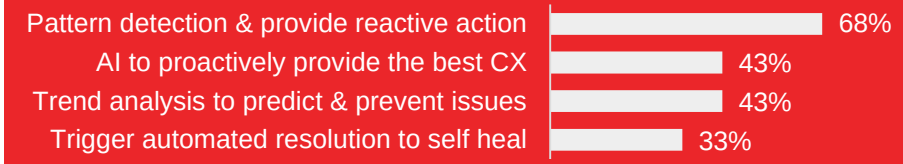
is a software platform that uses machine learning (ML) to enhance a broad range of IT operations, including performance monitoring, event correlation and analysis

- AIOps can predict the next outage before it occurs and resolve it without human intervention
  - AIOps uncovers insights efficiently, lowers the total cost of ownership and accelerates the return on investment

AIOps continues its growth in the overall IT Ops Management market, with a projected market size of about **$2.1B** in 2025 at a **CAGR of ~19%**

Source: Gartner

Primary use cases of AIOps



Source: survey of communications service providers

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AIOps implementation approach

Platform overview

Get started with AIOps: Intelligent platform to predict outages in applications & infrastructure

Step: 1

Assess your organization's adoption of AIOps, to reap the best value from it

Step: 2

Identify applications for onboarding on AIOps platform using the evaluation framework

Step: 3

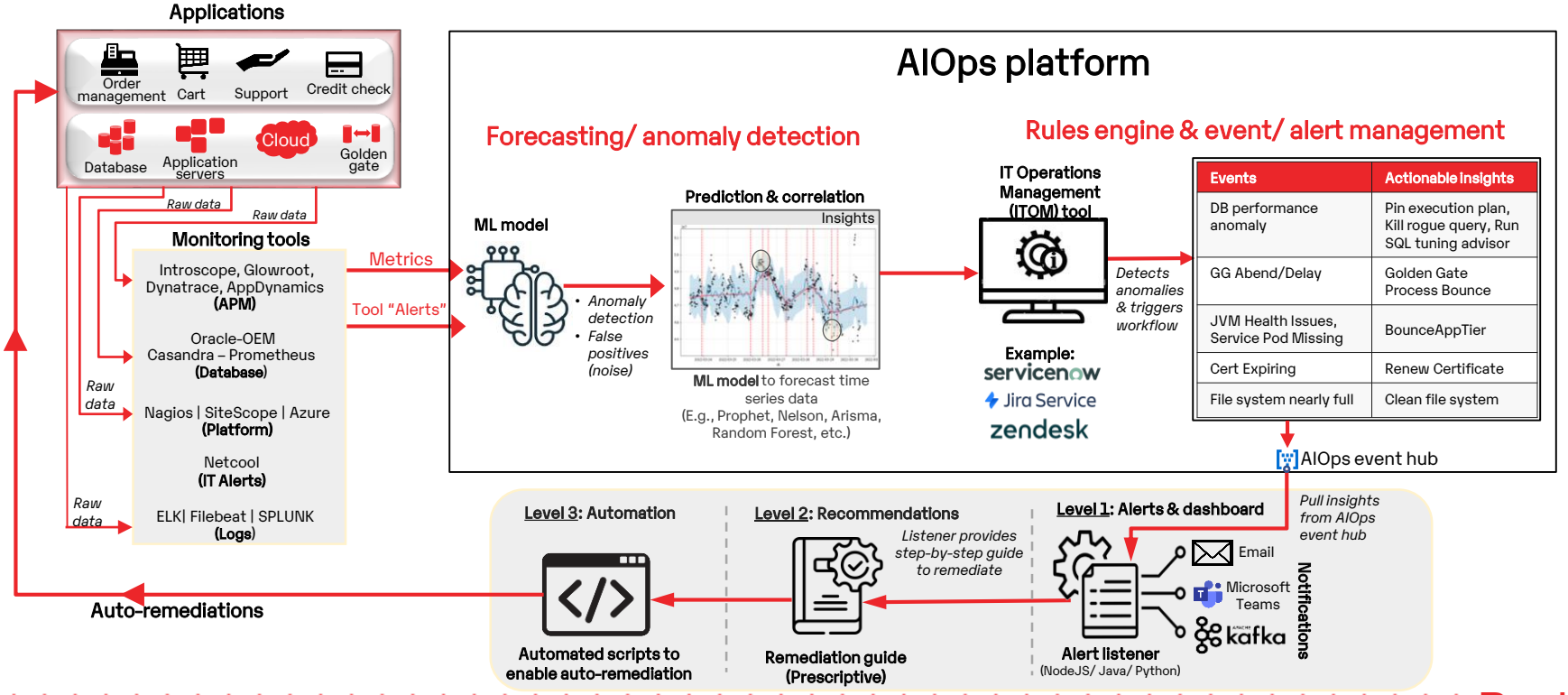
Onboard the applications and leverage AI to predict and resolve issues

With this approach, service providers can successfully implement AIOps, and attain **>60% reduction in the application outage cost** within 24 months.

Get started with AIOps: Intelligent platform to predict outages in applications and infrastructure

Platform overview A B

Service providers can use the AIOps platform to collect data, analyze, and generate actionable insights. The platform enables operational efficiencies, provides predictive alerts, improves MTTI & MTTR and prevents outages.



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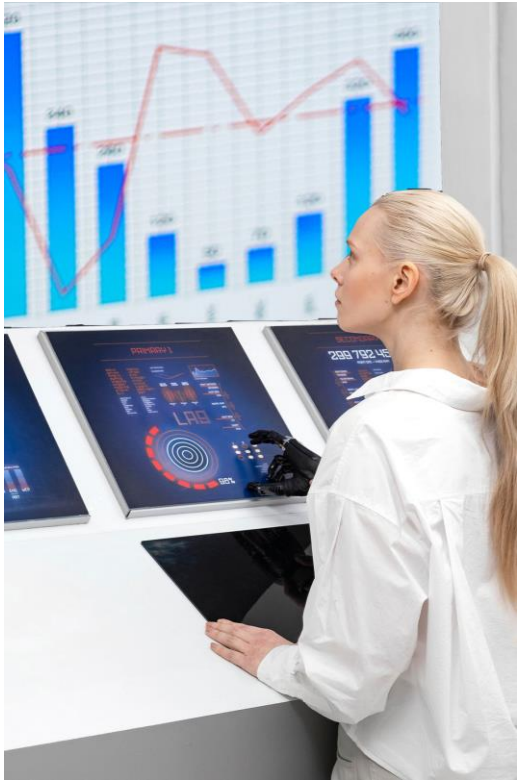
Get started with AIOps: Intelligent platform to predict outages in applications and infrastructure

Platform overview

A B



Recommendations

- Prioritize onboarding the mission-critical application onto the AIOps platform
- Determine the best method to ingest data from the different monitoring tools. E.g., build APIs, use pre-built connectors, use MuleSoft to automatically collect data from different systems, etc.
- Choose the right ML model based on the types of raw data. E.g., use an anomaly detection model to identify issues from the dataset or use time-series model to understand patterns based on the historic data
- Use closed loop automation to resolve low-risk issues. E.g., Automate disk cleanup issue or JVM bounce for JVM-related issues

Benefits

- Significant reduction in manual work and operating costs
- >60% reduction in downtime hours within 24 months of deploying AIOps platform
- Predictive insights for data-driven decision-making

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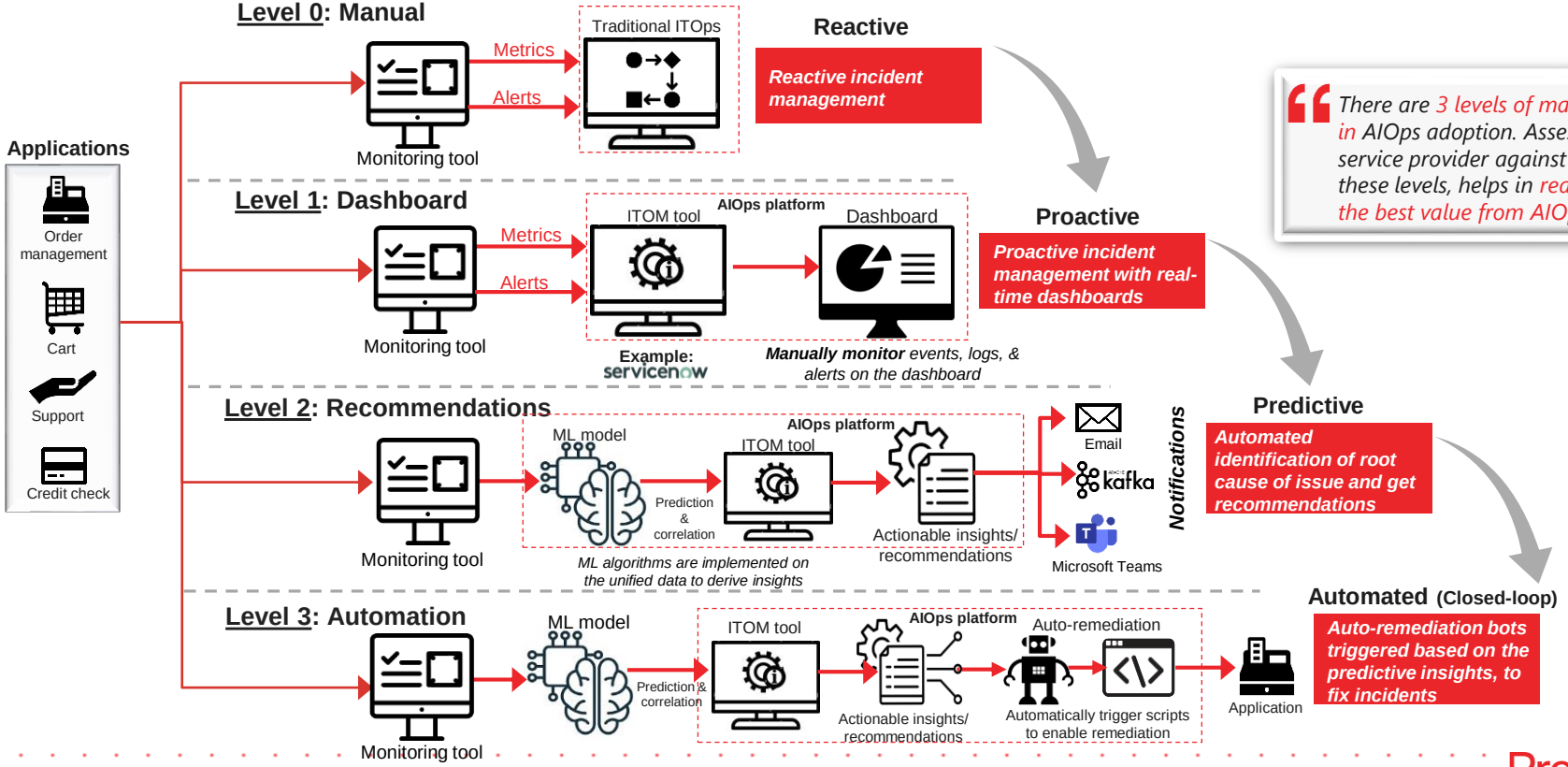
Assess your organization's adoption of AIOps, to reap the best value from it

Step: 1 2 3 A B

Organizations trying to evaluate AIOps as a strategy should understand their current maturity, and then evolve to the pinnacle of AIOps, which is automated resolution



> There are 3 levels of maturity in AIOps adoption. Assessing a service provider against each of these levels, helps in reaping the best value from AIOps.

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Assess your organization's adoption of AIOps, to reap the best value from it

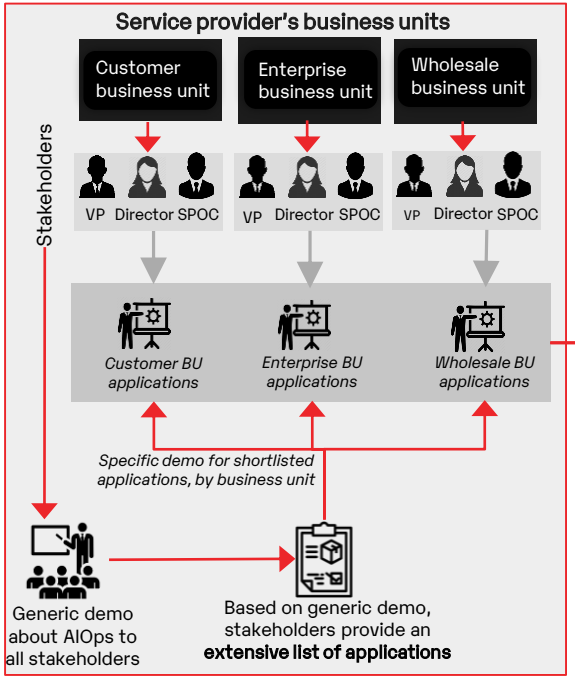
Step: 1 2 3
A B

Adoption maturity	Capabilities and recommendations	Benefits (MTTI/ MTTR improvement)
 **Level 1:** Dashboard	Capabilities: Eyes-on-glass model; Manual engagement and escalation for triage Recommendations: • Remove operational siloes by integrating the application data sources into unified architecture and ITOM tool • Collect logs from applications and set up alerts that are commissioned to command centers to escalate as per the defined SOPs	15%
 **Level 2:** Alarm & recommend	Capabilities: Predictive notification with reference to AIOps and existing monitors Recommendations: • Integrate all events, logs, and alerts into one central locale • Implement supervised or unsupervised ML algorithms on the unified data to derive insights • De-duplicate and correlate alerts and events through noise reduction to alleviate alert fatigue • Calibrate the baseline metrics to use them as a reference for future events	35%
 **Level 3:** Automation	Capabilities: Automated and low risk mitigation Recommendations: • Correlate incidents and events with business impacts by leveraging ML algorithms • Trigger autonomous remediation bots spontaneously based on the predictive insights, to fix incidents that are likely to happen in the operations • Use the insights from the AIOps platform to identify manual tasks and automate them	50%

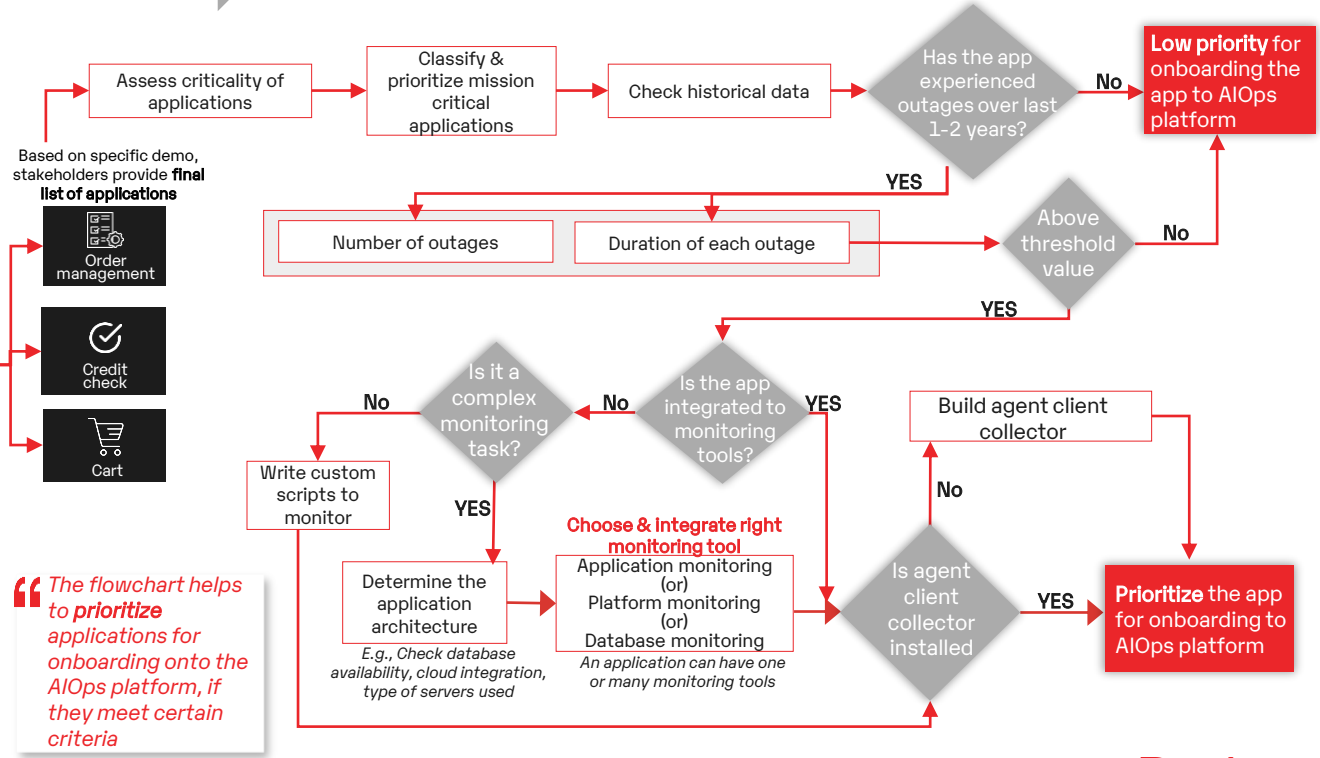
Identify applications for onboarding on AIOps platform using the evaluation framework

Step: 1 2 3 A B

Facilitated AIOps workshop to shortlist apps for onboarding



Evaluation stage - Prioritize apps for onboarding



> *The flowchart helps to **prioritize** applications for onboarding onto the AIOps platform, if they meet certain criteria*

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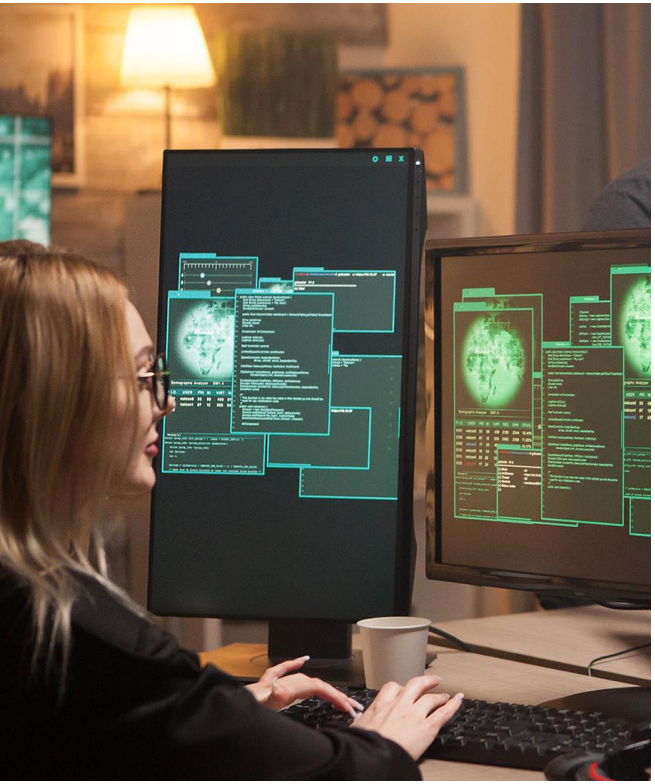
Identify applications for onboarding on AIOps platform using the evaluation framework

Step: 1 2 3
A B



Recommendations

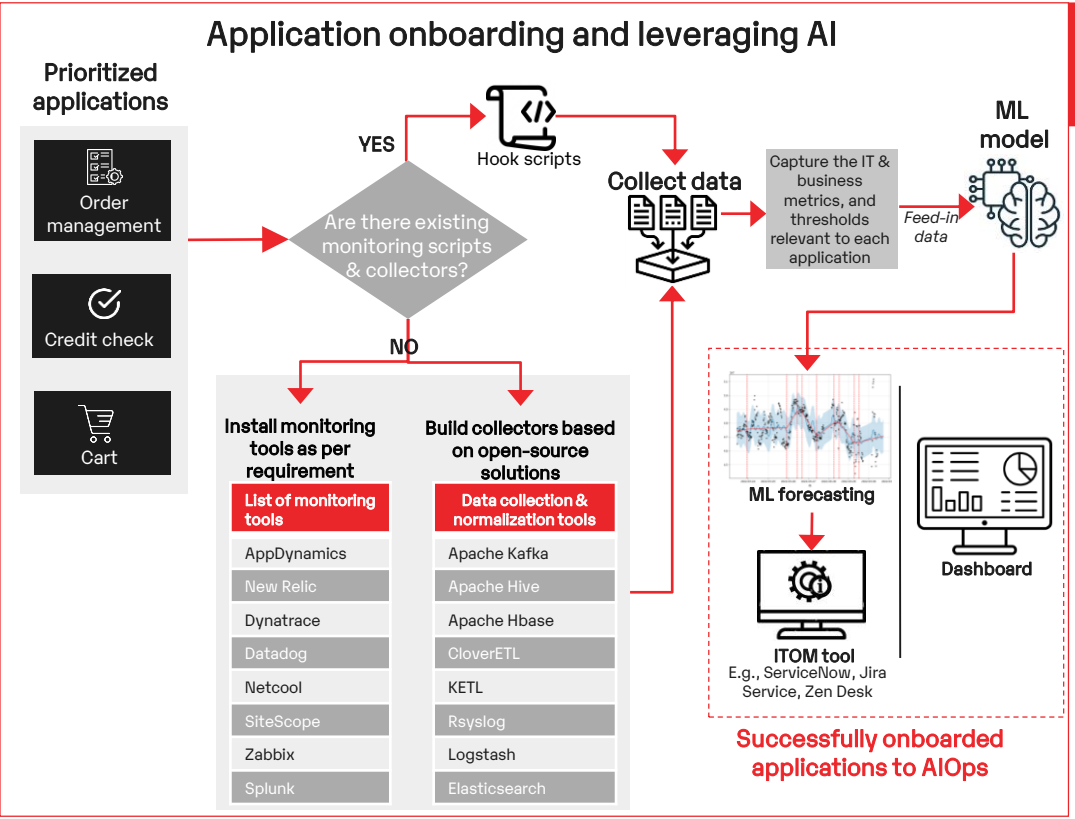
- Prioritize onboarding critical apps and outage-causing apps on the AIOps platform
- Tag the data (metrics, logs, inventory, topology) to ease the browsing, searching and visualization of data across the distributed analytics repository
- Align BU application teams to a dedicated AIOps engineer from the beginning. This provides hands-on assistance to the respective application teams which are onboarded
- Setup an AIOps service and support team, as there is a constant need to maintain and update the platform features
- Collect all relevant logs, metrics, and traces along with data collected from ITOM platforms. A poorly constructed AIOps platform will show incorrect insights and inaccurately reflect the activities in the IT environment

Benefits

- Standardized methodological approach to identify and prioritize the best set of applications to onboard onto the AIOps platform
- 20-25% increase in the no. of applications onboarded onto the AIOps platform within 6 months

Onboard applications and leverage AI to predict and resolve issues

Step: 1 2 3



- Application onboarding process involves installing the monitoring tools and collectors, as per requirement
- The collected data is fed into the ML model. The ML predictions are added to the dashboards

Recommendations

- Route both the on-prem and cloud-centric data to the AIOps platform. This will facilitate the prediction of issues in both the environments
- Use ML algorithms which can respond to dynamic nature of modern workloads. Algorithms should support on-call teams to identify, prioritize, troubleshoot, and remedy issues in a fast-paced environment
- Use ML models such as Prophet, Nelson, Arisma, Random Forest, etc., to forecast time series data, correlate the events and predict the thresholds
- Choose secure connectors to transfer data in/out of AIOps platform. For instance, any log flowing into the platform must be sent over TLS (e.g., syslog) or https (API endpoints)

Benefits

- 90% reduction in false-positive alerts with proactive observability
- 5-10 recommendations per application per week, including predictive notifications, derived actions & self healing triggers

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Benefits achieved by one of the world's leading service providers after implementing AIOps

5-10

recommendations per app per week
(predictive notifications & self-healing triggers)

Reduction in downtime

from **400+ hours** per annum to **100 hours** per annum, within 24 months of engagement

63%

reduction in outage cost for onboarded applications within 24 months

>90%

reduction in false-positive alerts, with proactive observability

Reduction of **MTTI and MTTR**

Enhanced visibility with observability dashboards

Lower IT costs

Thank you