



ManageEngine  
**Analytics Plus**

# **Adopting AI-powered IT service management** to reduce IT expenses

Tackle IT problems and optimize expenses with  
AI-powered IT service management



# Introduction

**IT** operations face a plethora of challenges, from a shortage of skilled experts to rapid technological changes, inconsistent processes, a lack of visibility across environments, difficulty meeting deadlines and achieving KPIs, data security and compliance, and rising IT expenses. If the present economic conditions and expert predictions are any indication, then some of these challenges are likely to intensify. There's no silver bullet to tackle all these challenges at once, but you can reduce IT expenses by introducing AI-powered IT service management. There are several areas where AI can help cut costs.

**In this e-book, we'll limit our focus to the role of AI in these three areas:**

1. Implementing automation
2. Transforming IT data into actionable information
3. Keeping tabs on changes



# 1

# Implementing automation

**AI**-powered automation can be used to automate tasks like customer support, fraud detection, and language translation. However, there's a growing apprehension that automation will take away human jobs, making senior leadership reluctant to adopt automation fully. The truth is automation is most effective when used to complement and add to human potential, not replace it.

In the case of IT, automation can be used to reduce low-level service tickets that take up a sizable portion of the IT budget. Instead of spending time dealing with mundane tickets like password resets and pre-authorized account access provisioning, technicians can focus on complex troubleshooting and problem analysis, making automation an ally that enhances human productivity and impact. For end users, automation helps provide better, faster digital experiences. For IT as a whole, automation can help get more work done at lower costs.

Below are some examples of how automation can help cut costs:

# 1. Automate L1 service tickets



**30%**

*of IT technician's<sup>[1]</sup> time is spent doing mundane tasks like password resets.*



**30%**

*of technician's salary is spent on mundane tasks.*

A simple password reset costs your organization **\$70, and considering that nearly 30%<sup>[2]</sup>** of help desk tickets are for password resets, you're spending roughly \$21,000 on handling password resets for every 1,000 tickets.

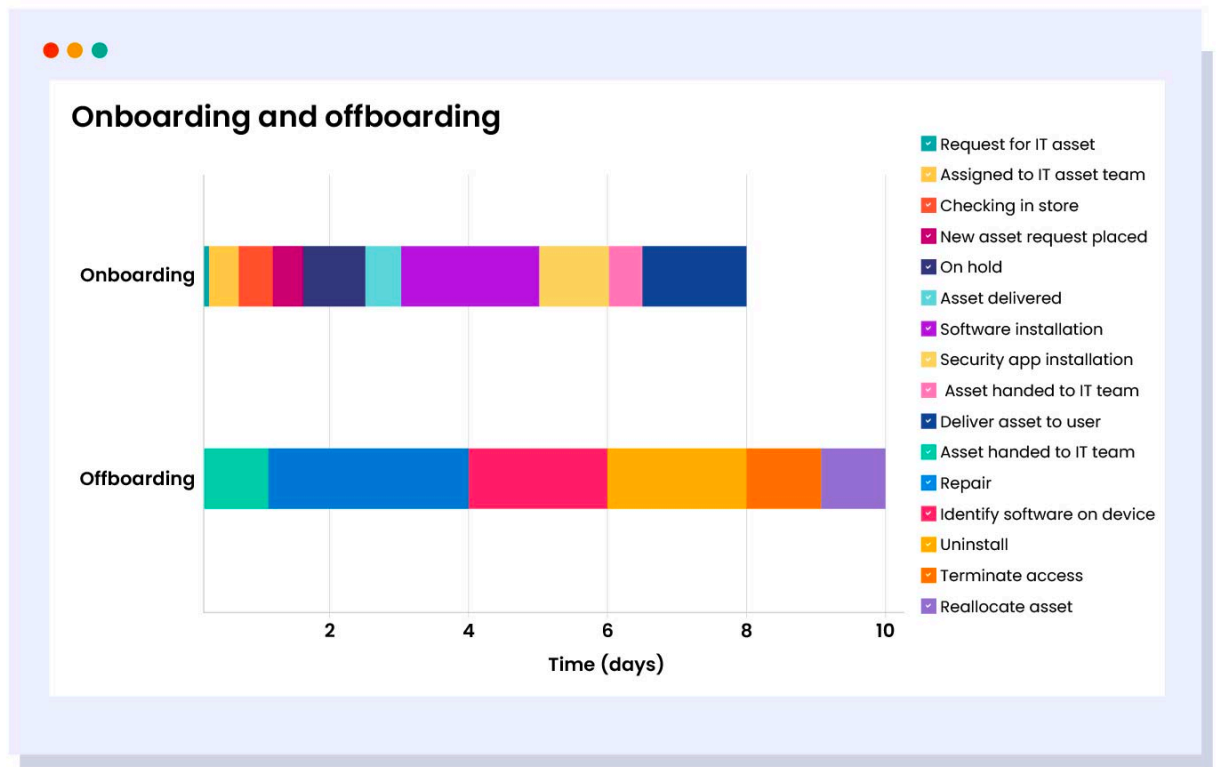
While it's obvious that password resets can be automated, it's difficult to figure out other tickets that can be automated. Here's how to do it:

- Filter out all L1 service tickets handled by your team in the last year.
- Look at the average time spent by a technician per ticket.
- Investigate rule books to assess the workflows for such tickets.
- Automate the whole process or sections of workflows.





Here's a sample report that shows the various stages of onboarding and offboarding requests and the time spent on each stage:



Observe the handoffs. Instances where workflow tasks change ownership or involve information sharing are common sources of bottlenecks. These indicate failures in following up on a task's progress or are a result of uncertainty in assigning task owners. Ironically, these bottlenecks are also opportunities for automation.

Use the report above to create an automation wish list (a list of activities that you'd like to automate) and create the ideal workflow. The workflow skeleton above can help you build the actual automations. Automating sections of lengthy processes like onboarding and offboarding can cut down the overall time taken for these processes and thus save the help desk time and money in the process.

## 2

# Transforming IT data into actionable information

One of the simplest ways to tame increasing service and operational costs is to use data to uncover problems and resolve them. However, IT systems and the applications used to monitor them are buried within tight silos, so generating any coherent historic information out of these silos is next to impossible.

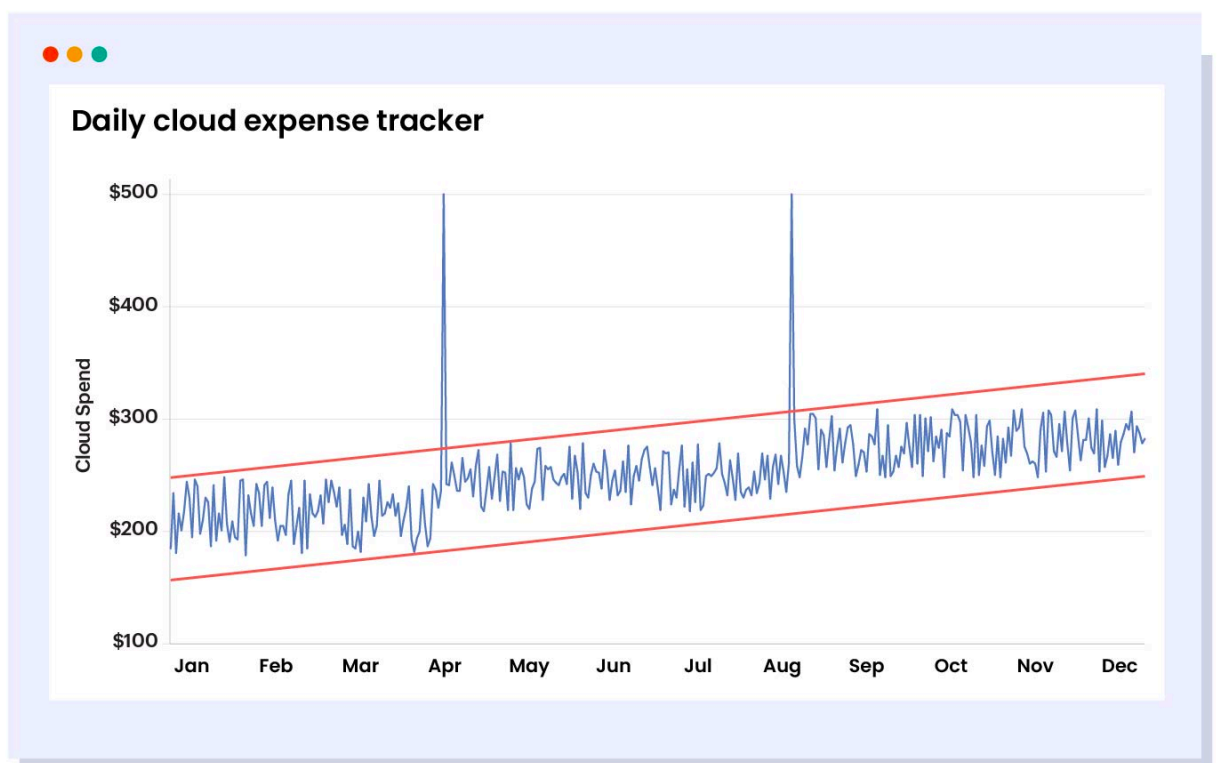
The use of AI brings insights close to the people who need them by aggregating IT as well as enterprise data in a single console. AI-enabled analytics solutions use the power of ML and NLP to understand user queries and convert long-winded tables and databases into rich visualizations that provide a holistic picture of IT performance.

Below are three use cases where AI-enabled analytics can help save IT costs:

# 1. Trend analysis for expense tracking

Comparing current spending against historical data helps establish boundaries with minimum and maximum values. This helps you track deviations, improvements, or declines in your operating standards. Take, for example, cloud server expenses. Many components can run up cloud costs, including servers, network traffic, database queries, and cloud storage services. Trend analysis can help keep cloud expenses in check and pinpoint when expenses surge past daily, weekly, or biweekly spending standards.

Here's a report that shows the daily cloud expenses for the past year, revealing sudden and recurring surges in spending:



Drilling down further into the issue revealed that a test that was supposed to run a few VMs ended up running over one hundred machines instead. This rocketed up the cloud server costs by a few thousand.



Such spikes and glitches are common in IT and can take weeks or even months to find if you're relying on humans to create dashboards and manually track trends. There are also issues related to data volume, silos, and accuracy.

AI-based analytics helps combat these challenges. AI can ingest large volumes of data to learn standard behavioral patterns in order to better distinguish normal and unusual behavior in just a few seconds instead of hours or days. AI algorithms can also send out real-time alerts to notify the DRIs so they can remediate issues quickly.



**Note :** AI-enabled trend analysis can be applied to other areas of IT management, such as performance tracking, usage tracking, and issue history tracking, for holistic cost management.

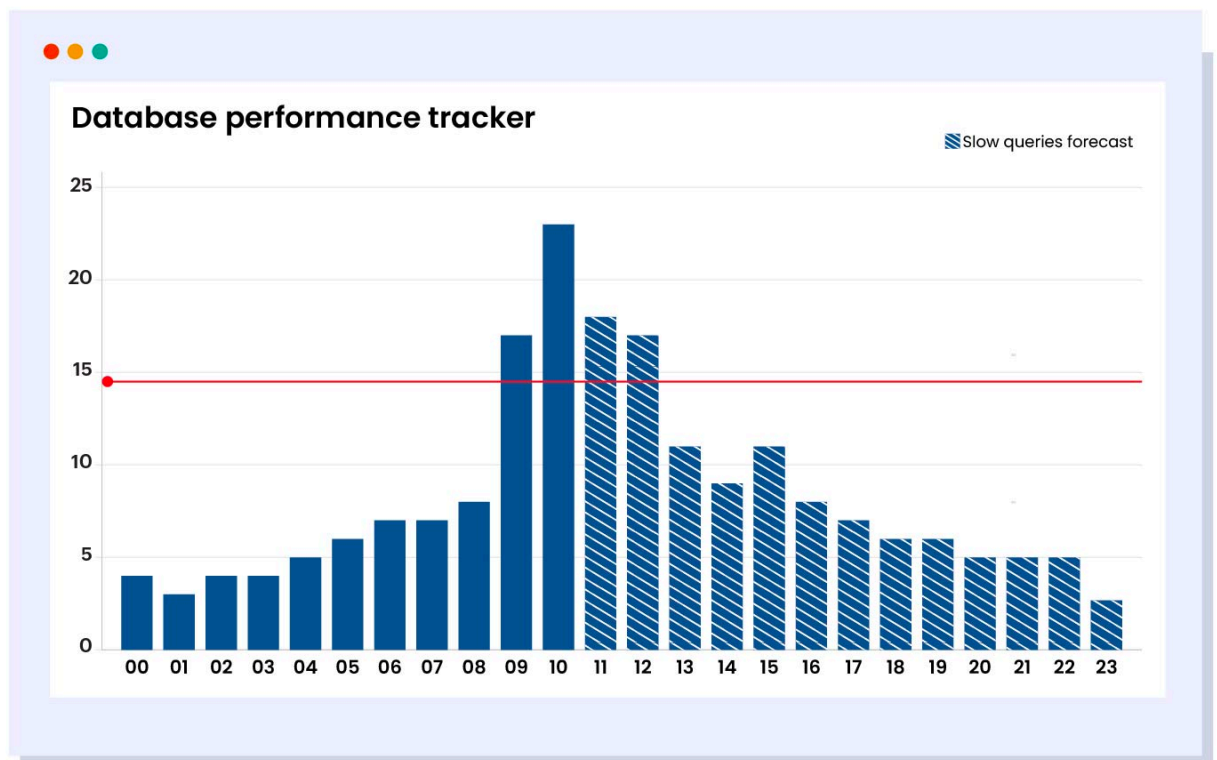
## 2. Predictive analysis for foreseeing database performance issues

Proactively predicting when infrastructure or IT equipment is likely to go down helps save IT costs in three ways:

- Preventing downtime and the ensuing chaos that results in lost business hours and productivity
- Helping you plan preventive maintenance, which is far less expensive than emergency repair
- Reducing the frequency of unplanned maintenance

Slow queries (queries involving improper parsing or multiple aggregate functions) are the primary reason for database performance issues. Keeping track of the number of running slow queries alerts you about database performance issues. A quick analysis of your log entries will reveal the number of running slow queries.

The report below shows the hourly trend of currently active slow queries and the forecast for the near future. When the number of slow queries surges beyond the threshold (the red line), performance issues result.



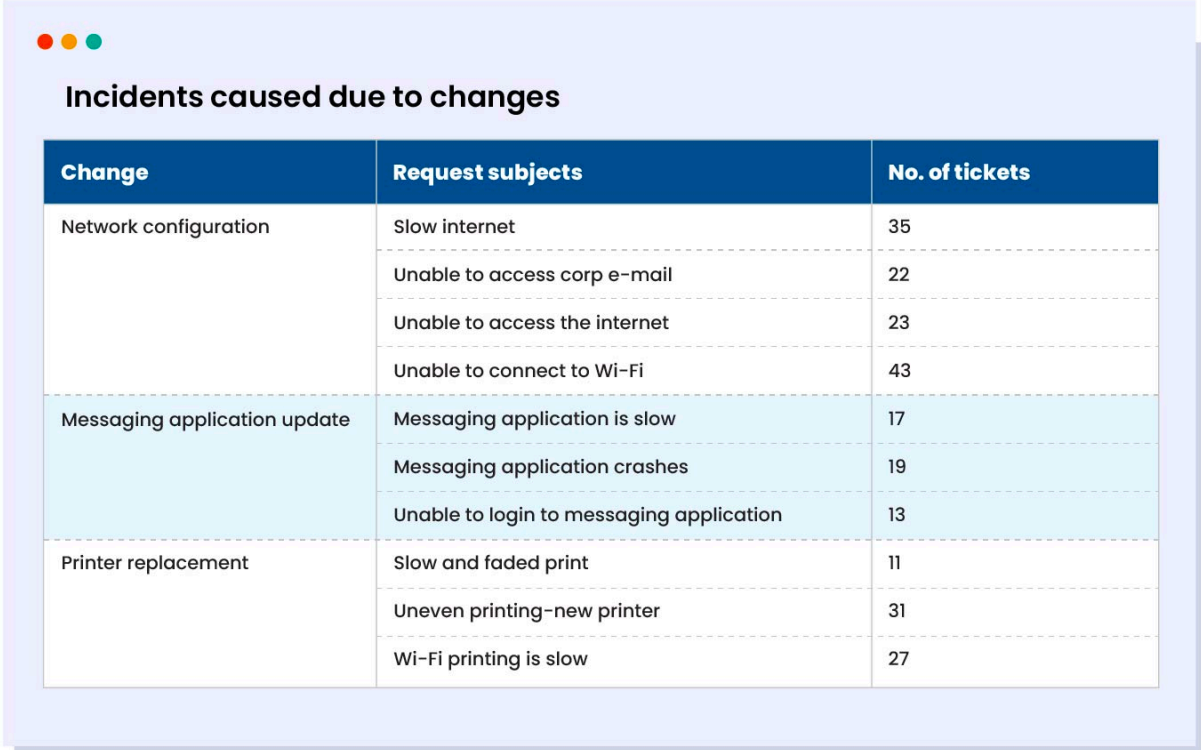
Similarly, you can build visual trackers for database failures by setting up thresholds and predicting log errors, such as table corruption or problems with indexes, based on historical data.

### 3. Root cause analysis for troubleshooting problems

Root cause analysis helps you effectively remediate problems and ensure they don't reoccur or trigger a chain of related issues. As side effects, root cause analysis helps you eliminate the duplication of IT efforts, reduce the IT workload, and save on IT service costs.

Root cause analysis can be performed manually, but this takes an extensive amount of time and effort. By the time the underlying cause is discovered, the problem will have festered into a showstopping issue. Built-in AI assistants can cut through data and isolate symptoms from the root cause, facilitating quick, effective remediation of the problem.

The relationship tree report below shows incidents that were triggered because of changes that were implemented:

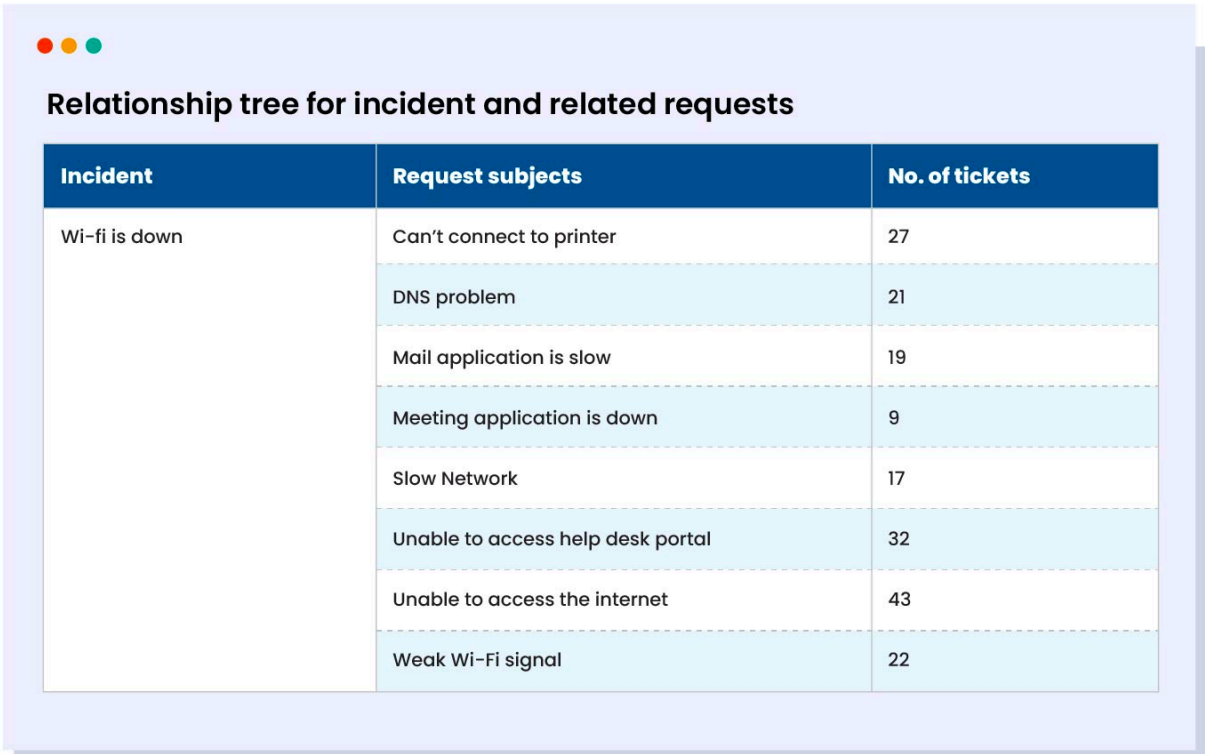


The image shows a screenshot of a software interface with a light blue header and a white table. The header has three colored dots (red, orange, green) on the left. The title 'Incidents caused due to changes' is in bold black text. The table has three columns: 'Change', 'Request subjects', and 'No. of tickets'. It lists three changes: 'Network configuration', 'Messaging application update', and 'Printer replacement', each with its associated request subjects and ticket counts.

Change	Request subjects	No. of tickets
Network configuration	Slow internet	35
	Unable to access corp e-mail	22
	Unable to access the internet	23
	Unable to connect to Wi-Fi	43
Messaging application update	Messaging application is slow	17
	Messaging application crashes	19
	Unable to login to messaging application	13
Printer replacement	Slow and faded print	11
	Uneven printing-new printer	31
	Wi-Fi printing is slow	27

It's clear that a few poorly implemented changes have triggered an avalanche of related incidents. The best way to tackle these incidents is to address the root cause of the issue: the changes.

Similarly, below is a report that shows a list of requests and the parent incident that triggered these requests. Resolving the parent problem, such as restoring Wi-Fi connectivity, will automatically resolve all the requests related to network connectivity.



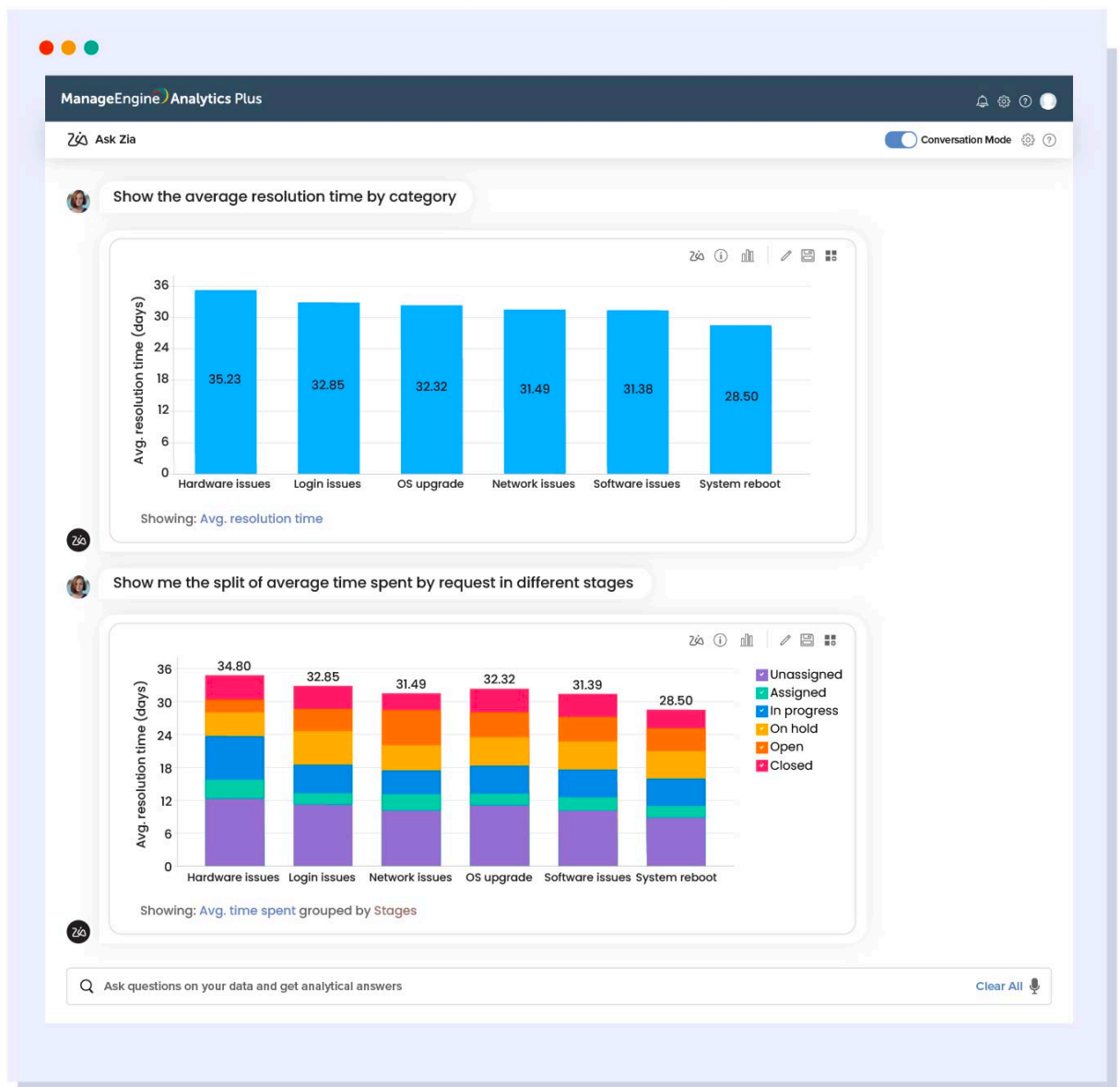
The screenshot shows a window titled "Relationship tree for incident and related requests". It contains a table with three columns: "Incident", "Request subjects", and "No. of tickets". The "Incident" column has a single entry "Wi-fi is down". The "Request subjects" column lists eight different issues, and the "No. of tickets" column shows the count for each. The table is styled with a blue header and alternating light blue and white rows.

Incident	Request subjects	No. of tickets
Wi-fi is down	Can't connect to printer	27
	DNS problem	21
	Mail application is slow	19
	Meeting application is down	9
	Slow Network	17
	Unable to access help desk portal	32
	Unable to access the internet	43
	Weak Wi-Fi signal	22

In the two reports above, the correlation between the parent problem and the resulting child requests was achieved using AI algorithms. This can also be achieved using manual investigation with the aid of AI.



Here's an example:



Built-in AI assistants can offer insights into the root cause of a problem by themselves or they can work as collaborators providing IT leaders with information at every step they take to get from the problem to the root cause and, eventually, to the solution. In the example above, AI-enabled root cause analysis helps pin point that longer unassigned time results in longer overall resolution time.

# 3

## Keeping tabs on changes

**C**atching critical changes in data, such as spikes in cloud expenditures, the deterioration of assets, or a decline in timely adherence to policies, is important, allowing you to apply stopgap measures and prevent losses. While IT monitoring and management applications can send out threshold-based alerts, they lack context and environmental awareness. For instance, application monitoring apps can alert you when apps are unavailable. Network monitoring apps can alert you when networks are sluggish. But these apps can't combine these two pieces of information to provide a unified alert that says one of your network components is down, and as a result, several applications are unavailable.

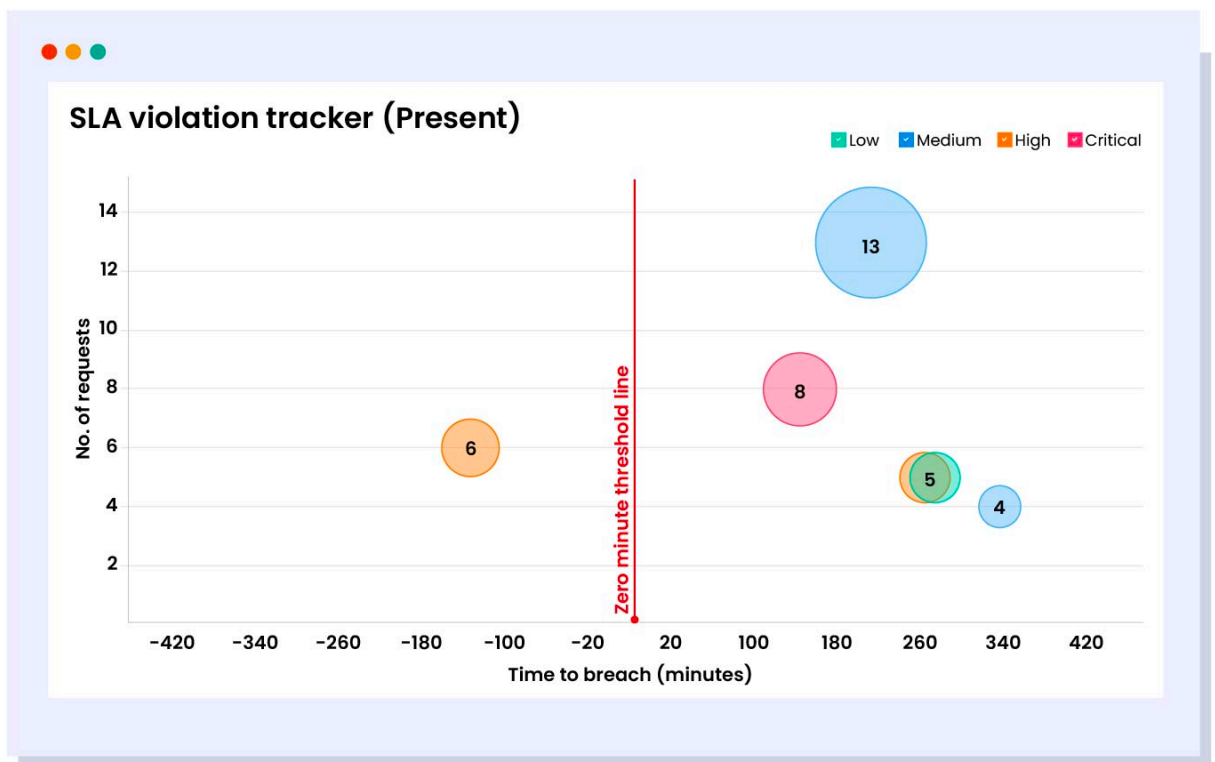
The ability to decode these symptom alarms and narrow down to the root cause of problems can save organizations money and put them light-years ahead when it comes to detecting threats and identifying opportunities.

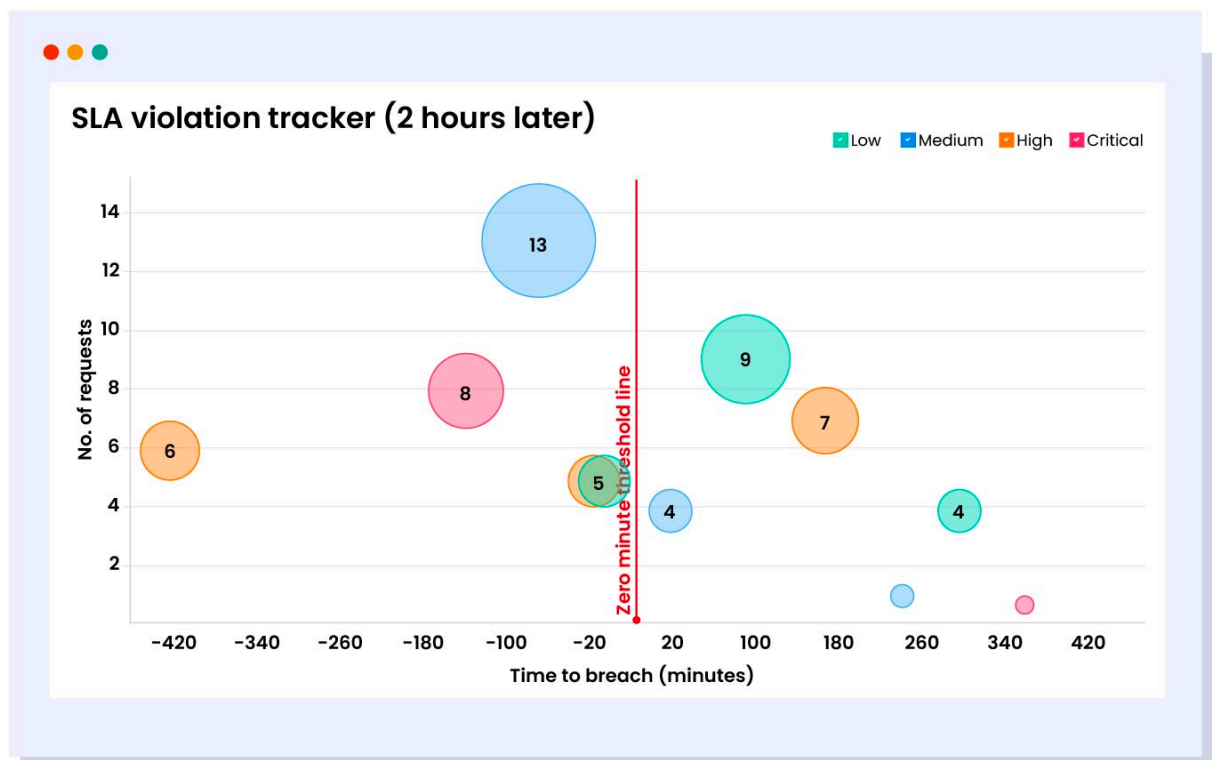
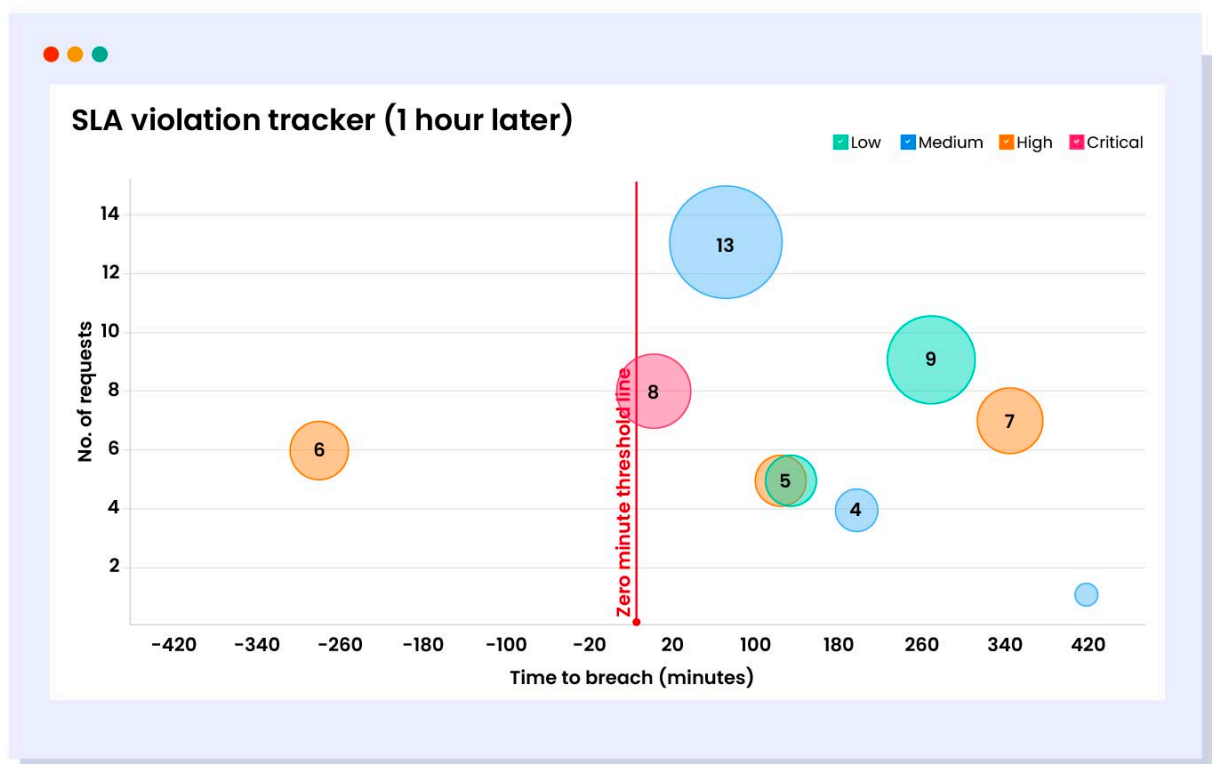
Here are a few examples of how keeping tabs on changes contextually can help IT teams reduce costs:

# 1. A visual tracker for SLA violations

SLA violations are bad for the IT team's rep and impact end users' productivity, costing the business money. So avoiding SLA violations is one of the primary goals for any help desk manager. Real-time notifications about impending SLA violations are great for catching and preventing individual offenses, but here's something better:

The reports below are captured at different time intervals, showing tickets as they progress towards SLA. The size of the bubble indicates the number of tickets, while the colors indicate their priority. For greater impact, project this report on a large screen and set the report to automatically refresh every 15 minutes.



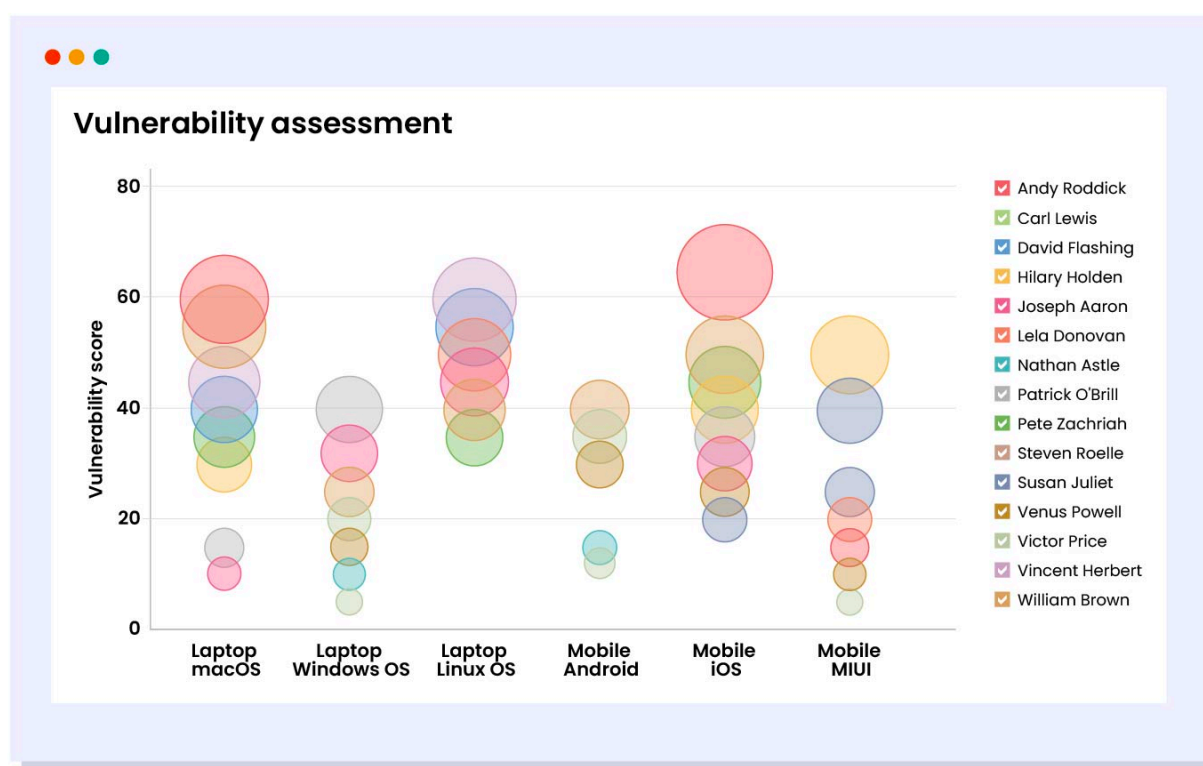


The SLA violation tracker enables IT managers to get a realistic picture of pending work that is about to breach SLAs, enabling them to focus on tackling these high-priority tickets first. This can help prevent SLA violations and indirectly increase end users' productivity.



## 2. A live monitor for tracking vulnerable devices

Data breaches resulting from security breaches can cost organizations millions. Preventing data breaches potentially saves the organization's money and reputation at the same time. You can thwart security breaches by doing two simple things: detecting breaches in advance and patching all existing vulnerabilities. Detecting breaches is a long, tedious task made more complex by increasingly sophisticated threat actors. However, patching vulnerabilities is a surefire way to prevent threats. The trick is to catch the vulnerabilities in time. Here's how AI can make this task simple:



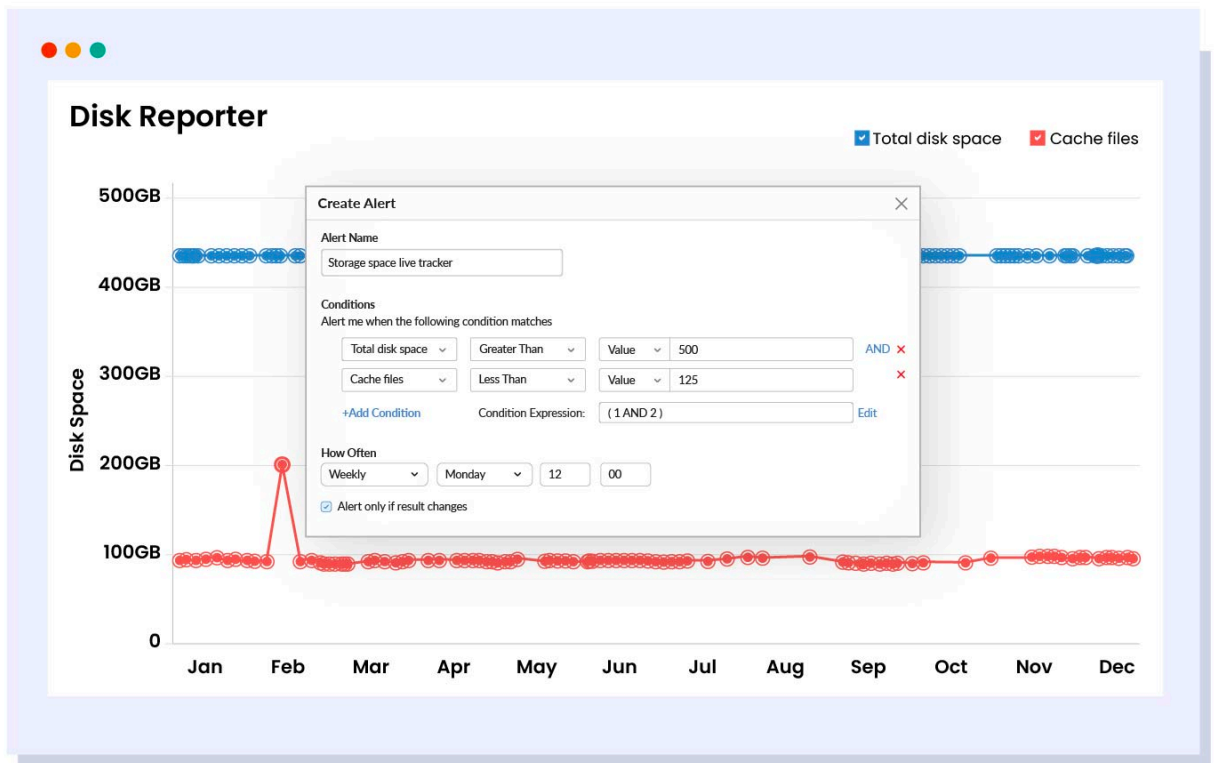
The device vulnerability report above assigns scores based on how vulnerable each device is. You can set up threshold-based alerts for each type of device and get notified when any device violates the threshold.

The device vulnerability report is built on the logic that multiple vulnerabilities in a single device add up and increase the device's susceptibility to data breaches. For instance, a device that does not comply with password protocols, is missing MFA, and has an unpatched OS is more susceptible to a data breach than a similar device that is just missing MFA. High-priority vulnerabilities like unpatched software or OSs can be given higher vulnerability scores than others. For example, the device with the three vulnerabilities mentioned above can be assigned a vulnerability score of three. If you feel MFA ranks higher and wish to give it a score of two, then the vulnerability score of that device will be four.

### **3. A control board for remedying low disk space**

Running out of disk space can impact everything from productivity to revenue and application performance. Live trackers that catch low disk space usually track the remaining storage space available for usage. So when disk space runs low, the tracker triggers an automated workflow to purchase more disk space to store incoming data. While this method reduces manual labor, it may not be cost-effective.

A better way is to run a live tracker for temp files on your disk. Then set up two alerts: the first to catch temp files exceeding 25% of your storage space and the second as a unified alarm to catch storage space running low despite temp files not exceeding the 25% mark. Rework your automation rules so that additional disk space is purchased only for the second alert. Use the first alert to set up an internal workflow to automatically delete or move temp files when they exceed more than 25% of storage space. This will help free up disk space while maintaining compliance, saving you money in the process.



# Conclusion

Notice something that the examples above have in common? Each process is a simple pain point that can be addressed to multiply cost savings and cut down on IT expenses. Because these pain points can be eliminated through AI, your organization can save a significant amount of time in implementing these ideas. This way, not only can you create a bottom-line impact but you can also improve employee productivity, technician morale, and the MTTR. This lets technicians take on more important challenges. The more you apply AI to your service management practices, the more you can keep up with challenges and problems.

Interested in seeing how you can benefit from AI-driven IT service management? [Talk to our experts today.](#)

# About

**ManageEngine Analytics Plus** is a self-service business intelligence and IT analytics solution that integrates with several popular IT service management applications, such as ServiceDesk Plus, ServiceNow, Zendesk, Teamwork Desk, BMC, Splunk, SolarWinds, and Ivanti. Analytics Plus also integrates with other IT applications used for network and application management, project management, endpoint security management, and more. Powered by AI, ML, and NLP, Analytics Plus features an AI assistant that can display stunning visual responses to voice and text comments. Analytics Plus can also import data from multiple sources and perform advanced analytical functions, such as data blending and trend forecasting.

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## Reference

1. <https://www.computerweekly.com/news/2240174337/Low-level-tasks-eat-up-30-of-IT-departments-time>
2. <https://www.okta.com/blog/2019/08/how-much-are-password-resets-costing-your-company/>



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