

7 real-life IT problems and how to solve them using advanced analytics

*The solution to your IT problems are often deeply hidden within your IT.
Learn how to uncover them using advanced analytics.*

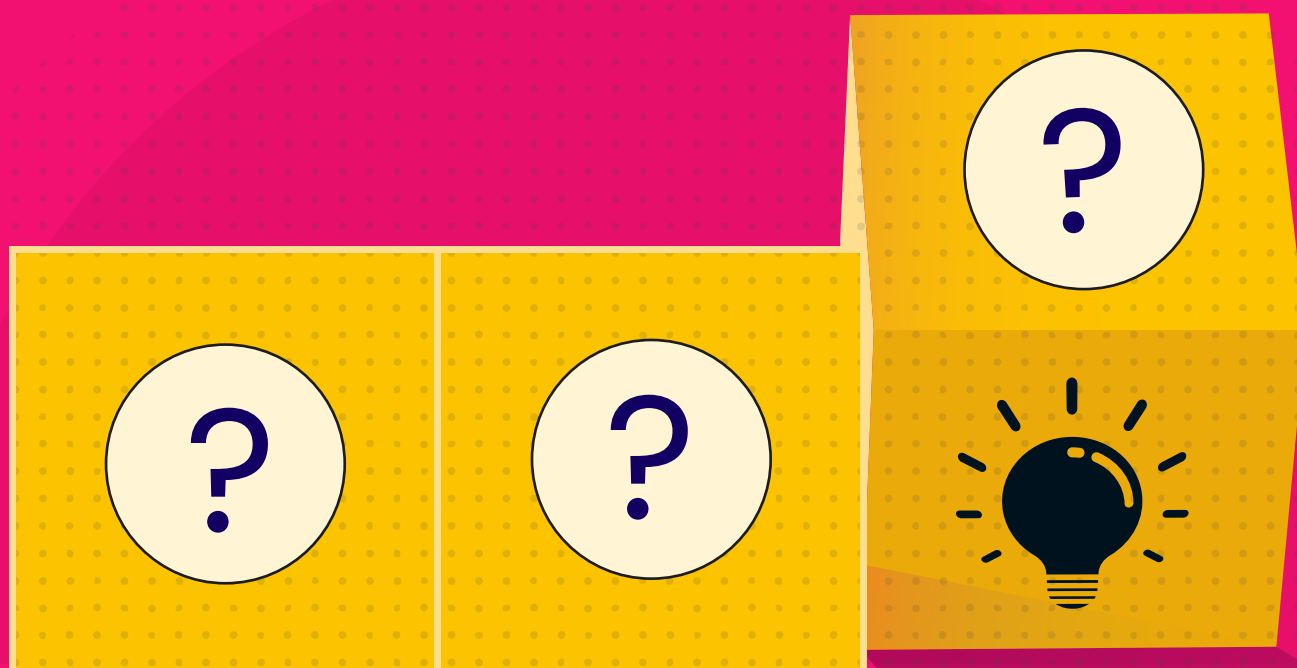













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Introduction

IT help desks are engaged in constant battle, meaning they seldom have the time, resources, or tools to sift through their data and look for solutions. In this e-book, we've highlighted seven common problems faced by IT teams, outlined ways to identify the root cause of those problems, and offered guidelines to resolve them using advanced analytics.

Problem 1: Minor changes causing major disruptions to business

IT changes are inevitable, and it's important to ensure these changes don't create further problems for the organization. Often, minor things such as network configuration changes, scheduled security patches, hardware changes, or workflow changes can snowball into a major issue, leading to several incidents.



For example, **Amazon's East Region US AWS** ^[1] center suffered disruptions for over six hours in November 2020 due to a relatively small capacity addition to its front-end fleet. This affected several services including Ring, Prime Music, Pokemon Go, Roku, MeetUp.com, League of Legends, Ancestry.com, and Chime. Earlier in June that year,



T-Mobile wireless services ^[2] were unavailable to many of its US customers for 12 hours after a minor network routing configuration change, causing 250 million nationwide calls and 23,621 emergency calls to 911 in several states not to connect.

Measuring incidents resulting from change shows you how past changes have impacted the organization, and further analysis of change-related incidents can help establish accountability and shed light on department-level failures that resulted in those incidents

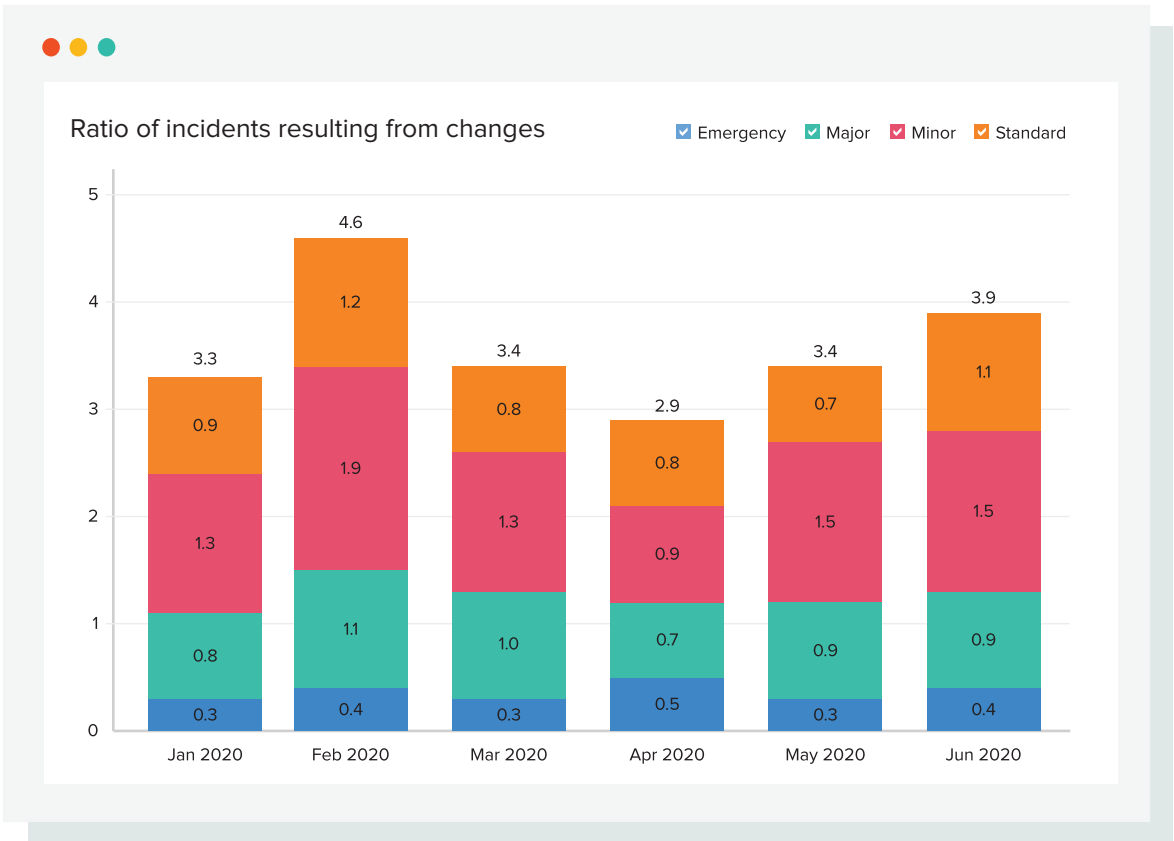
Ratio of incidents resulting from change

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Incidents resulting from changes

Major incidents

The stacked bar report below gives you the ratio of incidents resulting from changes for different types of changes, namely major, minor, standard, and emergency changes.



Surprisingly, scheduled changes, or non-emergency changes, have a higher ratio than emergency changes. This is a great indicator that changes are not being tested properly before rollout. Moreover, minor changes have the highest incident ratio among non-emergency changes, which indicates a need to install proper controls before implementing minor changes.

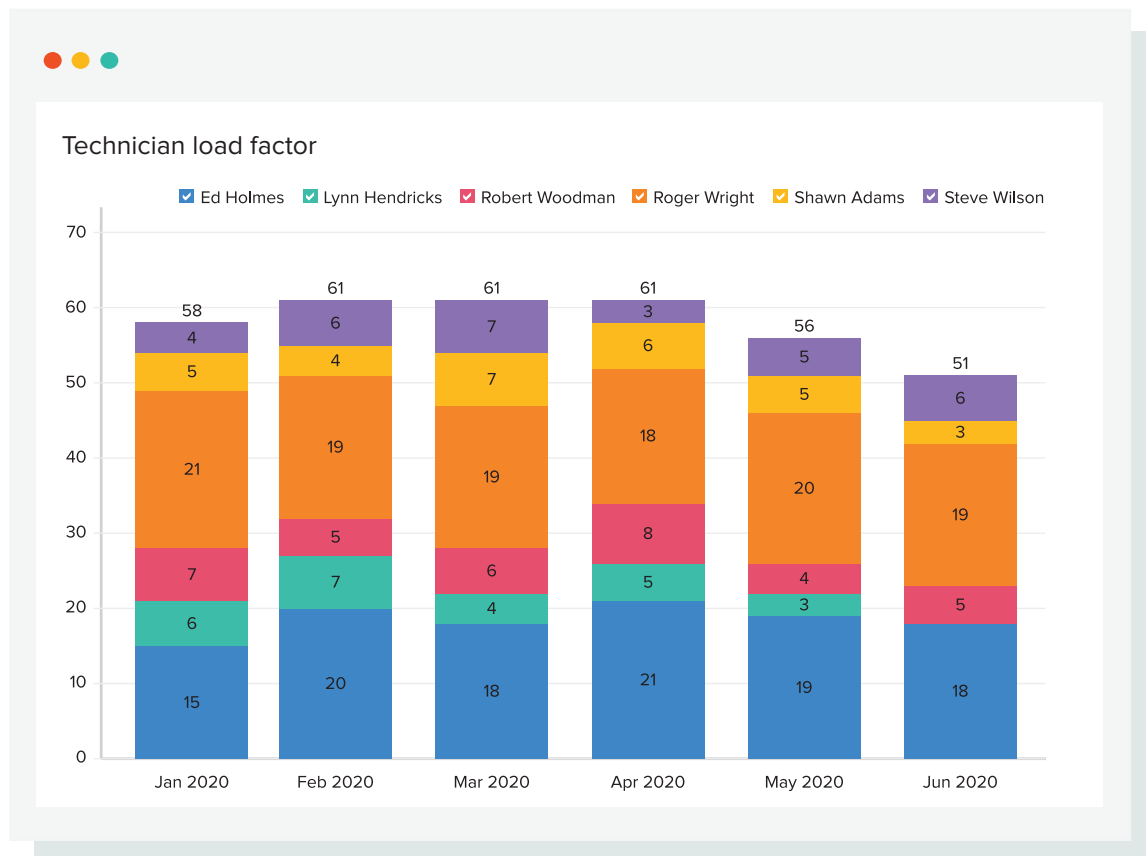
Problem 2: Growing agent burnout, resulting in end user dissatisfaction

Burnout is one of the biggest threats to any service desk because it has a direct impact on agent productivity and end-user satisfaction. With much of the workforce moving from on-premises to remote work in the wake of the pandemic, IT staff face challenges they never did before, making it crucial for top-level managers to prevent agent burnout. However, identifying and predicting burnout is a challenge because help desks are often focused on driving productivity through increased employee engagement.

Typically, low productivity, an increase in errors, and absenteeism are red flags indicating agent burnout. While easy to identify, these red flags aren't much help to organizations looking to predict and prevent burnout. From an organization's standpoint, it's much more beneficial to prevent burnout rather than rebuild engagement for an agent after experiencing it.

Harvard Business Research ^[3] studies indicate that highly engaged employees are the ones most at risk of burnout. One way to spot these employees is by tracking the agent workload factor, or the relative workload pulled by each service desk agent. A higher workload factor on certain technicians means they're carrying most of the weight. Once you've identified technicians with a higher workload factor, the next step is to prevent agent burnout by distributing the workload evenly among all technicians.

$$\text{Agent workload factor} = \frac{\text{Number of tickets assigned to a technician}}{\text{Average amount of time}}$$



The report above shows two agents, Roger Wright and Ed Holmes, are pulling a higher share of the workload as compared to others. These are two agents who are at high risk of burnout, and a help desk manager should step in to ensure other employees are pulling their weight.

Here's another way to beat burnout before it sets in: Dan Pink, author of **Drive: The Surprising Truth About What Motivates Us** ^[4], writes that the secret to creating engaged, motivated employees is to give them:

- **Autonomy:** Empower service desk agents with data so they can resolve their own problems and approach end-user problems with innovative and lasting solutions.
- **Mastery:** Provide opportunities for your service desk staff to learn from peers and industry leaders to perfect their craft.
- **Purpose:** Enable agents to see the bigger picture; that is, allow them to view how their contribution is relevant to the organization.

Empowering agents with access to an AI-enabled analytics tool—one that doesn't require them to possess specialized analytical skills—can help them seek answers to their problems and can go a long way in creating engaged, motivated, and happy agents.

Problem 3: Unable to extend proven ITSM best practices to other business functions

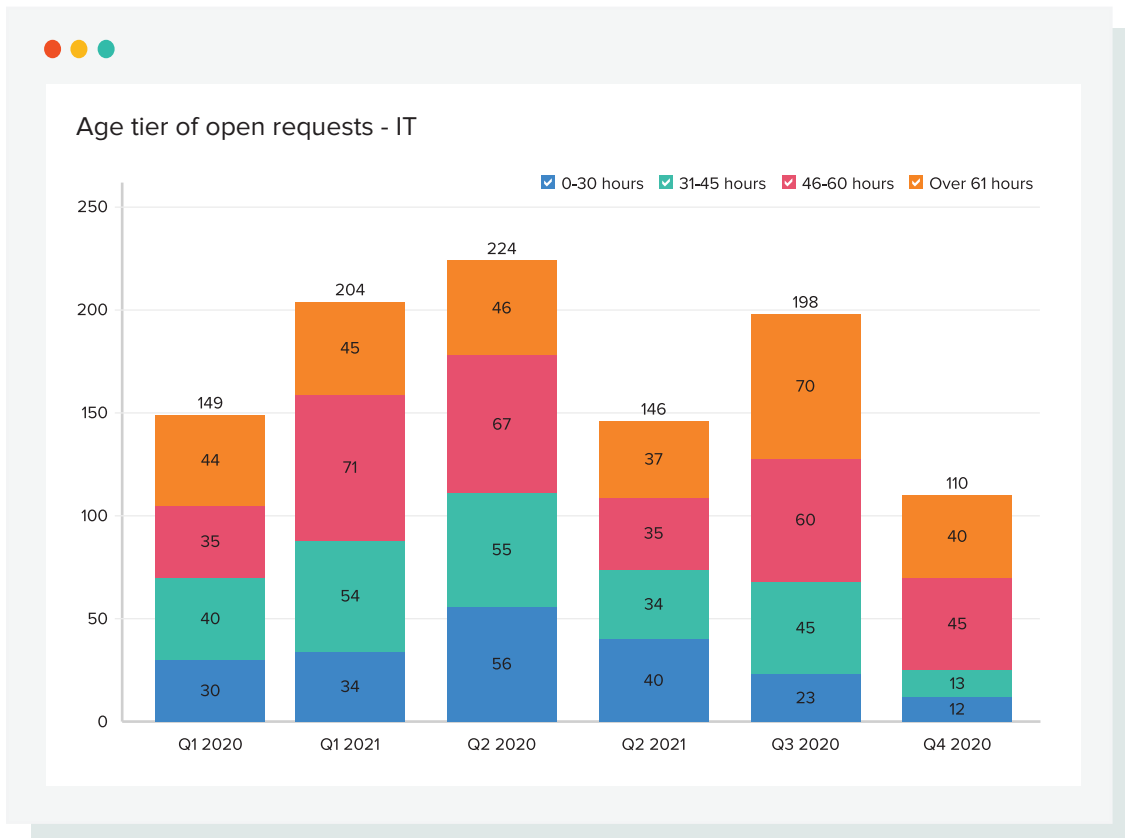
Consider employee onboarding—typically, this involves multiple departments working together. Human resources handles the paperwork required to onboard employees and coordinates with other departments such as IT and facilities. Likewise, the IT department procures hardware and software assets, and enables access to applications and networks, while the facilities department prepares workstations for employees.

Any discord, lag, or inefficiency within or between these departments delays the onboarding process. For example, the IT department can't provision IT assets unless the facilities department provides workstations for the new employees on time.

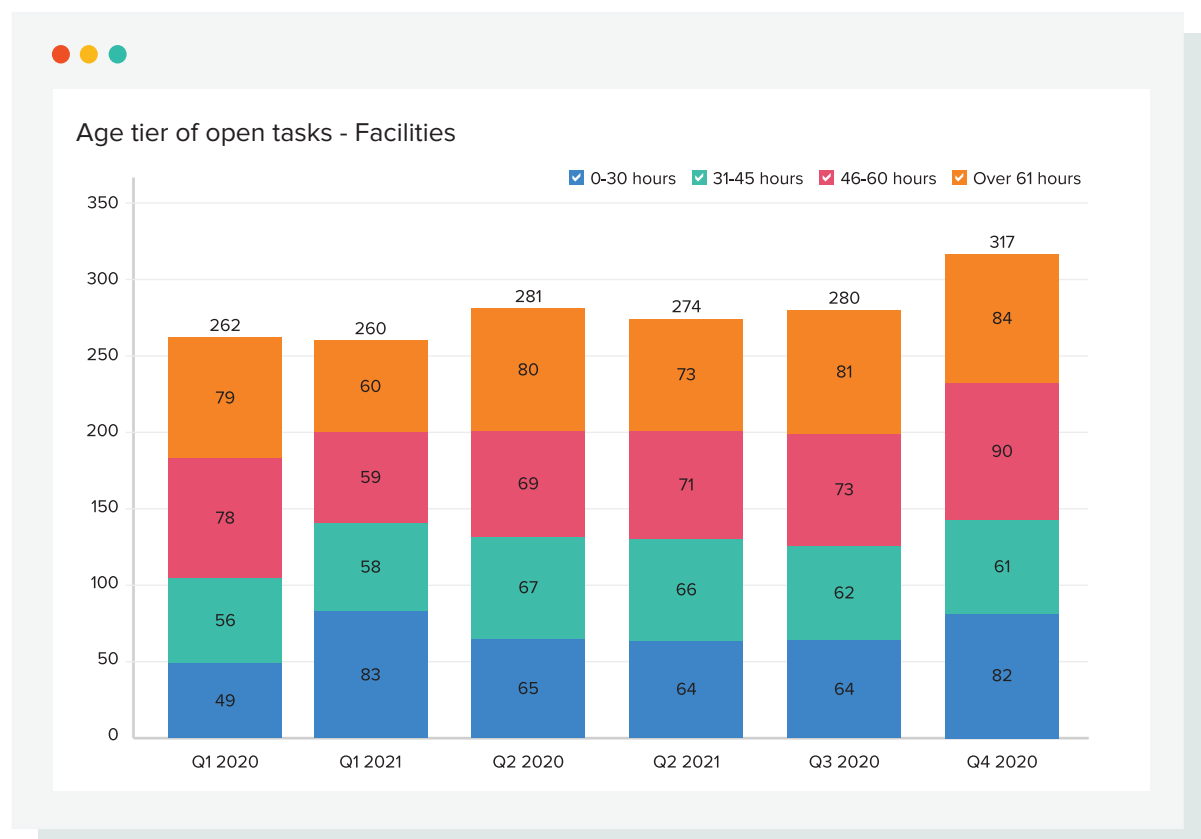
To ensure other departments function just as well as IT, extend proven IT service management (ITSM) best practices to other departments in your organization. Because IT departments have already mastered the art of streamlining activities and tasks to ensure higher customer satisfaction, efficiency, and productivity, other departments can easily solve their own problems by emulating ITSM best practices without breaking a sweat.

Here's an example:

The age tier of open requests is a popularly used report in IT help desk management that helps categorize tickets into various tiers based on how long they've been open, i.e., 0–30 hours, 31–45 hours, 46–60 hours, and over 60 hours. This enables help desk managers get a better view of the status of open tickets and prioritize the resolution of long-pending tickets.



Creating a similar report using facilities data provides a clear view of open tasks and activities in the facilities department and helps in prioritizing tasks that have been pending the longest.



Problem 4: Unable to track hidden process-level inefficiencies

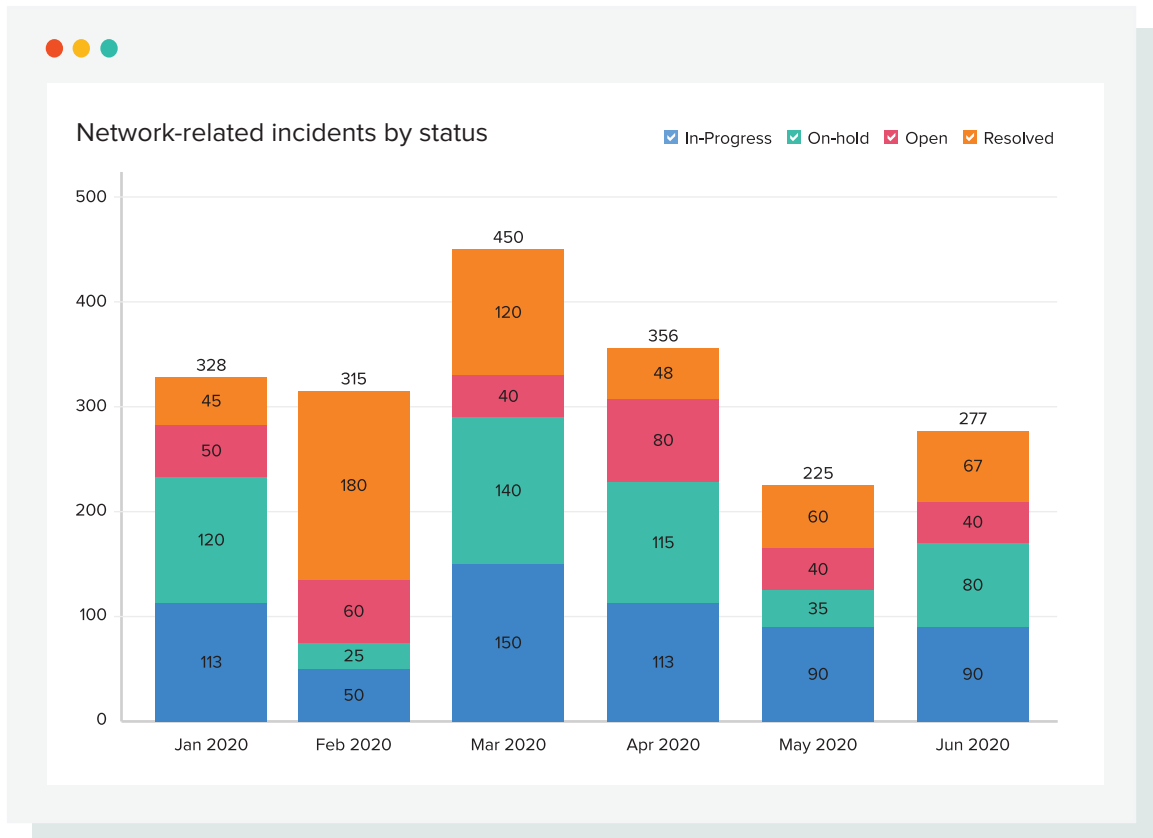
Service processes are meant to streamline tasks and help people work more efficiently. However, if left ungoverned, processes can become cumbersome and costly. To ensure processes stay effective, it's important for IT managers to look for inefficiencies, particularly those that are ingrained too deeply in service or operational processes. For instance, having multiple approvals for minor changes, lack of communication between systems or applications used in interconnected departments, doing repetitive manual tasks that could be automated, limited employee authority, and excessive management control are all process-level inefficiencies within IT that can impact growth, and cost time and money.

Spotting and stopping these inefficiencies starts by identifying red flags such as frequently missing deadlines, poor adherence to predefined standards like service-level agreements (SLAs), and unsatisfied end users or agents.

Here's an example:

One of our customers, a multinational retailer with more than 300 stores, found that the SLA compliance rate for network-related incidents was 93 percent, which is two percent below the target 95 percent. However, their overall SLA compliance rates were well within their target.

Isolating and deep diving into network-related incidents revealed that, by default, all network-related incidents were open for an average of 50 minutes before agents started working on them. After that, these incidents were quickly resolved within a few hours.

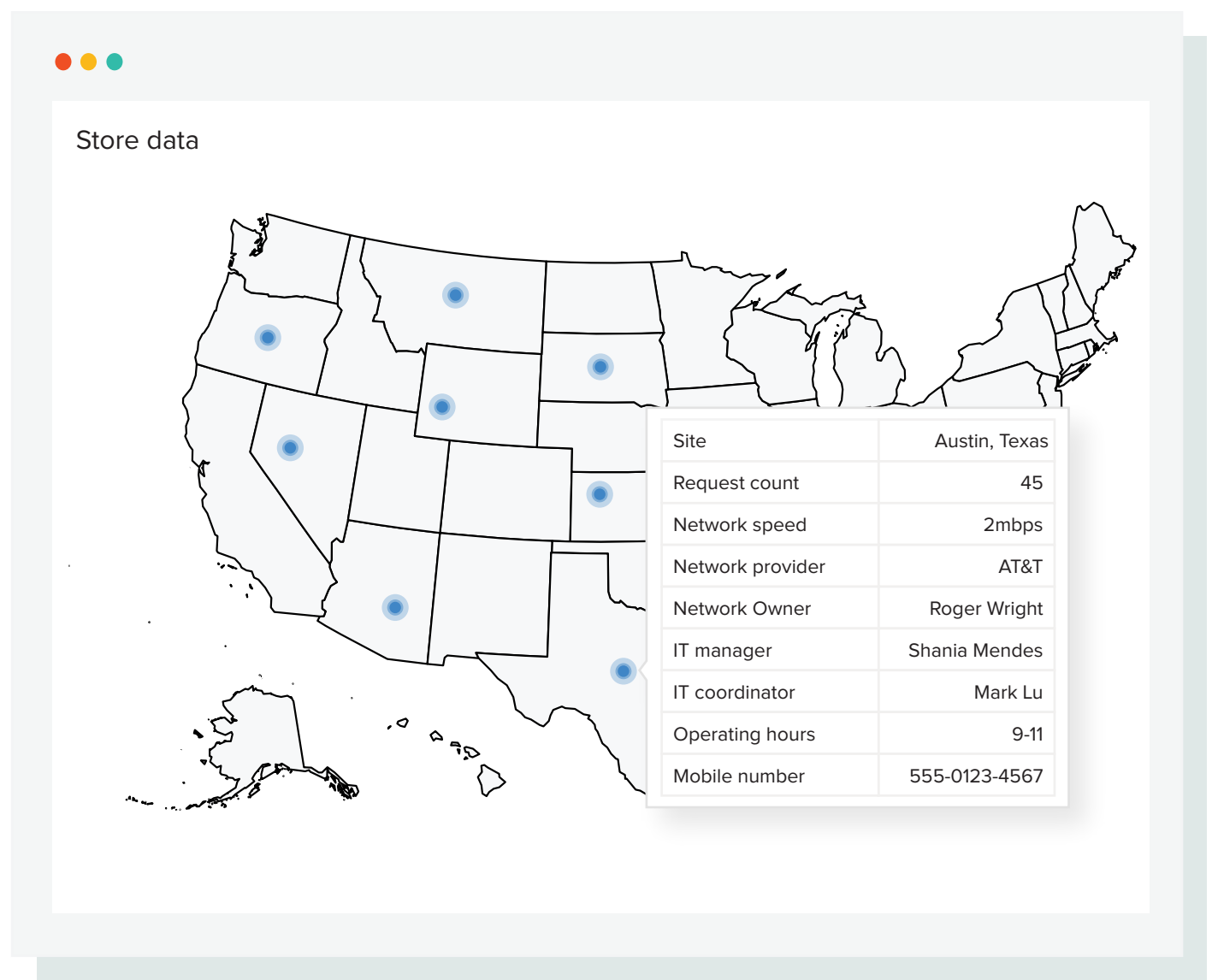


Further analysis of the various subtasks involved in network-related incidents revealed that most of those incidents had a subtask titled "Identify network owner."

Network-related incidents and associated sub-tasks

	Incident ID	Incident Status	Subject	Severity	Sub-tasks
1	1545	Open	Network is slow	Critical	Check network components
2					Contact network provider
3					Identify network owner
4					Open network port
5					Verify system functionality
6	1596	In-progress	Network down	Warning	Check network components
7					Contact network provider
8					Identify network owner
9					Open network port
10					Verify system functionality
11	1932	On-hold	Unable to access network	Attention	Check network components
12					Check network components
13					Identify network owner
14					Open network port
15					Verify system functionality
16	2156	In-progress	Unable to access network	Critical	Check network components
17					Check network components
18					Identify network owner
19					Open network port
20					Verify system functionality

The customer realized that, due to the scale of their operations, agents were unable to track network owners and other details about stores easily. This information was being maintained in a spreadsheet. Later, a map chart was created so agents can quickly look up network owners and other store details simply by clicking on the stores pinned on the map chart.

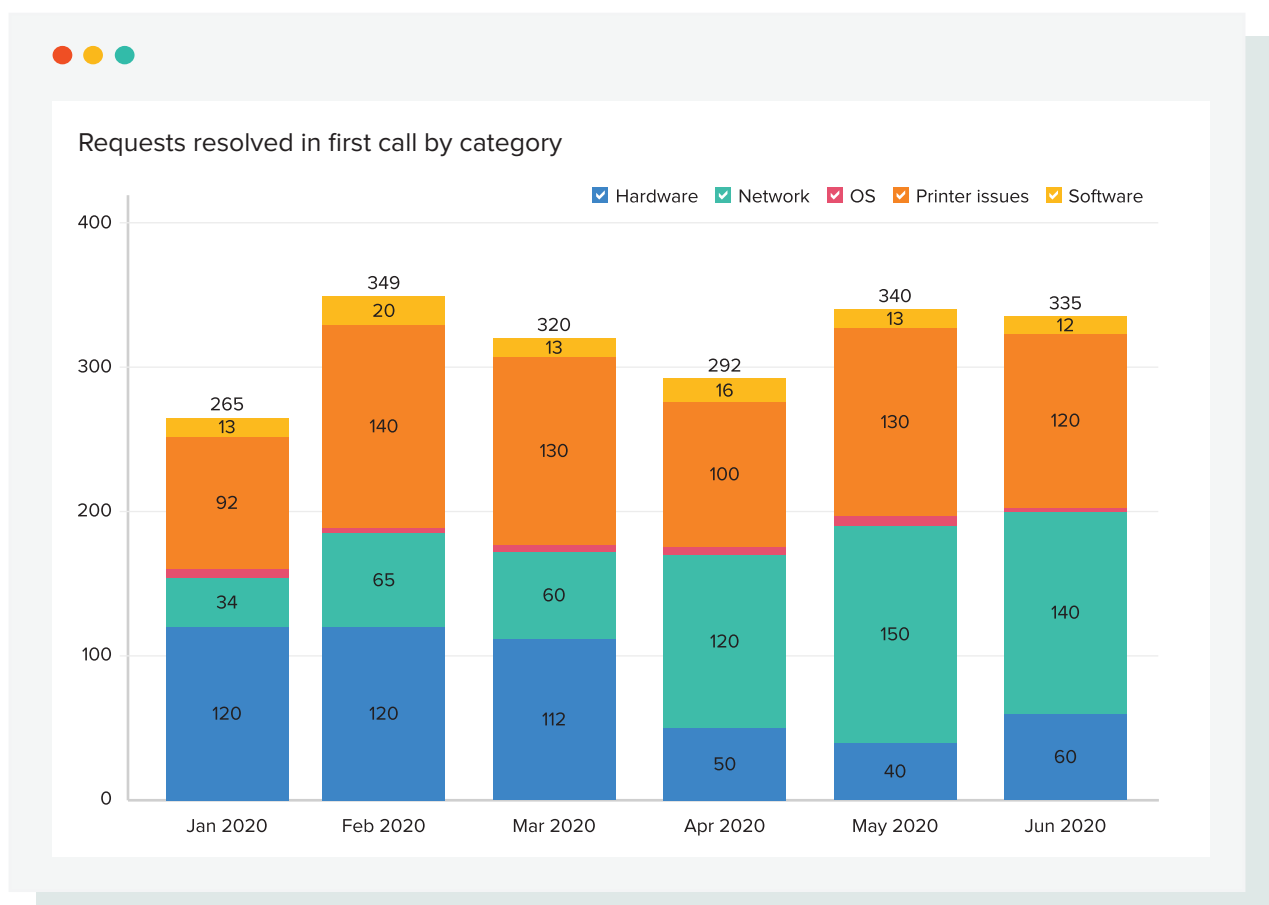


Problem 5: Skewed metrics creating tunnel vision in IT management

IT service teams strive to achieve the goals set for them, so it's important to pick and set the right targets and metrics. Fixating on the wrong metrics can mislead your help desk and stagnate progress.

Take the first call resolution rate, for example. It's considered a critical help desk metric. However, a high first call resolution rate also means your help desk is handling too many simple requests or there are several known infrastructure defects or failures that users could resolve themselves if solutions were documented in the knowledge base (KB) repository. It's important to remember that an increase in first call resolutions isn't always a measure of agents getting better at solving an issue.

To see if your help desk is showing a skewed first call resolution rate, look into the category and complexity of tickets resolved in the first call.



From the report, you can see that the number of tickets resolved in the first call is higher for certain categories such as hardware, network, and printer issues. However, the number of tickets resolved in the first call is low for certain categories such as OS and software issues. This is because some categories of tickets are inherently complex and cannot be resolved in the first call. Introducing categories in this report adds clarity and provides a realistic picture of your first call resolution.

Based on your report, you can then adopt one of these solutions:

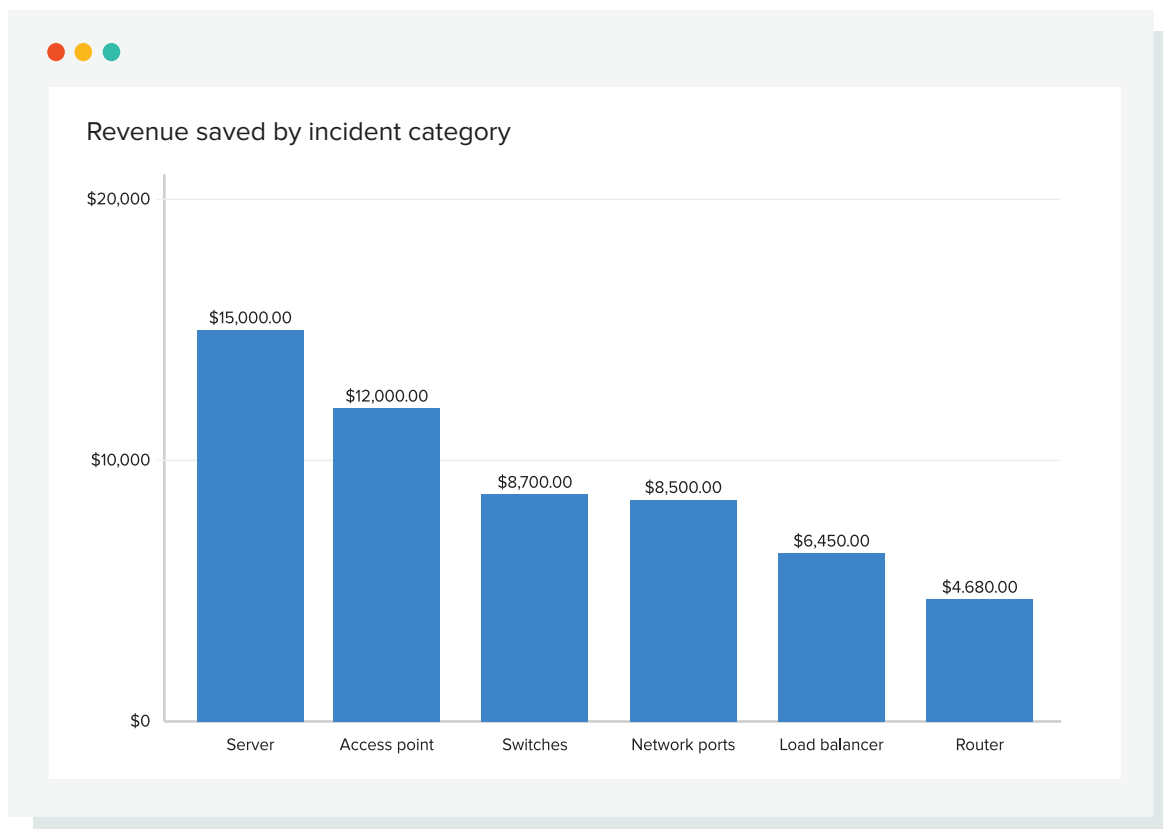
- Implement self-service wherever applicable. As a result, you'll notice a dip in first call resolutions; however, you'll actually be saving time and freeing up your agents to tackle more serious issues.
- Drill down and identify the root cause of problems; categorize them based on complexity and urgency, and assign them to level 2 or level 3 support agents.

Problem 6: Inability to demonstrate ROI of efforts

In any enterprise, there are two types of departments: cost centers and profit centers. IT help desks have traditionally been viewed as cost centers because they don't generate tangible revenue. As a result, requests for additional funding to improve functions or processes have been met with skepticism. However, the IT help desk is the cornerstone of any business that keeps business services online.

IT managers can demonstrate the value IT brings to the organization by quantifying help desk activities in terms of revenue lost per hour, i.e., a network outage costing \$1,000 an hour in losses or an unavailable server costing \$500 an hour. Of course, these are arbitrary numbers used for discussion purposes only; help desks need to calculate revenue lost as per the size and scale of their operations.

The next step is to demonstrate the value of IT services in terms of revenue by showing how much can be saved by preventing IT incidents. The report below quantifies revenue saved in the past year by preventing major incidents.



The unintended downside of this report is that it might be viewed as a representation of bad IT services. However, the purpose of this report is to quantify the value IT brings to the organization, because achieving incident-free IT is practically impossible.

Problem 7: Not knowing how to rightsize IT operations

IT help desks have always struggled to rightsize their support staff according to end-user requirements. Having too many technicians drives up IT costs, and too few technicians leads to ticket pileup. Now, the pandemic has introduced further complications to the mix. Technicians no longer have access to the physical systems, devices, or equipment used by end users, and end users can't consult coworkers to resolve simple, day-to-day technical issues. As a result, ticket volume and average resolution time have both increased, customer satisfaction has decreased, and existing service processes are no longer effective.

According to **Gartner** ^[5], the standard ratio for end users to technicians is 70:1, provided the enterprise uses a single operating system across its network and hardware. However, this ratio depends on several factors such as the number of users, the technology stack and the frequency at which the technology stack is refreshed, average ticket handle time, etc. So, if you're looking to add more technicians to your team, use this ratio as a benchmark to pitch the case to your senior managers.

However, if you cannot hire more staff and have to do more with less, here are a few ways in which you can increase customer satisfaction and also reduce the workload on your technicians:

- Create self-service options, and encourage end users to resolve minor issues themselves. For every tier 1 or level 1 ticket resolved by self service, the help desk saves \$2. By deflecting low-tier tickets to end users, you can also save 15-30 minutes of your technicians' time.
- Improve your service processes, remove lags and bottlenecks, and ensure speedy resolutions for other high-level tickets. This will save your technicians more time that they can use to work on other tickets.
- Frequently perform root cause analysis on recurring problems. Prevent problems at the source, and you won't have to deal with the ripple effect of tickets created because of those problems.
- Provide adequate training to your staff through peer learning, webinars, videos, help documents, manuals, and expert sessions. Empower them to handle tickets more efficiently.

Conclusion

IT departments are constantly battling numerous problems. We hope this e-book provided valuable insights on identifying the root cause and resolving some of those problems using advanced analytics.

Are you facing any of these problems in your help desk? Do you wish you had better means to tackle them? Email us at analyticsplus-support@manageengine.com with your help desk problems, and we'll be happy to work with you on finding a solution.



About

ManageEngine Analytics Plus

ManageEngine Analytics Plus is a self-service business intelligence and IT analytics solution that integrates with several popular help desk applications such as ServiceNow, Zendesk, and ManageEngine ServiceDesk Plus. It also integrates with other IT applications used for network and application management, project management, endpoint security management, and more. Powered by artificial intelligence, machine learning, and natural language processing, Analytics Plus features an AI-assistant that can display stunning visual responses to voice and text comments. Analytics Plus also features capabilities such as importing data from multiple sources, data blending, trend forecasting, real-time sharing and collaboration, and advanced computing and analysis.

[Download a 30-day trial of Analytics Plus](#)

180K
customers
across the world

18+
years of IT
management experience

90+
products
and free tools

190+
countries
served



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