# A Guide to IT Support Desk Automation

Why, When ... and How

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# Introduction

IT support desk automation involves automating routine tasks, improving operational efficiency, and lightening the overall workload for IT support technicians and agents. With less simple-yet-tedious work on their plates, those employees can focus their time, skillset, and energy on more complex problem-solving of escalated tickets that require the human expertise of Level 3 analysts.

If deployed properly, automation can speed up detection and response actions, allowing organizations to level up their IT team to take on more strategic responsibilities related to digital transformation projects. When you don't have to focus as much attention and time on managing Level 1 and 2 tickets, your IT team can do more with less — and more efficiently.

In this guide, we'll focus on why, when, and how to use IT support desk automations, and explain why you need visibility into your IT estate's vast trove of data to make automation as useful as possible.

# 01. Why Use IT Support Desk Automation

Automating IT processes offers many benefits:

○ You can more easily shift IT operations from reactive (addressing problems only as they arise) to proactive (catching issues before they become complicated and costly, improving IT performance in the process).

○ Your IT operations will become more flexible and agile, allowing you to rapidly detect and respond to and fix problems at scale, even unreported issues.

○ Your IT leaders will be able to use the same number of resources to do higher-value projects.

○ Automation can supplement tasks, greatly improving your operational efficiency.

○ Greater efficiency means you're likely to reduce mean time to resolution (MTTR) for your help desk tickets.

○ You'll improve your workflows, creating a "self-healing support desk" for certain issues.

○ Your team will have the time and energy to take on more complex strategic tasks, becoming more skilled and proactive IT consultants in the process.

○ Every support ticket costs money to resolve. By reducing the overall volume of tickets, you'll be able to lower your IT service desk costs and minimize downtime.

○ You will improve the digital employee experience of end users.

For too long, businesses have looked to IT departments to merely "keep the lights on." With an automation-driven approach, you can transform your IT team from a cost center to a strategic business center. IT staff no longer will be just technologists; they'll become business practitioners. It's much easier to advance business strategies through technology when you've taken mundane, time-consuming tasks off the plate. What's more, your end users will be more satisfied with IT service delivery.
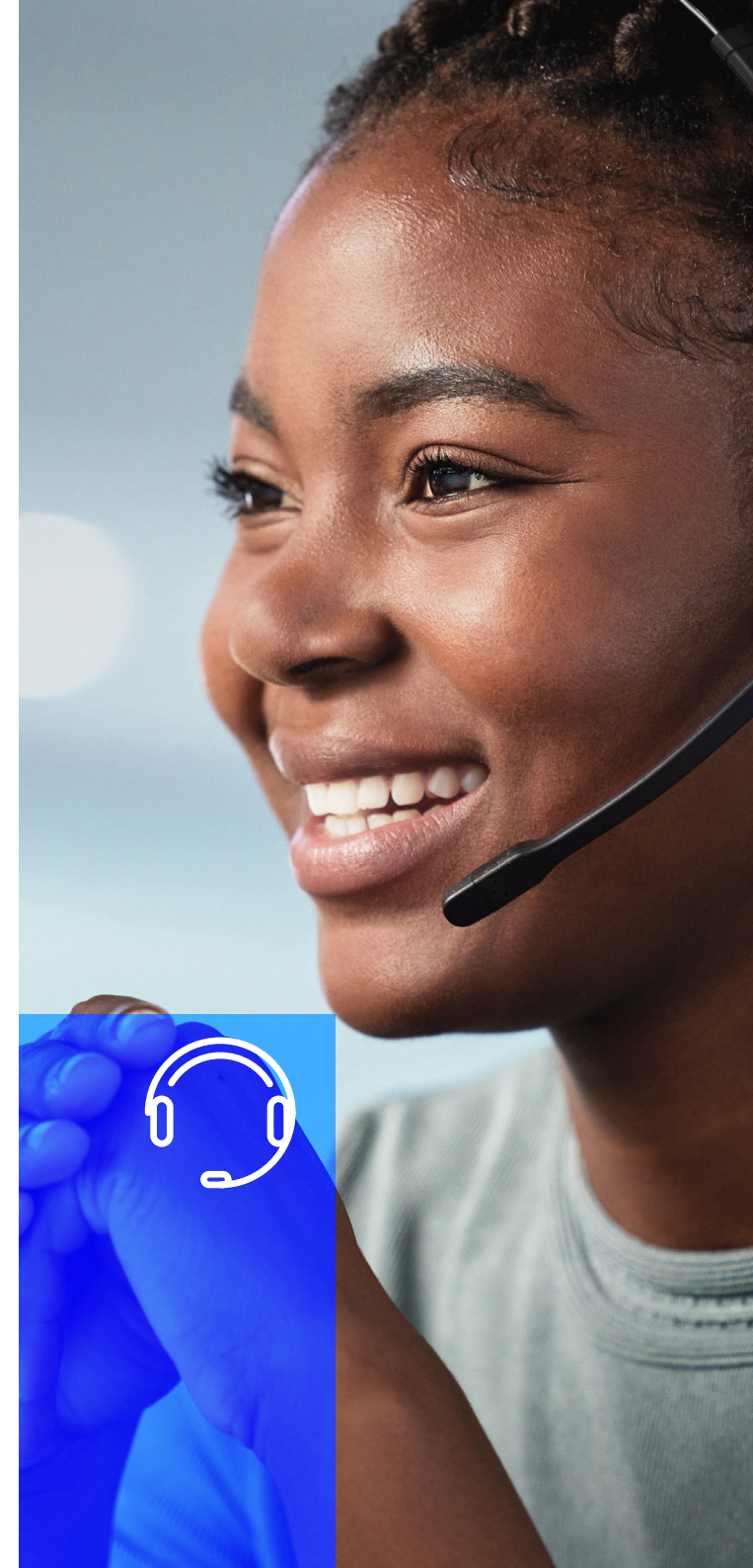
# 02. When to Use Automation in IT Operations

## Automated Detections

Automated root cause analysis (RCA) is critical to detecting and resolving IT issues more quickly, improving the support desk efficiency and, as a result, reducing operational costs and increasing employee productivity. With automation, IT teams can even accelerate their root cause analysis process and remove manual effort.

Root cause investigation is the process of discovering the source of technology-related issues in order to solve them. It's worth emphasizing that RCA uncovers the source of IT incidents rather than simply treating the symptoms. This approach enables your support desk team to prevent the same issue from happening again. Automated RCA uses machine learning and artificial intelligence to automate the incident investigation. This approach relies heavily on endpoint data and smart sensors for quicker incident management.

The use of artificial intelligence and automation in RCA enables IT teams to discover, troubleshoot, and remediate problems faster than they could manually. Organizations can provide support at scale, remediating more issues without requiring more IT staff members. Another advantage is that automated root cause solutions do not rely on the users' or technicians' assumptions about the issue. It's a data-driven approach that drives more efficient processes and accurate results.

## Automated Actions

Automation is best used to address Level 1 and 2 tickets. Automated Level 1 actions can be as simple and straightforward as pointing the user to an existing feature, helping them proactively avoid an expired password, or walking them through a software installation. Why waste your IT team's time on such basic tasks when a chatbot or automated workflow can resolve the issue?
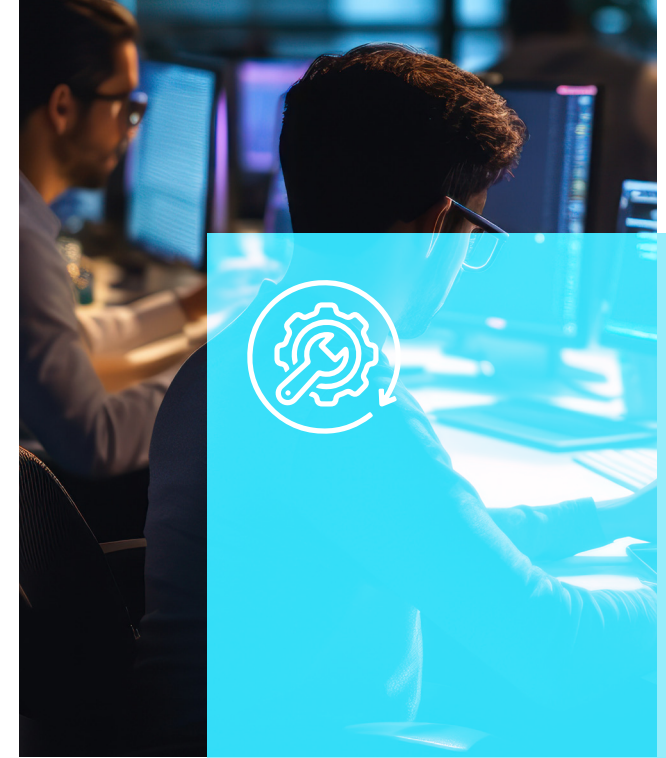
Level 2 solutions are a bit more complex, but they can still be addressed with automation. The right script can detect an issue and automatically deploy a fix across the system, often before the end user even realizes something's wrong. For example, if an automation discovers a duplicate program taking up memory and affecting performance, it could force the redundant instance to shut down. Automations also can determine when a reboot is necessary to address performance issues and perform the restart itself, clean a C: drive's temporary internet files, and empty the recycling bin.

# 03. A Case Study in IT Resilience

In an industry where time-on-task is literally revenue, every minute of downtime caused by IT issues costs money. Some of the challenges faced by a large call center service provider, based in the United States, included:

○ Slow, unreliable access to necessary applications and databases.

○ Lengthy bootup/login time for agents.

○ Limited visibility into end users' systems, both physical and virtual.

○ Inability to effectively monitor more than 40,000 employees dispersed around the globe.

By using DEX data to monitor the IT environment and minimize downtime, the company discovered and investigated a latency issue. Specifically, the call center service provider's support team discovered that a rogue application was consuming more than 50% of the CPU usage. As a proactive measure, IT wrote a script that automatically deals with rogue applications across the IT environment. In this case, efficient root cause analysis led not only to solving an issue but also to using IT automation to prevent this type of incident from happening again.

Use Case

# 04. How to Ensure Successful Automation: Data

So, what's the key to successfully using automation in your IT estate? Data. But it's not just a matter of gathering as much data as you possibly can; it needs to be useful data. Without comprehensive, actionable data, automation requires too much human intervention or becomes too risky to deploy. That negates the value of automation in the first place. What good is a chatbot if your IT team constantly has to field tickets the chatbot wasn't able to handle? What's the point of using an automated script to discover IT issues if the script itself breaks?

Every organization is already swimming in data. How can your IT team become Olympic swimmers to navigate all that data? To go for the gold, an IT team needs to:

○ Have a clear use for the data generated

○ Defined expectations about the data they need

○ Knowledge of how to interpre the data to drive effective workflows

To build a good automation process, you need to start with human expertise. After all, IT experts have the knowledge necessary to ensure that automations are built and trained with relevant data to ensure that data can be effectively used within a service desk workflow.

## Quantitative vs. Qualitative Data

Hard numbers don't always tell the full story. In addition to quantitative data about usage, load times, and other objective measures, qualitative data collected through surveys, especially with free-response questions add to the data insights. Reading through survey responses can be time-consuming, of course, so it's good to use sentiment-analysis tools to track the occurrence of words with positive and negative connotations to score individual responses and get an overall picture of the end user experience.

Without the proper context for your data, you could misdiagnose the problem. Similar to a doctor navigating symptoms to heal the root cause of a patient's illness, applying remediations to performance symptoms will only temporarily improve end user experience. Or you could apply a sweeping solution to all end user systems, causing disruption and hurting productivity due to potential updates and reboots.

# 05. How to Identify the Data You Need for Automation

If you're familiar with Maslow's Hierarchy of Needs, you know that people need to cover their basic needs (food, shelter, sleep, etc.) before they can work their way up the pyramid toward safety, love and belonging, esteem, and self-actualization. Data science has a similar hierarchy: You need a base of raw data first, then context for the raw data, and then you work your way up from information application to analysis and finally actionable insight.

Let's say you have raw data that indicates your laptop is running slowly. When you apply context — that a particular executable is on the system — that data becomes meaningful. Upon further analysis, you may find that the end user is running a new version of Adobe Commerce, for example, which is responsible for the slowdown. Finally, you glean some actionable insight: This specific version of the application requires a patch to address the issue.

As you move up the hierarchy, you can use your data insights to build targeted automated workflows that can be applied with precision.

How do you know what data to capture? Start by looking at the data closest to the end user — after all, it's their experience that most directly affects the IT team's workflow. You need to proactively capture end-user device data regarding any performance issues at the endpoint. You also need to track activities including the end user's digital experience, service desk operations, and any hardware and software usage. This may include:

○ Hardware performance

○ Latency

○ CPU, memory, or storage usage

○ Network connectivity

○ App or system faults

○ Slow startup times

With the right data, you can build chatbots, workflows, and automation models that can either help end users solve their own problems or deploy fixes automatically, without the end user ever needing to get involved.

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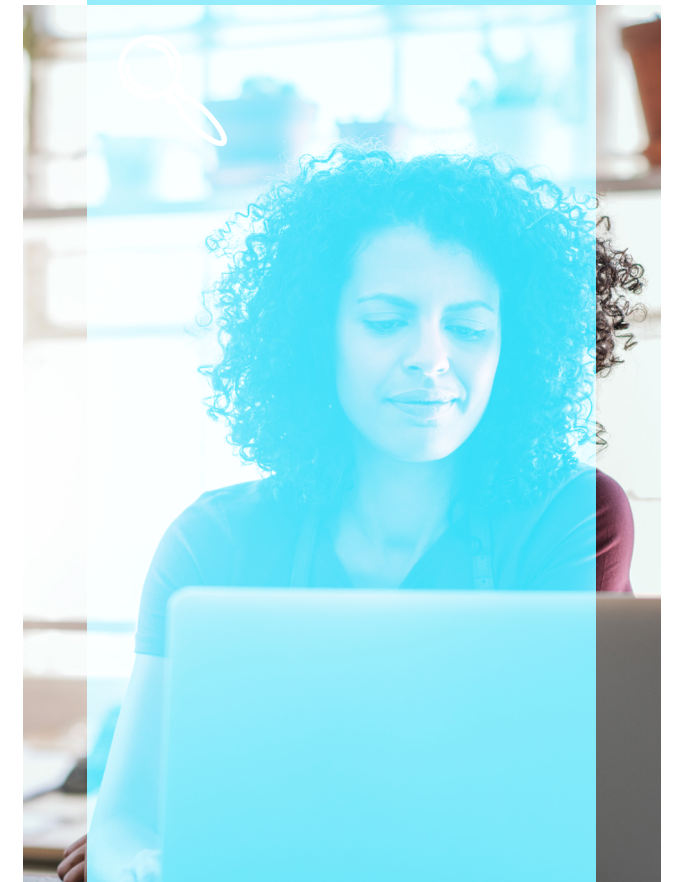
# 06. Maintain Complete Visibility of Your IT Environment

With more visibility into the health and performance of every desktop, laptop, and mobile device across your enterprise — ideally down to 15-second increments — you can get the insights you need to address emerging issues before they escalate into something more serious. This means continuously monitoring system data and digital environments and pairing them with specific automated remediations. It's also important to dig up historical data to understand your baseline IT status and use it to measure the success of your automations.

With multiple levels of current and historical data to work from, you can generate a high-level health score while also drilling into urgent issues.

## Automating actions for common end user issues

Lower levels of support take up a large percentage of IT resources on low-value issues. Today, these can be solved by automation, such as:

**01.** Restarting a device if performance issues are detected or if a device is out of compliance with the organization's rebooting policy since extended times between reboots can degrade system performance.

**02.** Performing a disk cleanup in response to performance issues (e.g., a script that cleans the C: drive's window temporary internet files for all users and empties the recycling bin).

**03.** An automated engagement (e.g., desktop pop-up to the end user) regarding password expiration.

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There are many benefits to IT automation, but you can't just start whipping up some code and hope to see any real improvement in your IT team's workflow or your end user's digital experience. You need clear visibility into useful data to construct a viable strategy for automation. From there, you can focus on deploying specific solutions that will have a real impact, thanks to speeding up detection, root cause analysis, and response actions.

The **Lakeside SysTrack platform** provides the visibility you need into your IT estate to automate your support desk. By capturing data from more than 10,000 points every 15 seconds, SysTrack generates actionable insights to make automation highly effective.

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# Automation Informed by Human Expertise

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