

DEVICE42

Become an IT Superhero in Five Simple Steps

At one point not long ago, the internet was a new phenomenon and a global disruptor. Now, it has become commonplace. Three generations—millennials, Generation Z, and Generation Alpha—are now regarded as digital natives. The internet has existed for a majority of their lives and there's nothing new about it.

For this reason it is not an exaggeration to say that all businesses run on information technology now. In every industry, businesses simply cannot ignore their IT requirements without risking replacement. With this shift, the Chief Information Officer (CIO) has risen to a position of prominence in every organization. A recent survey revealed that 55% of CIOs now have more influence on how the business is run¹ and how services are delivered to their customers.

But, as the Peter Parker Principle² states, "With great power comes great responsibility." Just as information technology executives and managers have risen in importance and have increased influence in an organization, they now have a social responsibility to meet the challenge.

¹ Cloudearch, "[The Impact of Covid-19 on Digital Transformation in 5 Charts](#)," *CIO Magazine*, March 12, 2021.

² Wikipedia, "[With Great Power Comes Great Responsibility](#)."

This white paper outlines the top five challenges IT administrators face every day and how the right tools and skills can overcome them. The information included in this paper draws upon years of experience transforming the Peter Parkers of IT—skilled professionals toiling away in obscurity—into prominent superheroes who are credited with innovation throughout the organization.

The five top IT challenges are:

1. Increasingly complex IT environments
2. The necessity of IT modernization and cloud migration
3. High service levels required by the always-on enterprise
4. Rapid changes and unforeseen events that put pressure on IT resources
5. Continuous compliance as the new normal for business and IT



Challenge #1—Increasingly Complex IT Environments

Holding true to Moore's Law that computing power doubles every 18 months, IT complexity continues to grow at an exponential rate. Currently, a single web or mobile transaction crosses, on average, 35 technology systems, a 60% increase from five years ago, in order to function³. So if an application has an issue, an IT professional has to investigate 35 different potential points of failure in order to diagnose and address the issue.

Knowing this complexity, it might not be a surprise to learn that 51% of IT leaders reported increased downtime since March 2020⁴. While some of this downtime could potentially be related to the increased number of workers working from home due to the Covid crisis, this is still an eye-popping jump. Further, the costs of this downtime are astronomical. Estimates vary but, on average, downtime costs a business \$300,000 per hour, with a range on the low end at \$100,000 to as high as \$5 million in lost revenue and productivity during an hour of downtime for larger organizations⁵.

In this complex environment, it is easy for IT administrators to feel overwhelmed. One individual simply cannot keep up with all the new services and technologies introduced every year—it's not possible to have total awareness of all the new cloud and IT technologies introduced every year. Time is limited and there's a sharp divergence between existing skill sets and knowing which new technologies will spring to the forefront.

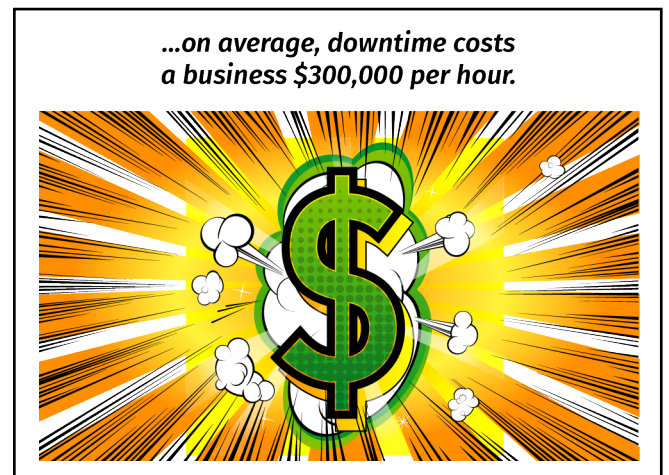
³ Alaimo, Dan, "[76% of CIOs Say IT Complexity Makes It Impossible to Manage Performance](#)", *Retail Dive*, February 1, 2018.

⁴ Malone, Katie, "[Two-thirds of Enterprises Lose Productivity to IT Outages: Report](#)", *CIO Dive*, February 16, 2021.

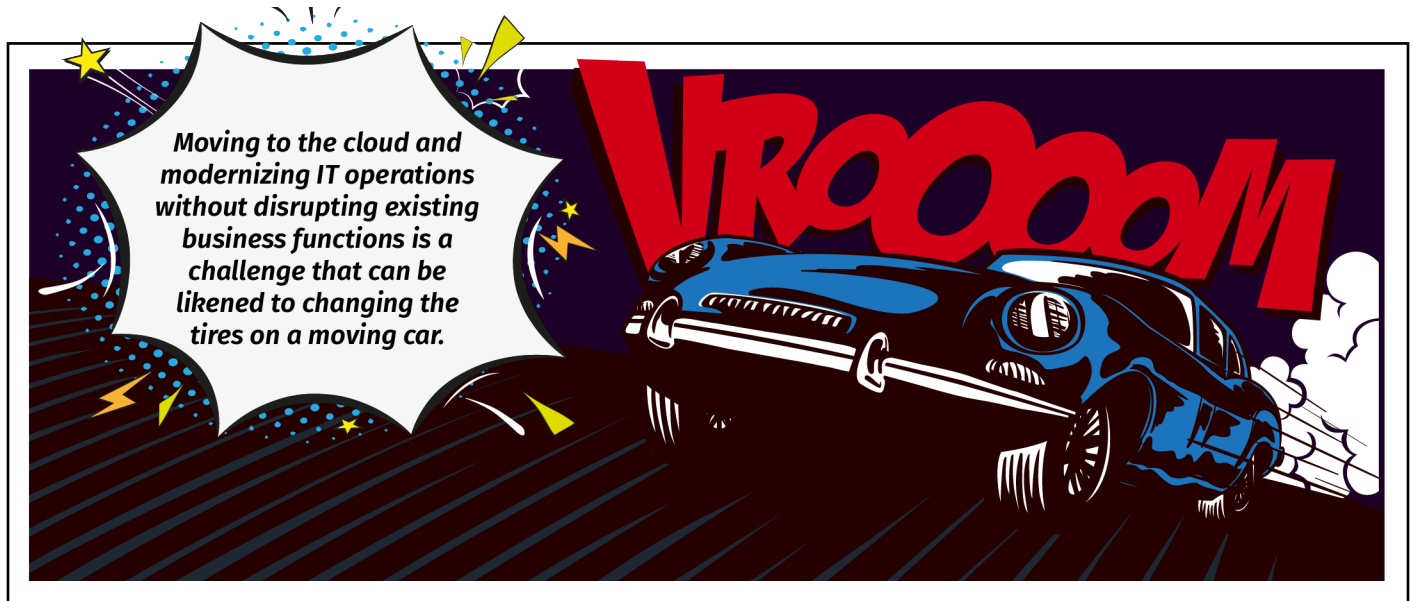
⁵ Lerner, Andrew, "[The Cost of Downtime](#)", *Gartner Blog*, July 16, 2014.

The Solution

In tackling this issue, complete visibility that includes knowledge of the dependencies of resources helps immeasurably. By definition, discovery and dependency mapping solutions are designed to make IT environments less mysterious. With them, administrators finally have knowledge across multiple technologies and can see the interdependencies between various configuration items (CIs) in one place. Armed with this information, administrators can find and identify the root cause of problems quicker, plan for the future better, and feel confident in their daily efforts and productivity.



When looking for a discovery and dependency mapping solution, it's important to find one that's able to handle multi-cloud environments along with on-premises machines. Visibility needs to span across multiple environments so that administrators have a complete picture of the IT estate. Knowledge is power. The more IT administrators know about their environment, the better able they will be to handle issues as they arise.



Challenge #2—IT Modernization and Cloud Migration

Recent research shows that IT modernization and cloud migration are important challenges for organizations, with 67% of respondents saying IT modernization is crucial to transformation⁶ and 80% shifting operations to cloud-centric IT⁷.

While organizations recognize the potential cost and efficiency gains in migrating to the cloud and modernizing, they are often lost when it comes to making a plan to make the switch. Moving to the cloud and modernizing IT operations without disrupting existing business functions is a challenge that can be likened to changing the tires on a moving car. This difficulty and introduction of risk to normal business operations could be the reason only 25% of IT executives say they have achieved their IT modernization goals⁸.

The Solution

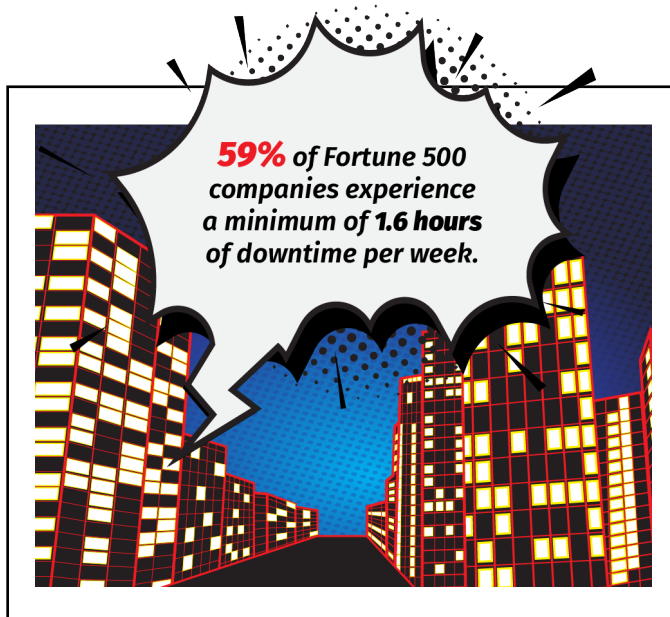
Fortunately, discovery and dependency mapping provide IT administrators a map, a visual representation of the entire infrastructure, to help create a cloud migration and modernization plan. By knowing the total lay of the land, administrators can make intelligent changes and measure success as it is achieved. With a complete view of the enterprise's resources, IT leaders can build a modernization process where nothing is lost, left behind, or unaddressed.

Further, visibility into dependencies within the IT environment can assist before, during, and after a migration to the cloud. Before the migration happens, discovery and dependency mapping give administrators a view on what needs to be moved and in which order. During the migration, administrators can see where each component is and if anything is broken or in danger of breaking. After the migration, these tools can help administrators assess operations and analyze the impact, either positive or negative.

⁶ Insight Direct USA, Inc., "[The State of IT Modernization 2020](#)", 2020.

⁷ Dureya, Yulia, "[The Big Shift to Cloud and the Network Agility Needed to Support It](#)", *San Francisco Business Times*, April 26, 2021.

⁸ Insight Direct USA, Inc. op. cit., p. 4.



Challenge #3—Keeping the Lights On

In a digital business, a lot of pressure falls on the IT department. Business now operates faster than ever before and, as a result, patience is in short supply. Recent research indicates one out of three people will abandon a brand they love after just one bad experience. A majority of consumers (54%) say customer experience at most companies needs improvement⁹.

These consumers have a point. Despite all the upgrades, modernization, and IT investment over the past two decades, 59% of Fortune 500 companies experience a minimum of 1.6 hours of downtime per week¹⁰. That's a lot of money when you consider, as mentioned earlier, the average cost is about \$300,000 per hour of downtime. That figure becomes even more significant when calculated on an annual basis and it does not measure the total number of customers lost after having a negative experience, possibly forever.

The Solution

With these statistics in mind, it's clear IT organizations need visibility into how their IT resources interact and support their business processes. To survive and thrive with this challenge, as an IT professional, you need to understand the impact of each of the IT resources to specific business functions. You also need IT visibility that aligns your major business processes and business units. This visibility should allow you to create a collaborative environment around a single source of truth, an environment where everything is in one place. When enterprises have that level of visibility in one place for multiple teams, whether it is the server, application, or database group, everyone is working off the same dataset. This engenders collaboration and teamwork which reduces the time required to solve problems.

This level of visibility can increase efficiency when coupled with other customer service technology. To cite just one example, discovery and application mapping can be connected to an enterprise's IT service management (ITSM) technology to ensure support tickets include valuable hardware and software information. This inclusion effectively cuts mean-time-to-resolution (MTTR) as much of customer support is devoted to determining the customer's specific hardware and software configuration.

⁹ Puthiyamadam, Tom, et al., "[Experience is Everything: Here's How to Get it Right](#)", PwC Inc. Report, 2018.

¹⁰ WebsiteSetup.org "[Average Web Hosting Uptime in 2018 for 32 Hosts](#)", November 17, 2020.

Challenge #4—Change is the Only Constant

The year 2020 drove home the point that no one can predict the future. Before Covid, studies indicated an average of 10 to 15% of the workforce was working from home and then, literally overnight, 100% of the workforce was doing exactly that. IT teams had to pivot and move quickly to handle this new reality. The questions sprung up instantly. How do you support a large set of employees that are not on-site? How do you support them securely and effectively? Complicating matters, these questions applied to both the hardware and software sides of the business.

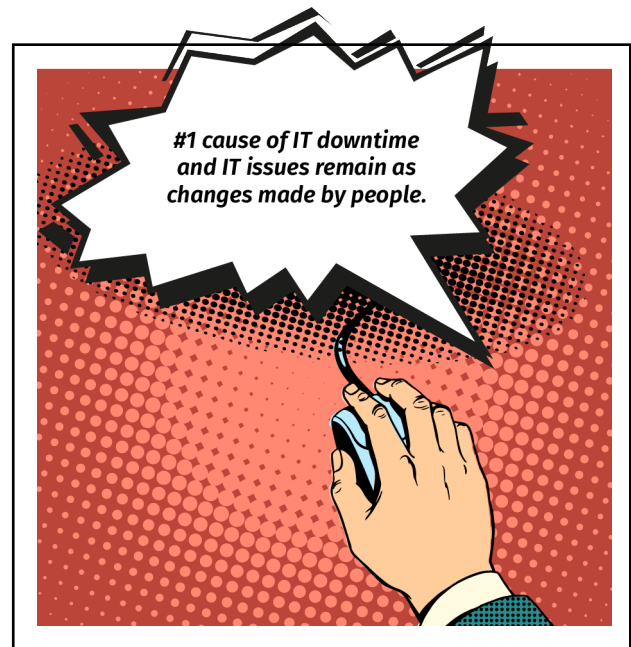
The Covid-inspired changes didn't stop there. Post-Covid, the world appears to be headed towards multiple waves of economic uncertainty involving rounds of mergers and acquisitions, mass layoffs, hiring sprees, and price disruptions in every industry. The changes are deep and lasting as a clear majority (54% versus 23%) of IT executives believe that the increase in remote working will remain long after the Covid crisis¹¹.

Covid is a good example of an unknown unknown. It's a threat no one anticipated and for which no one planned. It's the kind of thing that keeps IT administrators up at night. Regardless of how this all shakes out, it's clear that change is the only constant. According to multiple research reports, the #1 cause of IT downtime and IT issues remain as changes made by people. IT administrators have to stay ahead of changes whether it's caused by external forces or internal, and adapt as quickly as they can, but how?

¹¹ McKinsey & Company, "[How COVID-19 Has Pushed Companies Over the Technology Tipping Point—and Transformed Business Forever](#)", Survey, October 5, 2020.

The Solution

While it is not always possible to be prepared for every change and circumstance, detailed knowledge of an IT environment and its alignment to business helps administrators track and stay ahead of changes. It also provides a firm footing to handle them. The ability to visualize all the available resources in a single place, both in terms of hardware and software, helps administrators understand the impact of unforeseen changes to the business. It works both for the larger team and individual contributors.



This visibility enables proactive planning based on the changes that are coming soon. A tool for comprehensive discovery and application mapping not only allows IT administrators to maintain inventory of all their configuration management databases (CMDB), it also gives them the ability to understand the impact of changes to resources and business. When this fear from the unknown is removed, it's just as FDR said, "The only thing we have to fear is fear itself."

Challenge #5—Continuous Compliance

Given the enormity of challenges IT administrators face on a daily basis, compliance is an issue that can get the short shrift and fly under the radar, but it is something that can very quickly bite. Whether your organization is involved in healthcare, finance, government, or if it simply accepts credit cards, there is some kind of IT compliance mandate that applies.

Research has shown the average cost of non-compliance, whether it's a fine or the amount spent preparing for compliance audits, can range from \$14 million to as high as \$40 million per year. Even worse, compliance mandates have been increasing for the last couple of years. Over the past ten years they've surged by almost 50%.¹² Fifty-four percent of executives anticipate spending more this year on compliance.¹³ Many compliance initiatives are becoming even more harsh over time. Organizations are already budgeting for new regulations anticipated to be created by the Federal Data Privacy Institute.

As much as administrators wish it were so, the ostrich's trick of putting one's head in the sand is not going to help pass a compliance audit. Further, when the IT department abandons their daily tasks to prepare for when the compliance officers visit, they introduce major risk to the business.

Fifty-four percent of executives anticipate spending more this year on compliance.



The Solution

When it comes to compliance, IT administrators need to be proactive and stay compliant 24/7—not just in preparation for an audit. Grabbing the bull by the horns means knowing how to protect and track company data. It also means knowing how it moves across the organization. It demands knowing if the latest security patches have been implemented.

Again, knowledge is power. Having a software tool that gives administrators full visibility into the organization's networks, databases, servers, systems, endpoints, and application infrastructure in a single place is a major step forward in the pursuit of compliance.

This pursuit should happen not just in preparation for an audit, but continuously. IT administrators should always be looking for vulnerabilities and potential issues. IT administrators have to be one step ahead of regulations. Gaining visibility into the IT environment with a single source of truth changes the game for compliance.

¹² Ponemon Institute LLC, "[The True Cost of Compliance with Data Protection Regulations](#)", Research sponsored by Globalscape, December 2017.

¹³ Hyperproof, "[2021 IT Compliance Benchmark Report](#)", December, 2020.

Conclusion

When you think of superhero powers, the ability to fly, having super strength, or the ability to turn invisible, immediately come to mind. But it should be clear at this point that an underrated superpower is the ability to have total visibility and awareness of one's surroundings--particularly within a complex IT estate. Visibility is the superpower that makes all the difference in running an IT enterprise.

Total visibility using a single source of truth gives IT administrators the ability to handle three broad use cases that cover all five of their top challenges. The first is an improved ability to modernize and move to the cloud, with visibility before, during, and after the move. The second is clear vision into the daily operations and dependencies, which provides the ability to solve problems quickly--or even before they happen. The third is perspective across complex IT to support continuous compliance. With these three superpowers, IT becomes visible, understandable, and manageable as never before.

About Device42

Device42 is the most comprehensive agentless discovery and dependency mapping platform for hybrid IT available today. It discovers, maps, and provides insights to optimize infrastructure and applications across data centers and cloud, with accurate and a 'single source or truth' views of your entire IT ecosystem. With Device42, our 1,000+ customers run their IT operations more efficiently and solve problems quickly, meet compliance mandates 24/7 and are able to migrate and modernize with the lowest level of risk to the business.



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