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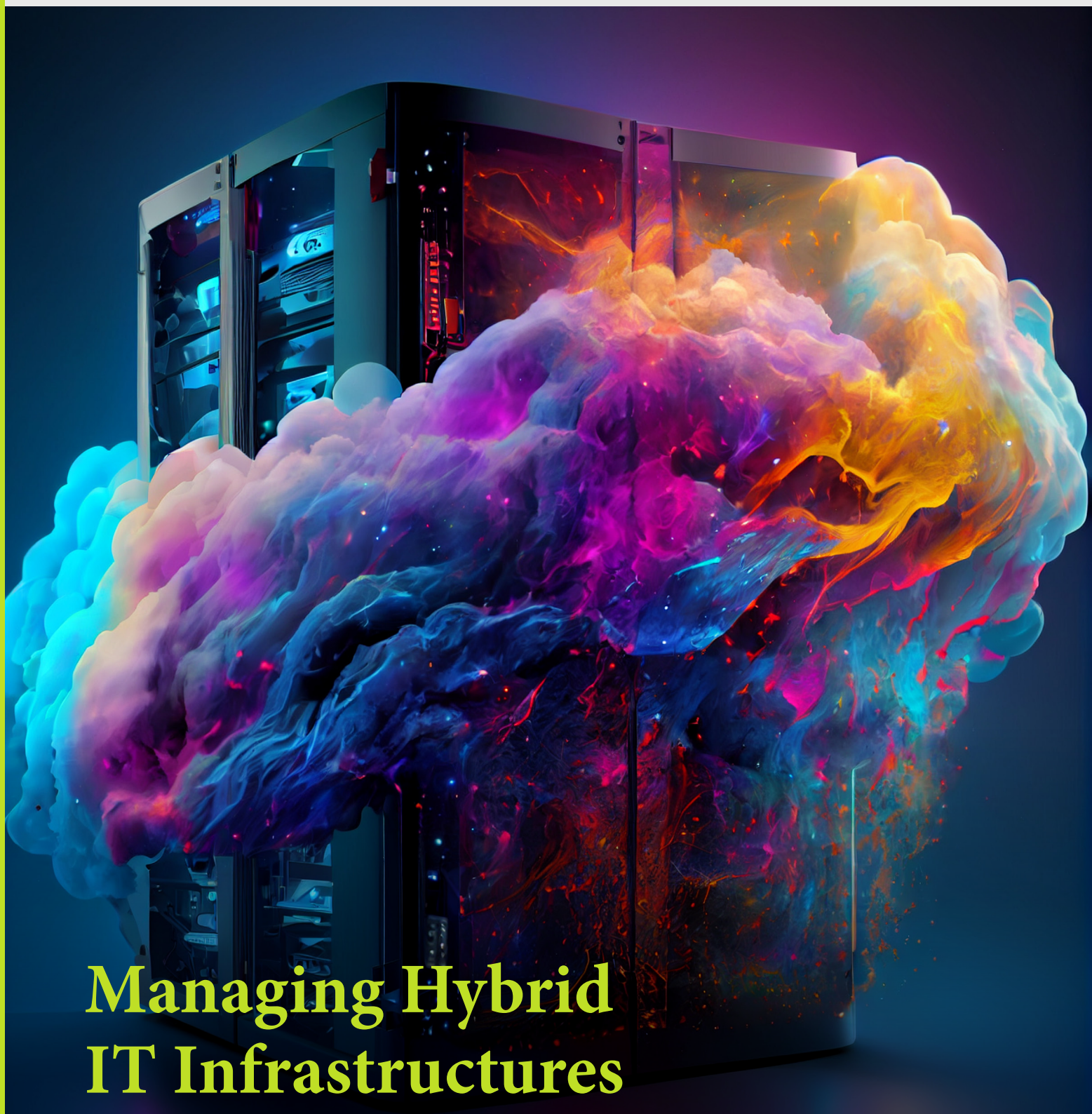

Managing Hybrid IT Infrastructures

Status Quo, Challenges and Solutions

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Introduction

The IT infrastructure is a key part of any modern organization. It provides the basis for operating all applications and for the successful handling of almost all business processes. However, the rapid development of new technologies and the rising use of cloud computing and as-a-service models means that companies are increasingly having to restructure their IT infrastructure. Companies thus need options that enable them to adapt their IT infrastructure more quickly to changing technical requirements without putting existing operational systems at risk. This requires careful planning and monitoring of the entire IT infrastructure to identify and resolve emerging problems.

Modern and holistic IT infrastructure management can deliver this, allowing companies to successfully run their business, remain competitive, and withstand the intense pressure generated as digital transformation gains pace.

IT infrastructure management is about the planning, provision, and maintenance of technical infrastructure, such that a company's IT systems and services can be run in a consolidated manner. One key aspect of IT infrastructure management is to ensure that the infrastructure remains stable and performs well, while also allowing innovation.

So what does modern and holistic IT infrastructure management look like? What aspect causes companies the biggest problems? And what do companies want from providers and the solutions they offer? These and other questions are examined in this short study. The associated data was gathered from 203 companies with more than 1,000 employees.

The status quo: IT infrastructure in large companies

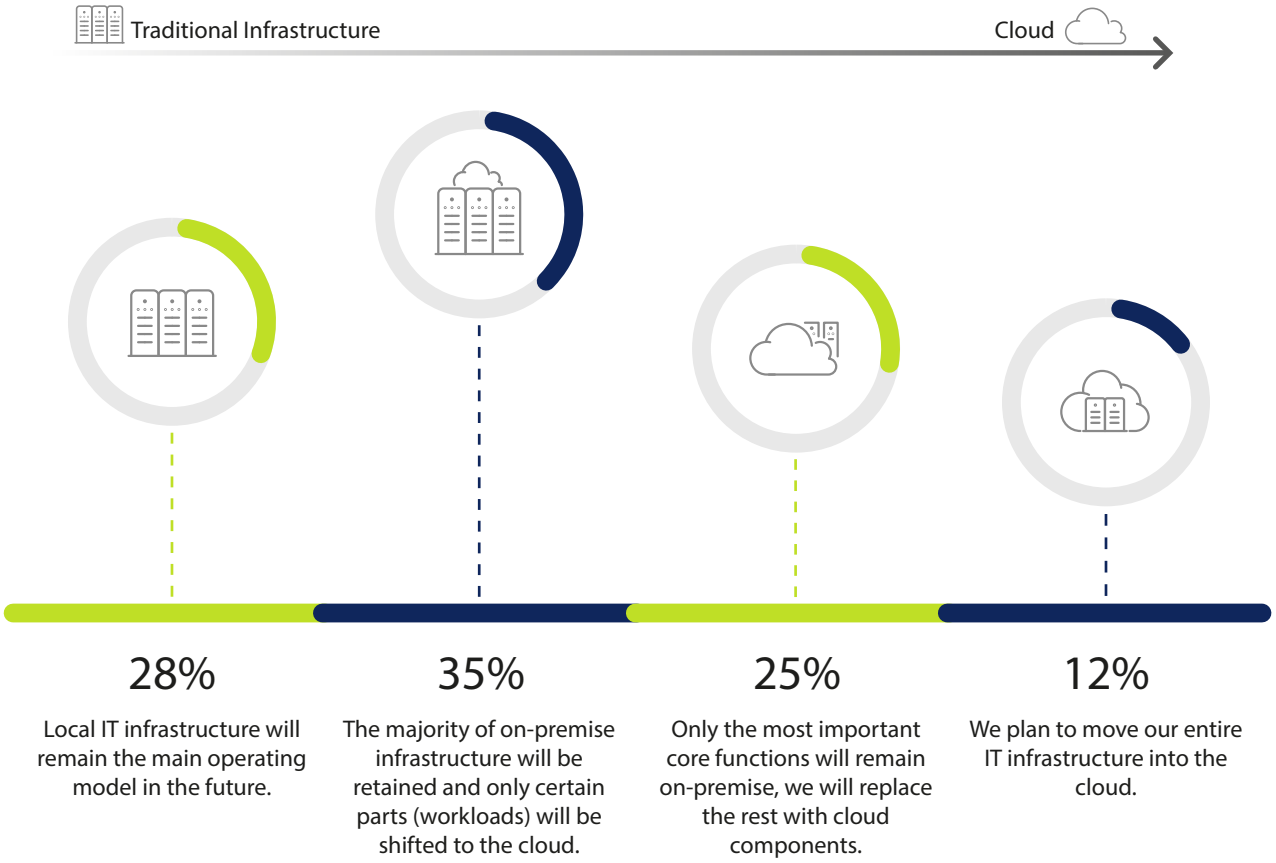
The IT infrastructure of any company consists of a variety of interdependent elements. Digital transformation has brought with it an increasing distinction between traditional operation and cloud infrastructures. Both of these options serve to support companies and organizations around the provision of technologies and services. They allow companies to access various hardware and software components in order to structure and operate their IT environment. A key difference between traditional IT infrastructure and the cloud is how the hardware and software are deployed, together with where responsibility for the IT infrastructure lies.

Traditional IT infrastructure consists of servers, network hardware, and software solutions that all run on-premise. Operating traditional infrastructure requires space and ties up IT staff, although it does keep responsibility for the company's own systems within the organization. Equipment is generally installed on site and only used by the company itself. More than one in four of the companies surveyed (28 percent) believe that on-premise infrastructure will remain important. In their view, this will continue to be the main operating model in the future.

Cloud infrastructure, meanwhile, offers the prospect of greater flexibility and scalability through targeted outsourcing of software and hardware. Companies no longer need to provide and run these resources themselves. Users access the infrastructure over the Internet. This gives companies the opportunity to use virtual IT resources. Local installations are no longer required. Cloud infrastructure therefore offers a number of advantages that on-premise IT infrastructures do not have. Nevertheless, only just over one in ten of the companies surveyed (12 percent) were in favor of a total shift to the cloud.

Corporate infrastructure outlook

Basis: 200 companies



Companies with local infrastructures still want to optimize their resources and benefit from scalability as part of digitalization. Achieving this is only possible with a combination of on-premise and cloud technologies. The status quo in the companies surveyed reflects this reality. More than a third (35 percent) intend to retain the bulk of their on-premise infrastructure and only shift individual workloads into the cloud.

In contrast, a quarter of companies (25 percent) plan to keep only the most important core functions on-premise and migrate the bulk of their workloads into the cloud. Both groups want to get maximum leverage from these two models through the use of hybrid infrastructures.

Companies want to use modern cloud applications without abandoning traditional IT infrastructures.

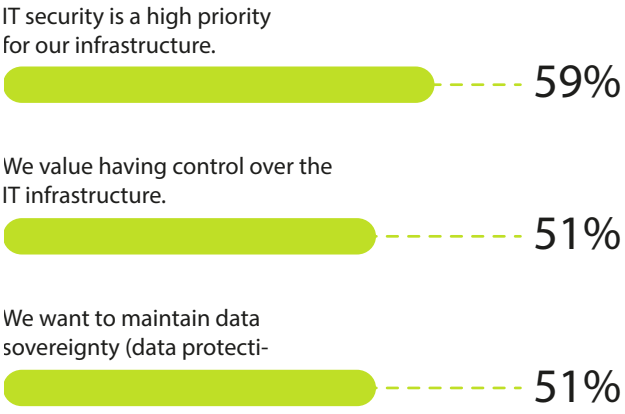
On-premise infrastructure is still relevant

A secure and coherent IT infrastructure allows companies to achieve huge increases in efficiency and also facilitates control. The exact composition of the IT Infrastructure, however, depends heavily on the company's goals and aspirations. Here, business activities determine the requirements of the operating concept. Functional scope, information security, availability, and maximum downtime and recovery times must all be considered in this context, together with the computing capacity, network transmission performance, and storage technologies required in order to meet the demands of the business.

Some 88 percent of the companies questioned intend to continue using on-premise infrastructures, although to differing degrees. Many reasons were cited, but IT security tops the list. This is hardly a surprise, since new technologies are being deployed at an ever-faster rate. IT staff are coming under pressure as a result and sometimes struggle to absorb all the necessary specialist knowledge. If updates to the various components are then neglected, this leads to an increase in incomplete or inaccurate configurations, thereby creating vulnerabilities and security gaps. The companies surveyed confirmed this view. 59 percent of the companies questioned attach a high priority to IT security in their own IT Infrastructure, which is why they still regard on-premise infrastructure as very important for their core business, even in the cloud age.

Top reasons for retaining local infrastructure

Basis: 178 companies | Multiple answers possible



Another aspect is the desire for control. Companies are reluctant to hand control of their critical infrastructure to a third party. This can be due to having their own ideas regarding depth of documentation and the rate of updates, for example. One in two companies consequently regard control over the infrastructure as one of the most important arguments in favor of retaining on-premise IT infrastructures.

Data protection also plays a special role in corporate IT infrastructure management. Rapidly growing volumes of data and information need to be processed and stored securely. There is scant room for error here, given the risk of breaching data privacy legislation and infringing the rights of natural persons. Accordingly, just over half the surveyed companies (51 percent) regard maintaining their data sovereignty as a high priority and feel that retaining on-premise operation is important.

Many challenges, IT infrastructure management a low priority

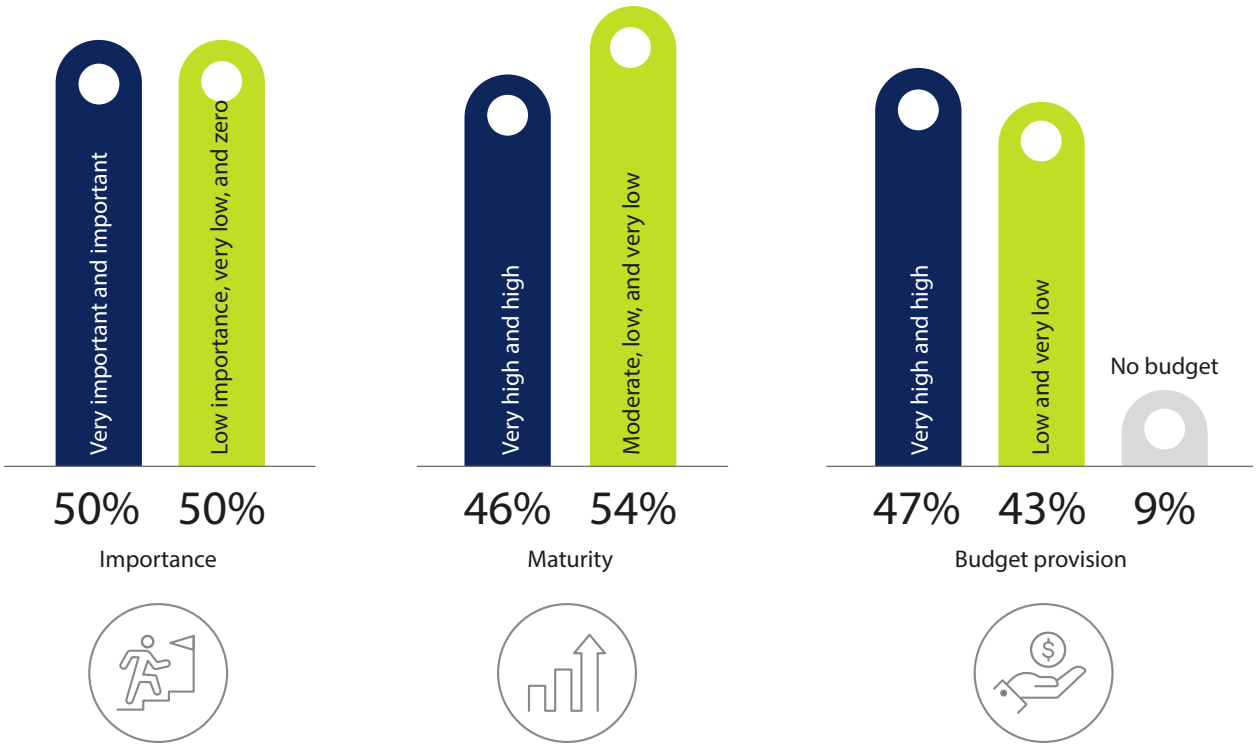
Although half of the companies (50 percent) currently rate infrastructure management as "very important" or "important," the flip side is that only one in two companies are able to identify and prioritize the most important aspects and requirements of an IT environment. These respondents have recognized the significance of IT infrastructure management as a way of meeting new requirements. However, the other half of the companies surveyed, who regard IT infrastructure management as having low relevance, are walking a tightrope.

The picture is similar when it comes to the maturity of IT infrastructure management in the companies surveyed. Only 46 percent of the companies described their IT infrastructure management level as "very high" or "high." The remaining companies are currently working at "moderate," "low," or "very low" levels of maturity (54 percent) and therefore still have a lot of untapped potential.

The level of maturity includes IT experts' assessments of the capacity for strategic alignment of IT, security management, and maintenance of IT/OT within IT infrastructure management.

IT infrastructure management importance, maturity, and budget

Basis: 200 companies



Low relevance means ultimately that budget provision within the organization is below the level that should be allocated to infrastructure management. Although IT infrastructure management bears the brunt of IT operations and is responsible for the bulk of technical innovation, 43 percent of companies do not provide sufficient funds to enable optimization. Almost a tenth of companies (9 percent) currently have no budget in place at all for these activities.

The result is that businesses face immense – but avoidable – challenges within their critical infrastructure, not least because IT staff have to deal with an increasing number of issues and tasks. At the same time, the volume of data to be processed is rising exponentially and new technologies are being added. Given this backdrop, correct use of resources in IT is now of vital importance. However, a third of companies (33 percent) admit that they spend too much time on maintenance and management of their IT infrastructure. This ties up staff, with the result that they are not available for important projects.

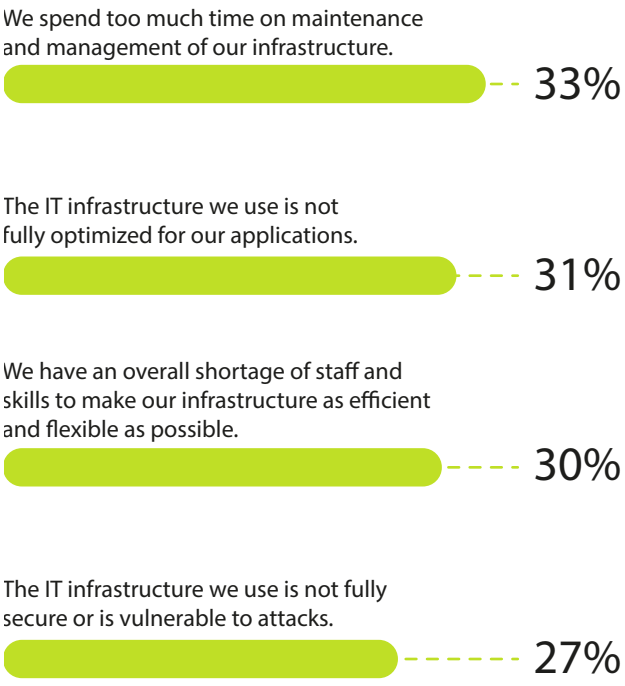
IT staff must use their time efficiently, especially when budgets are tight.

The ongoing talent war for IT specialists creates additional difficulties. Overall, three in ten companies do not have the staff and skills they need to run their infrastructure with maximum efficiency.

A similar number of companies (31 percent) have not fully optimized their IT infrastructure to suit the company's applications.

Challenges in IT infrastructure management

Basis: 200 companies | Multiple answers possible



A fully optimized IT infrastructure is geared to the needs of the company and offers the necessary performance, security, and reliability to ensure smooth operation. The consequences are reflected in the fact that more than a quarter of companies (27 percent) say their IT infrastructure is not sufficiently secure against cyber attacks.

IT infrastructure management in hybrid IT environments

An efficient, secure, and controllable IT infrastructure is key to a company's success, but in three out of five companies, hybridization and complexity is making management of the IT infrastructure more challenging. Modern infrastructure management combines information from hybrid and other sources in a single environment so it can be captured in standardized form, documented, displayed, and centrally managed. This information can originate in on-premise data centers, private and public clouds, multi-cloud constellations, edge data centers, and, in principle, all IT and network devices.

At the same time, staff specialization in hybrid infrastructures leads to greater coordination overhead. The different infrastructure management teams need to collaborate more closely in order to ensure that all parts of the IT architecture are linked effectively and work together seamlessly. As a result, one in three companies (34 percent) are seeing an increase in coordination overhead for IT infrastructure management. The responsibilities and contractual details relating to all infrastructure elements also need to be available on demand, enabling good access and visibility. This is important in order to ensure that every team involved in managing hybrid infrastructure has the information it needs to guarantee smooth operation. This also reduces outages and avoids conflicts between the components. More than a quarter of companies (28 percent) are currently still struggling with these tasks.

Demands on hybrid IT infrastructure management

Basis: 200 companies | Multiple answers possible

34 % – Specialization of IT staff leads to greater coordination overhead in the IT organization.

32 % – We need an overview of the IT infrastructure used and its status – whether in the cloud or on-premise.

28 % – The responsibilities and contractual details for all infrastructure elements must be available on demand.

27 % – We need the capability to shift workloads seamlessly from on-premise to cloud environments and back again.

Furthermore, many of the documentation tools, Excel tables, or in-house dashboards used can only provide answers to individual questions on the IT infrastructure, while traditional tools struggle with leased infrastructure and SaaS. Few if any of these options provide a complete and transparent view of the entire infrastructure. But it is precisely this transparency that is essential for managing a modern, hybrid, and digital infrastructure. That is why 32 percent of companies want an improved overview of their IT infrastructure, whether in the cloud or on-premise, in the context of hybridization. Migration of workloads from the cloud to on-premise and vice versa also needs to be structured flexibly. More than a quarter of companies (27 percent) are currently battling to shift workloads between on-premise and the cloud in hybrid operations. With rigid and opaque infrastructure management solutions, this is a thankless task.

New demands on infrastructure management solutions

Modern IT infrastructure management is an important part of any company's toolkit. It guarantees the performance, security, availability, and flexibility of IT systems. As such, it is important that the solutions used are regularly reviewed and adapted to ensure they continue to meet the company's changing requirements and needs. All the IT experts from the companies polled for this study used the survey as an opportunity to scrutinize their current solutions. In particular, they highlighted the main requirements in relation to an IT infrastructure management solution that will play a key role for their businesses going forward. The core aspects named here were efficiency, effectiveness, scalability, and flexibility, with visualization and analysis seen as having equal significance

Companies want several individual aspects bundled into a single holistic tool.

Six key points were identified. On the one hand, the tool should be able to boost the efficiency of IT processes without consuming more resources within the company (53 percent). This can only be achieved by optimizing processes.

Modern IT infrastructure management solutions should therefore enable process automation of routine tasks. On the other hand, the tool should optimize IT infrastructure provisioning processes and lifecycle management of infrastructure elements (41 percent), i.e., all infrastructure elements need to be managed and it must be possible to track their lifecycles. This includes inventory management in order to maintain an overview of the existing elements. Companies also stressed the need for scalability and flexibility.

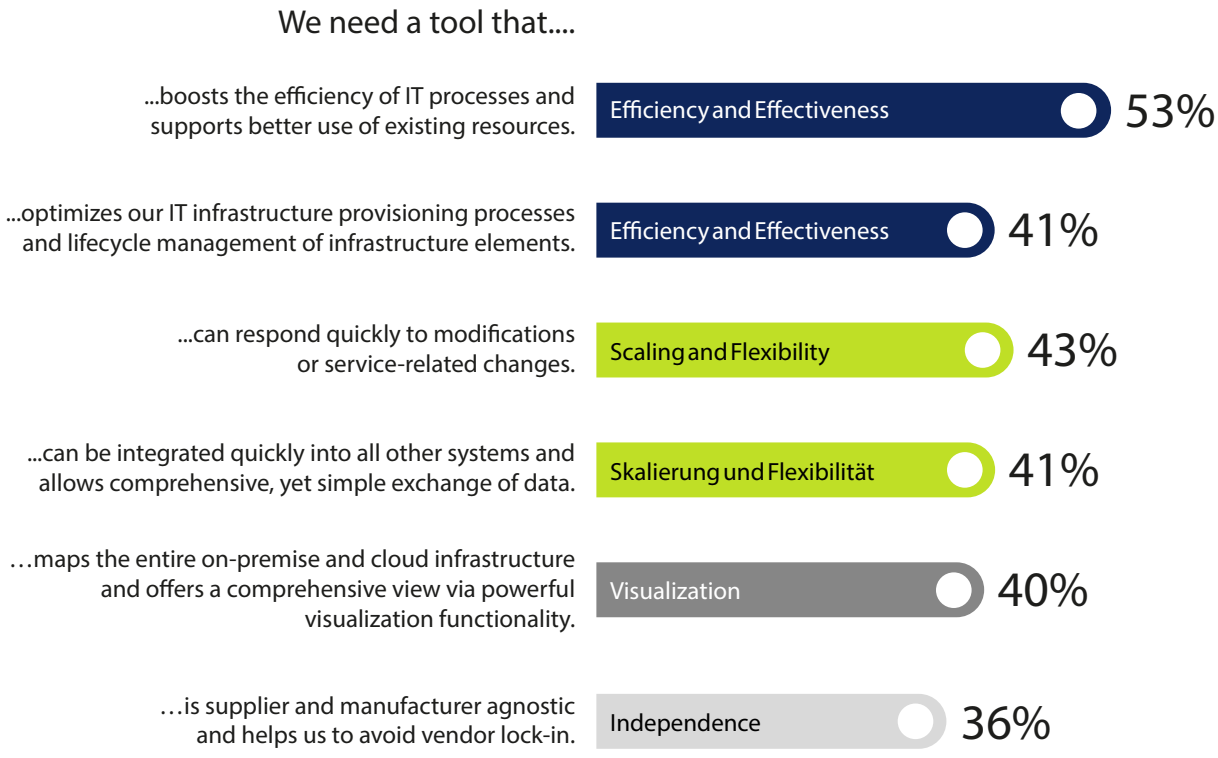
Essentially, this relates to increased responsiveness when dealing with service-relevant changes to the IT infrastructure (43 percent). One example would be switching operating concepts or downsizing in-house IT operations. However, easier integration of new interfaces and technologies (41 percent) when extending the IT structure are also important, such as due to international expansion or when connecting up locations.

Going forward, companies also need a tool that enables them to visualize their IT structure. This provides better insight, new analytical possibilities, and greater user friendliness. Especially in times when the user experience of applications is the crucial factor, dashboards that provide an all-encompassing view of system components are essential.

Lastly, one in three companies (30 percent) also want to avoid vendor lock-in through deploying supplier and manufacturer agnostic tools. By having a neutral IT infrastructure management system, they are not tied to a particular supplier or manufacturer. Vendors offer their own tools for infrastructure management, but this makes the replacement of components or switching operating concepts difficult and expensive in fast-moving times, and they cannot offer a comprehensive view of the IT infrastructure.

Demands on modern IT infrastructure management tools

Basis: 200 companies | Multiple answers possible



Conclusion

This short study reveals high levels of dissatisfaction among the IT experts surveyed regarding IT infrastructure management in the corporate environment. A lack of expertise and budget, together with significant coordination overhead, are the greatest challenges. It is no surprise that half of those responsible feel that IT infrastructure management is given too little importance. As a result, companies lack a clear overview, clear security structures, and a holistic management solution to make management of both on-premise and cloud assets easier.

Companies need to embrace both these models, given the strong evidence that coexistence of the two infrastructure environments allows for greater efficiency, more flexibility, and faster response times when faced with changing digital conditions. This was also reflected by the status quo in the companies surveyed. Only one in ten companies regard themselves as being entirely in the cloud. The rest of the companies have retained on-premise infrastructures.

Modern IT infrastructure management thus needs to handle this reality. It must be able to understand and manage both cloud and on-premise IT architectures. On the one hand, this involves reducing the increasing complexity of the cloud landscape, and on the other hand, reconciling it with the on-premise infrastructure in a hybrid IT landscape. Above all, the aim is to maintain the necessary control and data sovereignty and to comply with high IT security standards.

And more security and control doesn't necessarily have to cost more money. Modern solutions for IT infrastructure management can provide a lot of support here. Infrastructure management solutions can significantly improve the efficiency of IT processes by ensuring that the company's IT resources are fully coordinated and used effectively. This also reduces the risk of faults and minimizes vulnerabilities.

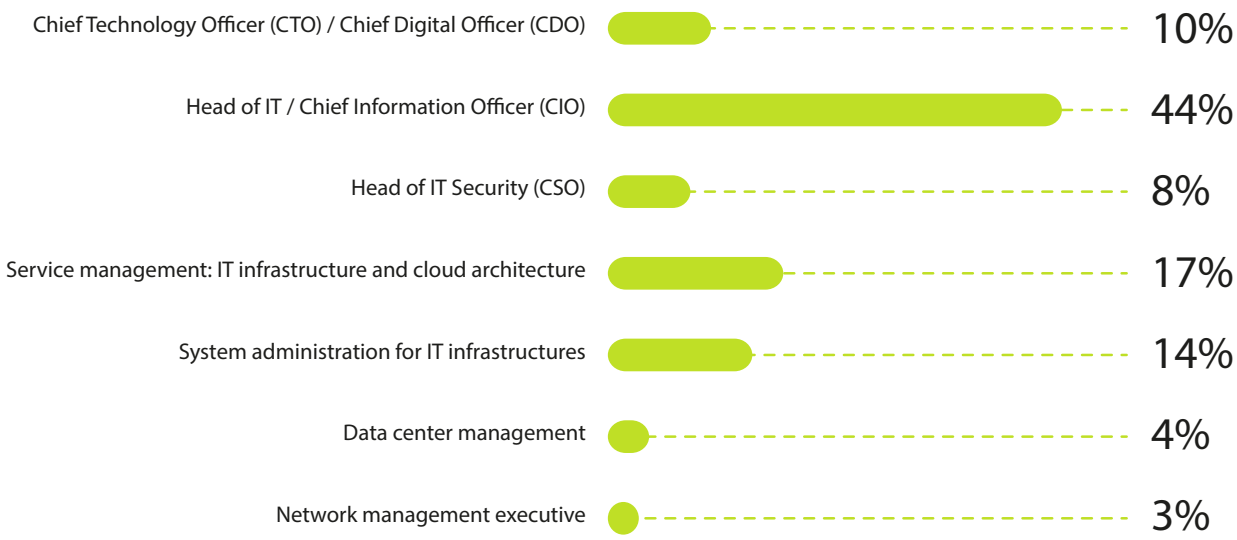
To achieve this, tools use modern IT automation for routine tasks, such as managing and implementing changes to the infrastructure. Furthermore, IT systems are fully integrated and silo solutions are eliminated. This can avoid duplication of effort and save on scarce resources. In turn, this improves cooperation, transparency, and the exchange of information within the IT department and IT operations. As a result, it is important that a company regularly reviews and updates its IT infrastructure management solutions to ensure they continue to meet their needs and conform to current technology standards.

Study Factsheet

The IT Infrastructure Management study surveyed 203 companies with more than 1,000 employees across all sectors. In addition to their suitability as IT experts, IT management decision-making powers were also used to qualify respondents.

Company size categories surveyed for the study

Company roles surveyed for the study



Some totals may not add up to 100% due to rounding.

Further Information

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techconsult GmbH was founded in 1992 and is one of the most well-established analyst firms in Central Europe. The company's strategic consulting services focus on the IT and communications industries. Through long-standing standard and individual studies, techconsult has a unique collection of data in German-speaking countries, with respect to both the continuity and depth of information. More than 20,000 interviews are conducted each year with business and IT decision-makers. It is therefore an important consulting partner for CXOs and the IT industry for product innovation, marketing strategies and sales development.

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