

Why Enterprises Need to Optimize Their Data Centers

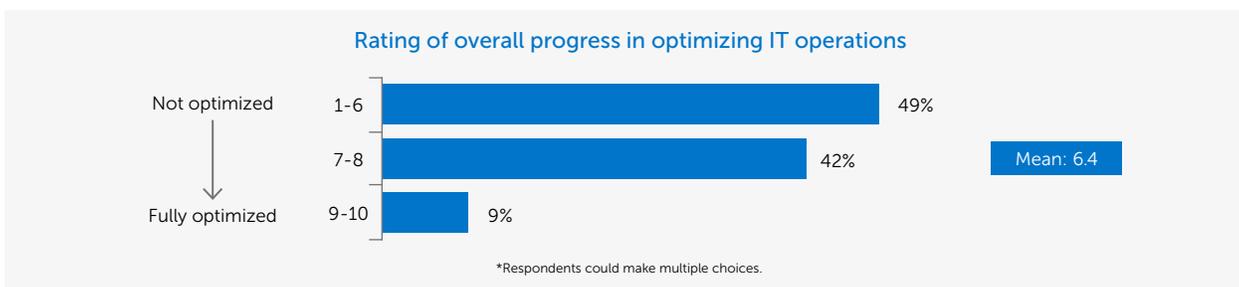
Introduction

IT executives have always faced challenges when it comes to delivering the IT services needed to support changing business goals and demands. But these days they're under more pressure than ever to keep up with an ever-shifting business environment that demands agility, reliability, availability, and security – all at the same time.

The stakes are high in a digitized world. The C-suite is counting on IT to help the business achieve growth, mitigate risk, and contain costs. Operating as usual doesn't cut it anymore. A transformational change is in order for IT.

A big part of the need for change focuses on the data center, or in a larger context, the platforms that run business applications. Organizations today are looking to run leaner, more agile IT infrastructures, and it's up to CIOs and other technology leaders to find ways to optimize data center performance, keep costs down, enhance security, and ensure constant uptime and reliability.

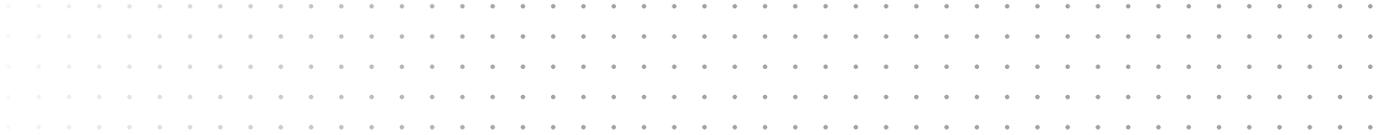
That's a tall order, and many organizations are struggling to achieve optimization. Fewer than 10 percent of the 100 IT executives in the U.S. surveyed online by IDG Research Services in August 2016 said their IT operations are fully optimized. The majority of organizations in the survey, "[Data Centers in Flux: The IT Optimization Challenge](#)," which was commissioned by Datalink, report room for improvement as they rate their progress to date in optimizing IT operations.



IT executives face a number of choices when it comes to the best optimization platforms for their organization, and it seems like new options are constantly springing up. Companies can deploy a variety of public and private cloud services, new storage platforms, software-defined systems, and other solutions that weren't even available a few years ago. Ultimately, data centers of the future will likely be made up of multiple integrated on- and off-premises platforms working in concert.

The good news for IT professionals is the benefits of data center and application platform optimization can be significant. IT executives can become heroes within their organizations if they adhere to some best practices in choosing optimization platforms that help achieve corporate goals, and ensuring that the right mix of skills are in place at their organization.

This white paper looks at some of the key drivers to data center optimization and the challenges IT is facing today as enterprises look to modernize their infrastructures and remain a step ahead of the competition. It also explores how companies can benefit from the changing technology landscape, including the optimization of data center resources.



Key Drivers for Data Center Optimization

According to the [IDG Research survey](#), a number of factors are driving organizations to optimize their IT infrastructures including data centers.

The “always on” expectation

The business world has largely gone digital, with most transactions taking place electronically. Employees, customers, business partners, service providers and others in the corporate ecosystem expect a company’s networks and applications to be “always on” and accessible. There is no such thing as off hours for businesses anymore, regardless of which industry they are in.

The growth of mobile technology as a way to access and use business applications has added to the need for high availability of data centers. Users want to be able to access enterprise networks and data from any location and at any time.

Data centers need to be up and running constantly in order to support this kind of demand. They also need to have enough capacity to support shifting demands for computing power and storage.

There is also heightened demand for fast delivery of products and services to the market. Speed is everything in business today, and the faster companies can deliver – whether it’s new applications to users or new products to customers – the greater the chance for increased revenue.

Cost containment

Another driver is the need to keep IT costs down. The latest data center technologies offer the potential for cost reductions through more efficient use of resources such as server and storage capacity. Hand in hand with this is the desire to operate more energy-efficient data centers as part of efforts to run greener IT environments.

Data centers also have to operate optimally because many companies lack the IT resources needed to handle maintenance and support. The more automation and efficiency there is in the data center, the less reliance on staffers to handle non-strategic tasks.

The existence of technologies and service delivery options such as cloud computing, virtualization, flash storage, and hyperconvergence have made it easier for companies to optimize their data centers. In recent years, it’s become the norm for organizations to operate largely virtual data centers that provide more agile offerings to optimize internal costs. At the same time, they can move certain workloads and applications to cloud offerings, including software as a service (SaaS) or even the public cloud for innovative projects, in order to optimize resources to the best available platforms.

Keeping up with the competition

There is an impetus to optimize data centers simply because competitors are doing it. Companies don’t want to be left in the dust because they have not updated their IT infrastructures, while others in their industry have already done so.

And yet despite all these drivers, as the IDG Research data points out, many organizations are not far along in their efforts to optimize their data centers.

Challenges that Hinder Progress

Companies are facing a number of challenges that are inhibiting their efforts to optimize their data centers. The biggest challenge, according to the [IDG Research survey](#), is balancing day-to-day operations with the time needed for innovation and business initiatives.

Challenges to optimizing your IT operations			
	Top challenges to consider when optimizing IT operations	Most difficult challenges to address	Single challenge that would have the most positive business impact if solved
Balancing day-to-day operations with time needed for innovation/business initiatives	62%	37%	24%
Assessing new technology choices (cloud, flash, converged, hyperconverged, etc.)	55%	17%	6%
Ensuring that internal IT skill sets match IT operational management needs	53%	27%	16%
Aligning operations with business strategies/outcomes	49%	27%	16%
Managing data growth and related operations	46%	22%	12%
Evaluating cloud platform options (public, private, hybrid)	44%	19%	10%
Inventorizing applications and workloads to determine current and future operations needs	34%	15%	9%
Transitioning to a service broker role with self-service portal	28%	9%	3%
Defining the platform for each app/workload	27%	14%	4%
Those in larger organizations with 5,000 or more employees are more likely to consider inventorizing applications and transitioning to a service broker role as top challenges			

*Respondents could make multiple choices.

That was cited by nearly two-thirds of the respondents (62 percent). It was also identified as being the most difficult challenge to address, and the one whose solution would have the most positive business impact.

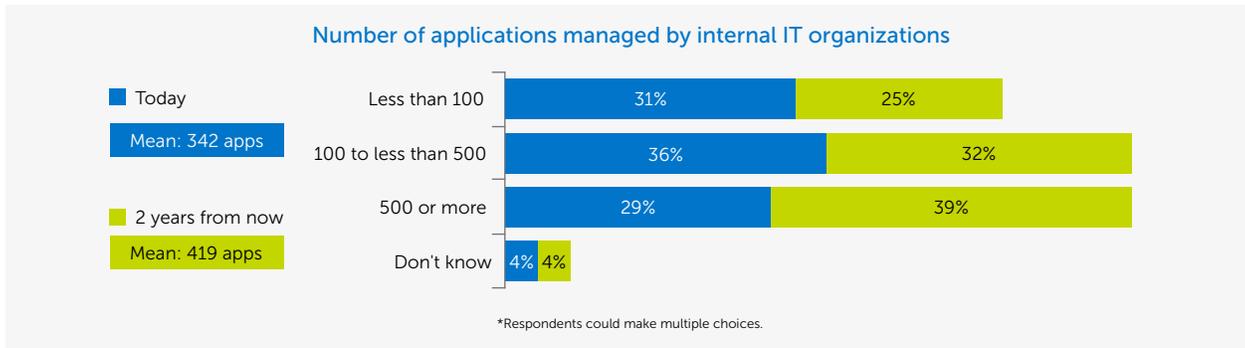
Another key challenge to optimizing IT operations is assessing new technology choices (e.g., cloud services, flash storage, converged environments, and hyperconverged environments). That was mentioned by 55 percent of the respondents.

Other challenges include:

- ✓ Ensuring that internal IT skill sets match IT operational management needs (53 percent)
- ✓ Aligning operations with business strategies and outcomes (49 percent)
- ✓ Managing data growth and related operations (46 percent)
- ✓ Evaluating cloud platform options such as public, private, and hybrid (44 percent)
- ✓ Inventorizing applications and workloads to determine current and future operations needs (34 percent)
- ✓ Transitioning to a server broker role with a self-service portal (28 percent)
- ✓ Defining the platform for each application/workload (27 percent)

Those respondents in larger organizations with 5,000 or more employees are more likely to consider inventorying applications and transitioning to a service broker role as top challenges.

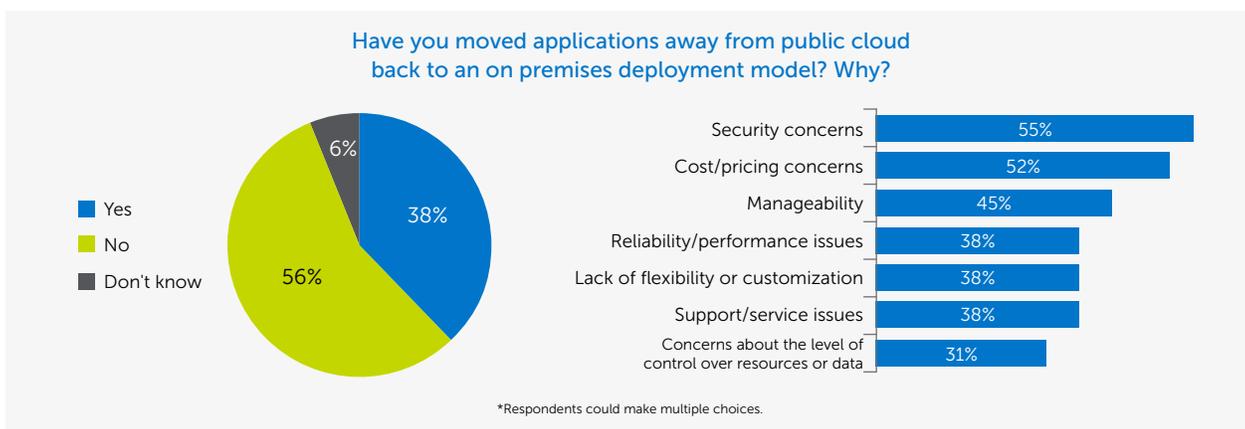
Contributing to IT optimization challenges is the fact that organizations are facing an increasingly complex application ecosystem that continues to grow in size and scope. The mean number of applications in use today at the organizations surveyed is 376, and this is expected to increase to 426 over the next two years. More than one-third of the organizations (35 percent) have 500 or more applications in use today.



The need to manage this growing application portfolio is placing increased demands on the resources of internal IT organizations. The mean number of applications in use today that are managed by IT departments is 342, and this is projected to rise to 419 within two years. About 30 percent of the IT departments are now managing 500 or more applications.

A growing number of business-critical applications is raising the stakes for the IT organizations responsible for managing those applications. On average, half of the internally managed applications are critical to the business, according to the [IDG Research survey](#).

The "move everything to the public cloud" trend proved problematic. Many organizations that have pushed applications to cloud platforms did not fully understand what they were getting into. Due to higher than expected costs, security concerns, and/or different service levels than expected, 38 percent of those surveyed by IDG have started bringing those applications back in house.

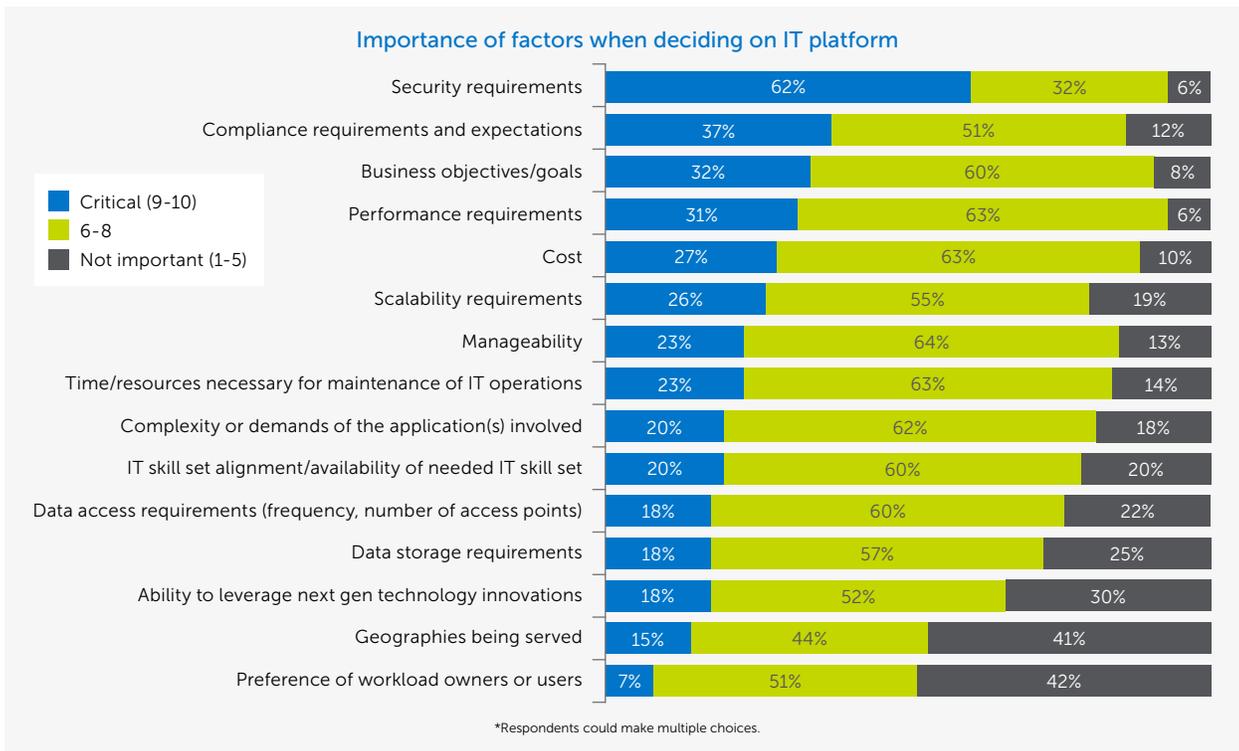


While a good number of organizations are investing time and resources to perform application inventories and workload assessments that lay the groundwork for next-generation platform selections, very few are performing application interdependency analyses. And those analyses are required for operational optimization.

Considerations for Data Center Optimization

In addition to addressing these challenges, companies looking to optimize their IT infrastructures need to keep in mind some important considerations that could have an impact on the success of the endeavor:

- ✓ **For example, how do they best decide on a platform that will help drive data center optimization and also align with overall business goals?** Should flash storage be part of the new environment, and should it be “all flash” or a combination of storage technologies? What role could software-defined storage or networking play in the new IT environment? It all depends on the workload. Thorough workload assessments are essential before platform decisions can be made.
- ✓ **Determining whether public or private clouds should be used, or a combination of both, is another consideration.** Many companies are using public cloud services for applications such as email, but placing more sensitive applications and data in private clouds.
- ✓ **Not every business application is well suited for the public cloud, and some might be so strategic to the business that senior executives prefer they not be migrated to a cloud service.** Organizations can avoid costly mistakes by doing their homework on the front end through workload and interdependency assessments.
- ✓ **Yet another consideration is the company’s information security and regulatory compliance requirements, and what impact data center optimization will have on security.** The protection of data and other IT resources is a major priority today, and security must be one of the key considerations when selecting a platform and moving ahead with an optimization strategy. The [IDG Research survey](#) showed that security requirements are the number one factor among respondents when deciding on IT platforms, with 62 percent saying it was critical. The next highest factor was compliance requirements and expectations, cited by 37 percent.



- ✓ **Finally, what specific skills and process changes are needed within the organization to make the data center optimization strategy a success?** If the skills needed are not available internally, who can best provide those outside the organization? Data center transformation is not only about technology, but about the skills and processes necessary to transform the environment into one that is agile, sustainable and automated. It’s worth noting that while IT organizations are slowly increasing their reliance on outsourced service providers, in-house staff still carry a huge share of the workload for IT operations management. About two-thirds (65 percent) of IT operations management tasks are handled by in-house staff, compared with 18 percent handled by outsourced service providers and 17 percent by contractors or other outside workers, according to the [IDG Research survey](#).

Opportunities and Action Items

Data center optimization offers organizations a number of potential benefits. For example, they can now deliver the continuous access that employees, customers, business partners, and others have come to expect from modern, digital businesses.

An optimized IT environment is better suited to support the growing number of mobile technology users, who want fast and secure access to corporate networks and data any time and from any location.

Enterprises with optimized data centers can also support accelerated processes so they can deliver applications, products, and services more quickly to users and customers.

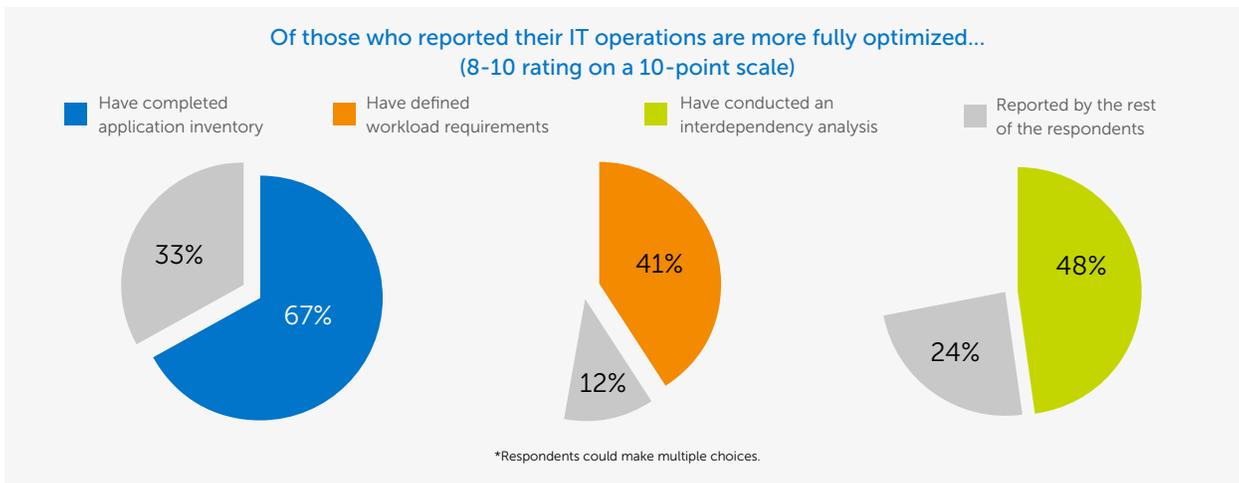
And the technology platforms that make optimization possible – cloud computing, virtualization, flash storage, software-defined storage, and hyperconvergence – can provide cost and energy savings through more efficient use of IT resources such as servers and storage systems.

In general, data center optimization enables enterprises to operate more efficiently, and that can help them be more competitive in their markets.

What should companies be doing to prepare for or advance their data center optimization efforts? A number of items should be included on the checklists of IT leaders looking to leverage this strategy, including two particularly important tasks.

1. Evaluate current state

Companies should assess where things are right now. Although it might be a lot of work, taking inventory of applications is a good practice. Those enterprises surveyed by IDG Research that take the time to inventory applications and analyze their requirements and interdependencies are more likely to report success with IT optimization.



Of those organizations who report that their IT operations are more fully optimized, 67 percent have completed an application inventory, 41 percent have defined workload requirements, and 48 percent have conducted an interdependency analysis.

2. Consider an expansion of cloud initiatives

Nearly half of the organizations surveyed by IDG Research (48 percent) said they were looking to expand their cloud initiatives over the next 12 to 14 months as they look for ways to optimize IT operations.

About six out of 10 organizations (62 percent) are currently investing or planning to invest in private and public cloud technologies over the next year. Larger organizations with more than 5,000 employees are even more likely to be investing in cloud technologies (72 percent).



About Datalink

Datalink is a complete IT services and solutions provider that helps companies transform their technology, operations, and service delivery to meet business challenges. Combining extensive experience, a full lifecycle of services, and a comprehensive approach to producing IT innovations that empower positive business outcomes, Datalink delivers success across cloud IT transformation, next generation technology, and security.

For more information, call 800.448.6314 or visit

Summary and Conclusion

As identified in [Data Centers in Flux: The IT Optimization Challenge](#), the challenges – and opportunities – for IT organizations have never been greater than they are today. Technology executives are under pressure to address growing demands from the business as digital commerce becomes ever more prevalent.

Users expect systems to be available all the time, and they want reliable and secure access to applications and information from any device regardless of their location.

One significant way that IT leaders can transform their organizations into agile, always-on, digital enterprises is through data center optimization. By doing this, they not only can increase agility, scalability, security, and reliability; they can also cut costs and increase efficiency.

A key to success with an IT optimization strategy is to choose the best platform to meet the organization's needs. By doing that and preparing people for change through education, training, and awareness, IT executives can lead their organizations into a new world of opportunity.

More Information

- ✓ To view full IDG survey results, visit datalink.com/IDG-Survey-DC.
- ✓ To learn more about data center optimization, visit datalink.com/Solutions.
- ✓ Datalink helps mid- and large-size organizations assess workloads and align them with best-fit on- and off-premises platforms. To learn more about this service, visit datalink.com/Solutions/Cloud



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