Cloud with confidence: Optimize your path to the cloud

How a pragmatic approach to migration translates
into long-term benefits

Introduction

It's easy to believe that every organization has already achieved maturity in the cloud. As cloud usage continues to become more mainstream, businesses in virtually every industry have embraced the scalability, cost-efficiency, and myriad other benefits that the cloud offers. Yet, despite these trends, the reality is cloud adoption is still in its infancy.

While it's true that cloud adoption has been expanding steadily for years — Gartner expects global end-user spending on cloud services to reach nearly $600 billion by 2023 — many companies have still not moved all, or even most, of their workloads to the cloud. What's standing in their way? After migrating their easy-to-move data and applications, many often discover they haven't prepared for the broader and more complex process of modernizing the full scope of their workloads. As a result, they're stuck with many of the same legacy inefficiencies they were originally trying to escape, while also burdening themselves with rising cloud costs.

This book defines a better path for organizations still getting started on their cloud journey. By taking a more pragmatic approach to migration and modernization that accounts for current limitations, priorities, and potential challenges, it will show you how to take advantage of the value the cloud offers while achieving full maturity. You will learn:

- Why a one-size-fits-all approach isn't the best path forward.

- How to properly evaluate your infrastructure and applications.

- How to optimize your cloud journey for your particular needs.

Chapter 1: The promise of the cloud vs. the reality

The cloud now is still in its infancy

While the history of cloud computing emphasizes its continuous development and growth, it does not account for why relatively few workloads have been migrated. How can the distance between the cloud's promise and reality be explained?

Although cloud computing is now considered to be at the forefront of technology, one of the biggest obstacles to widespread adoption remains something far older: legacy on-premise databases. Expensive to maintain and difficult to scale, these systems' age and accessibility, along with the legacy applications that run on them, have entrenched them within many companies' infrastructures. Especially when it comes to sensitive data, up to 98 percent of businesses still rely on on-premises.

To counteract this, large cloud providers (often called "hyperscalers") continually emphasize how easy it is to migrate to the cloud. All an organization has to do to digitally transform its business, hyperscalers argue, is migrate workloads to one cloud. Typically, this involves little more than a "lift and shift" approach — the process of moving applications and associated data to the cloud without redesigning them. In reality, while this approach can be applied broadly, it fails to optimize applications for the cloud. Instead, legacy inefficiencies remain, preventing companies from taking advantage of the cloud's many benefits.

Regardless, the myth of this "ideal cloud journey" has continued. By touting the benefits the cloud offers — and glossing over the work it takes to realize them — hyperscalers have been able to draw in organizations that are not prepared to take on the full journey. The consequence of this has been a stubborn persistence of technical debt. With public cloud spend now over budget by an average of 13 percent, CIOs now estimate that technical debt amounts to 20 to 40 percent of their entire technology estate.

The rise of the cloud

1990s
The first use of virtual computers, a precursor to the cloud.

Early 2000s
The launch of public cloud services and the advent of the modern cloud.

2002
Amazon Web Services (AWS) is released, popularizing the concept of cloud computing.

2006
Google Apps is released, a precursor to Google Cloud.

2009
Heroku launched as a PaaS for developers to build, run, and scale applications.

2010
Azure is made widely available by Microsoft.
In response to security concerns and the increasing demands of enterprises, functional private clouds begin gaining popularity.

2012
Oracle releases Oracle Cloud, introducing three basic cloud services: Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS).

2016
Developers are driving even more creative innovations like containers, Kubernetes, and AI-powered automation — further extending the cloud's promise of greater efficiency, flexibility, and speed.

Chapter 2: A pragmatic path toward an optimal cloud journey

What's wrong with the typical hyperscaler cloud journey

According to most major cloud services providers, the process of migrating to the cloud is straightforward. After an initial investment, the costs of migration rapidly drop while the savings from on-premises and capital expenses more than offsets the cost of the cloud. But how accurate is this?
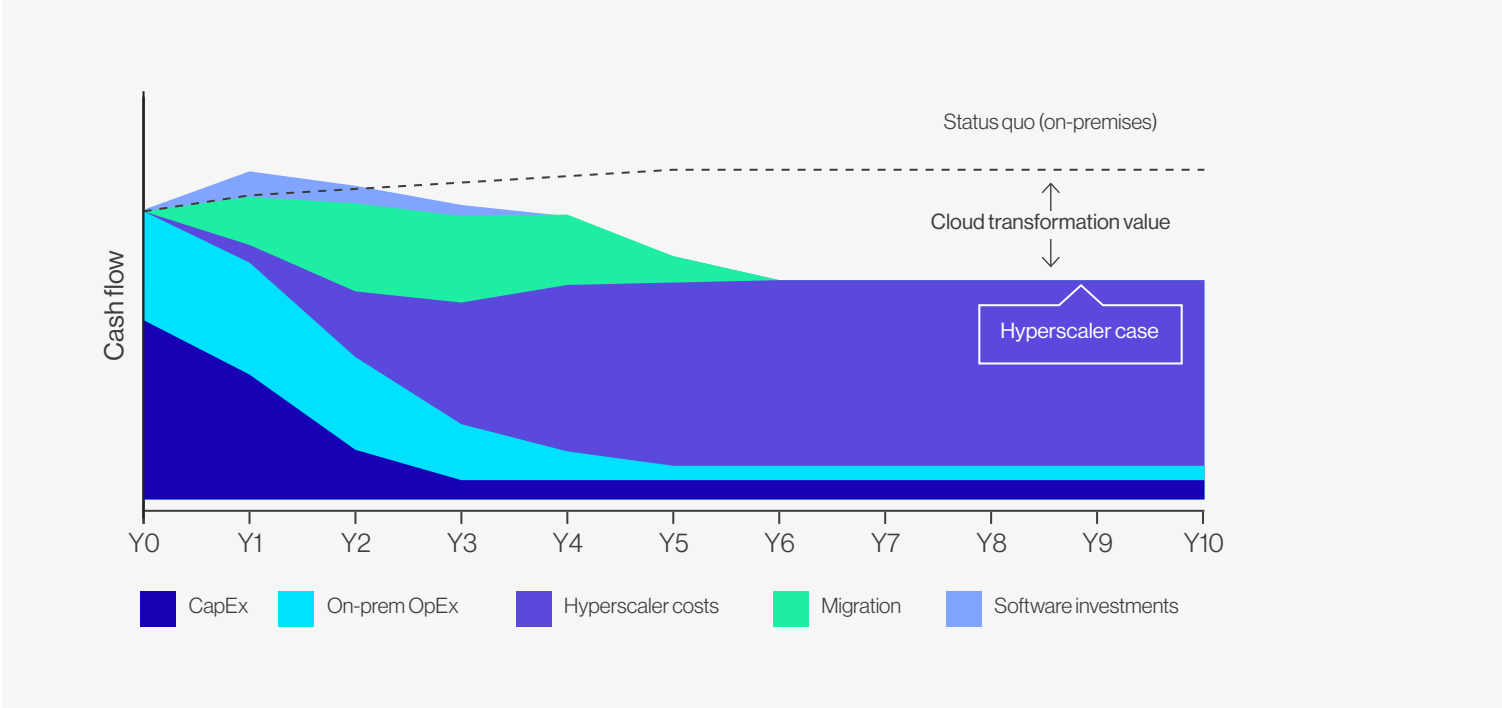
The ideal cloud journey that hyperscalers present goes like this: In the beginning, the operating and capital expenses for on-premise infrastructure are high. Fortunately, a cloud migration can quickly lower these costs. While additional expenses for the migration will be incurred at first, these will rapidly drop along with the costs of the retired on-premises systems as the benefits of the cloud kick in.

Not only is this an oversimplification, it is also a misrepresentation that risks costing companies more in the long-term. Here's what this narrative gets wrong:

- **It assumes companies can easily lift and shift their existing applications.** Ideally, lift and shift works best when it is either used only with resource-light applications that can be migrated easily or as an intermediary step. Problems begin when companies start thinking of lift and shift as an end state. Moving legacy applications without first configuring them for the cloud will simply result in the same inefficiencies. Companies will get none of the scalability, efficiency, or other advantages the cloud offers. Worse, when workloads aren't optimized, they can often end up costing even more in the cloud.

- **It puts everyone on the same playing field.** Another assumption hyperscalers make is that every company setting out on its cloud journey is doing so under a similar set of circumstances. In fact, starting points can vary widely. A company with out-of-date, inefficient data centers will have much different cost considerations than one that recently made a large investment in a modern, state-of-the-art infrastructure. Likewise, a technology company with a dedicated IT department may have the skills necessary to take on a complex migration, while a healthcare or financial company may not. Factors such as these need to be weighed to accurately estimate what a cloud journey will cost.

- **It prioritizes the short-term path over the long-term journey.** Moving into the cloud quickly, with little planning, shouldn't feel like an end unto itself. Although there are situations in which it may make sense to migrate fast, such as data center exit or serious security concerns, these are the exceptions rather than the rule. Migrating legacy workloads and applications without either optimizing or developing a roadmap to center them for the cloud can result in higher long-term costs. Instead, it's important to take the time to consider what your entire cloud journey should look like before making your move.

Considerations for creating an optimal cloud journey

Cost is an important factor for deciding when and how to move to the cloud — but it's far from the only factor. From small businesses to large enterprises, every organization should consider the following as it develops a cloud migration strategy.

Environment

It's important to assess the larger cultural environment in which a cloud migration will take place. What is pushing the company toward the cloud? Are there any invisible biases? What are your unique business drivers for cloud adoption or is there simply pressure to move to the cloud because everyone else is?

This can be a good opportunity to use a matrix to objectively assess the business value versus the complexity of migrating each application and workload. Those that are high value and low complexity should obviously be migrated. But what about high value and high complexity projects? This will depend on other environmental factors, such as how quickly a company expects to recoup its investment. And don't feel the need to migrate just because it's easy. If there's no business value, there is likely little point.

Priorities

This refers to whatever factors are driving the migration in the first place. Is it being done in order to remain competitive? Are customers demanding it? Or is it getting done to safeguard the company for the future?

Often, this consideration can be simplified to a question of speed versus cost. For companies prioritizing speed, it may make more sense to do an intermediary lift and shift while continuing to run their on-premise infrastructure, then conduct a more thorough assessment at a later time. If cost is a bigger priority, then a careful evaluation of applications and infrastructure should occur earlier in order to build out a plan that maximizes both value and efficiency.

Data center and applications

Organizations should not overlook the state of the infrastructure and applications that they are migrating to the cloud. How old are the on-premise data centers? Are most of the applications customer-facing? Or are they internal to individual departments?

Considering these questions can help save companies both time and money. If their data centers are not in good condition, then it may make more economic sense to rebuild their IT infrastructure entirely in the cloud. But if they're running more modern on-premise technology, a hybrid environment may be a better fit. Likewise, understanding application dependencies can help drive a better strategy for migrating and rebuilding those apps for the cloud.

Existing licensing agreements

In the rush toward migration, it can be easy for many companies to forget they have ongoing contracts for their on-premise software. (These agreements often represent multimillion dollar investments.) What will it cost to redeploy applications in the cloud with these existing licensing contracts? Can potential savings be found elsewhere, such as by using open-source products?

Gaining a solid understanding of the licensing environment before cloud deployment is an essential task that can greatly impact a company's bottom line. In some cases, it may be possible to simply translate the on-premise license to the cloud. In others, however, companies may need to renegotiate unfriendly product licenses, or plan ahead for the costs of canceling a license outright. Whatever the case, doing so before migration makes good economic sense.

Governance and privacy needs

Although security in the cloud continues to improve, as many as 85 percent of businesses still cite it as their top concern. As such, companies should look closely at what kind of data privacy controls they currently require. This will make it easier to evaluate the various security systems offered by different cloud providers.

While key safeguards such as multi-factor authentication have become the norm, certain companies may also require additional measures to ensure compliance with data privacy regulations. Some data may even be too sensitive to move off premises, making a hybrid cloud model a necessity. Application level security should also be considered to ensure any legacy security problems aren't passed on.

Chapter 3: What does an optimal cloud journey look like?

Overview

An optimal cloud journey begins with a pragmatic look at your company's current situation. Depending on your starting point, this may mean your initial moves into the cloud do not result in a cheaper environment. This will only happen once your existing applications have been modernized for the cloud.

When it comes to cloud migration, a good rule of thumb is that the more modern the underlying architecture, the easier and more cost-effective it will be. This means that companies running inefficient data centers or using applications tightly coupled to legacy components will have a more difficult time migrating. By contrast, companies investing in modern data centers or running private clouds will likely have a much smaller lift, as their applications will likely be able to take advantage of the cloud's cost and performance benefits.
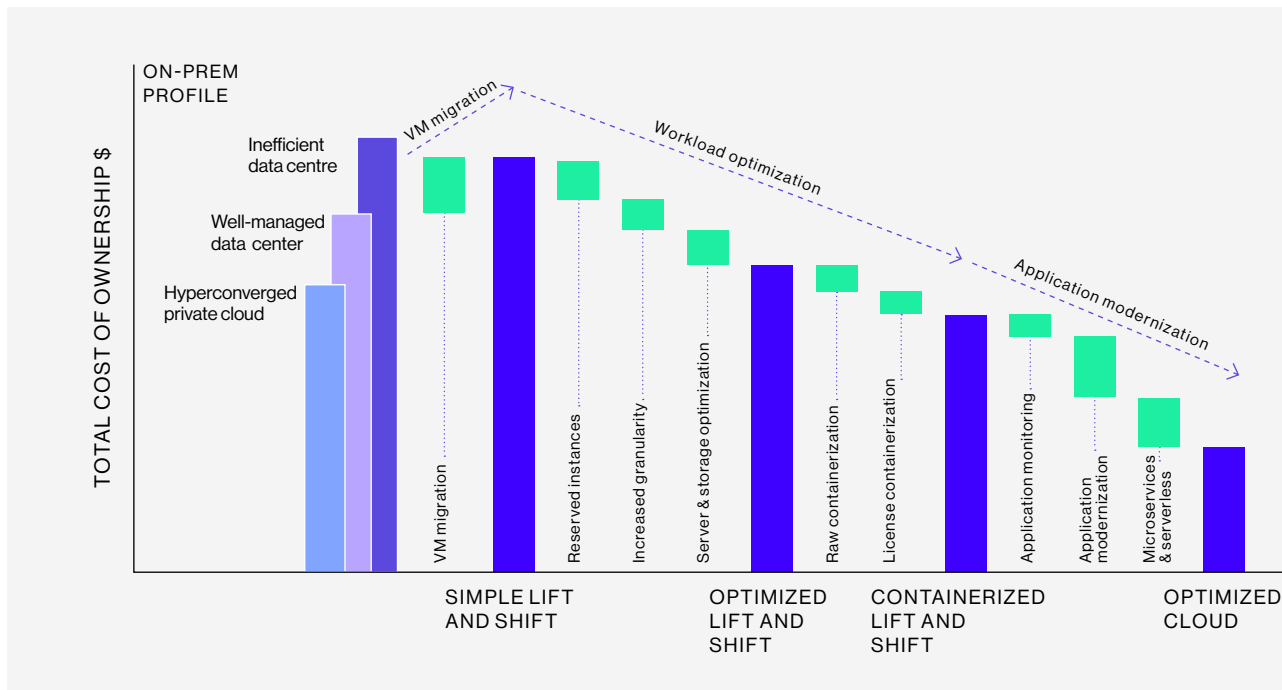
Understanding this from the outset can help companies avoid the drawbacks of the one-size-fits-all approach and better plan for the long-term. After this first step, they can begin planning a journey that takes measured, incremental steps toward their own optimized cloud. Beginning with a combination of tasks that are either easy or high value, this journey will progress through different optimization stages until every workload and application is modernized. As the benefits of the cloud are realized, costs will steadily lower until ROI is achieved.

Let's take a closer look at this optimal cloud journey.

Step 1:
Moving from initial considerations to strategic assessment

After taking into account your existing architecture, business priorities, environment, and other considerations, you've developed an accurate idea of your starting point. Here's how to take the first steps toward the cloud.

The goal of the strategic assessment is to gain a thorough understanding of how complex your cloud migration will be. You should begin by developing a business case to guide your roadmap. This should weigh factors such as potential security and governance challenges, cost limitations, preferred cloud services, and potential organizational changes needed to support a migration. Alongside this, a full technical analysis should be run to evaluate the difficulty and cost to modernize your existing infrastructure and applications.

First, identify any low-hanging fruit: those applications that are both easy and inexpensive to modernize. Then locate any potential challenges, such as applications that are difficult and expensive to modernize, but also essential. Continue graphing out every other application according to its value and cost or complexity. This will enable you to begin visualizing and assessing your path to the cloud.

Next, use FinOps to start prioritizing what makes the most sense to migrate first versus what needs to be done in stages, either because of how difficult or how costly it will be. And remember that everything doesn't have to be migrated. In many cases, this stage can be a good opportunity to decide what you don't need to take with you to the cloud.

Cost / Complexity
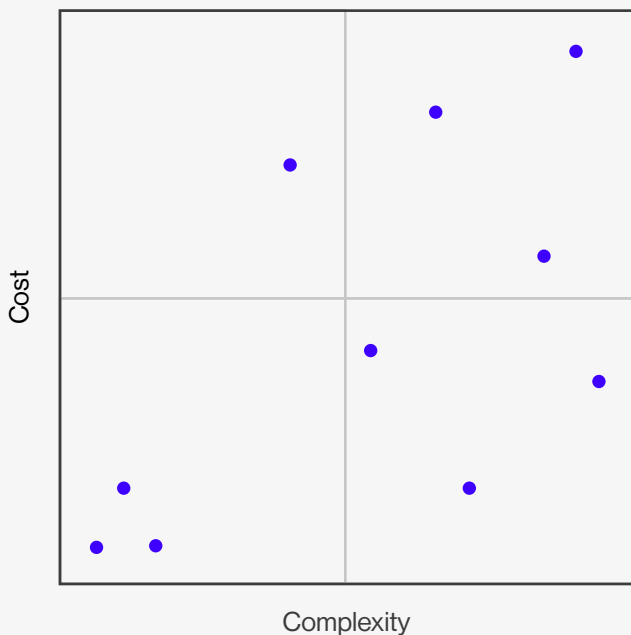
Every company has unique drivers and challenges. There is no one size fits all approach.

Step 2:
Build out your journey

As you begin your cloud transformation, start out small and simple before gradually moving out to more complex challenges. This will help you transition steadily into full modernization.

It's time to start actually migrating to the cloud. Begin by using lift and shift to quickly move any simple or non-essential applications that you can. You can also use the lift-and-shift approach for more complex applications, just as long as you consider this an intermediate step. Often, the short-term value of moving an application into the cloud is worth it, even if it isn't ready yet to take full advantage of the benefits. This is also a good time to start identifying any features or code within individual applications that can be refactored for the cloud.

At this point, you can begin addressing more difficult challenges by taking a more granular approach to modernization. Wherever it makes sense, use containerization (virtualised applications that can run anywhere) to offset workloads and optimize storage. Automated containerization makes it easy to deploy most applications as containers. Where this approach is not possible, consider rewriting essential applications entirely to decompose monoliths into microservices and rebuild them as proper cloud-native applications.

"Start small and simple, then gradually move to more complex challenges to transition steadily into full modernization."

Joaquin Potel
Cloud and Applications Sales
Leader, SoftwareOne

Step 3:
**Continuous improvement and optimization**

Once you've optimized your workloads and applications for the cloud, your journey is not over. Modernization should instead be considered a constant discipline that keeps iterating in cycles.

Inevitably, even after you've optimized your applications, modernized your infrastructure, and reached your goals, your business needs will change. While the flexibility and scalability of the cloud will make it possible to more efficiently adapt to these changes, you should also monitor and manage your workloads over time. As new capabilities are added, is everything still behaving as expected? Are there any opportunities to modernize your applications further to make them run more efficiently or better address customer needs? Can security be improved?

At the same time, don't let these concerns keep your team from innovating. Consider automating certain management tasks or offloading them to trusted experts so that you can focus on more important tasks. For instance, critical backups can be automatically scheduled so that you won't lose any essential data. Likewise, leveraging external services for IT change management and FinOps can help you reduce possible downtime, keep up with governance and compliance tasks, and ensure the cloud keeps delivering value to your company.

"Modernization should be a constant discipline that keeps iterating in cycles."

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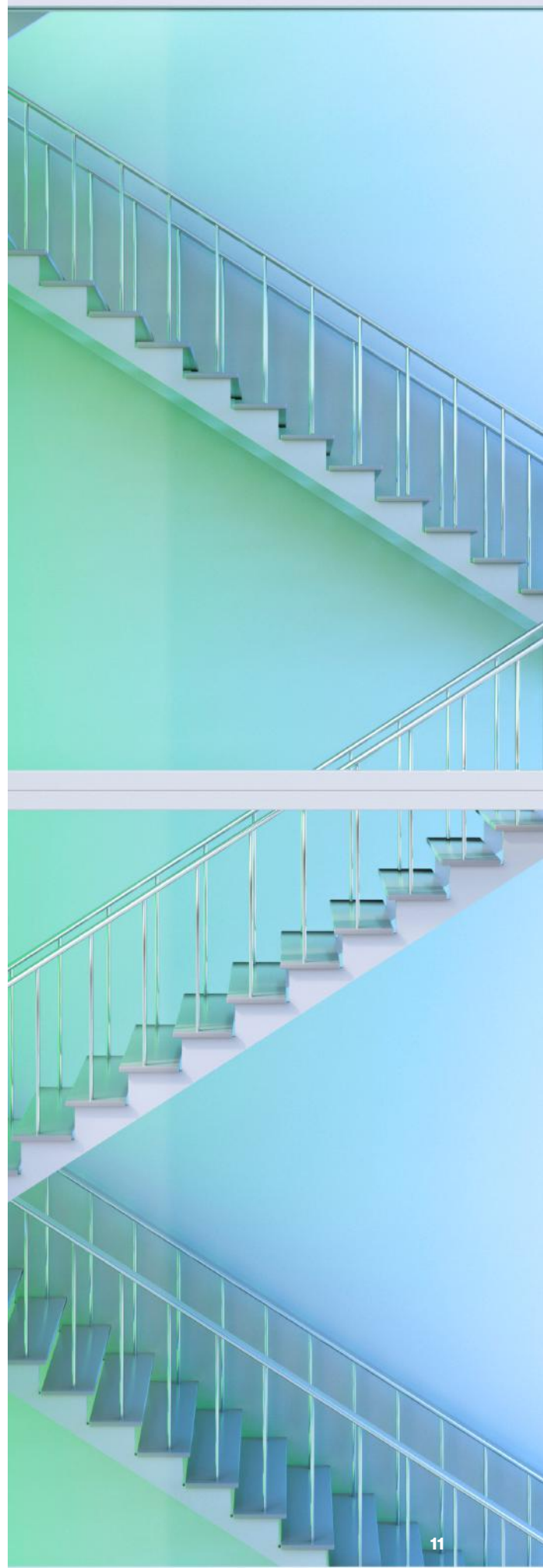
Conclusion: Getting started on the right path

There's no reason you should start your cloud journey on your own. If your organization is considering how to embark on a successful cloud migration while ensuring it gets the full value and benefits of the cloud, SoftwareOne can help.

Making the cloud work for your business can be complex. SoftwareOne simplifies this experience by applying unmatched industry insight, end-to-end services, and strong partnerships with Microsoft, Amazon Web Services, and Google. As a leader in software and cloud financial management, we will show you how to make your current IT investments count while bringing your business forward and your biggest ideas to life.

What we offer:

- **Best-in-class assessments.** Our expertise, tools, and methodologies enable us to quickly gain a thorough understanding of your needs in order to determine the cost, complexity, and effort involved in your cloud journey. We will work alongside you at every step to build a custom roadmap that is aligned to your business objectives and is designed with your current capabilities and constraints in mind.

- **Comprehensive cloud knowledge.** Our deep and long-lasting partnerships with Microsoft, AWS, and Google, as well as our unique combination of commercial and technical expertise, help us determine the best cloud approach for your business. No other cloud solutions and services partner has comparable licensing, knowledge, certifications, and competencies with the ability to leverage funding and incentives through hyperscaler migration programs.

- **FinOps expertise.** With more FinOps Foundation-certified practitioners than any other organization, we will help you embrace the cloud while optimizing costs along the way. Intelligent cloud financial management services are integrated into every solution we offer, from initial assessments to continuous modernization and management. We believe that building a robust FinOps framework is key to your cloud success.

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