

Cloud Ascent

Cloud is the urgent business imperative: how to maximize its value

MIGRATE YOUR CORE AND SOAR

Cloud is the urgent business imperative

Everyone knows the cloud is the place to be

It has offered greater flexibility, more agility and new opportunities for innovation. No surprise, then, that more than 90 percent of today's enterprises have adopted cloud in some form.¹

So what's the challenge?

Many enterprise efforts to adopt and scale to cloud have slowed or stalled. Some organizations got stuck in an experimental mindset without a sense of where their cloud journey was headed. Others struggled to make a clear business case for scaling up their use of cloud.

The result?

Most enterprises have, on average, only about 20-40 percent of their workloads in the cloud, most of which are the easier, less complex ones.² And nearly two-thirds have said they haven't achieved the results expected of their cloud initiatives to date.³

The world-wide wake-up call

On top of these concerns, COVID-19 has created an unprecedented wake-up call. Organizations in every industry have had a very powerful and direct reminder of the importance of systems resilience, agility, adaptability and scalability.

Acceleration to transformation

As companies look to outmaneuver the uncertainty heightened by the pandemic, the enterprise focus has shifted to sustaining operations under severe disruption, flexing to address highly volatile customer demand and managing vastly changing workforce dynamics and increased needs for remote network access.

Rising to the challenge

For many companies, the pandemic not only introduced new disruptions to their enterprise systems and business models (e.g. the sudden drop in demand across industries such as energy, travel and hospitality), it also exposed pre-existing weaknesses in those models and systems.

Embrace the promise of cloud

According to research we conducted before the pandemic, only a small minority of companies—the top 10 percent—had mastered systems resilience.⁴ It's imperative that the companies that went into the crisis with significant gaps embrace the promise of cloud now to enable short- and long-term change. If they do, they can mitigate business risk, maximize human potential, enable business transformation and emerge stronger, able to change and thrive despite ongoing uncertainty.

THE SMARTER ROUTE TO MAXIMIZING VALUE

Recent disruptions have only reinforced the prevailing notion that cloud isn't some future aspiration—it's an urgent mandate at the heart of the business. Cloud offers the promise of greater efficiency, accelerated innovation and is a critical enabler of advanced digital technologies that open the door to new business models and revenue streams. But a rushed migration without a clear strategy can end up costing the business more, leaving existing legacy applications racking up consumption—and costs—at an alarming rate.

Cloud is the urgent business imperative

An intelligent cloud journey must balance business drivers, technology needs and industry dynamics in achieving the right blend of scale, shape and speed for your organization's unique needs. There is no one-size-fits-all approach. Instead each will be driven by industry-specific competitive environments and individual company aspirations for cloud. Consequently, your cloud initiative should start with defining the business value that this technology transformation can enable: identify where impact will be derived fastest across the business through new capabilities, cost efficiencies, or risk mitigation. You want to consider key factors including how ways of working will change, your organizational structure and business model, human performance and organizational behaviors and mindsets. With the value identified, you can then map out the journey and determine how cloud will enable the overall business strategy and ambition. There are five essential elements to capturing the full value of cloud:

- **Migrate and scale up**
- **Get the most from the hyperscalers**
- **Modernize and accelerate**
- **Run and optimize**
- **Innovate and grow**

To maximize the cloud's benefit to the business, you'll need all five elements. Let's consider each one in turn.

Easy does it: Five essential elements to elevation

➤ **MIGRATE AND SCALE UP**

Get your workloads to cloud rapidly, securely, and with confidence by selecting the right infrastructure for your business needs.

➤ **GET THE MOST FROM THE HYPERSCALERS**

Apply the innovations and investments from the big cloud providers to create value for your business.

➤ **MODERNIZE AND ACCELERATE**

Ramp up your organizational speed and agility by restructuring architectures, applications and data for cloud, and determining how these will help drive enhanced workforce performance.

➤ **RUN AND OPTIMIZE**

Adopt new ways of operating that push your cloud estate to ever higher levels of business performance and sustainability.

➤ **INNOVATE AND GROW**

Use cloud as a digital transformation lever to create greater differentiation and competitiveness in your industry, laying a strong foundation for rapid experimentation, innovation and new business models.

THE FIVE VITAL STEPS TO YOUR CLOUD SUCCESS.

MIGRATE AND SCALE UP

Get your workloads to cloud rapidly, securely, and with confidence by selecting the right infrastructure for your needs.



Migrate and scale up

For a range of different reasons—technology, security, complexity, legacy, data sovereignty, human psychology— many workloads remain in on-premises data centers.

Unless you migrate the majority of your workloads to the cloud, you will not be able to realize the full business value, including making your business more efficient, resilient, and customer focused.

Steps to migrate at scale:

1

First, you need to align the whole enterprise. Migration cannot be a purely IT-driven exercise. Those in other parts of the business need to be part of the solution, understanding that cloud is a critical enabler to business initiatives driving efficiency, innovation and growth. You also need strong leadership from the top to provide direction.

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Second, to avoid getting stuck in a pattern of aimless experimentation, you should focus relentlessly on realizing value throughout migration and beyond. Treat cloud as a means, not an end. It's not enough to say you migrated X number of workloads and think the job is done. A cloud strategy needs a systematic framework for delivering and measuring the value to the business now and in the future—covering technology, operations and financials.

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That, in turn, helps you make the business case for each workload and define the cloud target state (including architecture, infrastructure and operating model). This is vital because, from a business perspective, migration can look like a lot of effort for little return. You need to spell out the future value and transformation potential for each application, clearly justifying how the business will benefit from the migration. This requires strategic classification of applications and data to a business value index, assigning a standard target state disposition, and understanding technical interdependencies and data localization requirements.

Lastly, it also pays to be smart about prioritizing the “low hanging fruit.” This is a more sophisticated task than simply asking, “**What takes out the most cost?**”. You have to weigh cost savings against a range of other factors: application complexity, legacy needs, data-location and compliance requirements, “long-tail” interdependencies, and the potential value and innovation that can be unlocked via cloud native optimization. Thoughtful sequencing and prioritization of low hanging fruit can then help fund more complex migrations.

The smarter path to scaling

Consider a global pharmaceutical company that moved to the cloud in search of greater elasticity. The successful migration enabled it to conduct computer-intensive clinical trial simulations that previously took 60 hours in only 1.2 hours once on cloud, a 98 percent improvement. Similarly, one Australian bank which made the move to cloud was able to deploy new online capabilities in just 30 minutes instead of months.

While much of the migration focus is on applications, don't forget the data. The choices made with regard to data can have a significant impact to system latency and overall performance. As a result, it's best to consider these implications early in the process.

“Cloud is not new. Yet most enterprises have still only dabbled in it”

GET THE MOST FROM THE HYPER- SCALERS.

Put the innovation and investments being made by the big cloud providers to work for your business.



Get the most from the hyperscalers

Most enterprises will choose to work with at least one of the public cloud hyperscalers, such as Microsoft Azure, Amazon Web Services (AWS), Alibaba or Google Cloud. They'll look to leverage these providers' global scale, deep expertise, and numerous cloud services.

Getting the most out of a hyperscaler is about committing to a partnership. Enterprises are investing in a relationship that will last years into the future. What's more, hyperscalers will often be willing to put their own money on the table to kick-start that relationship.

This can be a critical boost to a digital transformation, especially where financing is an issue, helping to smooth the investment curve associated with getting the move to cloud started. But it's important not to fixate on cost alone. The enterprise also needs to carefully consider the support it will get from the hyperscaler around innovation, industry solutions, digital transformation and engineering, not only during the initial migration but looking ahead and seeing where opportunities to exploit higher level services may exist.

The hyperscalers are on their own journeys of innovation, investing heavily in areas like streamlining migration, adapting services for private clouds and pushing out to the edge. In addition, they are investing in a variety of industry-specific cloud solutions to augment those provided by service providers and third-parties (e.g. HIPAA, PCI). For example, [GE Healthcare](#) is running its Health Cloud on Amazon AWS.

[Johnson Controls](#) is employing Microsoft Azure's IoT solution accelerators with its GLAS smart thermostat to give building owners remote access through web and mobile apps so that they can monitor and control features of the heating and cooling system.

Also, [Stanford Center for Genomics and Personalized Medicine](#) is leveraging Google Genomics to analyze hundreds of entire genomes in days and return query results in seconds while providing reliable security for DNA data.

The hyperscalers' innovation also extends to sustainability. Here, they are incorporating innovative techniques to bring down energy consumption at data centers. The shift to hyperscale centers—massive cloud-based data centers run by large cloud providers in infrastructure-efficient spaces—has made sharing hardware resources and computing more energy-efficient. Increasing the use of renewable energy, such as deploying cooling servers with outside air and reusing residual heat, is also helping reduce emissions.

Get the most from the hyperscalers

An expert team elevates your business

An enterprise needs to be ready and willing to leverage all this innovation. That's where a Cloud Center of Excellence (see inset) can be critical, ensuring the organization keeps on top of the huge range of hyperscaler services and solutions released each year, understanding which will help the business (and which won't) and working with application owners to facilitate adoption. For example, Microsoft Azure has recently launched a number of edge and IoT services, acquiring Telco-related capabilities. Where a year ago little to no capability existed, it is now able to address some fairly complex edge-computing use cases.

For most organizations, the optimal way forward will be to select a primary hyperscaler for the majority of mission-critical workloads, and then work with one or more secondary providers dictated by the specific needs of the business (regulatory, industry, concentration risk, specialized workloads, commercial, etc.). This enables the organization to build core skills and experience on one platform. While it might seem tempting to work equally with several hyperscalers, arbitrating between them can be challenging. Arbitrage can't be the principal driver since whatever savings may be gained is offset by increased complexity and substantially greater skills requirements for multiple platforms. However, specialized functionality may justify the added investment.

Maximizing value through a Cloud Center of Excellence

By providing a single focal point for both the business and IT, a Cloud Center of Excellence (COE)—a small team of cross-functional experts—can significantly accelerate cloud adoption and the value realized from it. The COE brings central governance and direction to cloud architecture and design choices, helping manage the complexities of distributed and multicloud solutions and preventing the confusion that can ensue if each part of the business decides to go its own way.

What's more, with centralized expertise in hyperscaler solutions, the COE is better able to keep track of the constant stream of new services released to the market. That means the COE can drive the enterprise innovation agenda forward, helping the organization increase its cloud maturity.

The COE also has a critical internal "marketing" function, working with application owners to explain how to leverage new hyperscaler capabilities for their benefit (whether that's cost savings, faster development or new customer-centered capabilities).

MODERNIZE AND ACCELERATE

Ramp up your organizational speed and agility using cloud-native architectures, applications and data.



Modernize and accelerate

Just getting to cloud doesn't make you a cloud-native enterprise. To do that, you need to modernize, building applications and services specifically for a cloud environment and tailored for your industry.

Your business needs an IT capability with speed and agility, that can support accelerated cycles of product release. You need faster, more efficient and cost effective applications refactored (recoded) for the cloud. You need to be able to swap different components in and out with zero disruption, by abstracting the underlying infrastructure and platform. You need to think holistically about the flow of data across your systems, what your workforce needs to achieve even higher levels of performance and how your organization is structured. And you need to adopt new technologies as customer need dictates.

Becoming cloud native is like learning a new language for enterprise IT. If you want to speak cloud, you need to immerse yourself in it. Doing this for greenfield development is relatively straightforward. But there's no

escaping the fact that this can be a substantial undertaking for global organizations with large legacy estates. The reality is, for complex mission-critical applications with many interdependencies, modernization can't happen overnight. It requires a strong architecture upfront. Failing to design one can render services from the hyperscalers ineffective and undermine the expected value. It also needs strong software engineering skills to build cloud compatible code that plays well with legacy systems.

That's why modernization needs to be a carefully considered, long-term process that's based on a solid application discovery assessment. The strategy needs to take into account where the organization is headed—and why—while building in enough flexibility to adapt over time.

“If you want to speak cloud, you need to immerse yourself in it”

Rise to new heights: Change your operating model and thrive

Modernization is more than a technology transformation, it's a business evolution. It requires the right industry expertise, engineering skills and operating model changes to enable teams to own applications end-to-end with DevOps. It should consider improvements to data platforms as appropriate. And, it should also look at how to bring security, finance and HR functions into the fold with DevSecOps and FinOps.

In all this it's vital to remember one central point: You can't wait for all the stars to align before moving to the cloud and embarking on cloud modernization. In an uncertain world, planning for every contingency isn't possible. You just need to jump in and get started.

**A major utility company
reduced alert outage system
costs from millions to less than
\$10 annually
using an event-driven
serverless architecture.**

RUN AND OPTIMIZE

Adopt new ways of operating that push your cloud estate to ever higher levels of business performance and sustainability.



Propelled higher by people

Operating your IT estate is fundamentally different in the cloud. The traditional model of managing capacity by purchasing and running physical hardware doesn't work. Instead, you must continuously manage consumption, capacity, performance, and crucially – cost. It requires a very different skillset as well as new operational functions.

This is where many cloud journeys falter. If you're not constantly monitoring and optimizing capacity, especially with legacy applications, as well as leveraging the right or latest services from the cloud providers to maximize the performance/value ratio and sustainability, you quickly find costs and waste escalating. You've got to be proactive. You need people who don't just react to spikes in consumption, but understand and anticipate why they're happening and how they impact IT's carbon footprint. Further, they need to know what business processes are involved, how critical they are and how they all fit together.

The skills issue goes wider still. Management in the cloud is largely a software exercise in which teams write code to monitor and fix the estate. What's more, most enterprises today will be managing

a multicloud environment, and including a mix of SaaS, PaaS, private cloud and on-premises solutions.

This undoubtedly brings extra complexity to management and optimization, requiring both a holistic understanding of the estate and deep skills in the various platforms being used.

It's why many enterprises choose to work with a partner. In fact, according to Accenture research, it's the top reason enterprises consider third-party managed services.⁵ Doing so helps a business stay current with the continual release of new functions/features by the hyperscalers. It also frees teams from the burden of day-to-day cloud management and enables them to build up industry-specific enterprise capabilities in areas that really differentiate the business.

INNOVATE AND GROW

Use cloud as a digital transformation lever, creating a foundation for rapid experimentation, innovation and new business models.



Innovate and grow

Industry-specific cloud solutions are catalysts for innovation and new growth. They enable experimentation at speed, including testing new ways of working. Cloud lets you spin up new environments instantly, try out several ideas at once, and see what's working quickly and securely. It's about iterating faster, testing out prototypes on demand and getting real-time information on which to base your business decisions.

Cloud is also a catalyst for business reinvention through the enabling of advanced digital technologies. It's about discovering new insight with data, advanced analytics and AI. It's about leveraging data at scale and unlocking its value with applied intelligence. It's about improving data quality and its more efficient use which in turn conserves energy. It's about the combinatory potential of advanced technologies like machine learning and the vast numbers of future edge devices connected to the Internet of Things. It's about scalable compute power to support increasingly sophisticated AI models.

Essential to innovation and growth are industry-specific cloud blueprints, which prioritize high return opportunities across change imperatives of growth acceleration, digital transformation and cost transformation. Every cloud journey must be conducted in the context of industry drivers and the specific aspirations of the individual business with respect to each imperative.

And it's about working more closely with suppliers and partners, sharing data securely to streamline and accelerate supply chains or enable new business models. Access to an ecosystem of partners can be an innovation game-changer. Through collaboration with partners, you can gain access to cutting-edge technology.

Cloud is the urgent business imperative

“Cloud is the mother of business reinvention”

With the speed provided by the cloud, and by working with cloud hyperscalers and other service providers, enterprises can shift their focus away from the “keep the lights on” operations that currently take up so much of their teams’ attention. People and funds can be freed up to focus on how systems can adapt to what the business and its customers will need next.

When it all comes together, the results can be significant.



Example of Enabling Experimentation and Innovation

Using such services as AWS Braket or Azure Quantum provides a sandbox in which to develop and test quantum computing applications without the cost prohibitive investments typically required to support such initiatives.

Consider Enel, a leading European utility, looking to reinvent itself in the cloud. Using cost savings enabled by their migration to cloud starting in 2015, they have transformed their business. Today, Enel enjoys reduced go-to-market times, optimized cost efficiency and greater business agility through use of public cloud. In addition, the cloud enabled its more than 37,000 employees to work remotely through secure collaboration and access to corporate applications.

KEEP RISING ABOVE AND BEYOND

Get ready to maximize the value of cloud investments by partnering with experts who understand the heart of your business.

The time to scale cloud adoption is now—maximizing cloud's value can be realized leveraging five essential elements: migration, hyperscaler integration, modernization, management and innovation.

Cloud has proven its centrality to resilient, sustainable enterprise operations and future competitive advantage. If you're not substantially on the cloud, you can't hope to unlock the capabilities a modern business requires—greater flexibility, more agility and new opportunities for innovation to help you disrupt your industry. Enterprises that continue to delay a shift to cloud at scale aren't just incurring an opportunity cost, they're risking their very survival.

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