



All things cloud

Building a future-proofed multicloud strategy



**Business
Services**



Cloud transformation is accelerating

Cloud has a star role to play in the future of business. The recent health crisis is accelerating our move to a hyper connected world, which is secured, collaborative and cloud driven. One that supports a “touchless economy”, where economic activities can be carried out without physical contact anytime, anywhere.

Multicloud is central to this hyper connectivity, which is connecting machines to machines, and us to each other and our digital devices. Cloud helps provide instantaneous, on-demand delivery of end-user features, applications and computing infrastructures.

Cloud is critical for the future of business

Cloud has been instrumental in supporting businesses during the pandemic, by enabling home-working, agile business processes, and external digital engagement, according to IDC.¹ As a result, enterprises more advanced on their digital transformation journeys have benefited from resilient and elastic cloud-based digital infrastructures, which has enabled them to absorb radical market changes to the benefit of their business.

This recent widespread disruption has reinforced the critical importance of businesses being agile enough to scale up or down in all parts of their operative model with fluctuations in demand. Enterprises are now looking to rapidly accelerate their cloud transformation to better operate digitally, prepare for any future crises and be more adaptive to their customer needs.



Facing cloud challenges head on

Multicloud involves the use of public clouds from two or more providers, whereas hybrid-cloud combines private clouds and public clouds, which often brings fundamentally different delivery models together. Challenges including visibility, complexity and integration issues. While uptake of hybrid and multicloud architecture is fast gaining momentum, not all businesses are sufficiently prepared to implement cloud strategies due to migration and skills-related challenges according to IDC.²

By 2022, over 90% of enterprises worldwide will be relying on a mix of on-premises/dedicated private clouds, multiple public clouds, and legacy platforms to meet their infrastructure needs³. Making the right choices and your teams ability to absorb and adjust to change is integral to cloud success.

Digital transformation opens new channels for growth, and opportunities to develop new revenue streams. Change happens at all levels. Having a too-rigid plan to support strategy can increase risk as the enterprise or vendors involved may not have the insight to know what is around the corner in transformation. An agile and adaptive digital strategy supported by a digital platform which enables the key capabilities is thus essential for your enterprise to stay flexible and competitive.

Cloud transformation is accelerating

From the very start, your enterprise needs to work out if cloud migration is an IT project or is firmly in the context of digital business transformation.

Are you optimizing your current IT architecture to reduce cost or add enhancements? Or are you reinventing your operational model for the benefit of your next-generation customers by creating and delivering value in a fundamentally new way?

From an IT perspective it can be relatively straight forward, although a strategy is still essential as an ad hoc approach can lead to lack of control, spiraling cloud costs and increased exposure to data breaches.

Now is the time to take another look at your cloud strategy

With cloud playing a central role in long-term profitability and sustainability, it is time to revisit your cloud strategy and even prepare to reinvent it. CIOs need to ensure that growing investment in cloud fully supports the continuity plans and future needs of business.

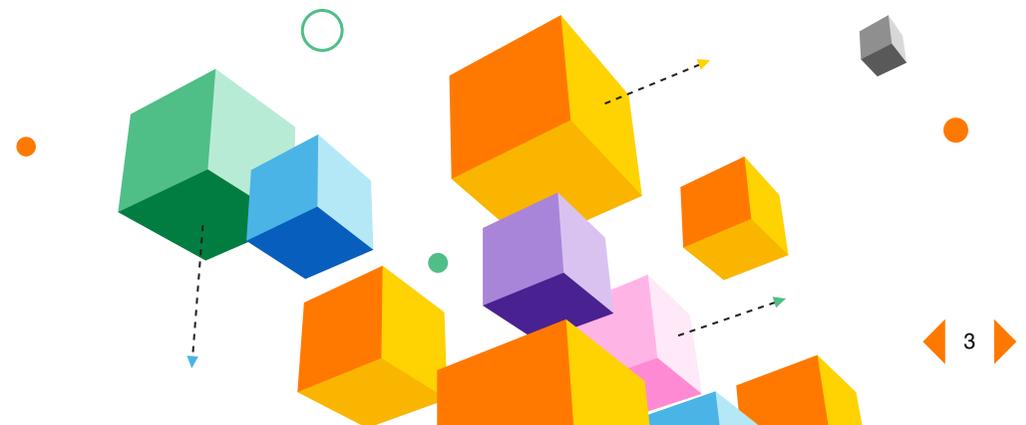
As you grow your cloud environment, a multicloud strategy is essential to improve efficiencies, control costs and provide access to new technologies. Without a well-considered strategy, you can quickly lose control, ending up with a messy knot of unmanaged and ungoverned expensive clouds.

At the same time, “fail fast” goes with the culture of digital innovation. Failure should be fast, lessons learnt quickly and readjustments made immediately; and you can do this because your technology building blocks are designed in a way which allows you to have this mindset. This means that application development must be agile, cost effective and scalable. This is where cloud combined with an adaptive and agile culture is crucial in order for you to continue as a successful business going forward.

What is required is a progressive transparent multicloud journey where capabilities can be monitored and strengthened along the way – allowing you to securely exploit the dynamic nature of cloud and focus more on business outcomes than just controlling IT costs. In this ebook, we guide you through developing a resilient and flexible multicloud strategy that acts as a key business enabler to achieve business outcomes. One that connects connectivity, security and the user experience across the enterprise. Turning challenges into opportunities and having the skills to turn potential issues into positives.

Contents

- 4 **Cloud: the digital future is now**
- 6 **The business benefits of multicloud**
- 8 **Connectivity: a corner stone to cloud computing success**
- 9 **Designing a cloud strategy for smarter business**
- 11 **Making teleworking effective for business**
- 13 **Opening up the cloud-native world**
- 15 **Securing the cloud**
- 17 **Cloud transformation comes with its own set of challenges**
- 18 **Key takeaways for building a flexible multicloud strategy**
- 19 **Orange Business Services, your trusted cloud partner**



Cloud: the digital future is now

According to IDC, the “Future Enterprise” should underpin business processes with technology, and be fueled by innovation, platform-enabled, and ecosystem-centric⁴. Integrating cloud services and technologies in a way that brings out the uniqueness in your brand and enable your digital strategy is core to this vision and getting to the future faster.

A new way of life is emerging, one that is made up of low-touch interactions using voice, gestures, eye movements and even body-tracking. Cloud is essential to this brave new world. Software-as-a-Service (SaaS), for example, is bringing self-service to customers already. Artificial Intelligence (AI) enabled services are rapidly evolving to support active business decision making. Eventually AI will be in charge of making these decisions in the cloud that will change whole industries.

Cloud has established itself as a critical platform for next-generation digital business models. It is little surprise, therefore, that despite a dramatic downturn in the global economy, cloud spend is increasing. IDC forecasts this trend to continue, with the market hitting \$105 billion by 2024.⁵

By 2022, 80% of enterprise revenue growth will depend on digital offerings. Cloud will be pivotal to providing these offerings.⁶

But there are provisos

Increased cloud budgets, however, come with a caveat. There is higher pressure on CIOs to deliver on the promise of the cloud to transform business, innovate, and create a competitive edge. Cloud transformation is mandatory to ensure compelling experiences are available to employees, partners, and customers. Visibility is critical. You need to make sure that whatever changes you are implementing will actually improve the user and customer experience, and avoid only focusing on IT-centric goals.

Smarter business needs an extensible multicloud strategy

The recent crisis has changed the business world forever. Digital strategies must now be reinvented to take onboard any future disruptions. This means re-visiting multicloud strategies, regardless of where you are on your cloud journey, and not only altering it where necessary to ensure its resiliency but possibly recreating it.

Very few companies, however, have been born in or invented in the cloud in the same way as Uber and Airbnb, for example. Thus cloud transformation is paramount to digitization. A multicloud strategy combined with a mindset for the new touchless economy needs to empower the enterprise and people at scale, providing the capabilities, competencies, tools, guidelines, compliance and governance to securely tap into emerging digital opportunities.

Organizations that do not have a high-level cloud strategy driven by their business strategy will significantly increase their risk of failure and wasted investment⁷

David Cearley, Vice President and Gartner Fellow

Understanding generations of the cloud

The cloud is not one generation. In fact, there are now four eras of the cloud that require fundamentally different approaches in order to maximize the benefits.

Before planning your cloud journey, it is not only important to have a destination in mind, you also need to know where you are coming from. This is where a cloud maturity audit is invaluable to understand which generation you are in, which one you want to be in and how to get there.

The four eras of the cloud in detail:

1 Anything bought 'as a service', meaning the cloud is just a price model and nothing to do with technical architecture.

- Traditional data center infrastructure
- Monolithical application
- CAPEX to OPEX expenditure

2 Virtualized workload, usually with a combination of fixed and volume pricing.

- Traditional data center infrastructure with hypervisor on top
- Typically, the first versions of dedicated private clouds or shared private clouds
- Managed infrastructure services hosting traditional 3-tier applications

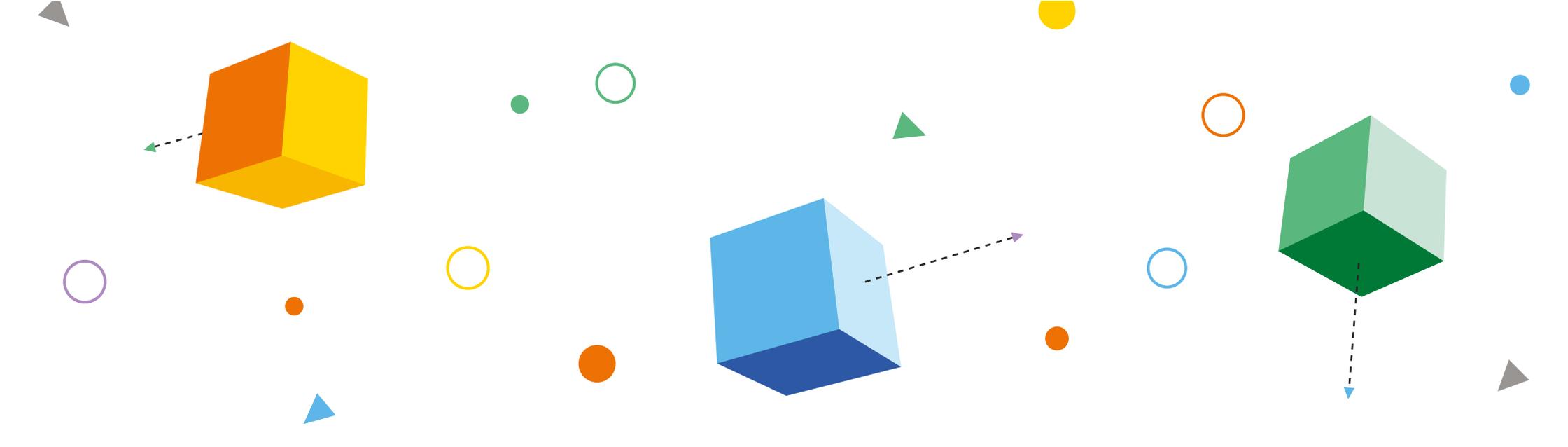
3 Cloud-ready applications with a potential distributed architecture, based on containers or even PaaS/SaaS services as part of their architecture.

- Can be monolithic, but usually resides on a platform where one has abstracted the infrastructure layer
- Solely based on consuming services where the focus on traditional infrastructure is minimized
- VM's are largely replaced with containers and PaaS. VM's are configured as close to cloud-native as possible (normally capable of leveraging autoscaling)
- Enterprises looking to enhance their existing applications or may have specific requirements in terms of political compliance or geography

4 Cloud-native, supporting cloud-native applications.

- Microservices and serverless architecture which takes full advantage of cloud-native infrastructure in public cloud. Stateless, portable and highly distributed application architecture
- Is orchestrated on the application layer with the help of a fully codified infrastructure
- There is minimal interaction with the infrastructure layer
- Automating and codifying anything that would typically be done manually in the first three eras (replacing traditional ways of carrying out operations)





The business benefits of multicloud

Cloud has established itself as an essential business enabler, with 92% of organizations' total IT environment now partly in the cloud⁸. As a result, cloud is no longer an IT issue; it is an organization-wide issue.

Your cloud strategy should draw on stakeholders from across business units and include sponsorship from executive management due to possible impact of the operative model.

Enterprises choose multicloud for a number of reasons. Typically they find it impossible to find one vendor that meets all their business needs. They want to use best-in-breed solutions as and when they become available.

Five further reasons for adopting multicloud

- 1** Tap into the strengths of different cloud platforms.
- 2** Separate data flows and critical functions into different parts across multiple clouds, enhancing data security, resilience and productivity.
- 3** Comply with regulations across different geographical regions, such as GDPR and data sovereignty.
- 4** Choose the best services that suit the business at the best price points.
- 5** Enhancing user experience.

But there are challenges they need to overcome in multicloud adoption, read on.

The business benefits of multicloud

The skills drought

A skills shortage is afflicting enterprises right now. This is being heightened by accelerated cloud transformations and the take up of cloud-native mindset and services. There is a significant shortage of expertise in the areas of cloud migration and development, which has a negative impact on the business and the employees. Through 2022, insufficient cloud IaaS skills will delay half of enterprise IT organizations' migration to the cloud by two years or more, according to Gartner.⁹

To overcome this challenge, enterprises will need to start home growing talent or attract partners with a matching delivery culture to access experience that will complement their own.



You can't manage what you can't see

Visibility and transparency can be a major challenge with multicloud, due to its complexity and potentially different delivery cultures. Unified visibility across multiple cloud platforms as well as on-premises infrastructure is essential for bringing security, compliance, resource planning and budgeting together for enablement instead of working against each other in competing silos.

Visibility and transparency are also key to working with ecosystems, which underpin and scale your digital strategy and business outcomes.

Controlling costs

When enterprises migrate to multicloud they are often shocked that they are spending more. This is because they don't take into account the growing number of cloud services and increasing amounts of data. In addition they have become a victim of their own success since development happens so much faster than before. Not to mention the common lack of visibility on their cloud estate. This is exactly where complete cloud estate overview and visibility comes into cloud management.

In the cloud-native world, the best way of controlling costs is to link it to your business outcomes, as with agile projects. More costs equaling more income, so in the spirit of FinOps you actually see cost as something as agile as the rest of your architecture.

The cloud-native era also forces companies to look at costs in a fundamentally different way than before. Costs should not be treated as a procurement process, but rather a continuous changing cost connected to equivalent business outcomes.

Newer technologies and services available to developers makes this possible by using cost tagging on every component which makes up your architecture. Continuous cost compliance can be performed by using predictive tools to proactively tell your financial team what the financials next month could look like.

As a consequence of cloud-native services, full codification of orchestration and available tooling controlling costs is no longer something you should be doing manually or reactively. It should be built into your architecture. It does, however, require integrator capabilities with operational expertise to achieve this cross-architecture orchestration from connectivity to applications rather than just looking at silos.

Connectivity: a corner stone to cloud computing success

Robust connectivity is necessary for accessing cloud services securely, remotely, and effectively. But a leap in cloud use and new technologies is leaving many network platforms under immense strain.

A multicloud strategy can create networking challenges. With a single cloud there is only one connection to manage between the on-site network and the cloud platform. With multicloud there are multiple connections between multiple platforms and your network, and sometimes between the cloud platforms themselves. This is in addition to the potential bird nests of microservices within and across security zones, which can be complex to manage and extremely difficult to govern; especially with a more traditional mindset.

Unfortunately, connectivity often gets skimmed over in cloud strategies and leads to performance issues and poor user experience later down the line. With more mission-critical applications moving to the cloud, you must look at the connections between the business and the cloud. Cloud connectivity is paramount in contributing to cost optimization, enhanced security, and higher performance.

The simple truth is that optimizing the network to support cloud-based applications is one of the cornerstones to achieving digital transformation.

Take time to assess the best way to connect

Deciding the best cloud architecture that fits your business requirements is a challenge in itself. You should take a holistic approach when evaluating cloud models and connectivity to ensure they are maximizing the investment.

In many cases, we recommend engaging expert consultancy to ensure you end up with the best way to reach the cloud, its services, and capabilities. It will also ensure that the capabilities in your new digital platform connects to and enables sustainable business outcomes. As enterprises move from data center ecosystems to cloud architectures, the network needs to be more nimble and agile to maximize performance, continuously adopt to changes and support fundamentally new ways of creating and delivering end-user value.

By 2024, to increase agility and enhance support for cloud applications, 60% of enterprises will have implemented SD-WAN compared with less than 20% in 2019.¹⁰

Here many enterprises are exploring a software-defined (SD) approach. Traditional WANs were not designed to be cloud-ready. They usually require all traffic to be backhauled, for example. SD-WAN provides benefits of flexibility, scalability, traffic prioritization, and automatic provisioning and deployment. This can all be extended to SD-WAN cloud access to improve overall connectivity between head office, branch offices, and the cloud.

SD-WAN is just one part of a host of solutions that make up the modern connectivity world that we provide. Microservices connectivity, for example. Pulling your apps out into microservices is just the start. They have to be managed, connected and orchestrated. Most companies are still at the beginning of exploring the opportunity but also the complexity of microservices. Keeping cross-architecture visibility and transparency will be crucial to solve future challenges.



Designing a cloud strategy for smarter business

Cloud infrastructures are breaking down silos making data more accessible. Workloads are now more portable, and data streams increasingly mobile.

Cloud, and especially cloud-native, is built for constant change and constant pursuing opportunity. Continually advancing the capabilities of cloud is key to transforming and differentiating business to gain a competitive advantage.

Many enterprises move to cloud in the hope of making operational savings. A systematic failure to treat costs as regular IT projects has left many with cloud bills spiraling out of control as usage across the enterprise rockets. It is estimated that at least 30% of cloud spend is wasted.¹¹ Instead companies need to look to a FinOps approach¹², where cross functional teams can make “business trade-offs between speed, cost and quality”.

Siloed procurement teams no longer identify costs and sign them off. Instead everyone takes ownership of cloud usage backed up by best practices and incorporating the ability to perform continuous, predictive cost analytics as part of their application architecture.

To avoid this financial pitfall, you need to build cloud cost control into your overall cloud strategies. Here are five considerations that should be embraced:

- 1 Cloud will require investment.** From experience we have found that you can't always build on what you have. The building blocks may be fundamentally different. You have to start at the beginning being cloud-centric and integrate over time if you are trying to benefit from more than one generation of cloud. This should be based on your cloud maturity and where you are looking to get in your cloud transformation by when.
- 2 Examine why you are moving to the cloud and what business goals and outcomes you expect it to achieve.** Look at what adjustments need to be made to your cloud infrastructure and delivery culture to ensure what you are funding moves your business in a positive direction.
- 3 Analyze your cloud transformation plans** and make sure they are going to produce the efficiencies and end-customer behavior from the applications and services you expect.
- 4 Deploying an enterprise-wide asset management system** can detect a new service as soon as it goes live, making services and cloud costs easier to track. Be aware of the different cloud generations though when integrating such tools.
- 5 Don't hoard data without having a data strategy** bound to business outcomes or business use cases. Many traditional, as opposed to dynamically data driven, enterprises opt to store practically everything in the cloud and end up paying for it. Evaluate what data is worth saving in the cloud to reduce cloud spend.



From data to insights with cloud

Cloud is imperative to making cross-functional data available across the enterprise for business insight and smart decision making. This allows you to harvest the maximum insight and value from your data. Having a strategy to extract this data, however, is essential or it will become an annoying and expensive burden.

Gartner maintains that by 2022 public cloud services will be essential to 90% of data analytics innovation.¹³ As data and analytics move to the cloud, data analytics experts need to co-ordinate the right services with the right cases according to the analyst firm. Otherwise, it can lead to unnecessary integration overheads.

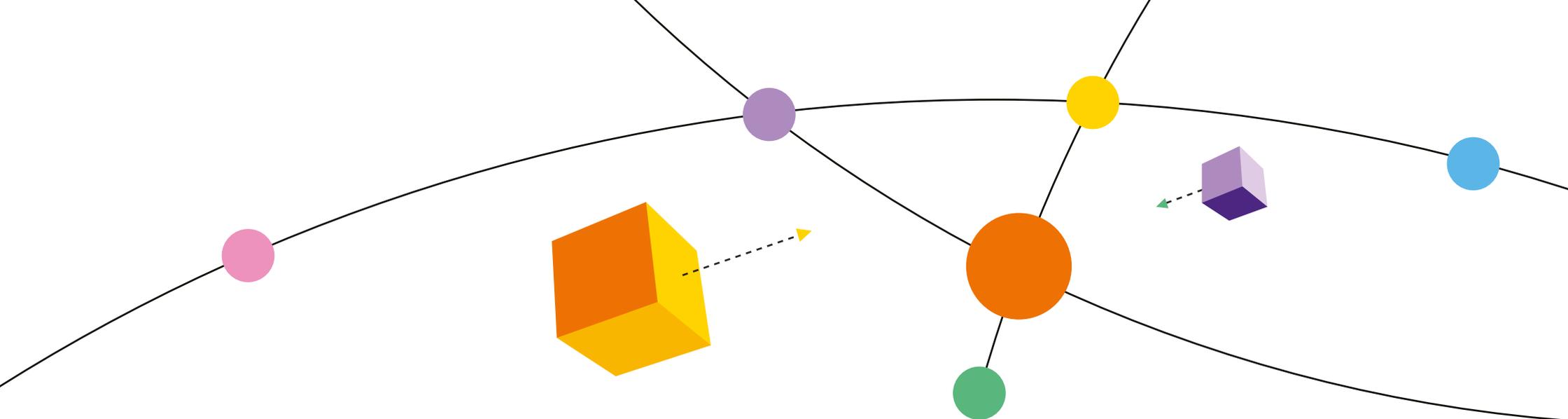
Having data in the cloud does not mean it has in-built value. It has to be processed, aggregated, consolidated, analyzed, understood, and disseminated. Making this data accessible for tactical and strategic decisions needs to be baked into all cloud strategies.

The goal to succeeding with big data requires executive support as it may reinvent your operative model. It also requires concrete vision and a suspect use case, along with a cross-functional team effort from data scientists, developers, business, security and so forth. The next step is to create a minimal viable product, roll it out and iterate.

Not having executive support to “break the rules”, means that network teams won’t provide access to the data within the silos, essential to making all this work. It is also important to have good quality data from the start. And of course the whole project must be linked to business outcomes to get a product that is business viable and not just a pilot you are proud of!

By 2023, IDC predicts¹⁴ that the global economy will finally reach ‘digital supremacy’ with more than half of all GDP worldwide driven by products and services from digitally transformed enterprises.





Making teleworking effective for business

The recent work-from-home mandate has changed the work environment forever. Many people will continue to work from home indefinitely, while others will adopt a flexible working regime.

The big advantage of cloud computing, along with mobile technology, is that it enables employees to work from any location that has internet access via a virtual desktop or remote infrastructure. Using the right tools some workplaces have become significantly more effective due to a new work culture revolving around continuous collaboration.

If properly deployed, cloud provides flexible workers with a secure, flexible, scalable and reliable infrastructure that allows employees to be as productive at home as in the office; sometimes even more.

Future-proof flexible working into your cloud strategy

Looking ahead, you need to plan for changes in the workplaces and Black Swan moments that will require you to respond quickly to disruptive external events.

Firstly, in terms of working environments you need to work out what you are trying to achieve:

-  Reduce operational and financial risk, hence going from a CAPEX to an OPEX model.
-  Transform the way you work to be more flexible, absorb change and be ready for any future crisis.
-  Build a revolutionary new platform that will enable you to disrupt others in your industry.

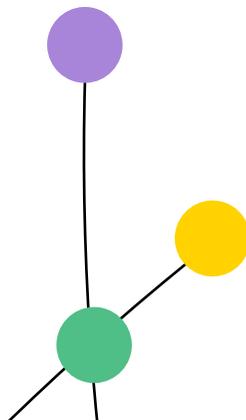
Orange Business Services has answers to all three of these, but they require very different approaches.

Making teleworking effective for business

Initially, addressing these six points in your cloud strategy will help establish flexible working practices:

- 1 Partner with a cloud provider who understands your industry, your business and your workplace environment** and can help you determine multicloud solutions for sustainable work from anywhere programs.
- 2 Determine infrastructure and network capacity, security, performance, and resiliency needs** to ensure a positive remote working experience for users.
- 3 Implement and regularly assess cloud workplace tools** that can deliver a digital workspace that enables employees to connect securely and be productive from anywhere.
- 4 Leverage a secure cloud infrastructure and cloud workspace technology** that supports the entire business, including mission-critical partners.
- 5 Deploy cloud-based endpoint security on remote devices and put secure cloud network procedures in place** so remote workers don't evade your security measures.
- 6 Include security training for all staff.** Remote workers will need a change in mindset to see remote and on-premises security as equally important.

By 2030, the demand for remote work will increase by 30%¹⁵ due to Generation Z fully entering the workforce.



Enabling remote medical practitioners in a crisis



During the recent global health emergency, doctors who were self-isolating needed a secure way to work from home to ensure they could continue to support their patients. They did not have systems, however, that supported remote working.

Orange Business Services delivered a virtual desktop providing doctors with secure virtual access to their information and workspaces, no matter what device they are using. A virtual desktop infrastructure (VDI) offers a number of advantages, such as user mobility, ease of access, flexibility and greater security.

Working on a virtual desktop means that the data is not on the device. Instead it is stored securely in the cloud. In this case a private cloud with a secure connection to medical systems. The system uses multifactor identification that requires more than one form of authentication to verify the legitimacy of the person accessing the system.

As all applications are not necessarily optimized to run in virtual workplace environments, Orange had to help the NHS to refactor these application types. This ensured they could run and be accessed seamlessly in a shared VDI environment.



Opening up the cloud-native world

Cloud-native is the way forward for increased business agility and speed to market. Cloud-native applications are essentially built to run in the cloud and are optimized to take full advantage of all the benefits cloud brings, including elastic scalability, high availability and self-healing. Legacy applications can be rewritten using cloud-native technologies.

451 Research defines cloud-native software¹⁶ as “applications designed from the ground up to take advantage of cloud computing architectures and automated environments, and to leverage API-driven provisioning, auto-scaling, and other operational functions.”

From an economic point of view, cloud-native technologies enable the true value of cloud by scaling and developing applications in much shorter timelines than has been possible previously. Cloud-native works well with multicloud environments as the approach can take advantage of operational functions to deploy efficiently and productively across multiple infrastructures.

Cloud-native is helping build a sustainable cloud ecosystem

By 2022, the modernization of traditional applications and the development of new applications will accelerate the percentage of cloud-native production applications to 25%, driven by the utilization of microservices, containers, and dynamic orchestration, according to an IDC forecast.¹⁷

Cloud-native has distinct advantages over traditional software development, including faster code development and coding, quicker turnaround of services, and serverless computing, all of which simplifies the process of deploying code into the production cycle. Cloud-native also has the innate ability to cost tag, making it easier to manage budgets. But, cloud-native requires commitment and cultural change – and it doesn’t happen overnight.

Six essential facts about going cloud-native

- 1** Going cloud-native needs a commitment to not only prioritizing cloud-based applications but a willingness to explore fundamentally new delivery models which may change your operative model.
- 2** Understand your objectives in adopting a cloud-native model otherwise you can lose focus or end up with only IT centric goals not linked to business outcomes.
- 3** Cloud-native development will require new skills sets that will need to be hired or grown internally. It will most likely also redefine your vendor landscape as you will be looking for new partners and ecosystems to lean on.
- 4** Start small and iterate until they are big with well-defined cloud-native use cases.
- 5** If you are doing cloud-native properly you will be able to link any cost continuously to business outcomes, but also grow new revenue streams complementing your current ones.
- 6** You need to park old development models and adopt a minimum viable product (MVP) way of working. An MVP allows you to evaluate your business idea through a build-to-learn process. Also known as “test fast, fail fast, adjust fast”. This provides immediate value, whilst minimizing costs and risks.

Cloud-native strongly promotes the usage of microservices principles, serverless architecture and full codification of your stack. This will most likely require you to reinvent the way you work with development and operations in addition to taking on new security threats, compliance challenges and architectural complexity.



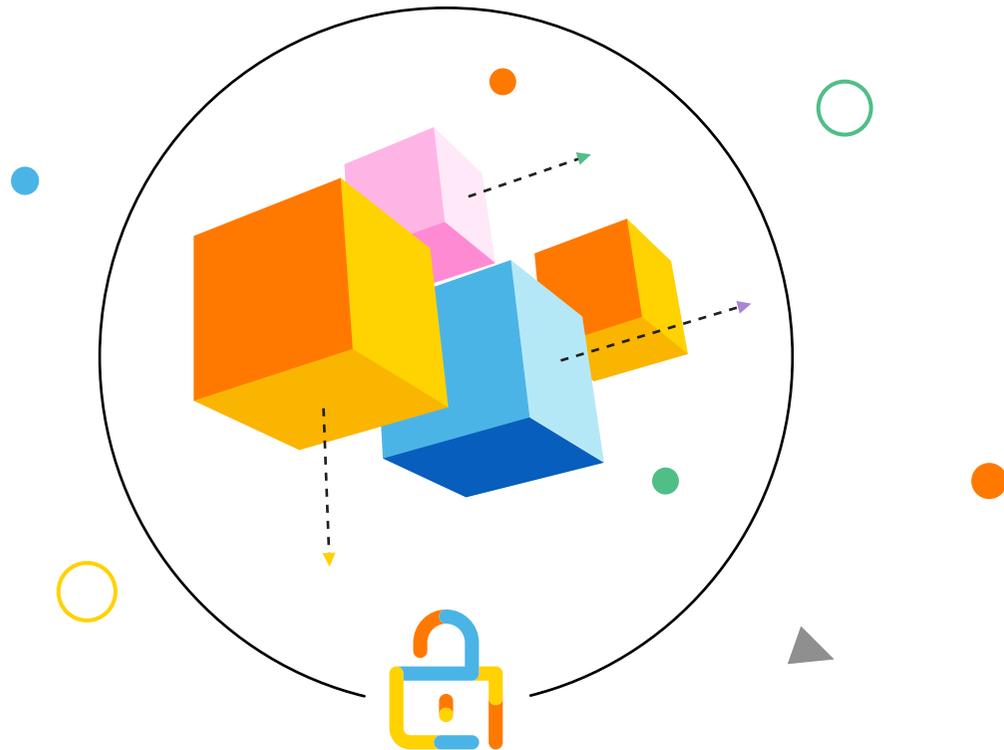
A vision for the cloud

In these uncertain times, CIOs need to instill resilience and flexibility into their cloud infrastructure to deal with fast-changing market demands.

One multinational FMCG company has already started this journey, choosing Orange Business Services to provide it with cloud transformation capabilities. This will dramatically change its cultural mindset now and into the future, putting cross-architecture automation and codification at the heart of its build.

The customer’s immediate goal is full-scale codification, automation and GitOps as a route to faster business agility. Artificial intelligence (AI), machine learning, and intelligent automation will also be key to this emerging arena of automating the behavior of a digital platform. This will keep the platform operationally efficient in addition to enabling the product teams and developers ability to keep up in a very competitive market.

The FMCG has created a radical “fail fast, adjust fast and learn quickly” approach to cloud application development using a cloud-native mindset. This will enable a more moldable and agile application development method. Benefits include faster time to market, increased ability to absorb any market change with new features and scalability alongside unmatched operational efficiency. All commodity processes are being automated, to enhance speed and agility, to adjust all teams as close to business outcomes and enablement as possible.



Monitoring of real customers show that 99.9% of customer will have some users using Amazon S3 buckets for public cloud storage on Amazon Web Services (AWS) that don't have passwords, even on confidential information.¹⁸

Securing the cloud

Cloud security is a complex topic. Different generations of cloud require different approaches to security. Cloud-native may be the most extreme approach as you need to fit security to development and not the other way around. This is because you will enter a world of full stack codification and GitOps.

The general perception is that you can offload cloud security to your cloud infrastructure provider. Many cloud providers offer access to cloud security tools, but in moving to the cloud, you must be aware of the security risks and how to mitigate them. Many enterprises make the mistake of being operational in the cloud long before the security systems and strategies are put in place to protect their new infrastructure.

The components in the cloud are secure by design when they are provided by a cloud infrastructure provider. But when you plan to integrate it to build a digital platform you will need the security competencies and expertise of a cloud integrator to cover proper configuration management and integration governance.

Human error is the cause of many security breaches. Employees put data in the cloud without passwords and forget where it is or need a job done quickly and resort to using Shadow IT.

Cloud itself isn't less secure, but it does require the correct controls to keep data safe. Remember, it is immaterial to bad actors where data is, on premises or in the cloud. They are targeting the application and data.

Seven tips on securing a baseline for your cloud and cloud development teams

- 1 Security must not be an afterthought.** Every enterprise is different and needs a tailored security plan from the beginning; preferably when you are building your landing zones, CI/CD pipelines or continuous compliance method.
- 2 Security in the cloud is a shared responsibility.** Understand which parts of security are the cloud infrastructure provider's responsibility and which are yours. Engage with an MSP if you want help with your responsibility or to further understand the impact of it.
- 3 Incorporate zero trust into the cloud infrastructure, monitor and maintain it.** With active monitoring, you can better protect your IT estate as it grows and adjust security policies as required to make them more secure.
- 4 Integrate security into the DevOps culture from the beginning.** Enterprises need to find an expert partner to implant security best practices into DevOps development and deployment processes.
- 5 Build in guidance and security services to enable development teams to speed up time to market,** but avoid bringing in gated security processes that can hobble innovation and slow down rolling out new features.
- 6 Exploit opportunities in the cloud to automate security** such as code review testing to continuously use security as an enabler to do things faster, better, more efficient and more secure.
- 7 Find an expert to train your cloud development teams to integrate security from the start** and fit security to your development process and not the other way around.



Cloud transformation comes with its own set of challenges

You should not underestimate the energy required for cloud transformation, so accept that any transformation will be an iterative one. Cloud transformation is not a one-off project, it is a journey and especially when it also includes digital business transformation.

In this context cloud is not just a technical transformation. It demands a change in culture and mindset. Cloud efforts often slow down or stall because enterprises have underestimated the size of the task, lack executive leadership, and haven't put a solid cloud migration strategy in place which takes different delivery cultures and operative models into account.

With cloud you need to adopt modern ways to bring and create value for your customers to be successful.

For a successful cloud transformation, you should take the following six points on board

- 1** Accept that any cloud transformation will be a continual process as it pushes your business forward into new ways of creating and building value to end-customers.
- 2** Don't lose sight of business requirements and objectives in the transformation. These should guide the choice of infrastructure, software and cloud partners.
- 3** Understand how your applications are designed and built. Not all applications are suited to a cloud environment. Different generations of clouds will fit different application architectures.
- 4** The network is central to a smooth migration but also to access new services. You need to ensure that networks are secure, reliable, scalable and available before moving mission-critical data to the cloud.
- 5** Maintain a robust cloud security posture by understanding the different generations of cloud and its corresponding security challenges. Cloud-native security requires a different mindset, tools and approach than traditional virtualized environments.
- 6** With cloud you need to adopt modern ways to bring and create value for your customers to be successful. This requires a different way of thinking, different methodology, different partners, and even different people and competencies than you necessarily have today.

For those companies who started their digital business transformation recently, it may be useful to understand that even early bird companies that have been on this transformation journey for more than five years still are having challenges of different sorts. The success factors for these companies, however, have been in the ability to absorb change, extend their core capabilities with ecosystems and differentiate on mindset required to deliver business outcomes leaning on different generations of the cloud.





Key takeaways for building a flexible multicloud strategy

According to Gartner, many enterprises have triggered multiple cloud initiatives led by different departments.¹⁹ Where these projects are not aligned with business goals, cloud fails to deliver on its promises; especially if they become a good mix of “cloud as a destination” and “cloud as business platform”, which may require fundamentally different approaches depending on their current cloud maturity and expected target platforms.

Auditing applications, building a dynamic robust multicloud strategy, and creating a phased approach to an eventual migration are essential. In addition you must build a proper culture for cloud-native applications to make the right decisions about what should be put where and how. Also, having a separate workstream for organizing your data will enable you to not only adopt a powerful multi cloud strategy but also get your business ready to efficiently take advantage of the future generation of AI services.

Just to reiterate, cloud is a continuous journey. As such this should be a living strategy that changes and adapts as you progress.

Through 2024, 80% of companies²⁰ that are unaware of the mistakes made in their cloud adoption will overspend by 20 to 50%.

A cloud strategy should account for organizational change and extend beyond the technology to all employees. Cloud should be positioned to empower people and create a hub for collaboration.

There is a shortage of cloud skills and, in particular cloud-native skills. If you have talent in the company or can home-grow talent, draw them into your cloud transformation.

Embrace MVP to get immediate value fast, without significant development risk. It reduces time and money spent on developing solutions users don't want – and quickly delivers on what they want.

Build a digital platform that is linked to your business strategy and make sure it supports the proper operative model. You may end up needing more than one operative model. If a digital platform isn't supporting your business goals, it is of little use.

Be prepared to change and adopt new business practices that are aligned to your growing cloud maturity, and make sure that your corporate security policies are enforced to deliver the same security visibility and control. Enterprises quickly find that many on-premises governance and management procedures don't work in the cloud.

Orange Business Services, your trusted cloud partner

Orange is a leader in connectivity, cybersecurity and cloud services in Europe. Innovation, data protection and transparency are part of our core values.

Through our large network footprint and end-to-end support, we ensure performance and reliability alongside robust solutions you need for business continuity and resilience. We understand that migrating to the cloud or taking on a new generation of cloud services with a window to AI is a very big move - which is why we are here every step of the way in your cloud journey.

As an integrator and service provider, we are vendor agnostic when it comes to infrastructure and cloud providers. We will help you on your cloud journey to integrate all the solutions with the best possible fit for your transformation and achieving business outcomes. When it comes to data sovereignty, we can help you navigate data privacy regulations and also enforce best practices in terms of industry (including financial institutions) and region (within and outside the European Union).

Our experts will work alongside you to build and deploy a resilient, future-proofed cloud transformation strategy that meets your business goals and future vision for your company!

Why Orange for your cloud transformation?

We have a global team of cloud, security, and network experts to fully support your cloud migration and adoption end-to-end, including multi-cloud (hyperscaler) and connectivity expertise. This is coupled with our customer-centric mindset and supported by world-class delivery cultures, project management and quality assurance frameworks together with best in breed cloud solutions.

All cloud transformation journeys are undeniably unique, with different peaks of acceleration and obstacles to overcome. Working with a global partner that can provide end-to-end capabilities no matter an organizations level of cloud maturity, can unravel the complexity.

Benefit from our expert cloud knowhow:

11 reasons to choose Orange



End-to-end approach and experienced cloud integrator, embedding cloud, network and security through a rich portfolio of global solutions.



Cloud managed service provider covering more than two decades of cloud generations.



2,400 multi-skilled cloud experts and 3,900 AI digital and data experts across the globe.



Best in class partnership with certified market-leading cloud vendors including AWS, Azure, Google Cloud platforms and others.



Advice and consultancy experts to map your cloud strategy.



24/7 cloud support through 5 major service centers worldwide.



Multicloud expertise fueled by the projects of more than 3,500 customers on technologies such Kubernetes, ELK, Splunk, Terraform, VMWare, Openstack, Citrix, Nutanix and SAP.



In-depth knowledge of cloud security and threat detection through 17 Orange SoCs, 11 CyberSOCs and 4 CERTs worldwide.



Trusted cloud managed services from IaaS to SaaS.



Extensive use of AIOps for incident anticipation and end-to-end SLA enforcement of complex multi cloud-native applications.



Cloud4Value innovation program with customers.

If you are about to start on your cloud transformation or have already started, we are here to make it as smooth, productive, and future proof as possible.

For more details visit:

<https://www.orange-business.com/en/focus/multicloud>

Sources:

1. IDC – Moving from Crisis to Recovery 2020
2. IDC Webinar - Envisioning a Resilient Cloud Based Digital Infrastructure webinar April 2020
3. IDC cloud prediction 2020
4. IDC – The five stages to Enterprise Recovery 2020
5. IDC quarterly cloud infrastructure tracker 2020
6. IDC Futurescape worldwide IT predictions 2020
7. Gartner – Cloud Strategy Leadership
8. IDG Cloud Computing Survey 2020
9. Gartner - 4 Trends impacting cloud computing in 2020
10. Gartner: Critical capabilities for WAN Edge Infrastructure 2020
11. Flexera's 2020 State of the Cloud report
12. The FinOps Foundation 2020
13. Gartner: top ten trends in data and analytics 2020
14. IDC: Futurescape Worldwide IT Predictions 2020
15. Gartner With Coronavirus in Mind is your Organization Ready for Home Working 2020
16. 451 Research: Take on Cloud Native 2019
17. IDC Top 10 DevOps Predictions 2020
18. Orange Cyber Defense Monitoring 2020
19. Gartner – Four Lessons Learned from Cloud Infrastructure Adopters
20. Gartner – Four Lessons Learned from Cloud Infrastructure Adopters