Your Digital Transformation Roadmap

Top 5 Reasons to Modernize with Cloud

Introduction

Your Digital Transformation Roadmap

You've probably heard the events of 2020 described as "unprecedented" one too many times. But for organizations in just about every industry, the growing pains are real.

Digital transformation is changing nearly all aspects of operations, and keeping up with its accelerating pace is no longer optional. If you fail to transform digitally, you'll soon find yourself sidelined by younger and more nimble competitors.

In today's world, it's hard to imagine a bank that doesn't offer online account access or an e-commerce retailer that can't support real-time order tracking. The reality is that consumers now expect much more of businesses than they did even one short year ago. They're looking for flexibility and convenience as well as personalization and top-notch digital experiences. If you can't bring new and innovative digital products and services to market quickly, they'll happily turn to competitors who can.

Most business leaders already know that it's critical to digitize, modernize, and transform. But many aren't sure exactly what strategy to follow. Some fear that replacing legacy systems will disrupt business-critical workflows. Others don't have access to the right talent — or the necessary change management capabilities. Still others just don't know where to begin.

The result is that there's little confidence about being on the right path. Although 87% of business leaders surveyed by **Deloitte** said that they believe digital technologies will profoundly disrupt their industry, only 44% feel they're ready for the coming disruptions.

From choosing technologies to understanding how to set budget priorities, it can be tough to figure out what to do first. Should projects be approached piecemeal? Or is it better to think more holistically? When does it make sense to retain existing software assets and simply move them to the cloud with a "lift and shift" approach? And when it is better to rebuild from the ground up with a cloud-native mindset?

In this e-book, we'll explore the technologies that are enabling today's leading enterprises to solve the biggest challenges they currently confront. We'll also talk about why setting the right technological foundation is essential for businesses that want to be agile, competitive, and successful in a rapidly transforming business climate. And we'll explain why cloud-native is the way to go if you're looking to create an IT ecosystem that will prepare you to confidently navigate the world of tomorrow.

Here are the top five reasons to choose cloud-native solutions when modernizing your legacy IT systems:

01

Reduced Time-To Market

Cloud applications and infrastructures will speed up the time needed to hit the market.

A decade ago, it took years to build a brand with a world-renowned reputation, but the process now moves far more quickly. More than 70% of today's highest-valued brands didn't make the top 100 in Interbrand's first brand valuation survey, conducted 20 years ago. And Apple, Google and Amazon retain their stronghold on the top three spots not just because they have global reach, but because they're able to deliver the personalized, responsive, and endlessly innovative digital experiences that today's consumers have come to expect.

These top technology companies have set the bar high, offering digital products and services that constantly introduce new features, improve user interfaces and experiences, and experiment with novel concepts. Modern consumers expect that every brand will be able to do the same, and it's becoming increasingly difficult to win their business and retain their loyalty if yours cannot.

To keep up with the rapid evolution of consumer preferences, your enterprise needs a technology backbone that was built with swift transformation in mind. The necessary speed of change simply cannot be achieved when you're reliant on legacy systems, on-premises hardware, or monolithic architectures.

Microservices architectures: accelerating digital product and service delivery.

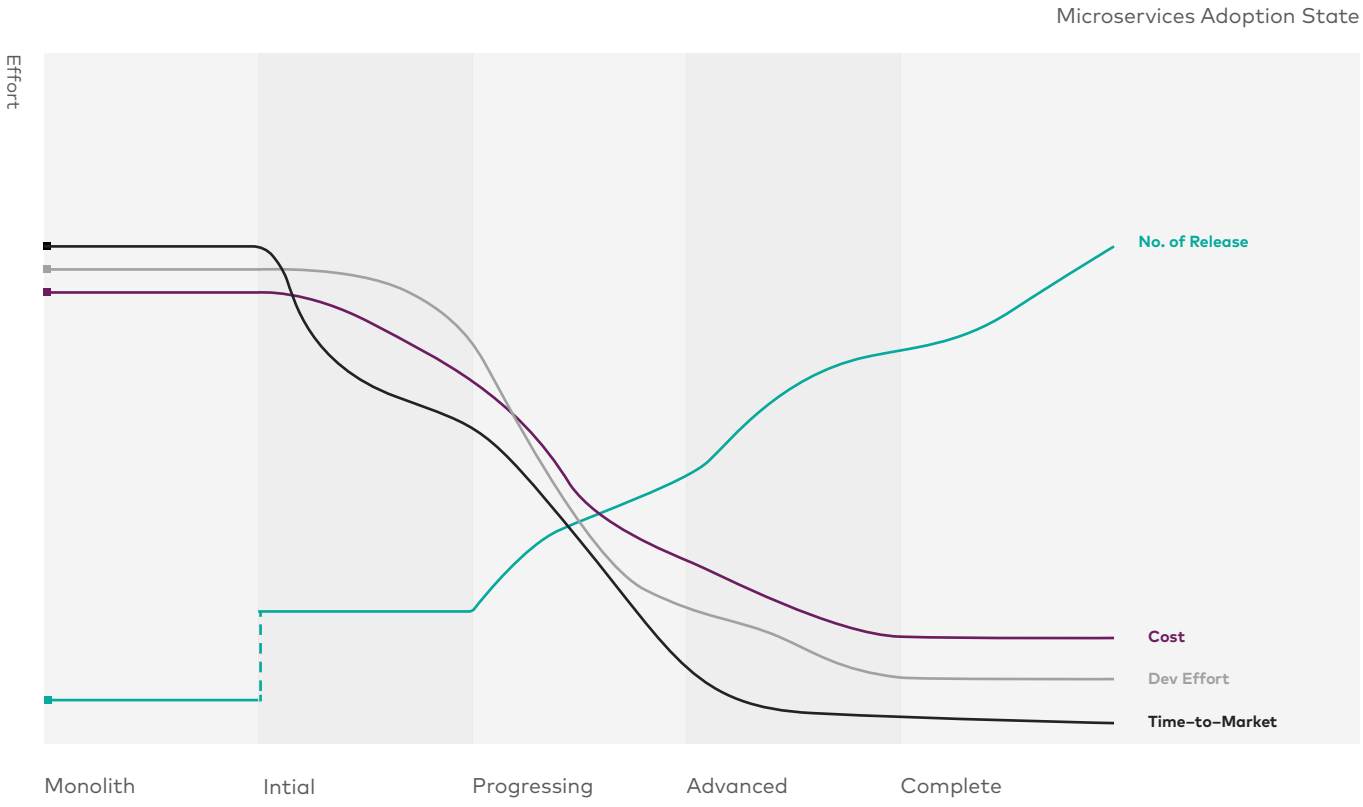
Microservices are an essential element in modern software development methodologies and architectures. Instead of building a single, large-scale architectural framework for a software application, the application is broken down into core functions, each of which is built to be deployed independently. This means that every individual service runs (or fails) without impacting the others. This approach enables development teams to make small and rapid changes to individual parts of the application without affecting the stability or performance of the whole.

Microservices architectures are purposefully designed to have many re-useable components, but they're also built to be loosely-coupled, so that individual services can be built, tested, deployed or retired independently, allowing multiple developers to work on different parts of the application at the same time. Taken together, these features make it possible to dramatically shorten development cycles while improving application uptime and resilience.

The use of microservices goes hand-in-hand with cloud-native development. Microservices are a natural fit for the scalability and pay-per-use nature of cloud environments, since it's possible to deploy small, independent components on the infrastructure that's best suited to the particular task at hand.

Relying on microservices architectures makes it possible to experiment and "fail fast." Teams can build and test individual services quickly, and simply discard the ones that don't work. The time it takes to go from a nascent concept to a product that's in the hands of users is exponentially shorter. And it's possible to try new ideas without large upfront investments or high ongoing costs.

01



Because microservices are designed to be re-useable, working with them is inherently a collaborative activity. Not only can individual development teams accomplish more, faster, but numerous pre-built services are available for use from major public cloud providers. This enables organizations to leverage capabilities — like machine learning (ML), image recognition, or complex artificial intelligence (AI)-driven algorithms — that they'd never have time or expertise to build on their own. And it allows them to do so at the speed of modern business.

Customer Success Story: FinTech Innovator Maintains Compliance While Boosting Ability to Innovate

The Challenge:

A leading online payment processor with a longstanding reputation for trustworthiness and reliability had helped businesses successfully manage transactions for over 20 years. They were relying on a Python-based platform that ran on on-premises hardware, and it took between 6 months and one year to introduce new features for their customers. In addition, their legacy system wasn't able to meet current regulatory requirements.

How Xebia Helped:

Our industry expert development and engineering team recommended a full-scale cloud migration that would support innovation and agility while maintaining PCI compliance.

- Full infrastructure automation
- DevSecOps approach
- Leveraged PCI-compliant services pre-built by AWS

What Success Looks Like:

The payment processor was able to combine their extensive financial industry experience with innovative technology to create a new experience for their customers and continue to satisfy regulators.

- Modern environment meets PCI, NIST and OWASP security standards
- 30% reduction in ongoing infrastructure costs achieved by eliminating legacy servers
- Time needed to release new features decreased to just 6 weeks

02

Optimized Costs

Eliminate unnecessary operational expenditures and increase cost transparency.

The cloud isn't always cheaper than legacy on-premises systems, but it's virtually guaranteed to provide you with far more business value for your technology spending. Turning to the cloud makes it possible to gain access to the exact IT resources you need, at the time you need them, which shortens development cycles and thus reduces IT project costs. Getting results faster is less expensive, of course, but it also makes your business more nimble and more competitive.

It's well known that migrating to the cloud reduces infrastructure costs and administrative overhead. Legacy systems bring ever-growing operational expenditures, since maintenance becomes more and more expensive as they age. Their use is also associated with opportunity costs, however. Outdated systems inhibit efficiency, reduce your ability to innovate, and impede customer and employee experience.

In contrast, cloud providers offer more flexible pricing models, but their offerings also support more flexible business practices. Because cloud resources are available on a pay-as-you-go basis, you need not set aside funds for your future computing needs — or buy hardware that you may never use. Instead, you pay only for what you consume, a model that saves you money at the times when you need to scale down, and can provide a near-limitless number of future customers with top-notch application performance no matter how quickly you might need to scale up someday.

To maximize the cloud's cost advantages, it's essential to re-architect your applications for the cloud. Software that's designed to run on legacy on-premises hardware simply won't be as agile or scalable, and you won't benefit from the added efficiencies that cloud-native software design makes possible.

Serverless functions: pay for what you use — nothing more.

Serverless architectures enable development teams to build without needing to worry about managing server software or hardware. Instead, a cloud provider takes care of provisioning, maintaining, and scaling the server infrastructure. This way, the application can respond to changes in demand by automatically scaling up or down as needed, and you don't incur any costs when the serverless function is idle.

In the standard Infrastructure-as-a-Service (IaaS) computing model, cloud customers pay to reserve computing capacity, essentially pre-purchasing server time for running their apps. With serverless functions, the cloud provider dynamically allocates resources so that the application code can run only when a particular event occurs, triggering the function to be called. As soon as the code is done executing, the customer stops paying.

A cloud-native application can be built entirely out of serverless functions or from some serverless components and some traditional microservices components. The modular nature of serverless architectures makes them well-suited to integrate third-party services as components, too.

Regardless of the architecture you choose, as a cloud customer you can take advantage of readymade tools that offer dashboard-style visibility into your resource consumption and expenses. This makes it easy to find and resolve inefficiencies, and greatly simplifies cost management.

02

Customer Success Story: Automotive Supplier Moves to Just-in-Time Fulfillment Process, Reducing Costs Nearly 100X

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03

Increased Reliability

Enjoy enhanced performance and better reliability while mitigating risks.

Today's public cloud providers take security, infrastructure performance and reliability extremely seriously. They have to. Their businesses depend upon these things. This core focus makes storing data in the cloud safer than storing it in an on-premises data center or on your laptop's hard drive.

There's simply no way around it: an on-premises data center or an individual computer will always be vulnerable to outages caused by natural disasters, battery failure, or human error. Whether you're thinking of fires, flooding, extreme weather events, or earthquakes, such localized risks simply cannot be avoided.

Cloud providers offer access to geo-redundant data center infrastructures with multiple availability zones to guarantee that your IT assets and data will be available no matter what happens in any particular region. Even when public cloud service outages do occur, they're typically of brief duration and take place without data loss. As more and more enterprises come to rely more heavily on public cloud providers' computing resources, severe outages are becoming less common. Fewer than 16% of respondents to the **Uptime Institute's latest survey** had experienced one within the last six years.

Furthermore, public cloud providers make use of the latest hardware, industry-leading networking equipment, and practically unlimited bandwidth. Few enterprises can hope to match the quality of these resources or afford to refresh them often enough to be able to keep up with cloud infrastructures' performance.

Cloud architectures can be designed so that content will be automatically loaded from the distribution point that's closest to the end user. This means that, for instance, people in Australia will be provided with resources that are cached nearby, making page load times faster for everyone, and making it possible for businesses to have global reach. It's also possible to design a General Data Protection Regulation (GDPR)-compliant cloud computing strategy that restricts which countries your data is stored or processed in with the appropriate Privacy by Design agreements in place.

Security and compliance are different in the cloud, however. The shared responsibility model means that the cloud provider assumes responsibility for securing the physical infrastructure and whatever platform or services they supply, while the customer is always responsible for securing and managing access, and maintaining control over their own data. This model reduces the scope of your security worries, but it does require you to cultivate new skills and capabilities — for configuring and administering cloud resources. When this is done well, you'll enjoy far greater security and resilience than you could achieve with legacy on-premises hardware.

Customer Success Story: Digital Staffing Agency Maintains Round-the-Clock Availability While Boosting Agility

The Challenge:

Coople is Europe's largest digital workforce management and recruitment firm. The company has helped more than 500,000 workers connect with more than 20,000 employers, and it's essential that their online staffing platform be available at all times. Though the company already relied on – and understood – the benefits of cloud computing, they still needed to be able to introduce new features to their user base more quickly – without incurring risks of unexpected downtime.

How Xebia Helped:

To maximize the benefits of their cloud-hosted ecosystem, they decided to move to a serverless architecture.

- Full infrastructure automation
- DevSecOps approach
- Leveraged PCI-compliant services pre-built by AWS

What Success Looks Like:

Coople's new serverless architecture is scalable, cost-efficient, and high-performing – plus code changes can be deployed without downtime.

- Monthly deployments increased by 1,000%
- Average time from code conception to production decreased by 230 hours

04

Future-Proof Technology Stack

Grow your ability to better meet tomorrow's digital business demands.

Not only do cloud-native architectures and development practices make it possible to dramatically reduce time-to-market for new products and services, but they also support your business's overall agility and nimbleness. When your development team is able to achieve short, frequent release cycles, change management is simpler and the business as a whole can be more flexible.

In microservices architectures, it's easy to make small changes often, but it's also easier to test these changes in production, so that you can quickly obtain real-world user feedback on new features and functionalities. In so-called "canary deployments," changes are initially rolled out to a small subset of users, and developers collect detailed data on the application's performance and these users' experiences. If there's a problem, rollbacks can be implemented quickly; if things go well, the release is extended to the entire production environment. This way, you can respond to your customers' actual needs and desires, rather than trying to anticipate what these might be. There's less risk of error, enabling you to rapidly adapt to shifting consumer preferences and changes in the marketplace.

While cloud-native development practices facilitate building, testing, and releasing new features quickly, cloud architectures can seamlessly adapt to rapidly changing usage patterns. New resources can be provisioned with just a few clicks, failed experiments can be decommissioned in seconds, and skyrocketing demand for an application or service can be handled automatically.

With legacy architectures, unanticipated success was always a worry: too much traffic, spiking too quickly, would break a new application at worst, or at best, degrade its performance. In either case, the new customers that the business had just attracted would immediately be disappointed. With auto-scaling, cloud architectures are inherently resilient to traffic spikes, but it's just as easy to scale down as it is to scale up. Thus you don't need to set aside capacity for future peak periods — so retailers can pay for holiday e-commerce traffic loads only around Black Friday, not all year long.

The flexibility and responsiveness that cloud-native architectures enable can support entirely new business models. This empowers organizations to align technology and business strategy in ways that were never before possible.

Customer Success Story: Swiss Accounting Software-as-a-Service (SaaS) Provider Enables Rapid Prototyping and Shortens Development Cycle

The Challenge:

One of Switzerland's leading providers of accounting and business management software, our customer offers complete solutions to help small and midsized organizations meet their accounting and client relationship management needs. The company wanted to implement a dynamic design system to take fuller advantage of their strong in-house design and UX teams' capabilities. They also needed to be able to continue deliver aesthetically pleasing and functionally reliable experiences to their customers.

How Xebia Helped:

Our expert development team advised them to embed new solutions into their existing systems module by module. This enabled them to integrate the new design library and continuous integration support with zero downtime.

- Storybook ensures consistent design and UX for clients
- Updates are automatically shared across services
- Shared library ensures faster, consistent design quality

What Success Looks Like:

Whereas UX specialists previously implemented new designs manually, they now have access to tools that enable them to do more in less time, which lets them better meet their users' needs.

- Faster design and development speeds release cycles
- Reusable assets allow for faster prototyping

Customer Success Story:
Leading Software Development Firm Invests in its Employees and its Future by Accelerating Cloud Migration

05

Beneficial For Team Members

Upskill your team and attract and retain top talent.

A lack of skilled resources continues to hold many organizations back from realizing their full potential in the cloud. 86% of IT leaders participating in **a recent Logicworks survey** report that a shortage of cloud talent will impede their company's progress in 2021 and beyond. Make no mistake: taking optimal advantage of cloud infrastructures and resources — and, in particular, doing so in a way that's error-free, cost-effective and secure — does require specialized skills. Ideally, these should include hands-on experience that goes beyond a simple certification.

And while it can be challenging to recruit and retain developers with these skills, it's worthwhile. Many of today's top developers and IT professionals strongly prefer working in cloud-first, DevOps, and agile organizations, and most prefer to join a company where these practices are firmly established. **In StackOverflow's 2020 Developer Career Values survey**, the most commonly-mentioned reason for choosing a job was having the opportunity to work with modern languages, frameworks, and methodologies, especially among mid-career professionals. Building an environment where cloud-native architectures are in widespread use and cloud-native methodologies are practiced will bolster your organization's ability to attract top talent.

Even developers whose primary experience is in working with legacy on-premises systems are usually excited to have the opportunity to upskill. This gives them a "bigger picture" perspective, enabling them to learn how whole solutions and larger computing ecosystems work, and making them feel that their work is more useful and impactful.

It's essential to have the right guidance and support as you help your team develop these skills — or recruit new hires to augment your current capabilities — however. Seeking out a partner who can not only help you modernize your environment but also teach your internal team how to maintain your new cloud resources will set you up for long-term success.

The Challenge:

When Advanced, the U.K.'s third-largest provider of business software and services, acquired Science Warehouse, a developer of SaaS procurement software, the company was looking to strengthen its cloud-first business strategy and enterprise resource planning (ERP) offerings. Along with Science Warehouse, though, Advanced acquired an AWS cloud infrastructure that was managed by a third-party provider, introducing excessive costs and inhibiting control over their own applications. But the company's in-house teams didn't have the DevOps competencies that they'd need to migrate their infrastructure to self-managed AWS hosting on their own.

How Xebia Helped:

Not only did our expert team come onboard to help with a "lift and shift" migration to AWS and a database engine change, but we also worked alongside the company's internal DevOps and database engine teams. The combined team build a brand-new cloud-hosted infrastructure from scratch, while Advanced employees enhanced their DevOps competencies, positioning them to be able to maintain the modern infrastructure independently.

- Opportunities for future innovation with AWS infrastructure
- Cost savings through switching database engines
- Enhanced performance monitoring for faster error detection and reaction times

What Success Looks Like:

The internal and Xebia development teams were able to work together seamlessly, learning from one another and enhancing their skill sets.

- Faster development with automated testing and deployment
- More rapid time-to-market with shortened release cycles
- Eliminated dependence on third-party provider

Conclusion

Your Digital Transformation Roadmap

Digital transformation is a journey. The process can be complex, and it isn't something that can be achieved overnight — especially if you are evolving your business models in tandem with your IT systems and architectures. The rewards are well worth the effort, however.

Modern cloud-native computing ecosystems are built from the ground up to support the business agility and rapid time-to-market that make the difference between success and failure in today's quick-changing, consumer-oriented marketplace. These architectures provide greater efficiencies, support cost savings, and enable improved application performance as well. And they can be even more reliable and secure than legacy on-premises environments, especially when built and managed properly.

Here at Xebia, we have decades of experience helping our clients build and manage cloud-native computing environments. We understand the importance of cutting-edge software when it comes to meeting today's business objectives, but we also recognize that you can't win and retain your customers' trust without reliable IT systems. That's why we focus on technical excellence, quality, and dependability in everything we do, and it's how we develop long-term relationships, grounded in honesty and mutual respect, with our clients.

About Xebia:

Xebia is an IT Consultancy and Software Development Company that has been creating digital leaders across the globe since 2001. With offices on every continent, we help the top250 companies worldwide embrace innovation, adopt the latest technologies, and implement the most successful business models. To meet every digital demand, Xebia is organized into chapters. These are teams with tremendous knowledge and experience in Agile, DevOps, Data & AI, Cloud, Software Development, Security, Quality Assurance, Low Code, and Microsoft Solutions. In addition to high-quality consulting and state-of-the-art software, Xebia Academy offers the training that modern companies need to work better, smarter, and faster. Today, Xebia continues to expand through a buy and build strategy. We partner with leading IT companies to gain a greater foothold in the digital space.

Find more information on how Xebia is driving innovation at **www.xebia.com**.