

Application modernization for business transformation

Why enterprises modernize and
strategies for doing it successfully



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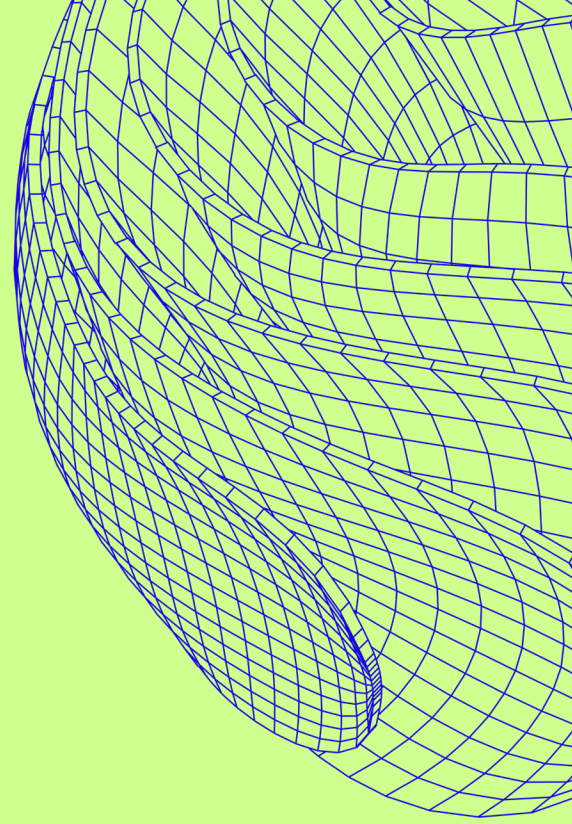
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The only thing accelerating faster than technology development and business requirements are customer expectations.

To compete effectively, enterprises like yours seek the agility of cloud across the organization, including with mission-critical applications. Users expect business applications to have the high performance and intuitive user experience of their favorite consumer applications.

To exceed customers' evolving expectations and compete effectively, you must embrace modern cloud technology while simultaneously managing multiple generations of tech.

Application modernization shepherds software into the cloud era. Simply put, it's the process of reworking an application's components so it performs as well when migrated to the cloud as a cloud-native application. Modernization may involve rewriting the application code, replacing the entire system or rehosting the application (by taking it off the mainframe).

After modernization, these applications will be able to accommodate the newer languages, frameworks and infrastructure platforms of the cloud. Modernizing applications helps organizations unlock advanced business capabilities.

During a [recent fireside chat](#), cloud experts from Unisys, AWS and 451 Research shared insights on what's driving application modernization.

Why modernize applications?

Application modernization can be a thrilling leap toward digital transformation as organizations expand operations globally and sell more digital products. At the same time, it lets you keep the business applications that employees, customers and partners rely on while harnessing the advantages of the economics of the cloud. Entire industries – like fintech – have advanced significantly as disruptors primarily because of the cloud.

To satisfy employees, customers and partners, you need business applications that can help you personalize features for users. At the same time, you're competing with organizations that have already embraced a cloud-native approach and are realizing those cloud benefits. To outpace competitors, you must evolve applications and customize user experiences.



A short history of applications

After the development of the web but before the emergence of cloud computing, business applications were typically web enabled but monolithic. Because all their functionality lives in a single codebase, legacy applications are inflexible, cumbersome to maintain and slow to update.

In fact, many organizations dedicate a sizeable percentage of their budgets to maintaining legacy applications, including manual hardware and software upgrades and hours of support and maintenance.

Legacy applications and their underlying platforms and technologies can hold organizations back from innovation and agility. Legacy applications introduce risk. Long release cycles for new products and feature launches frustrate organizations and stall their impact on the market. However, many legacy applications are business critical and aren't easy to simply retire or replace.

Rather than a technical challenge, application modernization is a business challenge. This progressive transformation of existing applications and infrastructure is all about putting the organization first. You gain the agility to go from technology laggard to industry disruptor.

Application modernization benefits

Organizations decide to modernize applications for multiple reasons. Here are some of the most attractive benefits:

- **Agility:** Respond faster to both external trends and internal changes. Because they are broken into microservices, cloud applications are much easier to update than legacy applications.
- **Scalability:** Scale applications more easily from hundreds to thousands or millions of global users and make them highly available with low latency. Cloud microservices help scale resources as needed.
- **Flexibility:** Gain an application that offers high performance and can handle enormous volumes of data – terabytes or even petabytes.
- **Productivity:** Increase the efficiency of development teams and make it easier for all employees to level up their skills.
- **Security:** Satisfy myriad security and compliance regulations and avoid costly fines for noncompliance that could hurt your brand reputation and bottom line.
- **Competitive:** Stay ahead of competitors that have modernized their applications and protect your industry from disruption by more agile organizations.
- **Innovation:** Accelerate the development of new features and functions, which can take months to implement, test and secure with legacy applications. Free up applications for integrations.
- **Savings:** Reduce total cost of ownership and technical debt – both the hardware investment and the deficiencies and processes that slow progress. Legacy applications don't work well with newer hardware/software, leading to more time spent on maintenance. Also, cost savings from innovation lead to more experimentation, resulting in better ideas and new solutions.

Cloud and the power of disruption

The bottom line is that application modernization is a major way that organizations can harness the cloud economies of scale to compete and drive innovation. Technology is more accessible, and the opportunities are greater than ever before.

Startups like Airbnb and Uber have harnessed the cloud to disrupt entire industries. Countless lesser-known organizations are using the cloud to innovate in their industries. Take a machine learning practice as an example of how that's possible. Before the cloud, organizations would have had great difficulty and spent significant money implementing machine learning within their organizations. After cloud, organizations in every industry could launch a machine learning practice to help create tailored user experiences and fine-tune operations.

Application modernization is like a snowball rolling down a hill. As it goes, it grows bigger and more impactful. However, confusion about how to get started can pause modernization plans and delay that transformative impact. This whitepaper gathers insights from the recent fireside chat – as well as others Unisys has collected over the years – to inspire organizations considering application modernization. Read on for Unisys strategies to inspire a journey toward application modernization.

Strategy #1 – Embrace change (but plan thoroughly first!)

Given the lightning-fast pace of change, taking a measured approach to modernization may seem counterintuitive. Enterprises are understandably eager to realize the increased agility and other benefits of modernizing applications. As a result, they tend to expect major and instant transformation instead of developing a plan and savoring the small victories along the way.



Ingredients of a business case

Application modernization begins by assessing all applications and writing a detailed business case. An assessment can determine which applications could benefit from application modernization. A business case can increase the likelihood of achieving the desired outcomes. Prepare a business case that includes the following:

- Assessment of the organization's current organizational readiness
- Identified gaps across people, processes and technology
- Realistic goals of what application modernization will accomplish for the organization
- Reasons why application modernization is essential to the enterprise and how everyone will benefit
- Details on how to handle future changes in technology and user expectations

An estimated 79% of modernization projects fail, largely because of pressure to meet business objectives. In our experience, that results from organizations excitedly flinging themselves into all-in refactoring mode with minimal preparation. Ambition is laudable, but when overambition meets insufficient planning, frustration is likely. It's not a resource problem. It's a planning problem.

While avoiding common modernization mistakes can get you there faster, an iterative approach makes it easier to pivot and is best to ensure long-term success. A bicycle may be slower than a car, but it can navigate more easily around roadblocks. A significant number of workloads likely can be migrated without any changes to application code – called a “lift and shift” migration.

By migrating workloads that don't require modernization, organizations avoid lengthening the design process before the first workloads can even be moved to the cloud. Taking small steps rather than a giant leap provides valuable cloud experience. It can also offer quick wins along the journey toward greater agility as well as other powerful advantages of application modernization. Plus, taking time early on to develop a business case can encourage stakeholder buy-in.

Strategy #2: Get executive buy-in

As with many aspects of life, people are the most important part of the application modernization equation. Application modernization not only benefits whomever will be using the application – whether customers, employees, partners or a mix – but also makes work life easier for development teams and motivates operations teams. But one critical step involving people makes that result more likely – executive buy-in from the beginning.

Talk to executives about application modernization and get feedback early and often. Identify those with concerns so you can build a case for the business value of application modernization. IT and business leaders must ultimately have conviction in the case and understand the end goal. This will help turn them into advocates committed to lending their support. And as previously mentioned, they must understand that it's a journey and the best approach is to start small and build momentum.

When evaluating applications to modernize, look for areas that cause friction in the organization. They might be good candidates to help the organization and make a case for application modernization. The people whose day-to-day lives are made easier could become application modernization champions.

Strategy #3: Optimize your investment

Once you've successfully modernized your first application, keep iterating. That means continuously seeking additional legacy applications that might merit assessment. After all, application modernization is far too valuable to be a one-and-done event.

A key to optimizing your investment is to benefit from technology that supports application modernization. Among those technologies are containers, which are software packages containing the code and dependencies needed to run an application. They can function in any environment. One of their chief attributes is their portability, so you can build once and then deploy in multiple clouds to realize all those cloud benefits.

Other technologies and practices worth exploring include:

- **Cloud-native development:** Replatforming legacy applications to a cloud environment
- **Microservices:** Enabling you to deploy, update and operate smaller components of an application independently
- **DevSecOps:** Automating manual tasks and processes lets you build faster and more securely and efficiently

The right technology partner can help you determine which technologies make the most sense for your application modernization effort.

Application modernization is smoother with Unisys

Some organizations hesitate to enter the rapidly changing cloud arena. It can feel like trying to jump onto a mechanical bull while it's wildly spinning. However, they could gain immeasurable value simply from exploring application modernization, which yields learnings that could directly benefit the organization. Plus, organizations don't have to tackle application modernization on their own.

A trusted partner like Unisys can share expert guidance – including even more [strategies for effective application modernization](#) – from working on thousands of modernization projects. We can also manage the entire application modernization process.

Contact Unisys to learn how our [Application Modernization Solutions](#) can help your organization reach its objectives.



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