



WHITEPAPER

Creating Agility and Accelerating Growth Through App Innovation

How modernizing applications can spark creativity, streamline operations, and create substantial cost savings

In partnership with

 Microsoft Azure

Introduction

Technological advances continue to offer the greatest means to accelerate the innovative ambitions of the most successful businesses today. This is so true that, according to projections from International Data Corporation (IDC), worldwide IT spending is expected to reach \$5.3 trillion in 2020.¹

Fueling this substantial investment are a number of factors, including aging IT infrastructures and the rise of the Internet of Things (IoT), the growing prominence of cloud technology, and how these advances elevate our ability to deliver rich customer experiences through modern applications.

The challenge facing many of our clients is how to modernize their applications while adopting new and innovative methods for the next generation of apps.

App modernization is the continual process of enhancing existing systems to meet evolving business needs. And increasingly, this process is being kick-started by enterprises wanting to move at least some of their systems to the cloud.

Applications, both within the organization and for its customers, are key to an organization's strategy in accomplishing its most strategic pursuits. And the cloud has become the means by which an organization can scale and accelerate their app innovation and create new business models.

In these pages, we will cover:

- Key benefits of investing in app modernization
- Evaluating readiness for app modernization
- The four basic steps of app modernization

Ready to go deep on modernizing apps and an app innovation journey? Let's get to it ...

¹ <https://www.idc.com/promo/global-ict-spending/forecast>

Key Benefits of Investing in App Modernization

In many organizations, there could be hundreds, if not thousands, of applications — all in need of some upgrade or maintenance to remain useful to business. At a certain point, the cost of maintaining or adapting the application outweighs its benefits to the business.

By adopting the cloud, organizations can achieve greater efficiencies in the delivery of applications and increase both the life span and adaptivity of applications to meet the ever-changing needs of the business.

Likewise, the speed to innovate is greatly increased by driving down development costs and the ability to assemble applications using pre-assembled or module platform services.





This process allows enterprises to use resources more efficiently and substantially lower IT costs — all while accelerating the deployment of new products and services to customers.

When paired with cloud native architecture, app modernization also introduces load balancing — or the ability for a developer to efficiently configure and chart a path for incoming end-user traffic. This optimizes the availability of a given application while also reducing potential downtime if a particular region experiences a network outage.

Finally, app modernization creates new lanes of innovation by giving developers more flexibility in how they work. Through modernization, developers can:

- Customize apps in an almost limitless fashion
- Enable DevOps to unlock CI/CD and automation
- Make applications seamlessly mobile

Evaluating Readiness for App Modernization

Not every enterprise is at a point where modernizing their application portfolio makes sense or is even advisable.

For companies who are ready to make the journey, **app innovation has the power to accentuate an organization's strengths and drive efficiency in how their unique value is delivered.** As such, it's intrinsically tied to that company's innovative maturity and business goals.

Business Goals & Strategy

Application
Portfolio

Development
Practices

Innovation Roadmap

Before starting down the path of modernization, there are two things to consider: technical ability and internal culture.

1. Technical Ability

App modernization involves re-coding large segments of the software powering the application.

Sometimes this means cracking open an application to find and improve functions an enterprise relies on while discarding the rest. Other times, it means converting the language of the software itself — moving from Java to C#, for example.

Beyond the ability to transform the actual guts of an application, enterprise IT departments also need to be able to work comfortably and effectively within a cloud platform.

This often means rethinking current pipelines and workflows, like rethinking build/test/deploy best practices, becoming more agile, version and code branching, automating infrastructure as code, and adopting test automation and continuous delivery.

While this leap can greatly accelerate development and deployment, it comes with a learning curve.

For those enterprises without the technical knowledge in-house, the modernization process will take investment in either the resources necessary or in a third party with the experience to offer guidance throughout the process.



2. Internal Culture

If technical ability is about the nuts and bolts of app modernization, internal culture is about an enterprise's readiness in the offices outside of IT.

Some enterprises have a clear understanding of the need to modernize their application portfolio and are eager to get the process rolling. Others have areas within the building that need to be sold on making the investment.

In this situation, a case needs to be made within the enterprise that the efficiencies in workflows, reduced development times, and quicker speed to market offered by modernized applications will more than offset the cost of the process itself.

Any push up the chain for modernization should also include a clear understanding of the desired outcome of the process, whether that outcome is to remain competitive or take the lead in disrupting the market.

Is your organization ready for app modernization?

Before diving head first into the process, the first step is to determine whether your applications are core to your business and how.

Once you have that understanding, you must obtain insight into what technologies and practices are currently in use to build and deliver those applications.

Only then will you be able to accurately determine how many applications you have, which are strategic, and which can be leased versus owned.



The 4 Basic Steps of App Modernization

While every enterprise has different needs — and those needs ultimately require unique solutions — the process of app modernization generally breaks down into these four steps:

- 1. Assessment**
- 2. Modernization**
- 3. Migration**
- 4. Optimization**

Let's dive into what each of these steps looks like.

1. Assessment

Once an enterprise has decided to invest in app modernization, the first step is an audit of every app within its portfolio.

This audit helps identify those applications that are critical for the enterprise as well as those that would benefit from modernization. The audit also highlights applications that should be sunset and, in many cases, reveals applications the enterprise didn't realize were running on its infrastructure.

For those applications deemed worthy of modernization, there are different directions that can be taken. Here are some examples:

- App acceleration via frameworks to help transform an app rather than rebuild it from scratch.
- Platform and edge services that can be rented and added to an existing app.
- Automation services like Artificial Intelligence (AI) and Machine Learning (ML).



2. Modernization

Depending on the needs of the enterprise, there are different paths the actual process of modernization can take.

If an enterprise is working with a third party on the process, they'll likely receive a clear blueprint on which apps should be modernized first, how they should be updated, and the best way to migrate them to the cloud.

For those enterprises tackling the job on their own, however, there is the additional challenge of sifting through the sheer number of cloud-native technologies at their disposal. Many of these technologies offer the same benefits, which means deciding on which ones to use should come down to:

- Cost
- Necessity
- Ease of Use

3. Migration

If the application will not be refactored but simply hosted on the cloud versus another on-premises datacenter, then migration is essentially a lift and shift exercise. For refactored apps, tools are implemented to make the migration seamless.

The migration process is also when all the underlying networking configuration is shored up so the final changeover happens without a hitch.

4. Optimization

Efficiency optimization ensures apps are taking full advantage of the operational performance lift that is available by moving to the cloud with little to no change to an application's features, functions, or services.

Secondarily, small enhancements to how the application is designed, addressing single points of failure, or adopting the cloud platform's native services can add additional performance gains through continuous improvement efforts over time.



Conclusion

Modernizing a company's application portfolio is not a sprint. It either takes a company having the core competencies in-house, or the use of a trusted partner to ensure the transition happens smoothly and effectively.

Doing it right takes a solid roadmap, beginning with a thorough audit and an understanding of an enterprise's needs and goals.

When paired with a robust public cloud service, modernized apps can provide a company with the ability to continuously innovate on their services, free from the bindings of static applications. This not only saves resources and reduces costs, it better positions a company in an increasingly competitive marketplace.



**Get started on the path
to modernization.**

Reach out to one of our experts at redapt.com/contact