

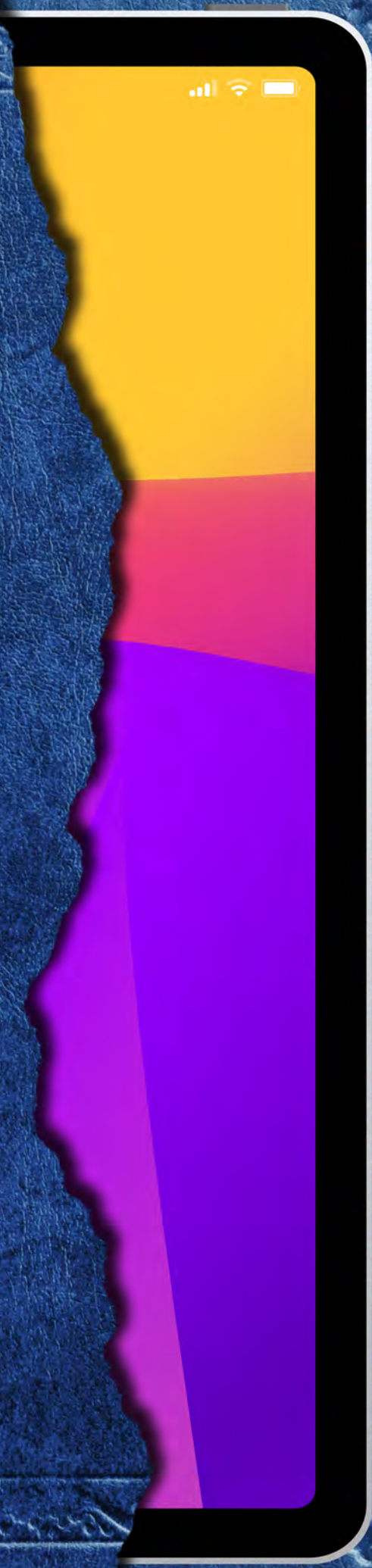
VERSION NEXT

NOW

TEKSYSTEMS APPLICATION MODERNIZATION ISSUE | SPRING 2024

FROM LEGACY TO LEADING EDGE:

Modernizing Applications for Tomorrow



Legacy to Leading Edge

Every organization wants a competitive advantage—that little something extra that gives them an edge over their competition. But it can't be just a flash-in-the-pan, temporary advantage, it has to be sustainable and accelerate long-term growth.

Legacy applications may be holding organizations back. While legacy apps are ubiquitous in today's environments—after all, they were cutting-edge at one time—they may have performance, efficiency, interoperability and security challenges that make them less than ideal for today's business and technology landscape. And that can drag your business down.


That's what application modernization is all about. While many startups and newer companies are using modern, cloud-native architectures out of the gate, larger, established organizations are exploring how they can transition from legacy to leading edge. Now, don't get me wrong, it's not necessarily a quick process, nor is it always easy. But the agility, efficiency and security benefits are well worth the effort.

Some research suggests that organizations that modernize their applications experience as much as a 30% increase in agility, allowing them to pivot strategies and adapt to emerging trends with unprecedented speed. That agility and speed is what will propel an organization to the front of the pack and allow them to maintain that market dominance once they achieve it.

In this edition of Version Next, Now, we'll show you how to approach app modernization thoughtfully, systematically and intelligently so that you can streamline the process and start gaining that competitive advantage as quickly as possible. Let's get to it!



Sharon Florentine
Contributing Editor



Time to Upgrade



GENERATION

01

THE CHANGE AGENT

Legacy applications pose challenges in terms of agility, security and efficiency. Application modernization is crucial to adapt and optimize them to meet evolving business needs.

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GENERATION

02

MARKET PERSPECTIVE

Here, we explore part of a white paper from Everest Group that provides more perspective on how to prevent application modernization failure.

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GENERATION

03

TEKSYSTEMS' PERSPECTIVE

TEKsystems Global Services leaders Kunal Patil and Basu Ramanan share their knowledge on modernized applications and how they enable greater agility and innovation, allowing organizations to seize new opportunities and adapt quickly to market changes.

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UPDATING...



THE CHANGE AGENT

Legacy applications pose challenges in terms of agility, security and efficiency. Application modernization is crucial to adapt and optimize them to meet evolving business needs.

GENERATION

01

From Rusty Relics to Digital Dynasties

In today's dynamic business landscape, where innovation is the currency of success, organizations have a pivotal decision: Embrace application modernization or risk falling behind in the relentless race for market dominance. Legacy applications are pervasive in today's IT environments, posing challenges in terms of agility, security and efficiency. It's crucial to adapt and optimize legacy programs and applications to meet the evolving needs of businesses and users. This is where application modernization comes in.

What is application modernization? Also known as legacy modernization, application modernization involves updating and enhancing existing software to leverage new technologies, improve performance and address current business requirements. Outdated technology stacks, limited scalability and maintenance challenges characterize legacy programs and applications. Embracing application modernization isn't merely a matter of staying afloat—it's essential to accelerate and strategically navigate the relentless tides of innovation to remain competitive.

Companies that have undertaken comprehensive legacy application modernization efforts have



reported a significant uptick in agility and scalability, enabling them to swiftly respond to changing market dynamics and customer demands. According to recent surveys, organizations that modernize their applications experience a 30% increase in agility, allowing them to pivot strategies and adapt to emerging trends with unprecedented speed.

How could this show up for businesses today? Sometimes information is deliberately hidden within an organization for security reasons, but more often, the organization is too big, and their outdated systems create gaps in knowledge. For example, the vice president of the wealth management division of a large national bank doesn't have visibility into transactions in the credit card division. Why is that a problem? A customer who spends hundreds of thousands of dollars a year on a credit card might be a good prospect for an investment account with the bank. The opportunity, however, to cross-sell products or services to the same customer is missed because of inflexible legacy systems.

Organizations that modernize their applications experience a **30% increase in agility.**²

92% of enterprises say they are actively working on at least one app modernization project.¹





MARKET PERSPECTIVE

Here, we explore part of a white paper from Everest Group that provides more perspective on how to prevent application modernization failure. The format below has been adapted from the original white paper.

Unlock the Value in Applications



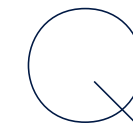
What do organizations need to consider to unlock the value in applications?



Everest Group: For executives considering investing in new application technology, Everest Group pinpointed three critical focus areas essential for maximizing value: team structure, culture and talent strategy. To achieve top-tier outcomes, your application modernization strategy must be underpinned by a robust organizational DNA featuring:

- **Dedicated product teams:** Move away from traditional factory models toward persistent teams that evolve with the product's lifecycle. This approach fosters trust and expertise within the team, enabling them to craft optimal product roadmaps.
- **Next-generation talent:** A meticulous talent strategy is paramount, encompassing the entire talent life cycle from upskilling to retention and acquisition. This strategy is key to surmounting challenges inherent in scaling agile practices effectively.
- **A3 culture:** High-performing generative cultures embrace novelty and avoid stagnation (Assertive), are open to introspection (Aware) and cut across silos by being highly cooperative (Associative).



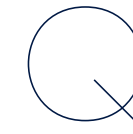


What are the risks of failing to build this type of DNA into the company culture?



Everest Group: Without these foundational DNA components, application modernization initiatives risk merely altering processes instead of driving meaningful outcomes. Agile practices might prioritize speed over quality, sidestep documentation and overly scrutinize progress. However, when implemented within the right framework, these practices yield scalable, people-centric development, fostering better business-IT alignment and systematic change management.

With the right DNA in place, application modernization transformations can be transformative. Innovation accelerates, fostering enhanced collaboration among employees and hyper-productivity. By refocusing on outcomes, the end-customer experience is significantly elevated. Transformation without this foundational DNA is akin to driving a sports car in second gear; while the technical components are present, they aren't being optimally utilized.



What are some key objectives organizations want to accomplish through an application modernization initiative?



Everest Group: Depending on the organization's goals and existing legacy infrastructure, various business objectives may be prioritized. These typically encompass:

- Agility to adapt to changing business demands
- Establishment of resilient and scalable operations
- Consistent and distinguished service delivery enablement
- Cost optimization via enhanced process efficiencies

Almost **90%** of enterprises agree that legacy and monolithic applications are a major impediment to their application services.³

SECTION 3



OUR PERSPECTIVE

TEKsystems Global Services leaders Kunal Patil and Basu Ramanan share their knowledge on modernized applications and how they enable greater agility and innovation, allowing organizations to seize new opportunities and adapt quickly to market changes.

How Application Modernization Breeds Innovation

Enterprises remain hyper-focused on improving business agility so they can adapt to the changing needs and high expectations of customers, who demand seamless experiences across the products and services they consume. Many organizations, however, still rely on systems that are based on legacy technology and platforms that are difficult to maintain, incur high licensing costs and lack the flexibility to adapt to changing customer needs.

The lack of flexibility creates friction during the buying process, resulting in lost customers. Legacy system modernization enables organizations to build modern systems that are more flexible, modular, easier to maintain and cost-effective. Modernizing applications enhances business agility, enabling faster adaptation to evolving customer demands and the delivery of superior customer experiences while efficiently scaling products and services. Organizations gain a competitive advantage by differentiating themselves with innovative solutions using modern application architecture.

Modernized applications scale seamlessly to accommodate growing workloads and user bases. By leveraging cloud-based resources, containerization and microservices architecture, organizations can dynamically allocate resources as needed to handle spikes in demand without incurring downtime or performance degradation. Scalability ensures that applications can grow with the business and adapt to changing requirements over time.

Improved Security Through Application Modernization

Legacy applications can be vulnerable to security threats due to outdated code, lack of security features and susceptibility to known vulnerabilities. Legacy modernization includes implementing robust security measures such as encryption, authentication, access controls, and regular security patches and updates. Modernized applications can decrease threats, like cyberattacks, data breaches and other security risks, thereby protecting sensitive information and safeguarding the organization's reputation.

What's a barrier organizations must avoid? Being too narrow in their approach to their enterprise application modernization initiative. They may think of application modernization as a simple task where they need to only rewrite or refactor this app.

But that application might interact with 10 different business processes, some of which might involve other leaders of the C-suite. The need for cross-collaboration and cross-functional alignment of application modernization can often be neglected, when in reality, application modernization is part of the broader digital business transformation journey.



SECTION 3

SECTION 03 | OUR PERSPECTIVE

Organizations must take a holistic approach and assess their level of readiness for transformation before embarking on their application modernization journey. Consider several challenges spanning across people, processes and technology when approaching modernization.



PEOPLE

- **Resistant to change:** An application development team that's using a specific development methodology over several years is often resistant to change that requires upskilling, changes in ways of working, and usage of new development practices and patterns.
- **Skills gap:** Organizations often lack the expertise in the modern development frameworks and cloud technologies required to successfully execute modernization efforts.



PROCESS

- **Legacy integration:** Integrating legacy systems with modern applications can be complex and time-consuming, requiring careful planning and execution to ensure seamless interoperability.
- **DevSecOps adoption:** Integrating DevSecOps practices to simplify development, testing and deployment procedures could cause delays for organizations with low levels of DevSecOps maturity.
- **Governance and compliance:** Adhering to compliance and governance frameworks will introduce delays in adoption of modern application architecture.



TECHNOLOGY

- **Complexity of existing systems:** Decoupling tight integration across legacy components and processes while maintaining feature requirements needs significant time and resources.
- **Data migration and integration:** Migrating data for applications that are based on monolithic architecture and integrations among other systems requires careful evaluation of dependencies, compatibility and configuration. The complexity results in additional time spent before data migration can be executed for modern decoupled systems.
- **Documentation:** Applications built over a long period often result in inconsistent documentation, which makes it difficult to understand the inner workings of the application, inhibiting the ability to plan modernization effectively.

“Organizations today are hyper-focused on improving business agility, and application modernization initiatives allow them to adapt to changing customer needs quicker, ensuring better customer experience while delivering products and services at scale.”



Kunal Patil

TEKsystems Global Services

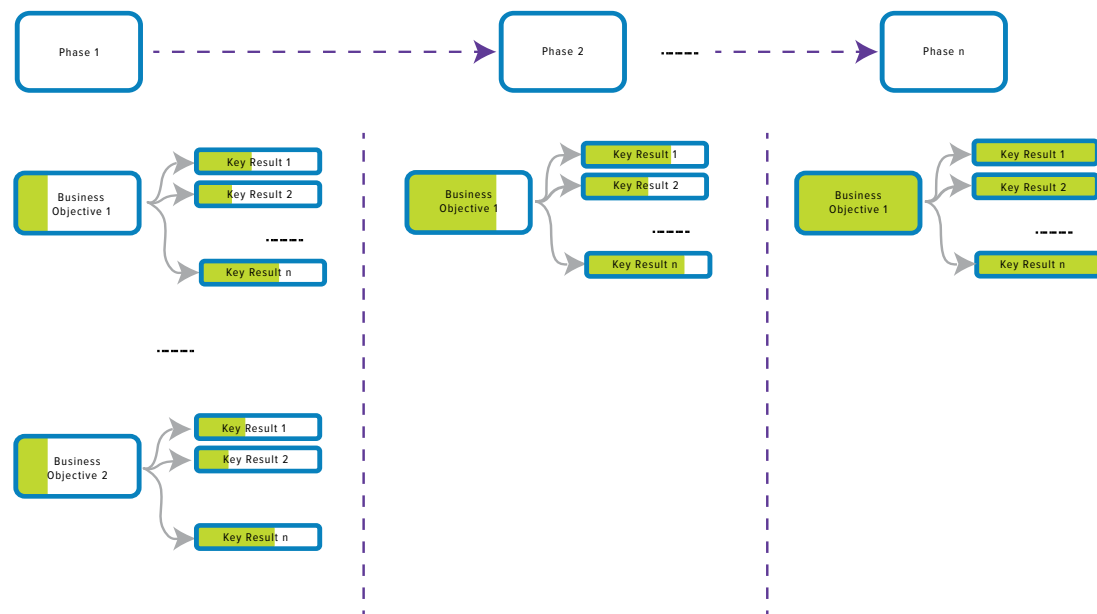
SECTION 3

Measuring Success in Application Modernization

A key step for a successful legacy modernization initiative: Determine and specify the business objectives that can be assessed and tracked. One instance is how well delivery agility is improved by faster time to market of products and services. For each business objective, organizations should:

- Establish and define the metrics that need to be collected.
- Baseline the current state value of those metrics.
- Estimate the potential value of those metrics post-transformation.

By establishing a practice of continuous tracking of these metrics across the application modernization effort, the organization can measure the improvements achieved.



APP MODERNIZATION METRICS IN ACTION

In one use case, an industrial manufacturing organization discovered from customer feedback that their invoice processing was much too long, taking up to six months on average. They recognized the need to leverage new methodologies and technologies to transform the way they create, validate and approve invoices and receivables for their engine maintenance and repair division. They needed to enable better delivery agility to improve the time to market of invoices. In Phase 1 of the project, they used web portal based application development to add features to digitally upload invoices and flag errors. With Phase 1 completed, processing time for invoices decreased from an average of six months to just 10 weeks.



Building Tomorrow

While the initial investment in application modernization may seem significant, the long-term cost savings can be substantial. Modernized applications require fewer resources to operate and maintain, resulting in lower operational costs over time. By eliminating legacy dependencies, reducing downtime and improving system efficiency, organizations can realize significant cost savings in areas such as infrastructure, support and maintenance.

Overall, the benefits of enterprise application modernization extend beyond technical improvements to include tangible business outcomes such as increased agility, innovation and competitiveness in the marketplace. By embracing legacy modernization efforts, organizations can future-proof their applications, enhance their capabilities and achieve sustainable growth in the digital age.

“Today’s customers demand a seamless experience across products they use, and modernizing applications is a key aspect of digital transformation that results in seamless customer experience across a variety of products.”



Basu Ramanan
TEKsystems Global Services

Real-World Application:

CAPITAL ONE

[Capital One](#) has been a pioneer in leveraging cloud computing technology in the banking sector. They have embraced cloud platforms such as Amazon Web Services (AWS) to move their applications and data to the cloud. By doing so, Capital One has gained scalability, flexibility and cost efficiency. This shift to the cloud has enabled Capital One to rapidly deploy new services, improve reliability and scale their infrastructure based on demand.

In addition to the cloud, Capital One leverages advanced analytics, machine learning and artificial intelligence (AI) to gain insights from their vast amounts of customer data. By analyzing customer behavior, transaction patterns and other data points, Capital One can offer personalized financial products and services, detect fraud more effectively and optimize their operations. Data-driven decision-making enables Capital One to stay ahead of customer needs and market trends.⁴

All information shared herein was accessed from public sources as indicated and is not indicative that the named entity is a TEKsystems client nor that the work was performed by TEKsystems.



TEKsystems' Tips



Assessment and prioritization: Start by assessing your existing application portfolio to identify legacy systems that require modernization. Prioritize applications based on factors such as business impact, technical debt and alignment with strategic objectives.



Cost-benefit analysis: Conduct a comprehensive cost-benefit analysis to understand the potential ROI for each modernization initiative. Consider factors such as anticipated improvements in efficiency, productivity, customer satisfaction and revenue generation.



Selection of the right modernization approach: Choose the most suitable modernization approach based on your specific requirements and constraints. This could involve refactoring legacy code, rearchitecting applications using microservices or containers, or migrating to cloud-based platforms.



Streamlined development and deployment: Implement agile methodologies and DevOps practices to streamline the development and deployment processes. This allows for faster iteration cycles, reduced time to market and greater flexibility in responding to changing requirements.



Focus on scalability and flexibility: Modernize applications with scalability and flexibility in mind to accommodate future growth and evolving business needs. Utilize cloud-native architectures and technologies that enable elasticity and seamless integration with other systems.



Enhanced user experience: Prioritize improvements to the user experience as part of the modernization process. Modernized applications should be intuitive, responsive and user-friendly, leading to increased user adoption and satisfaction.



Security and compliance: Incorporate robust security measures into modernized applications to protect against cyber threats and ensure compliance with industry regulations. Invest in security testing, encryption, access controls and regular vulnerability assessments.



Surveillance and optimization: Adopt modern observability platforms and tools to continuously monitor the performance and usage of modernized applications to identify areas for further optimization. Use site reliability engineering practices and principles to gather analytics insights and refine the application experience over time.



TEKsystems Portfolio

- As an [AWS Premier Tier Services Partner](#), we cover the full spectrum of Amazon Web Services (AWS) initiatives. From design, migration and implementation to adoption and improvement, continuous integration and delivery (CI/CD), infrastructure as code, Lean-Agile, and more—we're there.
- As a [Google Cloud Premier Partner](#), we support the full spectrum of delivering Google Cloud initiatives, from design, migration and implementation to adoption and improvement, covering CI/CD, infrastructure as code, Lean-Agile, data analytics, AI, machine learning and generative AI.
- As a [Microsoft Solutions Partner](#), we bring qualified expertise and deep experience to help you maximize ROI and achieve real value. From discovery and design to adoption and improvement—we'll tailor our solutions to meet your needs and help you stay ahead of what's next.
- As a [Red Hat Premier Business Partner](#), we provide qualified technical leadership, open-source expertise and scale to help you get the most out of your Red Hat products—no matter where you are in your modernization journey.
- With 30-plus SnowPro certified architects, our [Snowflake Elite Partner](#) status highlights our proven skills and experience to help you leverage Snowflake's innovative technology and achieve data-driven results.
- As a [ServiceNow Elite Partner](#), we bring experience and subject matter know-how to help you drive your ServiceNow initiatives. From implementation to optimization—we'll tailor our services to help you stay ahead of the curve and accelerate the adoption of ServiceNow solutions.
- [In good company](#)
Transformational technologies demand equally transformative partnerships. Full-stack capabilities couple with depth and diversity of experience in leading platforms that help organizations grow, innovate and thrive.

The views and opinions expressed in this publication are those of the authors and do not necessarily reflect the views of TEKsystems, Inc. or its related entities.

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About TEKsystems®



We're TEKsystems. We accelerate business transformation for our customers. We bring real-world expertise to solve complex technology, business and talent challenges—at global scale. We're a team of 80,000 strong, working with over 6,000 customers, including 80% of the Fortune 500 across North America, Europe and Asia, who partner with us for our scale, full-stack capabilities and speed. We're strategic thinkers, hands-on collaborators, helping customers capitalize on change. We're building tomorrow by delivering business outcomes and driving positive impacts in our global communities. TEKsystems is an Allegis Group company. Learn more at [TEKsystems.com](https://www.teksystems.com).

Sharon Florentine, Contributing Editor



[Sharon Florentine](#) is the contributing editor for Version Next, Now, TEKsystems' quarterly publication. She is an award-winning independent writer and editor with more than 20 years of experience in the tech industry. Her work has appeared in Computerworld, PC Magazine, CRN and eWEEK, among others, and she is a passionate advocate for equity, diversity and inclusion in tech and beyond. Most recently, Sharon was a senior writer for CIO.com, where she covered software development, Agile, IT careers, learning and development, and DEI. She lives near Philadelphia.

Listen Now



Don't miss Kunal Patil and Basu Ramanan on The Agile Brand podcast. In a special series, host, author and business expert Greg Kihlström sits down with Kunal and Basu to discuss modernized applications and how they enable greater agility and innovation.

Be in the Know



Check out previous issues and know what's next: [Version Next, Now](#).

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Sources

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