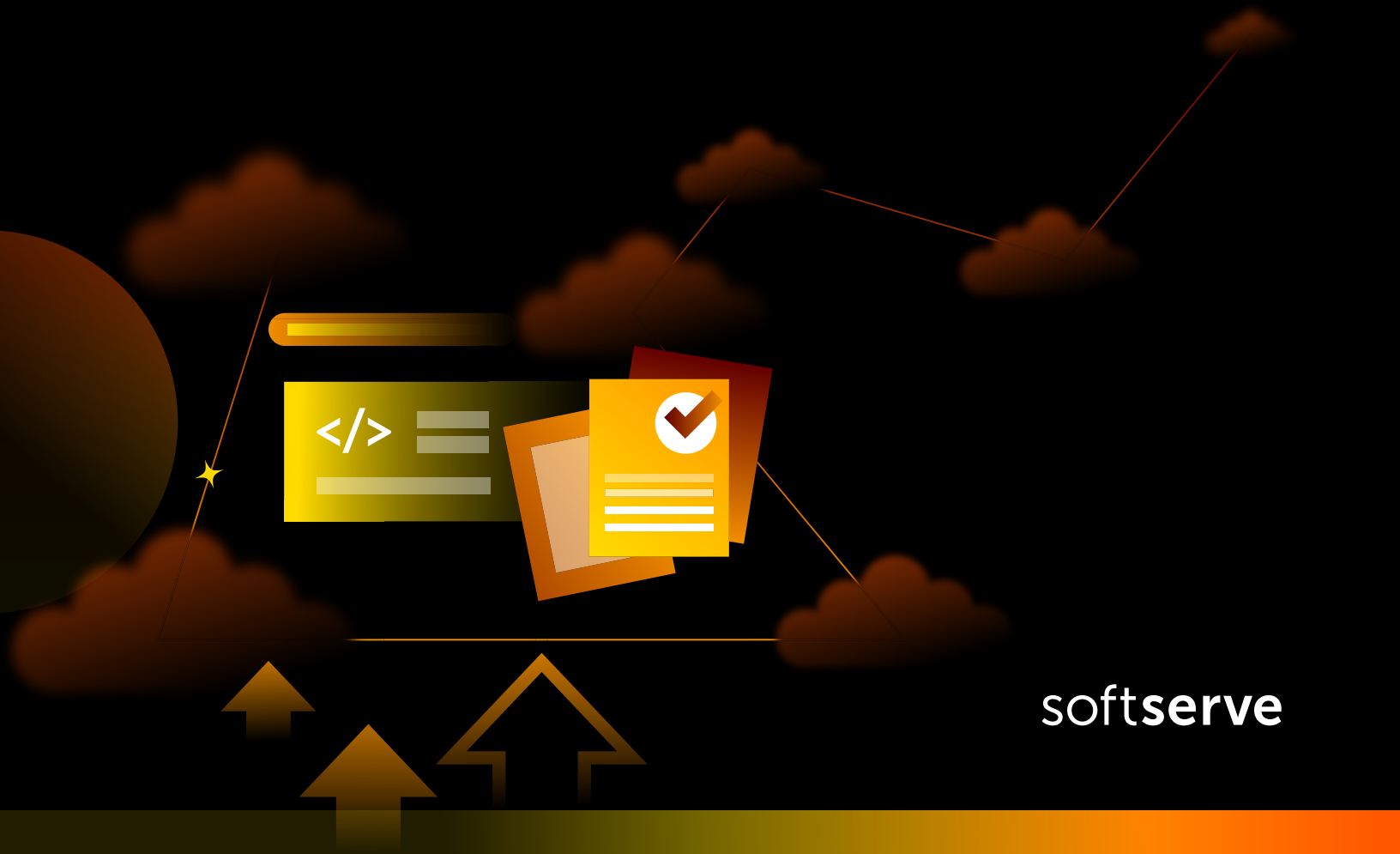
CHARTING CLOUD'S NEXT PHASE: ACCELERATING MODERNIZATION

How AWS Cloud and SoftServe's Application Modernization Platform deliver innovation, improve security, and increase efficiency



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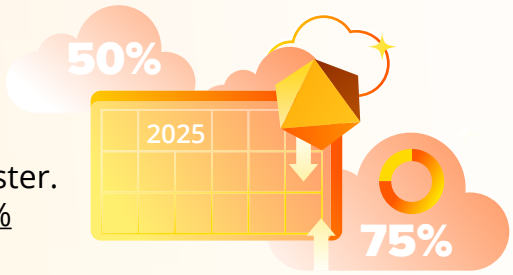


It feels like you hear about the cloud and digital transformation everywhere you turn. The pace of cloud migration has seemed to accelerate even faster. By 2025, companies will move between half to 75% of their systems to the cloud.

Recently, some of the focus has shifted toward modernization as the optimal migration method. Surveys have found that many tech C-suites and IT departments plan to pursue this path. Yet, at the same time, other research shows many enterprise leaders believe they lack the expertise needed to implement modernization effectively. All of this is on top of the fact that tech debt continues to rise.

With the roller coaster of business and economic changes over the past few years, optimizing and maximizing your existing resources is the surest path to successful digital transformation. Nearly half of recent tech leadership poll respondents cited it as their top initiative for the next 12 months. Clearly, speed and agility have never been more important.

Enterprises need a solution that delivers on key business priorities:

Optimized costs

Improved security

Faster time to market

Streamlined onboarding and integration

Maximized product development and service delivery

A way to bridge the gap between your team's technical knowledge and the knowledge required to implement the solution

Increased opportunities for innovation and business growth, such as providing new services or integrating new capabilities

But how do you get there? What systems must be in place? And what's required to get the highest ROI for your spending?

CHANGE STARTS WITH THE CLOUD

Before fully modernizing your tools and applications, you must have migrated to the cloud. Luckily, many enterprises are already there or well on their way. While sources differ on how many are cloud-native, the consensus proves it's at least half.

In fact, four out of five enterprises plan to increase their cloud investment despite the current economic climate. Predictions are that 85% of organizations will be cloud-first by 2025. With all the benefits of scalability and agility, the cloud allows enterprises to keep up with evolving market demands and client needs far better than just on-prem systems.

But most C-suite leaders don't want to worry about the underlying cloud infrastructure. They simply want to focus on extracting the greatest business value from cloud technology.

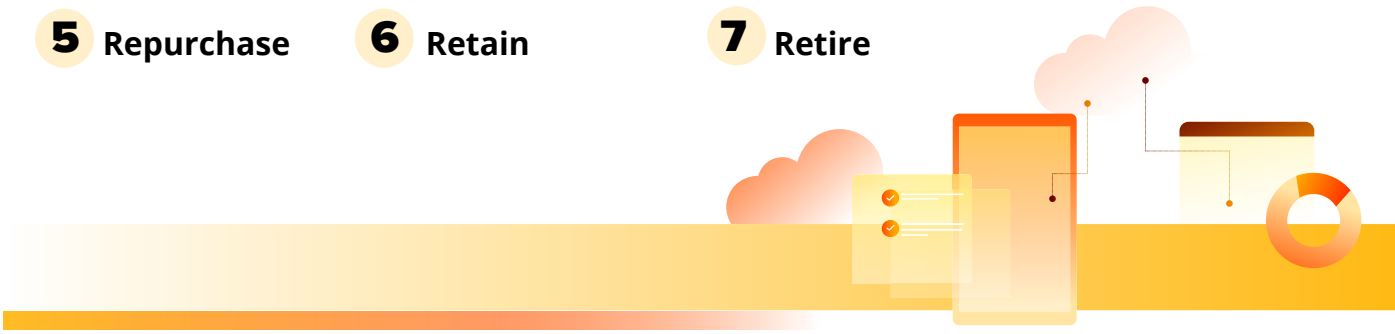
AWS Cloud makes this process easier. They require zero advance investment so that you can set the pace of your migration based on your business needs, not licensing agreements. That means you get the right workloads where they belong faster, which optimizes performance and lets you manage the environment more securely.

TWO MOST COMMON CLOUD MIGRATION PROCESSES

There is more than one way to handle migration.

The 7 Rs: AWS' main migration methods

1. **Rehost, also known as "lift-and-shift"**
2. **Replatform, also known as "re-architecture"**
3. **Refactor**
4. **Relocate**
5. **Repurchase**
6. **Retain**
7. **Retire**



Of the most common methods — which AWS calls the 7 Rs — two are the most frequently used.

REHOST

First is the rehost method, or "lift-and-shift." Usually used for large-scale migrations, this basic approach takes everything from one source and moves it to the cloud "as is." After moving it to the cloud, it still requires additional work, but it's the simplest and fastest way to start the migration process. Lower costs are also an added benefit.

Yet, not all services and potential cloud benefits are available using the lift-and-shift approach. This method is an excellent start to the migration process, giving you a feel for cloud benefits. After the initial steps, it's best to expand your cloud service usage and move to a method like refactoring, also known as re-architecture.

RE-ARCHITECTURE

Re-architecture is the most advanced migration approach used to fully adopt applications and underlying infrastructure for the cloud. It is a longer process that requires support from an application developer and infrastructure engineer due to the significant changes to apps and infrastructure.

Re-architecture offers the best value for the AWS Cloud benefits, including its scalability, platform-as-a-service and software-as-a-service capabilities, GitOps implementation, and improved continuous integration and deployment (CI/CD). This leads to a faster release time for new features, improved release processes, and better disaster recovery.

Even with the benefits of both rehosting and re-architecture, it often takes a mix of strategies to address all requirements in cloud migration.

For example: *While much can be migrated as is, some infrastructure components* ***shouldn't be migrated at all*** *because they are no longer used. Other times, different components need to be rewritten (or changed entirely) for hosting on a cloud due to licenses or other limitations.*

In such cases — the migration output is a mix of lift-and-shift (rehosting), retain (for non-migrated components), and re-architecture (for rewritten or changed components). This happens to be the most common mix we see with our customers at SoftServe. Creating a detailed strategy will accelerate your cloud journey and most effectively deliver your desired goals. A staged cloud migration lets your development teams focus on continuing to provide services to your customers.

However, there are nuances to cloud migration, even with all the built-in tools from AWS Cloud. Re-architecting and modernizing your workloads require you to set standards early on.

Depending on your team's skills and internal processes, this task may be difficult. Tackling this problem early on helps you maximize the ROI of your migration.

How to migrate to the cloud isn't the only choice you'll make. Depending on the level of control, flexibility, and management you want for your cloud services, you have a choice of cloud computing models.

They are:

Infrastructure as a Service (IaaS)

Platform as a Service (PaaS)

Software as a Service (SaaS)

The Three Cloud Computing Models

Infrastructure as a Service (IaaS)	• Highest level of flexibility • Easy to adopt, similar to on-prem models • Greatest control over cloud resources
Platform as a Service (PaaS)	• Simplifies infrastructure management • Allows for greater focus on developing, deploying, and managing organizational applications and services
Software as a Service (SaaS)	• Eliminates the need for managing underlying cloud infrastructure • AWS runs and manages the entire cloud infrastructure

Like migration approaches, enterprises frequently use a mix that combines all three cloud computing models. The SaaS model reduces development and operational costs while improving your innovation readiness. Both the IaaS model and integrated components in the PaaS model offer flexibility and customization with component-level configuration tuning.

Mixing different aspects of each of the three models means that your cloud journey will fit the exact needs of your business. But the nuances of understanding which parts of the models are the most beneficial to your business and selecting and integrating the right components can exceed your internal capabilities.

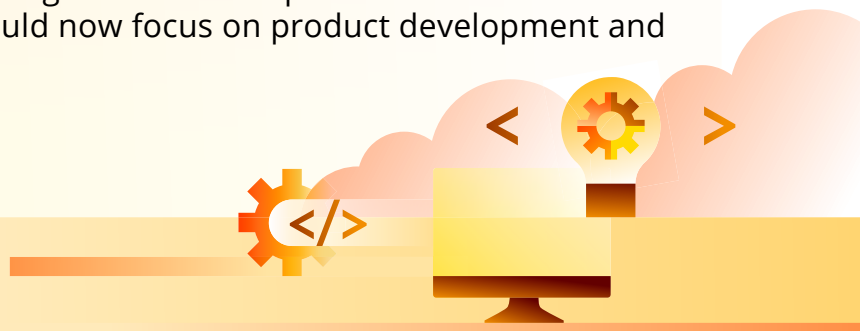
The leading organization for CIOs echoed this idea earlier this year. Of their top 10 strategic items for technology leaders, one of the biggest was reducing friction between development teams and complex infrastructure.

They cited that most enterprises have complex architectures or hybrid systems, with applications both on-prem and in the cloud. They also acknowledged that most engineering teams still have areas where they lack sufficient expertise. To them, the solution was to identify the difference between the development team and infrastructure layers and then find a way to fix it.

Their strategy for CIOs was to have "engineering platforms that have reusable components for developers with their tools — such as integrated development environments (IDE), monitoring tools, and CI/CD — all delivered in a self-service development portal."

Realizing the same facts — that most enterprises would find the process significantly easier if there were an in-house platform — our experts built SoftServe's App Modernization Platform (SAMP).

With a foundation on AWS Cloud that gave access to specific AWS services and third-party software, developers could now focus on product development and faster delivery.

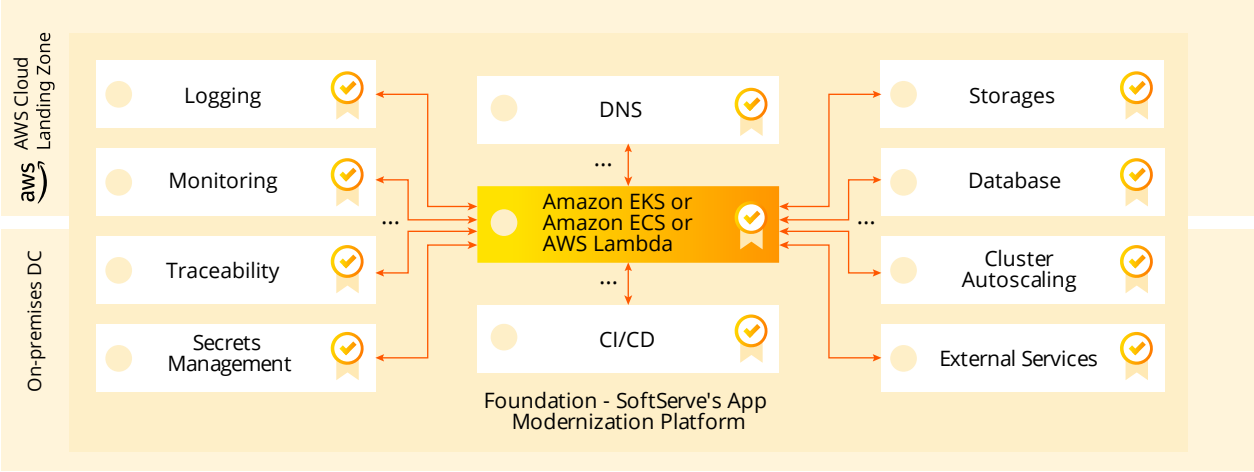


SIMPLIFY AND ACCELERATE MODERNIZATION WITH SAMP

With SAMP, your team won't have to spend months reviewing new services, running multiple proofs of concept (PoCs), and adding missing components. Instead, your simplified workflows can accelerate your growth and innovation.

Microservices and containerization: overcoming bias and dependency

In creating SoftServe's App Modernization Platform (SAMP), we aimed to utilize a microservice architecture for loosely coupled and individually deployable applications.



SoftServe's App Modernization Platform

Inspired by Amazon's ECS and EKS blueprints along with AWS Lambda design principles, these services to run and scale containerized and serverless workloads provide SAMP's core. Built using AWS best practices and SoftServe's extensive experience, SAMP aligns with industry-standard techniques for operating microservices architecture and managing applications. Which service is best for your business depends on your unique needs and business priorities. But no matter which service you choose, it enables your development teams to work independently, decreasing development and deployment times.

But containerization is not enough. A lack of cross-team and organization-wide standards can be a recipe for chaos. It will leave each development team to decide how they want to collect logs and metrics from applications, handle secrets, scale pods, and use persistent storage.

Yet, letting local teams set standards can also be problematic. It allows developer bias and inexperience to seep through. This can lead to service development delays, along with extra costs and missing components.

With SAMP, you won't have to spend months reviewing new services, running multiple PoCs, defining new standards, and adding components.

The platform can be deployed in only 18 minutes using Terraform modules and automation scripts. Multiple default platform components with a fully automated setup give you unified functionality right out of the box.

SOFTSERVE'S APP MODERNIZATION PLATFORM GIVES YOU AN AUDITABLE, EXTENDABLE, AND CUSTOMIZABLE PLATFORM WITH CROSS-TEAM STANDARDS.

An in-house platform as a service and a modular structure makes the modernization process even easier

The platform's interchangeable modules and components interact via defined interfaces and are solution agnostic. Your team can select extra components as interchangeable blocks, enabling your developers to easily add to the platform as needed.

Each component has a predefined integration interface. Depending on your needs, we can define a tool or service to implement a given component as a block (ex: HashiCorp Vault to manage secrets). Once you have selected your components, your teams can quickly deploy and run their applications with a built-in application onboarding checklist. Application onboarding checklists simplify and standardize app development and release processes.

At the same time, an in-house PaaS serves as the foundation for running your applications. With the underlying cloud infrastructure handled, your team is free to focus on developing, deploying, and managing organizational applications and services.

YOUR BUSINESS BENEFITS

If the purpose of getting the most out of your current resources is to drive innovation and growth, then SAMP delivers. It enables you to get new services and products to market faster.

Streamlined workflows get your innovations launched **up to 20x faster**.	Reduce the required new service onboarding time from **2.5 months** to **2 weeks**.	Later onboarding times can be as little as **2–3 days**.

Optimize product development

With a standardized PaaS, you gain repeatable solutions. Having reusable solutions across multiple product teams makes them easily deployable to new regions and AWS accounts using customized Terraform code.

You'll only need to design and build it once, as additional components can be added on request without repeating the entire platform building cycle.

New region deployment times reduced from **1–2 months** to **1–3 days**, including all tests and validation.	The new component onboarding process decreased from **1–2 weeks** to **1–3 days** after the final approval.

Increase operational efficiency

Standardizing applications across your enterprise requires no extra configuration requirements when you use SAMP.

An added benefit is that clear backup and recovery procedures mean less downtime should your system fail. And with the integration of third-party components streamlined, all of this work to improve your operational efficiency and reduce operational costs.

More cost-effective

SAMP is quickly and easily scalable, so you pay only for the infrastructure needed at that time. SAMP supports multiple CPU architectures, including AWS Graviton, so you optimize price performance of your workloads.

Since the simplified workflows help you adapt to global demand and reach more customers, you will increase your ROI.

Streamline technical needs

There's no need for your team to understand the Kubernetes ecosystem in-depth with the standardized PaaS. SAMP's immutable infrastructure requires limited hands-on maintenance skills, simplifying its management.

Improve data security

Having a secure system is necessary to meet the current global standards. With SAMP, security standards are built in.

CONCLUSION

To get the greatest business value out of your workloads, you must start with the cloud. The current economic climate means ensuring that legacy applications and outdated software don't slow you down. Their adverse effects impact your business team's ability to serve your customers.

In addition, they increase your technical debt and overall costs while opening you up to greater security risks. But making the cloud a part of your successful strategy isn't enough. Long-term success requires regular innovation, so you must modernize your applications as a strategic step in your digital journey.

SoftServe's Application Modernization Platform bridges the gap between simply migrating to the cloud and getting the most out of your resources. As the foundation for running your applications, SAMP eliminates the need to manage your underlying cloud infrastructure. That frees your team to focus on developing, deploying, and managing organizational applications and services.

Staying competitive in today's market means moving faster, and AWS Cloud and SAMP will keep you at the forefront.

ABOUT SOFTSERVE

We are advisors, engineers, and designers who deliver innovation, quality, and speed — elevating and accelerating our clients' digital journeys.

Our approach is built on a foundation of empathetic, human-focused experience design that ensures value and continuity from concept to release.

Visit our website, blog, LinkedIn, Facebook, and Twitter pages.

STABILITY

30

Years of award-winning enterprise service

EXPERTISE

10,000+

Employees

EXPERIENCE

20K+

Complex success stories delivered

TRUST

84

Our Net Promoter Score leads the industry

LOYALTY

54

Global offices in 16 countries

SCALABILITY

30%

Organic CAR five years running

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