



AWS FOR MIGRATION

Accelerate your Migration and Modernize on AWS with Mactores

A guide to migration and modernizing
your workloads on AWS

In collaboration with

MACTORES

Table of contents

The benefits of a cloud migration today	3
Why cloud, why now?	4
Why migrate to AWS?	5
Common patterns for migration	6
A streamlined approach to migration with Mactores and AWS	8
Mactores cloud migration program.....	9
Mactores migration offerings for AWS	10
Case study: Flipboard	11
Ensure a smooth AWS migration with Mactores	12
The journey to the cloud starts here	13

The benefits of a cloud migration today

Organizations across every industry want to become more agile so they can innovate and respond to changes faster. Faced with ever-increasing disruption, they must also find ways to differentiate their businesses to stay competitive. For many organizations, moving to the cloud quickly is the best first step to modernization and transformation.

This eBook explores how organizations are migrating and modernizing on Amazon Web Services (AWS) to achieve critical business advantages such as higher productivity, faster time to market, and a stronger bottom line. It also covers key benefits of cloud migration, why now is the best time to migrate, and how your organization can realize the associated benefits of migrating to AWS with solutions from AWS Advanced Partner Mactores Cognition, Inc.



Why cloud, why now?

Often, the decision to migrate workloads to the cloud starts with a desire to reduce costs. However, customers find that the strategic value of migrating to AWS goes well beyond the cost savings of retiring legacy infrastructure. Leveraging the breadth and depth of its research, AWS has identified eight key business drivers for moving to the cloud. Whether they are migrating some or all of their digital assets to the cloud, organizations can achieve transformational results.

Business drivers for migrating to cloud



Why migrate to AWS?

To boost innovation, respond quickly to changing demands, and drive business transformation, organizations are migrating their infrastructure and applications to AWS. Modernizing on AWS enables streamlined operational practices that lead to measurable results.

While migrating to AWS offers many benefits and opportunities, successful migrations take planning and expertise. Organizations also need to understand the challenges they're likely to face as part of the process.

With an experienced AWS Migration Competency Partner such as Mactores by their side, businesses can anticipate those challenges and accelerate their cloud journey to achieve benefits faster.

On average, migrating to AWS delivers:

20%

average infrastructure cost savings¹

29%

increase in staff focus on innovation¹

43%

lower time to market for new features¹

45%

fewer security-related incidents¹

66%

increase in administrator productivity¹

Common patterns for migration: “The 7 R’s”

Creating a detailed strategy that identifies the best pattern for various workloads is essential to accelerating and optimizing the migration journey, as well as achieving desired business objectives. Common migration patterns usually follow one of six basic patterns—but with AWS, organizations have a seventh option, culminating in “The 7 R’s”.



1. Rehost

In a large-scale migration scenario that demands a quick migration and rapid scaling to meet a business case—such as a data center lease termination—the majority of workloads are rehosted. Also known as “lift-and-shift,” rehosting can be automated with tools such as [AWS Application Migration Service](#) in most cases.

2. Re-platform

Sometimes referred to as “lift-tinker-and-shift,” re-platforming entails making a few cloud optimizations in order to achieve tangible benefits—but without changing the core architecture of the application. For example, businesses that are managing a messaging broker can easily replace the seven common patterns for migration with [Amazon MQ](#). Amazon MQ is a fully-managed service that doesn’t require users to rewrite their applications or pay for third-party software licenses. Or, if migrating a Windows-based application that requires file storage, organizations can use the fully-managed [Amazon FSx for Windows File Server](#).

Businesses can reduce the amount of time they spend managing database instances by opting for a database-as-a-service offering such as [Amazon Relational Database Service](#) (Amazon RDS). When moving from one database source or version to a new platform or software version, [AWS Database Migration Service](#) (AWS DMS) keeps the source database fully operational during the migration, enabling near-zero downtime during the cutover.

3. Refactor

Refactoring changes the way an application is architected and developed, and is usually done by employing a data lake, which is cloud native. Typically, refactoring (or rearchitecting) is driven by a strong business need to add features, scale, or improve performance that would otherwise be difficult to achieve in an application’s existing environment. If an organization is looking to boost agility or improve business continuity by moving to a service-oriented architecture (SOA), this strategy is a strong—although often most expensive—option.

4. Relocate

Once on AWS, businesses can take advantage of the wide variety and capabilities of AWS services to easily optimize or rearchitect applications. One example is VMware Cloud on AWS, which allows users to quickly relocate hundreds of applications virtualized on vSphere to the AWS Cloud, as well as maintain consistent operations with VMware Cloud Foundation-based environments, in just a few days.

5. Repurchase

Casually referenced as “drop and shop,” repurchase enables organizations to replace their current environment by moving to a newer version of software or purchasing an entirely new solution. This also applies to businesses that are or are looking for a new software licensing model that allows them more flexibility to match their business needs. In this case, an organization may choose to purchase [Amazon Connect](#) to replace its current contact center application.

6. Retain

A company may have portions of its IT portfolio that it is not ready to migrate or believes are best kept on premises. For on-premises workloads, [AWS Outposts](#) brings the same APIs, services, management tools, support, operating model to virtually any data center, co-location space, or on-premises facility. With AWS Outposts, businesses have a truly consistent hybrid cloud, allowing them to develop once and deploy across AWS Outposts on-premises or on AWS without having to recertify their applications.

When going the retain route, businesses should remember that as more of their portfolio moves to the cloud, allocation of data center expenses across fewer workloads may eventually drive a need to revisit the retained workloads.

7. Retire

The retire route lets organizations decommission or archive unneeded portions of their IT portfolio. When businesses first assess their environments’ readiness to migrate, they may come across applications that are no longer being used. By rationalizing their IT portfolios and identifying assets that are no longer useful, organizations can strengthen their business case and direct their team’s attention toward maintaining the resources that are more widely used.

A streamlined approach to migration with Mactores and AWS

To streamline the cloud migration journey, it is important to have the proper support and guidance when you need it. Mactores an AWS Migration Competency Partner that holds a long list of AWS certifications, offers end-to-end services to help customers navigate their entire cloud journey.

By aligning to AWS best practice guidance, including the AWS Migration Acceleration Program (MAP), Mactores can work in tandem with in-house IT teams to ensure a smooth, efficient cloud transition.

Following MAP, Mactores applies a three-phase approach:

The AWS Migration Acceleration Program (MAP) is a complete and proven cloud migration program based upon AWS's experience of migrating thousands of customers to the cloud. The program packages best practices, tools, expertise, financial incentives, and the expertise and solutions delivered by AWS Partners to make cloud adoption easier and help customers reach their business goals faster.

1 Assess

The migration readiness assessment identifies gaps along the six dimensions of the [AWS Cloud Adoption Framework](#): business, process, people, platform, operations, and security. This survey enables organizations to identify the capabilities required to migrate and build a total cost of ownership (TCO) model. Mactores follows AWS suggested best practices to determine how to both migrate infrastructure with the utmost care and handle any unforeseen challenges.

2 Mobilize

The mobilize phase creates an operational foundation for migration, with the goal of fixing the capability gaps that were identified in the assessment phase. Mactores analyzes and identifies financial hurdles, potential blockers, and other skill and knowledge barriers that might need attention before migration. This step accelerates migration decisions by providing clear guidance that improve the success of your migration.

3 Migrate and modernize

In this final phase, organizations execute the migration plan developed during the mobilize phase. Once application testing is complete, Mactores begins migrating workloads to the AWS Cloud and then optimizes for performance and spend.

Mactores cloud migration program

Mactores Migration as a Service (MaaS) is a comprehensive, proven cloud migration program based on AWS Migration Acceleration Program principles. Enterprise migrations can be complex and time-consuming. Mactores MaaS accelerates the cloud migration journey with an automated approach and outcome-driven methodology.

- 1. Mactores Cloud Hexa Assessment:** With automated discovery and assessment tools for cloud readiness, Mactores creates the migration strategy.
- 2. Design Strategy:** The strategy results in a detailed design document that includes Landing Zone, Technical Architecture based on AWS Well Architected Review, and TCO.
- 3. Migrate:** For most on-premises migration projects, this phase mainly consists of re-architecting and building a customer's cloud applications in AWS. Mactores defines a large-scale automated migration plan followed by sessions to identify modernization value proposition and then deploy migration strategies using automated tools, such as AWS CloudFormation, Terraform, and Ansible.
- 4. Modernize:** Mactores modernizes customer workloads with a comprehensive strategy that covers modern data analytics use cases for the business, automating additional data ingestions, transformations, and operations that yield better efficiency.

Assess

Application and integration dependencies. Existing Platform Integrations. Database Evaluation.

Design

Instance Sizing, Database Features, Configuration, CI/CD Pipelines, Environments, and TCO.

Build and Test

Sandbox application and integrations. Perform Stress testing, Security Testing, and Integration Testing.

Migrate/Rollback

Migrate data and build a replication mechanism ready to cutover or roll back.

Cutover

Perform cutover if applications are stable with new databases and platform.

Mactores migration offerings for AWS

Mactores has the expertise, experience, and proven track record to help overcome the obstacles businesses face on the path from migration to modernization.



Mactores Migration Accelerators: These are Mactores' automated tools that enable faster time to market, optimize total cost ownership, solve business problems, and realize organizational objectives.



Reduced risk: Mactores has built a foundation of trust in migrating to AWS, retiring on-premise technical debt and modernizing customer platforms using continuous integration, continuous delivery, containers, and serverless technologies. This creates the path for customers to migrate more quickly, avoid risk, and save money by reducing unnecessary spending.



Access to partner funding and expertise: Customers can qualify for AWS service credits or partner investments to help offset the one-time expenses associated with moving to the cloud. Additionally, customers will have access to ready-use technical assets and expertise.



Cost savings: Businesses can reduce the time, effort, and complexity of migrations by applying Mactores automation framework and right sizing their cloud infrastructure to realize organizational objectives.



Minimize downtime: A migration plan starts with a comprehensive strategy to cover integration, DevOps cycles, data migration, data validation, and near zero downtime cutover strategy.

 <p>Mactores ETL Migration Accelerator For Amazon EMR, AWS Glue, and Apache Spark</p>	 <p>Mactores Data Warehouse Migration Accelerator For Amazon Redshift and Apache Hive</p>	 <p>Mactores Hadoop Migration Accelerator For Amazon EMR, Apache HBase, and Apache Spark</p>	 <p>Mactores Streaming Migration Accelerator For Amazon MSK and Amazon Kinesis</p>
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CASE STUDY:

Flipboard

The challenge

The Flipboard platform has 100 million active users who generate 200k-300k read/sec, and 60k-120k writes/sec to Apache HBase. They use a self-managed Cloudera Cluster on [Amazon Elastic Compute Cloud](#) (EC2) to support their platform with HBase with 5,600 regions and 40 TB of data on [Amazon Elastic Block Storage](#) (EBS). As data volumes grew and user throughput requirements increased, Cloudera-based HBase was not scalable enough to support Flipboard's platform.

The solution

Because Flipboard uses a significantly large payload for each key in HBase, the bucket sizes were challenging to identify. So the Mactores engineering team decided it would be best to test various [Amazon Elastic MapReduce](#) (EMR) configurations and used Yahoo Cloud Severing Benchmark (YCSB) to benchmark all combinations of configurations to arrive at the recommended Amazon EMR deployment.

Due to the significantly high traffic and the requirements of the average latency to be less than 100ms for "get" requests, the Mactores team optimized the bucket cache, block cache, and various other HBase parameters to support the [Amazon Simple Storage Service](#) (Amazon S3)-based HBase.

The results

The Flipboard team now has much more time to focus on forwarding motions since they leverage the managed services. By modernizing the platform, they also have the availability to add more functionality to improve the user experience. Plus, with spike concerns now properly managed, costs are much more controllable and predictable.

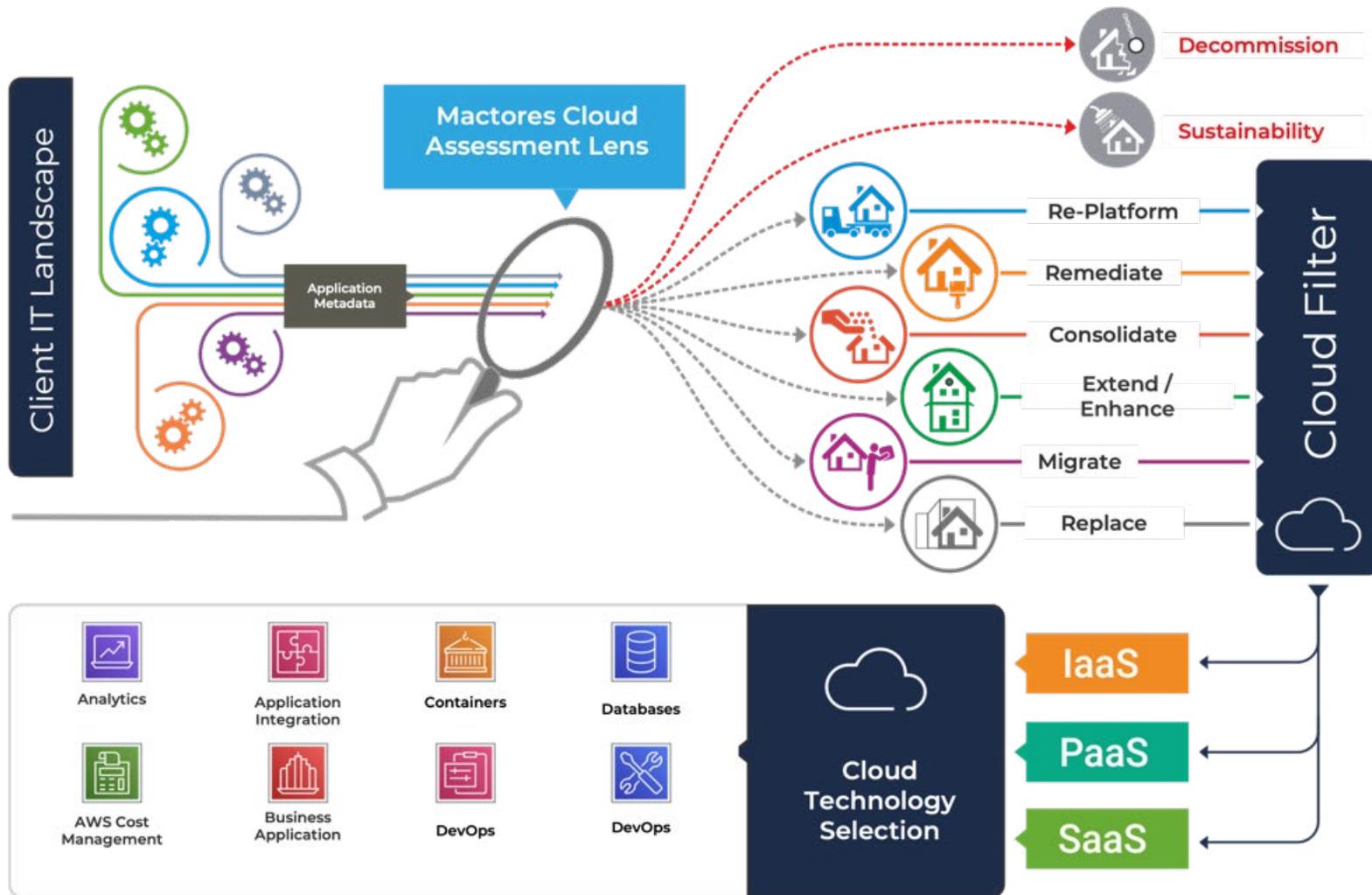
Post migration to Amazon EMR, Flipboard benefits from the autoscaling Amazon EMR clusters by adding region servers to support user traffic spikes. With Amazon EMR HBase backed by Amazon S3 support read replica, Flipboard can now separate read traffic from writing and provide high throughput to users who perform interactive actions on the platform. The next step of modernization for Flipboard is planning to migrate some of the tables to Amazon DynamoDB and re-evaluate their use cases to use multi-column family databases.



About the customer

Flipboard is a news aggregator and social network company with 500 million users and 100 million monthly active users. Flipboard was founded as one place to find the stories for each user's day, bringing together favorite news sources with social content to give an in-depth view into everything from political issues to technology trends to travel inspiration.

Ensure a smooth AWS migration with Mactores



The journey to the cloud starts here

AWS is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.

Together with AWS, Mactores has created best practices to accelerate and guide migrations to the cloud.

Ready to get started with a Mactores Hexa Assessment?

Let's Talk

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