

# AWS Cloud Transformation Maturity Model

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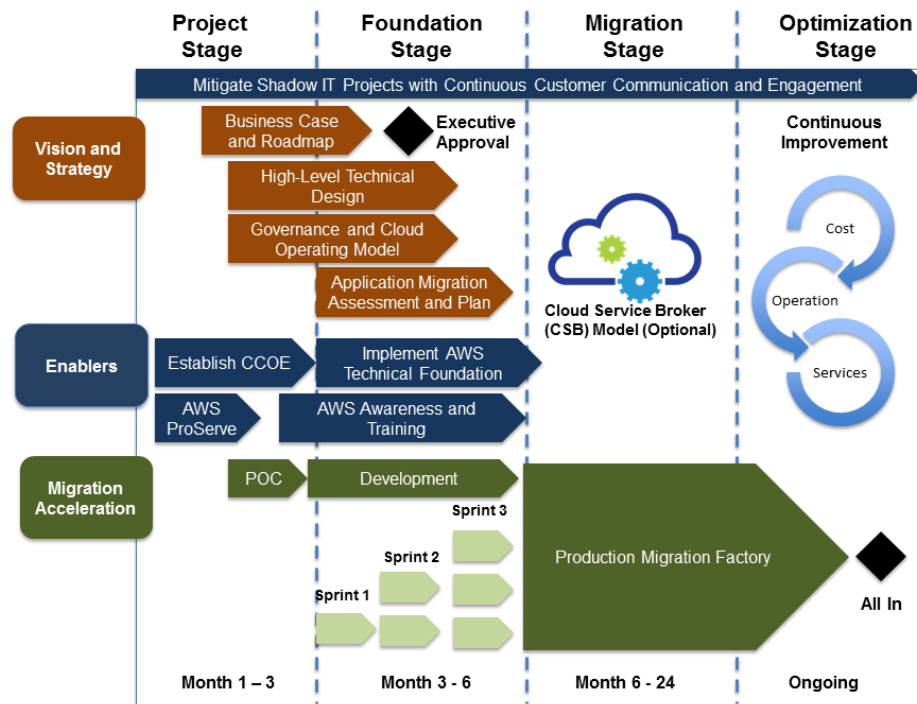
# Abstract

The AWS Cloud Transformation Maturity Model (CTMM) maps the maturity of an IT organization's process, people, and technology capabilities as they move through the four stages of the journey to the AWS Cloud: project, foundation, migration, and optimization. The objective of the CTMM is to help enterprise IT organizations understand the significant challenges they might face to adopt AWS, learn best practices and activities to handle those challenges, and recognize the signs of maturity or expected outcomes to gauge their maturity and readiness at every stage. This whitepaper can guide organizations to measure their readiness for the AWS Cloud, build an effective cloud transformation strategy, and drive an effective execution plan.

# Introduction

The Amazon Web Services (AWS) Cloud Transformation Maturity Model (CTMM) is a tool enterprise customers can use to assess the maturity of their cloud adoption through four key stages: **project**, **foundation**, **migration**, and **optimization**. Each stage brings an organization's people, processes, and technologies closer to realizing its vision of IT-as-a-Service (ITaaS). To fully benefit from the AWS Cloud, the whole organization has to transform and adopt it—not just the IT division. Because this transformation can be complicated, AWS has developed the [Amazon Web Services Cloud Adoption Framework \(AWS CAF\)](#) to assist organizations to mature their use of cloud services.<sup>1</sup> The AWS CAF provides best practice guidance to support all parts of an organization through its unique cloud adoption journey. The four stages of AWS CTMM are tied to the AWS CAF's best practice guidance and activities to help an organization overcome challenges in its maturity and readiness journey.

Figure 1 shows the key AWS CTMM activities and when they occur during the four stages of cloud transformation.



**Figure 1: AWS Cloud Transformation Maturity Model—stages, milestones, and timeline**

The four stages of cloud transformation are described in detail in the following sections of this paper. For reference, Table 1 provides a maturity matrix of the challenges, key transformation activities, and outcomes at each stage of the AWS CTMM.

**Table 1: AWS Cloud Transformation Maturity Matrix**

| Maturity Stage | Customer Challenges                             | Transformation Activities   | Outcomes/Milestones of Maturity           |
|----------------|---|---|---|
| <b>Project</b> | Limited knowledge of AWS services               | Raise level of AWS awareness via education and training   | Organization knowledge and support        |
|                | Limited executive support for new IT investment | Seek case studies of proven return on investment (ROI) and participate in AWS executive briefings | Executive support and appropriate funding |

| Maturity Stage    | Customer Challenges  | Transformation Activities  | Outcomes/Milestones of Maturity  |
|-------------------|--|--|--|
|                   | Unable to purchase required services   | Use existing or create new contract<br>Educate procurement and legal staff to new purchasing paradigms in <a href="#">procurement of cloud services and tools</a> <sup>2</sup> | Ability to purchase all required services  |
|                   | Limited confidence in cloud service capabilities                                     | Execute one or more pilot/POC projects   | Increased confidence and fewer concerns  |
|                   | No clear ownership or direction  | Conduct a “Kickoff and Discovery Workshop”   | IT ownership with clear strategy and direction   |
| <b>Foundation</b> | Assigning the required resources to effectively drive the transformation             | Conduct a “People Model Workshop” and establish a CCoE   | Dedicated resources to define policies architecture  |
|                   | Lack of a detailed organizational transformation plan                                | Conduct a “Governance Model Workshop” and a “Migration Jumpstart”  | Detailed plan for all aspects of the transformation, i.e., “People, Process, and Technology” |
|                   | Limited knowledge of security and compliance paradigms and requirements in the cloud | Conduct an “AWS Security, Risk, and Compliance Workshop”   | Best practice security policies, architecture, and procedures                                |
|                   | Cost and budget management requirements and concerns                                 | Conduct an “AWS Cost Model Workshop”   | Detailed TCO for proposed operating environment  |
| <b>Migration</b>  | Developing an effective and efficient migration strategy                             | Conduct an “Application Portfolio Assessment Jumpstart”  | A clear migration strategy with clear line of sight from current to target state environment |
|                   | Implementing an effective and efficient migration process                            | Select and implement best migration environment  | A cost efficient and effective application migration process                                 |
|                   | Managing environment efficiently and effectively                                     | Selecting and implementing best management environment   | A cost efficient and effective portfolio management with robust governance and security      |
|                   | Migrating all targeted applications (“All-In”) successfully                          | Migrate workloads using AWS/Partner implementation tools and services  | “All-In” – organization achieving significant benefits                                       |

| Maturity Stage      | Customer Challenges                        | Transformation Activities   | Outcomes/Milestones of Maturity   |
|---------------------|--|---|---|
| <b>Optimization</b> | Optimizing cost management                 | Leverage AWS tools and features to continuously improve operational costs (e.g., consolidated billing, RIs, discounts)  | Focused and robust processes in place to continuously seek ways to optimize costs |
|                     | Optimizing service management              | Utilize latest AWS tools to continuously improve service management methods/processes                                   | Fully optimized service management and increased customer satisfaction            |
|                     | Optimizing application management services | Utilize AWS best practices and tools (e.g., DevOps, CI/CD) to continuously improve application management methods/tools | Rigorous emphasis on optimized application management services                    |
|                     | Optimizing enterprise services             | Continuously seek ways to aggregate and improve shared services   | Optimized enterprise services and customer satisfaction                           |

## Project Stage

The **project** stage begins the transformation journey for your organization. Organizations in this stage usually have limited knowledge of cloud services and potential costs and benefits, and typically don't have a centralized cloud adoption strategy.

Getting through this initial stage is crucial to the ultimate success for your organization's journey to the cloud. The outcomes realized and lessons learned here lay the strong foundation for broader cloud adoption at all organizational levels.

## Challenges and Barriers

The following are some of the key challenges and barriers to overcome during this stage of the transformation.

- **Limited knowledge and training.** IT staff and end customers are accustomed to the older model and related process of acquiring and



consuming IT. Significant investment in training is required for them to adopt the cloud model.

- **Executive support and funding.** IT leaders have traditionally framed IT infrastructure investments as a “necessary evil” to gain funding approval for significant infrastructure upgrades. As a result, executives are often skeptical and resistant to any new funding. In addition, executives constantly hear complaints from IT customers (i.e., business units) about rising costs, poor service delivery, and failed or failing project implementations.
- **Purchasing public cloud services.** IT leaders face the challenge of establishing new contracts or leveraging existing contracts with specific terms and conditions to purchase cloud services. A significant obstacle can be the lack of awareness among the procurement and legal staff about purchasing paradigms for cloud services. In addition, IT leaders have to ensure that new contracts meet the competitive bidding laws of their jurisdiction, which can be a long and complex process.
- **Limited confidence in cloud service models.** Cloud service infrastructure provisioning and management operation models are significantly different from the traditional on-premises operating model. Your IT group might require hands-on experience before supporting the transformation effort. If your IT group is change-resistant or is not enthusiastic about changing to the cloud model, your transformation initiative could be significantly undermined.
- **IT ownership and direction.** IT leaders have many leadership challenges, including “shadow IT” where customer lines of business set up their own IT operations. IT leaders have to gain control for central IT ownership and communicate a clear transformation roadmap to all organization stakeholders.

## Transformation Activities

To overcome the challenges and barriers in the **project** stage and mature to the **foundation** stage, your organization must complete the following transformation activities.

- **Contact an AWS account manager.** An AWS account manager is a key resource and a single point of contact who can connect you with AWS Partners and professional services to address all of your AWS needs.

Please visit <https://aws.amazon.com/contact-us/> to get in touch with an AWS account manager.<sup>3</sup>

- **Raise the level of AWS awareness.** There are many AWS [events](#) and education and training resources for your organization's stakeholders including:<sup>4</sup>
  - **AWS Business Essentials.** This training helps your IT business leaders and professionals understand the benefits of cloud computing from the strategic business value perspective.
  - **Online videos and hands-on labs.** [Introduction to AWS](#) is a series of free, on-demand instructional videos and labs to help you learn about AWS in minutes.<sup>5</sup> In addition, [qwikLABS](#) provide hands-on practice with popular AWS Cloud services and real-world scenarios.<sup>6</sup> To learn more about AWS services and features from AWS engineers and solution architects, and to hear customer perspectives, visit the [AWS YouTube Channel](#).<sup>7</sup>
  - **AWS Technical Essentials.** This training provides an overview of AWS services and solutions to your technical users, enabling them to make informed decisions about the IT solutions your organization needs.
  - **AWS whitepapers.** The comprehensive, online collection of [AWS whitepapers](#) covers a broad range of technical topics, including best practices on solving business problems, architectures, security, compliance, and cloud economics.<sup>8</sup>
  - **AWS trainings.** AWS offers an array of instructor-led technical trainings to help your teams develop the skills to design, deploy, and operate infrastructure and applications in the AWS Cloud. Please visit <https://aws.amazon.com/training/> for more information.<sup>9</sup>

**Table 2: AWS recommended educational resources for roles in your organization**

| Role               | Resources  |
|--------------------|--|
| IT leadership team | <ul style="list-style-type: none"><li>• AWS Business Essentials</li><li>• Online Videos and Labs</li><li>• AWS Whitepapers</li></ul> |
| IT staff           | <ul style="list-style-type: none"><li>• AWS Business Essentials</li><li>• Online Videos and Labs</li></ul>                           |

| Role         | Resources  |
|--------------|--|
|              | <ul style="list-style-type: none"> <li>• AWS Technical Essentials</li> <li>• AWS whitepapers</li> <li>• AWS technical trainings</li> </ul> |
| IT customers | <ul style="list-style-type: none"> <li>• AWS Business Essentials</li> <li>• Online videos and labs</li> <li>• AWS Whitepapers</li> </ul>   |

- **Secure executive support and funding.** AWS offers cost and value modeling workshops to provide you with estimated costs and strategic value for a cost benefit analysis as a basis for securing executive support and funding. In addition, numerous [case studies](#)<sup>10</sup> and whitepapers demonstrate proven cost savings and agility benefits for customers of all sizes, in virtually every market segment.
- **Consider purchasing options.** You can buy cloud services directly from AWS or through a range of partner contract vehicles:
  - **Direct purchase from AWS.** Start using AWS services within minutes by opening an account online under the AWS Terms and Conditions.
  - **Indirect purchase from an AWS Partner.** Acquire AWS via Partner contract vehicles to serve the needs of Federal, State, and Local governments, as well as the Education sector. Please review the AWS whitepaper [Ten Considerations for a Cloud Procurement](#)<sup>11</sup> and visit the contracts page at <https://aws.amazon.com/contract-center/><sup>12</sup>, or send an email to [aws-wwps-contract-mgmt@amazon.com](mailto:aws-wwps-contract-mgmt@amazon.com) for more information.
- **Execute a pilot or proof of concept (POC) project.** Most customers invariably leverage one or more pilot or POC projects to gain deeper insight into the implementation of AWS on representative workloads. AWS supports such initiatives by providing accelerator services, such as an AWS Migration Jumpstart, to provide the end-to-end knowledge transfer of an actual workload migration. In addition, for customers working with an AWS Partner, the AWS POC Program is another avenue to get funding for POC projects executed via eligible AWS Partners. Please refer to [Partner Funding page](#) for more information.<sup>13</sup>

- **Conduct an IT Transformation Workshop.** This workshop serves as an enabler for rapid cloud adoption by removing the barriers of uncertainty and replacing them with vision and strategy on how to derive value from AWS. The workshop is an interactive educational experience to help you clearly identify business drivers, objectives, and blockers and align those to a unique cloud adoption roadmap that helps you identify the next steps in your journey to the cloud.

## Outcomes and Maturity

The following are the key outcomes to measure your organization's maturity and readiness to begin activities in the next stage, **foundation**:

- **Effective use of AWS resources.** The AWS account manager works with your organization to connect you with the appropriate AWS professional services, onsite presentations and meetings, onsite training, web service accounts, and support services.
- **Knowledgeable and trained organization.** Your IT leadership team has an effective understanding of AWS, costs and benefits, and transformation best practices. Key IT staff members are trained with some hands-on experience with AWS services, and IT customers have basic knowledge of AWS features and capabilities.
- **Executive support and funding.** Your IT leadership team has presented a sound business case for funding the cloud transformation initiative to your organization's executive leadership. This business case typically includes a cost-benefit analysis, customer reference examples, and risk management assessments.
- **Ability to purchase AWS and AWS professional services.** Your IT team has worked with the AWS account manager to identify an existing contract vehicle via an [AWS Partner](#) or to put a new contract in place.<sup>14</sup>
- **IT staff confidence and true buy-in.** The POC was executed successfully and addressed the concerns of your key IT staff, whose "true" support is crucial to effectively transform the organization.
- **Central IT ownership and a clear transformation roadmap.** Centralized ownership of the cloud initiative has emerged and all of your stakeholders participated in an IT Transformation Workshop. The IT leaders have a clear vision, and a transformation roadmap has been

communicated to key stakeholders across the organization. The roadmap provides direction on establishing preliminary AWS governance policies that mitigate the risks of business units moving ahead.

## Foundation Stage

The **foundation** stage is characterized by the customer's intent to move forward with migration to AWS with executive sponsorship, some experience with AWS services, and partially trained staff. During this stage, the customer's environment is assessed, all contractual agreements are in place, and a plan is created for the migration. The migration plan details the business case, in-scope workloads, approach to migration, resources required, and the timeframe.

### Challenges and Barriers

The following key challenges and barriers must be overcome during this stage:

- **Assigning transformation support resources.** Effective execution in this stage requires a significant amount of time from key IT staff who are knowledgeable and trusted to provide input into decisions related to architecture, security, and governance. However, IT organizations are constantly challenged with competing priorities related to managing the current environment, which is further compounded by the limited number of key infrastructure, security, and service management staff
- **Providing leadership through a transformation plan.** IT leaders are challenged with the daunting task of developing a transformation plan that addresses all aspects of organizational change including business, governance, architecture, service delivery, operations, roles and responsibilities, and training.
- **Security and compliance policies.** IT organizations are challenged with integrating AWS into their existing security and control framework that supports their current IT environment. They are also challenged with configuring AWS to be in compliance with regulatory requirements.
- **Cost and budget management.** IT organizations are challenged to develop a budget aligned to the OpEx model of utility computing, measurable benefit goals, and an effective cost management process.

## Transformation Activities

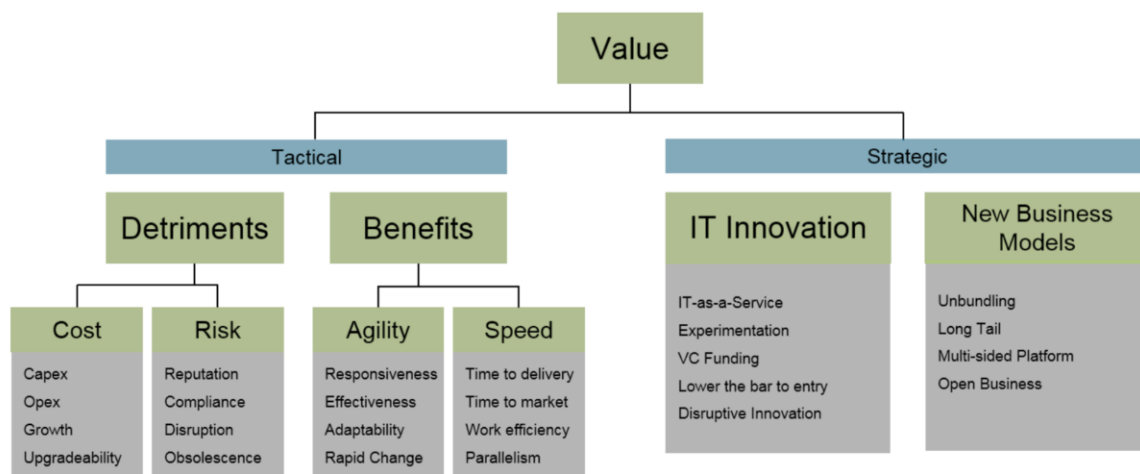
The following transformation activities are recommended to achieve the outcomes to mature to the next stage, **migration**:

- **Establish a Cloud Center of Excellence (CCoE).** AWS recommends strong governance practices utilizing a CCoE. AWS recommends staffing the CCoE gradually by a dedicated team, with the core responsibilities of:

- Defining central policies and strategy
- Providing support and knowledge transfer to business units utilizing hybrid cloud solutions
- Creating and provisioning AWS accounts for workload/program owners
- Providing central point of access control and security standards
- Creating and managing common use case architectures (blueprints)

The use of a CCoE lowers the implementation and migration risk across the organization, and serves as a conduit/single-threaded channel for sharing the best practices for a broader impact of cloud transformation throughout the organization.

- **Develop security and compliance architecture.** AWS Professional Services helps your organization achieve risk management and compliance goals, with prescriptive guidance enabling rigorous methods to implement security and compliance processes related to systems and personnel.
- **Develop a value management plan.** Developing a robust value management model is a key activity that includes not only tactical benefits (i.e., cost management, prioritization of IT spending, and a system of allocating costs) but also strategic value from the cloud (i.e., agility, time to market, ITaaS, innovation) to better focus and prioritize initiatives (see Figure 2). For example, AWS provides the ability to view specific IT operating costs and system performance data and also the ability to allow allocation to specific business groups or specific applications in near real time.



**Figure 2: Strategic and tactical values of AWS adoption identified**

## Outcomes and Maturity

The following key outcomes at this stage of maturity measure your organization's readiness to move to the next stage, **migration**:

- **CCoE for Cloud Governance.** The central CCOE provides the following benefits:
  - **Standardization of strategy and vision.** Centralization allows a single point of cloud strategy that is aligned with the larger business requirements of the wider organization.
  - **Centralized expertise.** A central cloud team can be trained quickly in specialized cloud technologies while individual business areas are still getting up to speed.
  - **Standardization of technical processes and procedures.** A central team owns the responsibility for standard processes, procedures, and “blueprints,” which can include the use of automation and other methods to simplify and standardize deployments by application owners.
  - **Bias for action.** A central cloud team has a vested interest in making sure the cloud computing model is successful, whereas decentralized business units may be less effective unless they realize a direct benefit.
- **A clear transformation roadmap.** A transformation roadmap sequences planning, resourcing, and detailed migration activities. The

roadmap is used to define the ordering and dependencies of your initiatives to achieve the goals set by the CCoE, steering committee, or program management.

- **Best practice security and compliance architecture.** A highly scalable best practice architecture design is created that supports all policy and regulatory compliance requirements.
- **Strong value management plan.** A value management plan serves the need to effectively determine and describe how value will be quantified and the areas where the project teams should focus.

## Migration Stage

The **migration** stage is where your organization matures overall, with governance, technical, and operational foundation in place to effectively and efficiently migrate targeted applications. During this stage, the building blocks of the migration and operational tools are implemented and the mass migration of in-scope workloads is completed. Significant risks exist at this stage, such as project delays, budget overruns, application failures, and a loss of customer confidence and support, if the appropriate migration strategies, tools, and methods are not implemented.

## Challenges and Barriers

The following key challenges and barriers must be overcome during this stage:

- **Developing an effective and efficient migration strategy.** Your organization is challenged to implement a strategy that minimizes the risk of project failures and maximizes the return on investment (ROI). Many ambitious IT projects fail “out of the gate” because they are based on inappropriate strategies and plans. It’s critical to classify, sequence, and have appropriate migration disposition for targeted application to ensure success of the overall implementation plan.
- **Implementing a robust migration process.** Your organization is challenged to implement a migration execution process that minimizes cost and is repeatable and sustainable. The selection and implementation of the proven migration tools and methods is a key determinant in your organization’s ability to minimize the risks associated with migrating targeted application workloads.

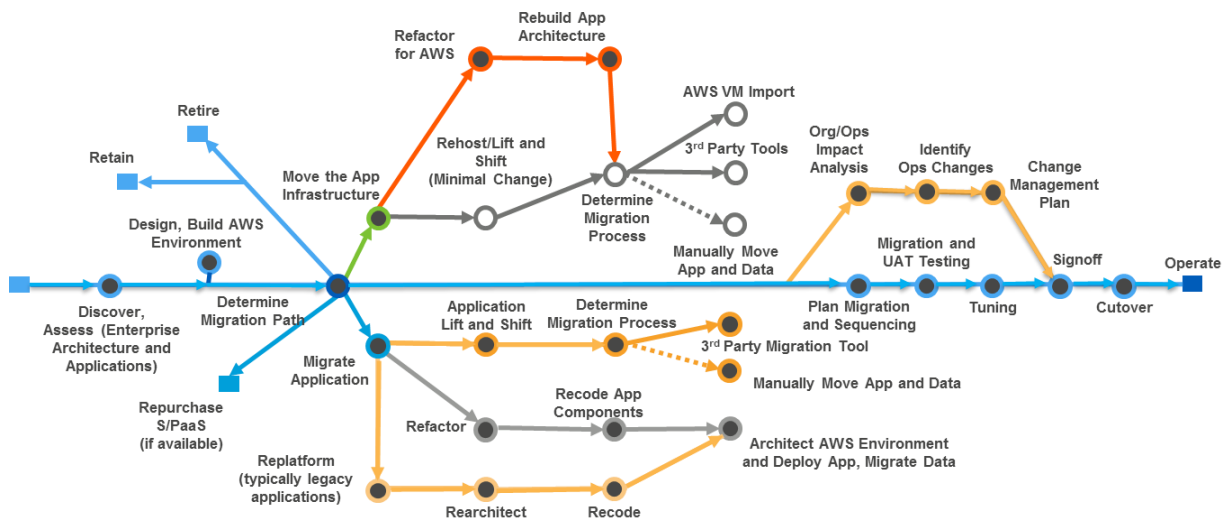


- **Cloud environment management.** Your organization is challenged to implement a cloud-operating environment that is controlled, sustainable, and reliable, yet one that enables improved agility. This challenge includes leveraging existing tools and processes, as well as developing new tools and processes.
- **Going “all-in”.** Your organization is challenged to implement processes that enable the effective and efficient migration of all application workloads onto AWS on time and within budget. Like all projects, the risk of technical failures, unsustainable processes, and performance failures could create significant project delays and unplanned costs.

## Transformation Activities

The following transformation activities are recommended to achieve the outcomes in this stage and mature to the next stage, **optimization**:

- **Conduct a portfolio assessment.** Your organization must go through a portfolio rationalization exercise to determine which applications to migrate, replace, or, in some cases, eliminate. Figure 3 illustrates decision points to consider in determining the strategy for moving each application to the AWS Cloud, focusing on the “6 Rs”: retire, retain, re-host, re-platform, repurchase, and refactor.



**Figure 3: Application migration dispositions and paths identified from migration strategy**

Table 2 describes the transformation impact of the “6 Rs” in order of their execution complexity.

**Table 2: Cloud migration strategies and corresponding level of complexity for execution**

| Migration Pattern     | Transformation Impact  | Complexity |
|-----------------------|--|------------|
| <b>Refactoring</b>    | Re-architecting and recoding require investment in new capabilities, delivery of complex programs and projects, and potentially significant business disruption. Optimization for the cloud should be realized.  | High       |
| <b>Re-platforming</b> | Amortization of transformation costs is maximized over larger migrations. Opportunities to address significant infrastructure upgrades can be realized. This has a positive impact on compliance, regulatory, and obsolescence drivers. Opportunities to optimize in the cloud should be realized. | High       |
| <b>Repurchasing</b>   | Either a replacement through procurement or upgrade. Disposal, commissioning, and decommissioning costs may be significant.  | Medium     |
| <b>Re-hosting</b>     | Typically referred to as “lift and shift” or “forklifting.” Automated and scripted migrations are highly effective.  | Medium     |
| <b>Retiring</b>       | Decommission and archive data as necessary.  | Low        |
| <b>Retaining</b>      | This is the “do nothing” option. Legacy costs remain and obsolescence costs typically increase over time.  | Low        |

- **Implement a migration environment.** In addition to the migration strategy, your organization must develop a migration process for each application workload. These processes include application migration tools, data migration tools, validation methods, and roles and responsibilities. In addition to other criteria such as business criticality and architecture, each application is classified by migration method and process. For example, Figure 3 depicts that applications can be migrated using AWS VM Import or third-party migration tools, or by manually moving the code and data.
- **Implement a best-management environment.** Your organization must develop and implement an effective cloud governance and operating model that addresses your organization’s need from the standpoint of access, security, compliance, and automation.
- **Migrate targeted workloads.** AWS recommends using principles of Agile methodology to effectively execute and manage the migration of

workloads from end to end. This requires that migrations be planned, scheduled, and executed in repeatable “sprints”, incorporating lessons learned after every sprint. Each migration sprint should go through an appropriate acceptance test and change control process.

## Outcomes and Maturity

The following key outcomes can be used to measure the maturity in this stage for your organization and your readiness to progress to the next stage,

### **optimization:**

- **“All-In” with AWS.** This means that the organization has declared that AWS is their primary cloud platform for both legacy and new applications. This is a strategic, long-term direction from executive leadership to stop managing the data centers and migrate all targeted application workloads to AWS.
- **IT as a Service (ITaaS).** Your organization is realizing the core benefits of cloud adoption: measurable cost savings, agility, and innovation. Your organization is now effectively providing IaaS-based services as a part of an ITaaS delivery organization.

## Optimization Stage

The **optimization** stage is the fourth stage in the transformation maturity model. Reaching this stage indicates that your organization has successfully migrated all targeted application workloads (“all-in”) and is efficiently managing the AWS environment and service delivery process. More of an ongoing loop than a destination, the objective of this phase is to optimize the existing processes by lowering costs, improving service, and extending AWS value deeper into your organization. The focus on continuous service improvement allows you to realize the true value of utility computing, where you constantly seek optimization and addition of newer AWS services to drive cost and performance efficiencies.

## Challenges and Barriers

The following are some of the key challenges and barriers that must be overcome during this phase of the transformation journey:

- **Optimize costs.** Reducing and optimizing costs are not new challenges to the IT world; AWS just makes it easy to finally realize those benefits.

AWS and third-party providers frequently release new features and services, including various discounting/consumption-based models that need to be evaluated for efficacy within your organization. For example, evaluating application and database licensing fees that are often overlooked can lead to significant cost-reduction opportunities due to a cloud-based, pay-as-you-go model.

- **Optimize operation services.** Your organization will be challenged to continuously improve the service delivery model for provisioning, change control, and managing the environment. AWS and third-party providers frequently release new features (e.g., automation, templates) and services that need to be investigated to improve automation and repeatability of tasks.
- **Optimize application services.** Your organization will be challenged to continuously improve application services used to build and enhance applications. AWS and third-party providers frequently release new features and services that need to be evaluated for further optimizing application services.
- **Optimize enterprise services.** Organizations are constantly challenged to seek Software-as-a-Service (SaaS)-based offerings, as opposed to hosted solutions, to continuously improve enterprise application services. AWS and third-party providers innovate at rapid pace, adding services and features (e.g., managed databases, virtual desktop, email, and document management) that can simplify your enterprise services.

## Transformation Activities

The following transformation activities should be completed to achieve the outcomes your organization needs to continuously maximize maturity and value:

- **Implement a continuous cost optimization process.** Either the designated resources on CCoE or a group of centralized staff from IT Finance must be trained to support an ongoing process using AWS or third-party cost management tools to assess costs and optimize savings.
- **Implement a continuous operation management optimization process.** Your organization should evaluate ongoing advancements in AWS services as well as third-party tools to pursue continuous improvement to operation management and service delivery process.

- **Implement a continuous application service optimization process.** Your organization should evaluate ongoing advancements in AWS services and features, including third-party offerings, to seek continuous improvement to the application service process. AWS fully managed application service solutions may not be utilized much for migrating existing applications, but they do prove significantly valuable in new application development. A few AWS application service offerings include:
  - **Amazon API Gateway.** A fully managed service that makes it easy for developers to create, publish, maintain, monitor, and secure APIs at any scale.
  - **Amazon AppStream.** Enables you to stream your existing Windows applications from the cloud, reaching more users on more devices, without code modifications.
  - **Amazon CloudSearch.** A managed service in the AWS Cloud that makes it simple and cost-effective to set up, manage, and scale a search solution for your website or application.
  - **Amazon Elastic Transcoder.** Media transcoding in the cloud. This service is designed to be a highly scalable, easy to use, and cost-effective way for developers and businesses to convert (or “transcode”) media files from their source format into versions that will play back on devices like smartphones, tablets, and PCs.
- **Implement a continuous enterprise service optimization process.** AWS constantly innovates and launches additional enterprise applications that your organization should consider implementing to achieve ease of use and enterprise-grade security, without the burden of managing their maintenance overhead. For example, AWS enterprise services include:
  - **Amazon WorkSpaces.** A managed desktop cloud computing service.
  - **Amazon WorkDocs.** A fully managed, secure enterprise storage and sharing service with strong administrative controls and feedback capabilities that improve user productivity.
  - **Amazon WorkMail.** A secure, managed business email and calendar service with support for existing desktop and mobile email clients.

## Outcomes and Maturity

The following transformation outcomes measure your organization's maturity as optimized or as continuously maximizing maturity and value:

- **Optimized cost savings.** Your organization has an ongoing process and a team focused on continuously reviewing AWS usage across your organization and identifying cost reduction opportunities.
- **Optimized operations management process.** Your organization has an ongoing process in place to routinely review AWS and third-party management tools to identify ways to improve the efficiency and effectiveness of the current operation management process.
- **Optimized application development process.** Your organization has an ongoing process in place to evaluate AWS and third-party management tools to identify ways to improve the efficiency and effectiveness of the application architecture and development process.
- **Optimized enterprise services.** Your organization has an ongoing process in place to regularly review AWS and third-party management enterprise service offerings to improve the delivery, security, and management of services offered throughout the organization.

## Conclusion

Every customer's cloud journey will be unique, however, the challenges, corresponding actions, and outcomes achieved are common. The AWS Cloud Transformation Maturity Model (CTMM) and its stages provide you with a way to identify and anticipate the challenges early, become familiar with the mitigation strategies based on AWS best practices and guidance, and successfully drive value from cloud transformation. AWS and its thousands of partners have leveraged this model to accelerate customer adoption of AWS Cloud services by compressing the time through each stage of their cloud transformation. Although there will be situations where customers pursue certain activities in parallel across multiple stages, or are at varying levels of maturity in different parts of the organization due to their size and how IT functions are organized, the guidance provided in this paper significantly reduces the risk and uncertainty in your organization cloud transformation initiative.

# Notes

- <sup>1</sup> <https://aws.amazon.com/professional-services/CAF>
- <sup>2</sup> <https://do.awsstatic.com/whitepapers/10-considerations-for-a-cloud-procurement.pdf>
- <sup>3</sup> <https://aws.amazon.com/contact-us/>
- <sup>4</sup> <https://aws.amazon.com/about-aws/events/>
- <sup>5</sup> <https://aws.amazon.com/about-aws/whats-new/2014/01/14/new-introduction-to-aws-instructional-videos-and-labs/>
- <sup>6</sup> <https://qwiklabs.com/>
- <sup>7</sup> <https://www.youtube.com/user/AmazonWebServices>
- <sup>8</sup> <https://aws.amazon.com/whitepapers/>
- <sup>9</sup> <https://aws.amazon.com/training/>
- <sup>10</sup> <https://aws.amazon.com/solutions/case-studies/>
- <sup>11</sup> <https://do.awsstatic.com/whitepapers/10-considerations-for-a-cloud-procurement.pdf>
- <sup>12</sup> <https://aws.amazon.com/contract-center/>
- <sup>13</sup> <https://aws.amazon.com/partners/funding-benefits/>
- <sup>14</sup> <https://aws.amazon.com/contract-center/>