AWS Cloud Transformation Maturity Model

September 2017
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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 as they 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 guides 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 the cloud—not just the IT division.

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 this paper. Table 1 provides a maturity matrix of the challenges, key transformation activities, and outcomes at each stage of the AWS CTMM.
<table>
<thead>
<tr>
<th>Maturity Stage</th>
<th>Customer Challenges</th>
<th>Transformation Activities</th>
<th>Outcomes/Milestones of Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project</strong></td>
<td>Limited knowledge of AWS services</td>
<td>Raise level of AWS awareness via education and training</td>
<td>Organization knowledge and support</td>
</tr>
<tr>
<td></td>
<td>Limited executive support for new IT investment</td>
<td>Seek case studies of proven return on investment (ROI) and participate in AWS executive briefings</td>
<td>Executive support and appropriate funding</td>
</tr>
<tr>
<td></td>
<td>Unable to purchase required services</td>
<td>Use current services or create new contract</td>
<td>Ability to purchase all required services</td>
</tr>
<tr>
<td></td>
<td>Educate procurement and legal staff about new purchasing paradigms when procuring cloud services and tools¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limited confidence in cloud service capabilities</td>
<td>Execute one or more pilot/POC projects</td>
<td>Increased confidence and fewer concerns</td>
</tr>
<tr>
<td></td>
<td>No clear ownership or direction</td>
<td>Conduct a Kickoff and Discovery Workshop</td>
<td>IT ownership with clear strategy and direction</td>
</tr>
<tr>
<td><strong>Foundation</strong></td>
<td>Assigning the required resources to effectively drive the transformation</td>
<td>Conduct a People Model Workshop and establish a CCoE</td>
<td>Dedicated resources to define policies architecture</td>
</tr>
<tr>
<td></td>
<td>Lack of a detailed organizational transformation plan</td>
<td>Conduct a Governance Model Workshop and a Migration Jumpstart</td>
<td>Detailed plan for all aspects of the transformation (People, Process, and Technology)</td>
</tr>
<tr>
<td></td>
<td>Limited knowledge of security and compliance paradigms and requirements in the cloud</td>
<td>Conduct an AWS Security, Risk, and Compliance Workshop</td>
<td>Best practice security policies, architecture, and procedures</td>
</tr>
<tr>
<td></td>
<td>Cost and budget management requirements and concerns</td>
<td>Conduct an AWS Cost Model Workshop</td>
<td>Detailed TCO for proposed operating environment</td>
</tr>
<tr>
<td><strong>Migration</strong></td>
<td>Developing an effective and efficient migration strategy</td>
<td>Conduct an Application Portfolio Assessment Jumpstart</td>
<td>A migration strategy with a clear line of sight from current to target state environment</td>
</tr>
<tr>
<td>Maturity Stage</td>
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<td>Outcomes/Milestones of Maturity</td>
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<td>-------------------------------</td>
</tr>
<tr>
<td>Implementing an effective and efficient migration process</td>
<td>Select and implement best migration environment</td>
<td>A cost-efficient and effective application migration process</td>
<td></td>
</tr>
<tr>
<td>Managing environment efficiently and effectively</td>
<td>Select and implement best management environment</td>
<td>A cost-efficient and effective portfolio management with robust governance and security</td>
<td></td>
</tr>
<tr>
<td>Migrating all targeted applications (All-In) successfully</td>
<td>Migrate workloads using AWS/Partner implementation tools and services</td>
<td>All-in – organization achieving significant benefits</td>
<td></td>
</tr>
<tr>
<td>Optimization</td>
<td>Optimizing cost management</td>
<td>Leverage AWS tools and features to continuously improve operational costs (e.g., consolidated billing, Reserved Instances, discounts)</td>
<td>Focused and robust processes in place to continuously seek ways to optimize costs</td>
</tr>
<tr>
<td>Optimizing service management</td>
<td>Utilize latest AWS tools to continuously improve service management methods/processes</td>
<td>Fully optimized service management and increased customer satisfaction</td>
<td></td>
</tr>
<tr>
<td>Optimizing application management services</td>
<td>Utilize AWS best practices and tools (e.g., DevOps, CI/CD) to continuously improve application management methods/tools</td>
<td>Rigorous emphasis on optimized application management services</td>
<td></td>
</tr>
<tr>
<td>Optimizing enterprise services</td>
<td>Continuously seek ways to aggregate and improve shared services</td>
<td>Optimized enterprise services and customer satisfaction</td>
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</table>

**Project Stage**

The **project** stage begins the transformation journey for your organization. Organizations in this stage usually have limited knowledge of cloud services and their potential costs and benefits, and typically they 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**

Your organization needs to overcome the following key challenges and barriers during this stage of the transformation:

- **Limited knowledge and training** – IT staff and their internal customers are accustomed to the older model and related process of acquiring and consuming IT. Significant investment in training is required for IT staff and other business units 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 (that is, the other 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 it is ready to support the transformation effort. If your IT group resists change or isn’t 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 other business units set up their own IT operations. IT leaders have to gain control of 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. To get in touch with an AWS account manager, go to Contact Us.²

- **Raise the level of AWS awareness** – There are many AWS events,³ and education and training resources for your organization’s stakeholders including:
  - **AWS Business Essentials** – This training helps your IT business leaders and professionals understand the benefits of cloud computing from the strategic business value perspective. For more information, see the AWS Business Essentials website.⁴
  - **Online videos and hands-on labs** – AWS offers a series of free, on-demand instructional videos and labs to help you learn about AWS in minutes.⁵ In addition, qwikLABS provide hands-on practice with popular AWS Cloud services and real-world scenarios.⁶ To learn more about AWS services and features from AWS engineers and solutions architects, and to hear customer perspectives, visit the AWS YouTube Channel.⁷
  - **AWS Technical Essentials** – This training provides an overview of AWS services and solutions to your technical users to give them the information they need to make informed decisions about the IT solutions for your organization. For more information, see the AWS Technical Essentials website.⁸
  - **AWS whitepapers** – The comprehensive, online collection of AWS Whitepapers covers a broad range of technical topics, including best practices for solving business problems, architectures, security, compliance, and cloud economics.⁹
- **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 [AWS Training and Certification](https://aws.amazon.com/training/certification/) for more information.

<table>
<thead>
<tr>
<th>Role</th>
<th>Resources</th>
</tr>
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<tbody>
<tr>
<td>IT leadership team</td>
<td>AWS Business Essentials&lt;br&gt;Online Videos and Labs&lt;br&gt;AWS Whitepapers</td>
</tr>
<tr>
<td>IT staff</td>
<td>AWS Business Essentials&lt;br&gt;Online Videos and Labs&lt;br&gt;AWS Technical Essentials&lt;br&gt;AWS Whitepapers&lt;br&gt;AWS Training and Certification</td>
</tr>
<tr>
<td>IT customers</td>
<td>AWS Business Essentials&lt;br&gt;Online Videos and Labs&lt;br&gt;AWS Whitepapers</td>
</tr>
</tbody>
</table>

- **Secure executive support and funding** – AWS offers cost and value modeling workshops to provide you with estimated costs and strategic value so you can perform a cost-benefit analysis as a basis for securing executive support and funding. In addition, numerous [case studies](https://aws.amazon.com/cases/studies/) 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 AWS Cloud services](https://aws.amazon.com/cloud-cost-valuation/) the following ways:
  
  - **Direct purchase from AWS** – Start using AWS services within minutes by opening an account online in accordance with 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. For more information, see the AWS whitepaper, [Ten Considerations for a Cloud Procurement](https://aws.amazon.com/whitepapers/considerations-cloud-procurement/), the contracts webpage, [AWS Public Sector Contract Center](https://aws.amazon.com/publicsector/contracts/), or send an email to aws-wwps-contract-mgmt@amazon.com.
• **Execute a pilot or proof-of-concept (POC) project** – Most customers leverage one or more pilot or POC projects to test AWS implementation 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. For more information, see the [Partner Funding webpage](#).15

• **Conduct an IT Transformation Workshop** – This workshop enables rapid cloud adoption by showing you how to replace uncertainty with a vision and strategy on how to derive value from AWS. The workshop is an interactive, educational experience where you can clearly identify business drivers, objectives, and blockers. This helps you build a cloud adoption roadmap to guide you through the next steps in your journey to the cloud.

**Outcomes and Maturity**

Use the following key outcomes to measure your organization’s maturity and readiness to proceed to the **foundation** stage:

• **Effective use of AWS resources** – The AWS account manager works with your organization to coordinate the appropriate AWS professional services, onsite presentations and meetings, onsite training, web service accounts, and support.

• **Knowledgeable and trained organization** – Your IT leadership team is familiar with AWS, its costs and benefits, and transformation best practices. Key IT staff members have 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](https://aws.amazon.com/partner), or to put a new contract in place.16

• **IT staff confidence and true buy-in** – The POC was executed successfully and addressed the concerns of your key IT staff, whose complete 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

Your organization must overcome the following key challenges and barriers 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 concerning architecture, security, and governance. This can be challenging because IT organizations are constantly inundated with competing priorities related to managing the current environment. This situation 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.

- **Integrating 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.

- **Managing cost and budget** – IT organizations are challenged to develop a budget aligned with the OpEx model of utility computing, measurable benefit goals, and an effective cost-management process.

**Transformation Activities**

We recommend the following transformation activities to achieve the necessary outcomes before moving to the migration stage:

- **Establish a Cloud Center of Excellence (CCoE)** – AWS recommends strong governance practices using a CCoE. We recommend that you staff the CCoE gradually with a dedicated team that has the following core responsibilities:
  
  o Defining central policies and strategy
  
  o Providing support and knowledge transfer to business units using hybrid cloud solutions
  
  o Creating and provisioning AWS accounts for workload/program owners
  
  o Providing a central point of access control and security standards
  
  o 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 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. Prescriptive guidance enables you to adopt rigorous
methods for implementing security and compliance processes for systems and personnel.

- **Develop a value management plan** – Developing a robust value management model is a key activity that includes tactical benefits (cost management, prioritization of IT spending, and a system of allocating costs) and strategic value from the cloud (agility, time to market, ITaaS, innovation). When you have a plan you can focus on and prioritize initiatives (see Figure 2). For example, with AWS you can view specific IT operating costs and system performance data. AWS also enables allocation to specific business groups or specific applications in near real time.

![Figure 2: Strategic and tactical values of AWS adoption identified](image)

**Outcomes and Maturity**

Use the following key outcomes to measure your organization’s readiness to move to the **migration** stage:

- **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 that the cloud computing model is successful, whereas decentralized business units might be less effective if they don’t realize a direct benefit.

- Clear transformation roadmap – A transformation roadmap establishes a plan, identifies resources, and provides details about 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 determines and describes how you quantify value and identifies 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, and application failures. If the appropriate migration strategies, tools, and methods are not implemented, there is also a risk that customer confidence and support will diminish.

Challenges and Barriers

Your organization must overcome the following key challenges and barriers 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 ROI. Many ambitious IT projects fail because they are based on inappropriate strategies and plans. It’s critical to classify, sequence, and have an appropriate migration disposition for your targeted application workloads to ensure the 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 proven migration tools and methods is a key factor in your organization’s ability to minimize the risks associated with migrating targeted application workloads.

• **Setting up a cloud environment** – Your organization is challenged to implement a cloud environment that is controlled, sustainable, reliable, and 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 is that technical failures, unsustainable processes, and performance failures could create significant project delays and unplanned costs.

Transformation Activities

We recommend the following transformation activities to achieve the outcomes in this stage, and mature to the **optimization** stage:

• **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, rehost, replatform, repurchase, and refactor.
Table 3 describes the transformation impact of the 6 Rs in the order of their execution complexity.

**Table 3: Cloud migration strategies and corresponding levels of complexity for execution**

<table>
<thead>
<tr>
<th>Migration Pattern</th>
<th>Transformation Impact</th>
<th>Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refactoring</td>
<td>Rearchitecting 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.</td>
<td>High</td>
</tr>
<tr>
<td>Replatforming</td>
<td>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.</td>
<td>High</td>
</tr>
<tr>
<td>Repurchasing</td>
<td>A replacement through either procurement or upgrade. Disposal, commissioning, and decommissioning costs may be significant.</td>
<td>Medium</td>
</tr>
<tr>
<td>Rehosting</td>
<td>Typically referred to as <em>lift and shift</em> or <em>forklifting</em>. Automated and scripted migrations are highly effective.</td>
<td>Medium</td>
</tr>
<tr>
<td>Retiring</td>
<td>Decommission and archive data as necessary.</td>
<td>Low</td>
</tr>
<tr>
<td>Retaining</td>
<td>This is the <em>do nothing</em> option. Legacy costs remain and obsolescence costs typically increase over time.</td>
<td>Low</td>
</tr>
</tbody>
</table>
• **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 shows how you can migrate applications using AWS VM Import/Export 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 the principles of agile methodology to effectively execute and manage the migration of workloads from end to end. This requires that your organization plan, schedule, and execute migrations 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

Use the following key outcomes to measure your organization’s maturity in this stage, and assess the organization’s readiness to progress to the **optimization** stage:

• **All-in with AWS** – This means that the organization has declared that AWS is its primary cloud host for both legacy and new applications. This is a strategic, long-term direction from executive leadership to stop managing 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. To reach this stage, your organization has successfully migrated all targeted application workloads (that is, it is *all-in* on AWS) and is efficiently managing the AWS environment and service delivery process. This phase is an ongoing loop, not a destination. The objective of this phase is to optimize existing processes by lowering costs, improving service, and extending AWS value deeper into your organization. The focus on continuous service improvement enables 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

Your organization must overcome the following key challenges and barriers during this phase of the transformation journey:

- **Optimize costs** – Reducing and optimizing costs are not new challenges to the IT world. With AWS, your organization can finally realize those benefits. AWS and third-party providers frequently release new features and services, including various discounting/consumption-based models that you can evaluate for efficacy within your organization. For example, by evaluating application and database licensing fees that are often overlooked, your organization can realize significant cost-reduction opportunities available with 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 you can investigate to improve automation and repeatability of tasks.

- **Optimize application services** – Your organization will be challenged to continuously improve application services that you use to build and enhance applications. AWS and third-party providers frequently release new features and services that your organization can evaluate to further optimize 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 a rapid pace, adding services and features (e.g., managed databases, virtual desktop, email, and document management) that can simplify your enterprise services.

**Transformation Activities**

Your organization should complete the following transformation activities to achieve the outcomes that your organization needs to continuously maximize maturity and value:

• **Implement a continuous cost optimization process** – Either the designated resources on a 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 processes.

• **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. Your organization might not use the AWS fully managed application service solutions to migrate existing applications, but these services provide significant value in new application development. AWS application service offerings include the following:
  
  o **Amazon API Gateway** – A fully managed service that makes it easy for developers to create, publish, maintain, monitor, and secure APIs at any scale.
  
  o **Amazon AppStream 2.0** – Enables you to stream your existing Windows applications from the cloud, reaching more users on more devices, without code modifications.
Amazon Elasticsearch Service (Amazon ES) – This fully managed service makes it easy to deploy, operate, and scale Amazon ES for log analytics, full text search, application monitoring, and more.

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 (that is, transcode) media files from their source format into formats required by consumer playback devices, such as smartphones, tablets, and PCs.

- **Implement a continuous enterprise service optimization process** – AWS continually 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 maintenance overhead. For example, AWS enterprise services applications include:
  
  o **Amazon WorkSpaces** – A managed desktop cloud computing service.
  
  o **Amazon WorkDocs** – A fully managed, secure enterprise storage and sharing service with strong administrative controls and feedback capabilities that improve user productivity.
  
  o **Amazon WorkMail** – A secure, managed business email and calendar service with support for existing desktop and mobile email clients.

**Outcomes and Maturity**

Use the following transformation outcomes to measure your organization’s maturity as optimized and continuously maximizing maturity and value:

- **Optimized cost savings** – Your organization has an ongoing process and a team focused on continually 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 is unique. However, the challenges, corresponding actions, and outcomes achieved are similar. The AWS Cloud Transformation Maturity Model provides 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. Even in 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 IT organizational structure, the guidance provided in this paper can help you significantly reduce the risk and uncertainty in your organization’s cloud transformation initiative.

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<tr>
<td>September 2017</td>
<td>Updated content</td>
</tr>
<tr>
<td>September 2016</td>
<td>First publication</td>
</tr>
</tbody>
</table>

Notes

1 https://d0.awsstatic.com/whitepapers/10-considerations-for-a-cloud-procurement.pdf
2 https://aws.amazon.com/contact-us/
3 https://aws.amazon.com/about-aws/events/
4 https://aws.amazon.com/training/course-descriptions/business-essentials/
5 https://aws.amazon.com/training/intro_series/
6 https://qwiklabs.com/
7 https://www.youtube.com/user/AmazonWebServices
8 https://aws.amazon.com/training/course-descriptions/essentials/
9 https://aws.amazon.com/whitepapers/
10 https://aws.amazon.com/training/
11 https://aws.amazon.com/solutions/case-studies/
12 https://aws.amazon.com/how-to-buy/
13 https://d0.awsstatic.com/whitepapers/10-considerations-for-a-cloud-procurement.pdf
14 https://aws.amazon.com/contract-center/
15 https://aws.amazon.com/partners/funding-benefits/
16 https://aws.amazon.com/contract-center/