

# AWS Cloud Adoption Framework

Maturity Perspective

*December 2015*



© 2015, Amazon Web Services, Inc. or its affiliates. All rights reserved.

## Notices

This document is provided for informational purposes only. It represents AWS's current product offerings and practices as of the date of issue of this document, which are subject to change without notice. Customers are responsible for making their own independent assessment of the information in this document and any use of AWS's products or services, each of which is provided "as is" without warranty of any kind, whether express or implied. This document does not create any warranties, representations, contractual commitments, conditions, or assurances from AWS, its affiliates, suppliers, or licensors. The responsibilities and liabilities of AWS to its customers are controlled by AWS agreements, and this document is not part of, nor does it modify, any agreement between AWS and its customers.

# Contents

Abstract	4
Introduction	4
Maturity Perspective Components	5
Transformation Capability	8
Transformation and Migrations	8
Target Platform Capabilities	10
Considerations	12
Application Portfolio Analysis	14
Considerations	17
Cloud Maturity Heat Map	18
Considerations	20
Roadmap Sequencing	21
Considerations	23
Cloud Readiness Assessment	24
Considerations	25
IT Management Assessment	26
Considerations	27
AWS Cloud Maturity Tools	28
Well-Architected Program and Trusted Advisor	28
Conclusion	31
CAF Taxonomy and Terms	32
Notes	32

# Abstract

The Amazon Web Services (AWS) [Cloud Adoption Framework](#) (CAF)<sup>1</sup> provides best practices and prescriptive guidance to accelerate an organization's move to cloud computing. The CAF guidance is broken into a number of areas of focus that are relevant to implementing cloud-based IT systems. These focus areas are called *perspectives*. Each perspective is covered in a separate whitepaper. This whitepaper covers the Maturity Perspective, which focuses on assessing an organization's current state, identifying a future state, and creating roadmaps to achieve the future state of cloud adoption.

# Introduction

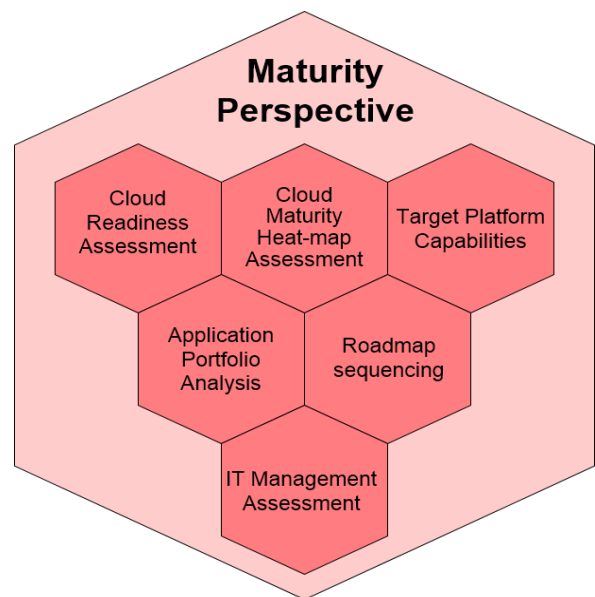
The Maturity perspective contains six components as depicted in **Error! Reference source not found.**

The focus of this perspective is on the progressive implementation of cloud-based IT capabilities in line with organizational maturity and goals.

The perspective and the six components typically align with work breakdown structures including milestones, inputs, outputs, deliverables, and decision points.

Organizations that are moving to the cloud typically establish a Cloud Center of Excellence (CCoE) to provide governance and to own the migration and transformation

program. The CCoE also allows dedicated personnel to undertake opportunistic and tactical projects that maximize the value an organization can derive from the cloud without disrupting the main program of work.



**Figure 1: Components of the Maturity Perspective**

You can use the Maturity Perspective to perform an initial baseline of the current state of your infrastructure, applications, and workloads. You then combine your business strategy and other internal change drivers with external drivers including market influences, regulatory constraints, and shareholder demands to define the future state that is right for your organization. You can use the components of the Maturity Perspective to define your desired target state and publish a viable roadmap. You can take advantage of automated asset and network discovery to minimize time to market for all transformations to the cloud whether “all-in” or hybrid. IT transformation becomes a key enabler that AWS and the AWS CAF use to support fast-paced migrations and transformations.

## Maturity Perspective Components

The following brief explanations introduce you to each component of the Maturity Perspective:

**Cloud Readiness Assessment**—Use this component to collect information and determine the readiness of your organization to move to the cloud, focusing on technology infrastructure, applications, and data. You should also capture information on your existing governance, risk management, and compliance processes to determine the impact on the migration or transformation.

**Cloud Maturity Heat-Map**—Use this component to consolidate the information gathered from all the components in the Maturity perspective. The heat map provides a summary of the analysis and recommendations. You determine the high-level prioritization of cloud adoption initiatives, their cost, and organizational impact.

**Target Platform Capabilities**—Use this component to define the capabilities of the target cloud platform, how you want to implement it and phase it based on current readiness and strategic goals. Organizations with existing IT capabilities will need to determine how their platform will evolve for cloud adoption: do you want to leverage existing technology systems and services in a hybrid environment or do you want to replace them with an all-in cloud environment?

**Application Portfolio Analysis**—Use this component to capture information on the portfolio of applications that the organization uses. Then you can use this

information to assess each application against pre-defined factors that include business value, functional fit, conformance to principles and standards, quality, risk, etc. Use this analysis to decide what you want to do for each application in the cloud adoption journey.

**Roadmap Sequencing**—Use this component to define the ordering of your initiatives, and dependencies among them, to achieve the goals set by the CCoE, steering committee, or program management team. Publish the roadmap for cloud adoption.

**IT Management Assessment** – Review existing IT management structures, practices, and processes. Provide support to the steering committee, program management team, and/or CCoE to manage the changes necessary for cloud adoption.

Table 1 lists the tools and activities included in the Maturity Perspective.

<b>Maturity Perspective Component</b>	<b>Decision Artifacts</b>
Cloud Readiness Assessment	Cloud Readiness Heat Map IT Management Deep Dive Heat Map Technology and Architecture Deep Dive Heat Map Governance, Risk, and Compliance (GRC) Deep Dive Heat Map
Cloud Maturity Heat Map Assessment	Maturity Heat Map Program of Work Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis
Target Platform Capabilities	Work Breakdown Structure Configuration Items Target SLAs/OLAs Technical Performance Measures
Application Portfolio Analysis	Auto Discovery Analysis For each major workload:- Application Migration Patterns and Lifecycles Application Migration Lifecycles
Roadmap Sequencing	Roadmap Sequence Diagram
IT Management Assessment	Change Management Plan Training Needs Analysis Migration/Transformation Schedule

**Table 1: Maturity Perspective Artifacts**

## Transformation Capability

The AWS CAF Maturity Perspective provides you with the planning, management, and decision tools you need for your cloud migration journey. These tools will be helpful when you are making decisions whether to build hybrid solutions, blend legacy and new solutions, or commit to a cloud-only solution.

The maturity perspective helps you consider your organization's capability to transform from its current state to the desired future state. You can determine your project teams' readiness to move to the cloud and your ideal transformation velocity and phasing by taking into account the maturity of your people, processes, tools, and technologies.

The AWS CAF is flexible and scalable for use with all migration and transformation types. Small migrations can be managed with ad hoc project management methodologies and common office productivity tools. Larger and more complex transformations typically require that your organization establish a Cloud Center of Excellence (CCOE) to provide program management, decision support, and to procure and maintain the necessary third-party discovery and migration tools needed to move hundreds or thousands of workloads to the cloud. In all cases, your goal is to drastically reduce both the time to market and time to value, while maintaining business and technology alignment.

## Transformation and Migrations

Cloud migrations can and should occur much faster than traditional hardware procurement and IT transformation cycles. The AWS CAF Maturity Perspective allows you to choose the way you want to migrate; for example, you can migrate in blocks, experiment in parallel with a major migration, or migrate in waves. The flexibility and scalability of the AWS cloud enables you to support additional business transformations, including moving from IT as a cost center and moving to DevOps as depicted in Figure 3.



## Client Example – Transformation Roadmap

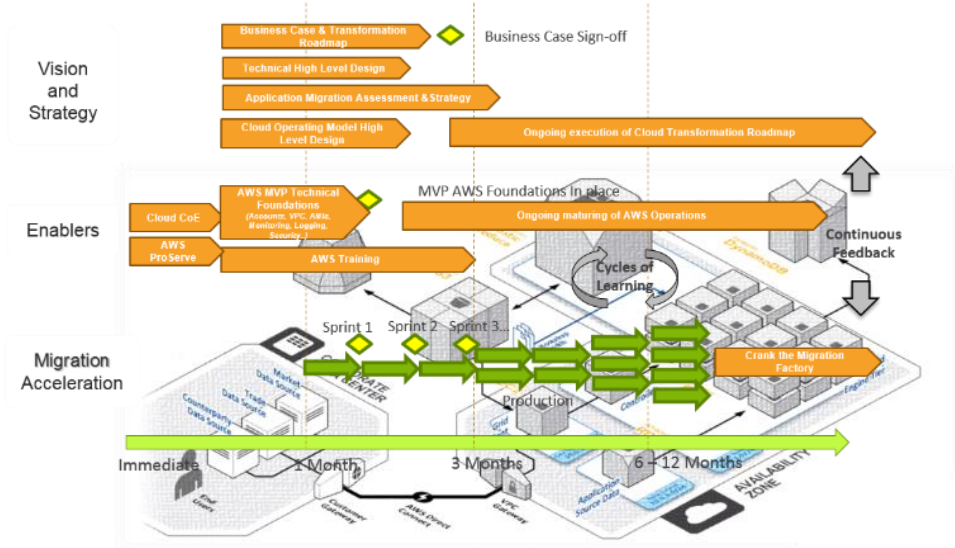


Figure 2: Example of a Transformation Roadmap

Hybrid cloud environments are more complex and more challenging to optimize than an all-in cloud transformation, due to duplication and more complex network infrastructure. The AWS CAF has successfully been used in enterprise-wide hybrid cloud environments and to build disaster recovery, bursting, and replications solutions.

Time to market and time to value increase substantially in hybrid cloud environments. The additional governance and infrastructure complexity is depicted in Figure 5. In these environments, additional complexity arises from the emergence of system of system level dependencies. Identity and Access Management is one example where hybrid environments are significantly more complex than in “all-in” cloud environments. The scope of compliance and audit activities increases in hybrid environments. Performance tuning, intrusion detection, and penetration testing are also more challenging. Consider making a CCoE mandatory to manage the additional risks posed by hybrid solutions. DevOps approaches and widespread automation of both infrastructure and workloads becomes necessary to mitigate these risks.

These additional risks span all four pillars of the AWS Well-Architected Program:

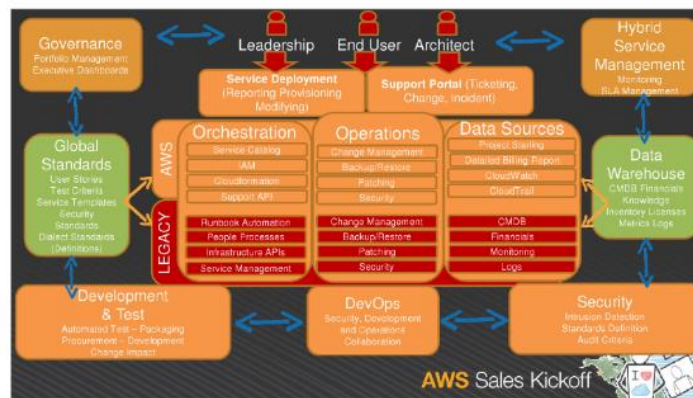


Figure 4: Hybrid Cloud Complexity

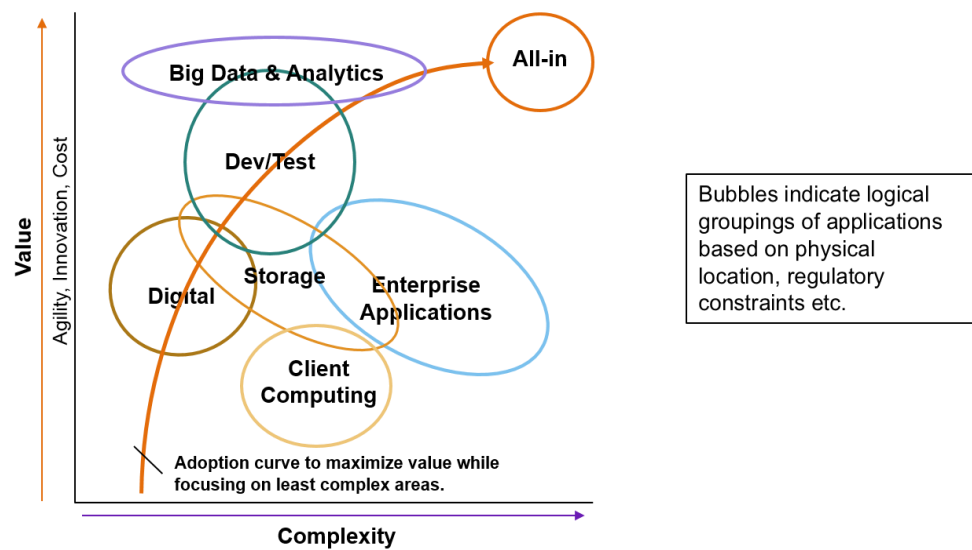
Performance, Reliability, Security, and Cost Efficiency. The Well-Architected Program is discussed later in this whitepaper.

## Target Platform Capabilities

The Target Platform Capabilities component of the AWS CAF Maturity perspective enables you to validate the business outcomes your organization is striving to achieve. A mature enterprise might have a well-defined end state when

it considers a move to the cloud. For a startup or disrupted organization, end-state capabilities might not be known at the beginning of the journey to the cloud. The flexibility, scalability, and cost-effectiveness of the cloud allows for experimentation and validated learning during the journey, as illustrated in Figure 6.

### Cost-Benefit Analysis Determines Migration Approach



**Figure 5: Future State Cost-Benefit Tradeoff**

Organizations that have traditional inflexible IT capabilities need to determine how their platform will evolve for cloud adoption. Do you want to leverage existing technology systems and services in a hybrid environment, or do you want to replace these systems and services with an “all-in” cloud solution? Use a sourcing strategy to separate sourcing from hosting. The traditional CapEx and OpEx make, buy, lease, and rent procurement decisions remain, but the speed and scale at which workloads can be delivered can be radically compressed when you move to the cloud.

The opportunities and challenges posed by bimodal IT cannot be underestimated. Experimentation and validated learning is an important tactic you can use to unblock and accelerate transformations. Strictly adhering to AWS cloud design principles, set forth in Table 2, can reduce the risk and improve the time to market and value of each migration and transformation. You can also use the

AWS Well-Architected Review and AWS Trusted Advisor to assess the architectural design of your solution and find opportunities to save money, improve system performance and reliability, and help close security gaps.

AWS Cloud Design Principles <sup>2</sup>
Design for failure and nothing will fail.
Decouple your components.
Keep dynamic data closer to the compute and static data closer to the end user.
Implement elasticity.
Implement security in layers.
Don't fear constraints.

**Table 2: AWS Cloud Design Principles**

Focus the portfolio management of the transforming environment and the future state IT environment on the transition to operations and not just on the software development life cycle (SDLC). Consider incorporating the AWS cloud design principles into the overall governance and management approach used by your organization. As part of that, setting governance to create and maintain a service catalog that development teams leverage first will drive efficiency, flexibility, and speed of delivery. The service catalog requires a description of the target platform in three key areas:

- Technical design and implementation
- Security monitoring and performance management
- Operations and support

As your environment evolves toward the cloud, identify key performance indicators (KPIs) to ensure that the environment is continuously tuned and improved to provide the greatest business value. You can track technical performance measures, KPIs, service-level agreements (SLAs), and operational-level agreements (OLAs) from day one by automating the collection and display of key parameters to enable the glide path or burn down you want to use as a project management tool.

### Considerations

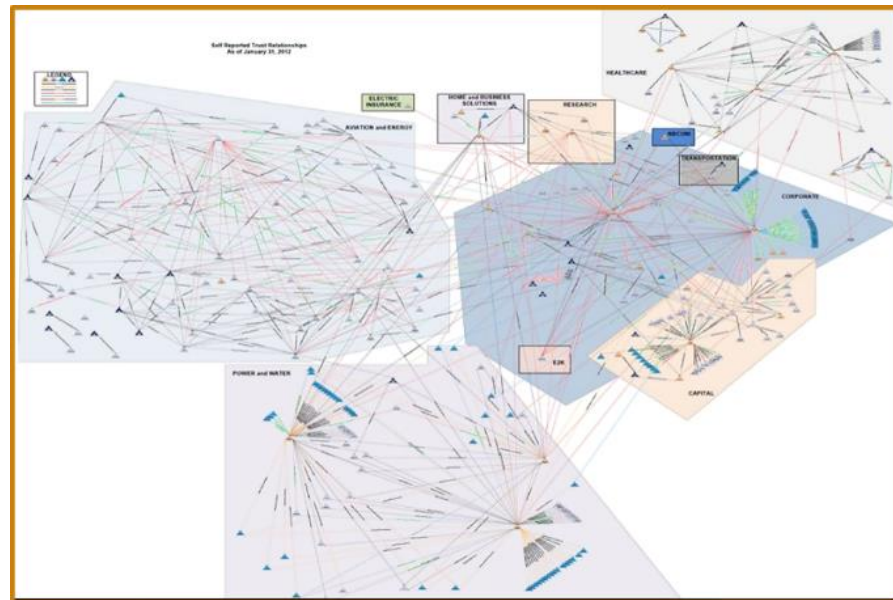
- **Do** incorporate service-oriented architecture (SOA) and cloud-specific principles into management and governance principles.

- **Do** focus first initiatives on providing the shortest time to value.
- **Do** link the target platform capabilities to business objectives.
- **Do** complete a well-architected assessment regularly to maintain business alignment and delivery of expected levels of systemic quality.
- **Do** think about the whole environment, including the production, development, and test environments needed to support solutions.
- **Do** use bimodal IT to unleash an environment where experimentation and validated learning dominates. Many good ideas flow from the bottom up and from end users and customers.
- **Do not** just recreate your existing environment in the cloud. Consider taking the first steps toward decomposing the environment to provide greater flexibility as you move to the cloud.
- **Do not** attempt to perform an exhaustive application portfolio analysis. Consider assessing a smaller list of the top applications that you expect will provide the greatest return.
- **Do not** have hosting discussions prior to sourcing discussions. Consider making the hosting decisions dependent on and aligned with the sourcing decision.
- **Do not** allow traditional review and approval processes to be blockers or to slow down the pace of transformation.

# Application Portfolio Analysis

The Application Portfolio Analysis component of the AWS CAF Maturity perspective can be used to capture information on the portfolio of applications and workloads that are candidates for cloud adoption. Assess each application against pre-defined factors such as business value, functional fit, conformance to principles and standards, quality, risk, etc.

The goal of application portfolio analysis is to collect and analyze all or a portion of the portfolio of applications to determine which applications should move to the cloud, the order in which they should move, and the goal of each application migration. In most enterprise transformations, the complexity of the existing environment typically mandates specialist discovery and migration approaches. Figure 7 illustrates this complexity.



**Figure 6: Example of Current State Complexity**

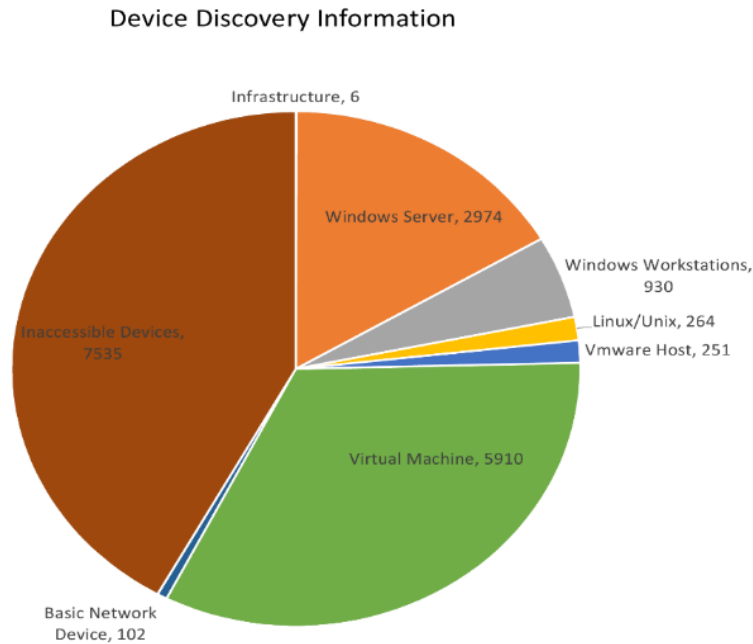
AWS and its partners have a range of specialist methods and tools to conduct auto discovery and to process migration waves. There are many ways to select the workloads you want to migrate. For example, the focus could be on a specific line of business, strategic outsourcing, tactical pivots, a few mission critical applications that are high cost and high value, or a few low risk applications.

Organize applications into logical groupings for the assessment. These logical groupings will typically align with the application migration pattern of replatform, retire, retain, repurchase, rehost, or refactor, as spelled out in Table 3. These groupings are sometimes referred to as the “Six Rs.”

Migration Pattern	Transformation Impact	Relative Transformation Complexity
Refactoring	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
Replatforming	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
Repurchasing	Either a replacement through procurement or/and upgrade. Disposal, commissioning and decommissioning costs may be significant.	Med
Rehosting	Typically referred to as “lift and shift” or “forklifting.” Automated and scripted migrations are highly effective	Med
Retiring	Decommission and archive data as necessary.	Low
Retaining	This is the “do nothing” option. Legacy costs remain and obsolescence costs typically increase over time.	Low

**Table 1: Application Migration Pattern**

Figure 8 shows an example portfolio analysis with workload metadata. Typically, auto discovery finds additional workloads, dependencies, and infrastructure.



**Figure 7: Application Discovery Grouping**

Auto discovery tools provide detailed information about the existing infrastructure, its dependencies, and configuration. You can use these tools in roadmap sequencing and migration wave planning. Table 4 shows an example sampling.

Sampling of Application Discovery

Application(s)	Instances	Workloads Running
Microsoft SQL Server	294	1503
Microsoft IIS	358	1121
PostgreSQL	7	10
Exchange Server	2	29
Citrix Xenapp	1	91

**Table 4: Example Sampling of Application Discovery**



## Considerations

- **Do** assess your applications based on the “Six Rs.” Think in terms of migration waves, and don’t wait for a big bang migration. Start small, start now, and gain momentum.
- **Do** use the consistency of the application portfolio analysis to help with portfolio governance. Minimize the scope of compliance environments when refactoring, replatforming, or repurchasing.
- **Do** leverage automated discovery tools to conduct portfolio inventory where possible.
- **Do not** attempt a complete analysis of your entire portfolio. Consider selecting a subset of the portfolio to quickly start your initiative while you are gathering additional insight on the current state.
- **Do not** start an assessment prior to articulating the assessment criteria. Consider determining which criteria will be used for evaluation and gain agreement they will provide the right data needed to migrate applications.
- **Do not** just rely on existing asset configuration management databases (CMDBs). Auto discovery always discovers more workloads and dependencies than previously thought.

# Cloud Maturity Heat Map

The Cloud Maturity Heat Map component of the AWS CAF Maturity perspective can be used to consolidate views of your environment and highlight areas your organization needs to focus on to achieve business and technology objectives. You determine the high-level prioritization of cloud adoption initiatives and their cost and impact on the organization. The goal of completing a heat map assessment is to capture insight into the areas that require review and potentially need to change so your organization can adopt AWS services with minimum disruption to

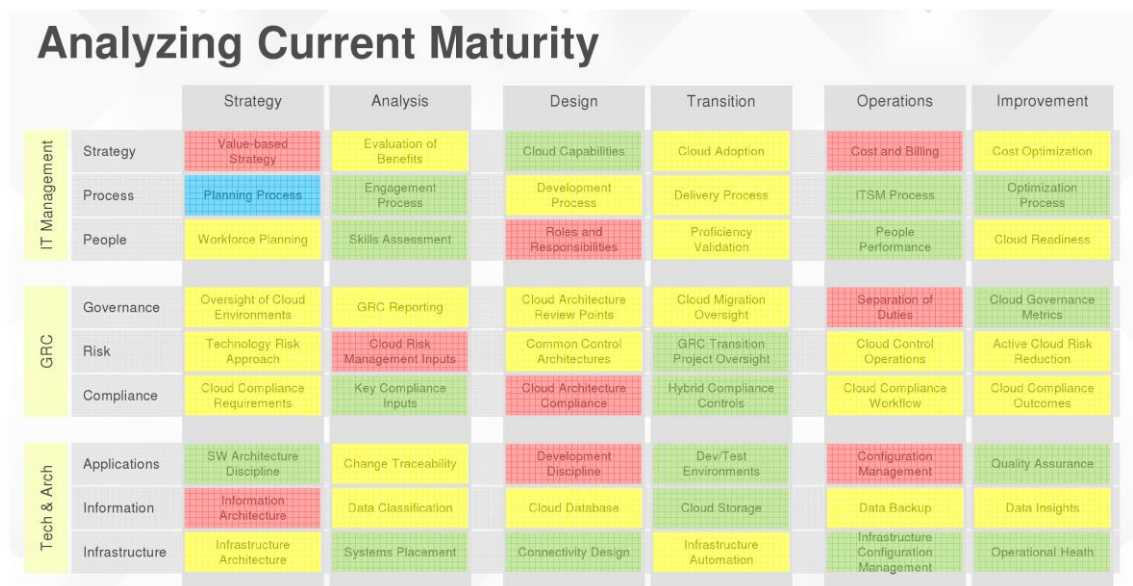


Figure 8: Example Maturity Heat Map

the organization. Figure 9 shows an example heat map.

The heat map provides three key areas of assessment:

- IT management
- Governance, risk, and compliance (GRC)
- Technology and architecture

Since cloud-based technology and architecture are more flexible, scalable, and cost efficient than traditional technology and architecture, new ways of thinking are needed to maximize the realization of value. Consider adopting a DevOps approach to maximize the quality and effectiveness of your transformation and

the enduring capabilities. In addition, consider ways that you can minimize bureaucracy. Figure 10 lays out cloud adoption skills in six key areas. As you

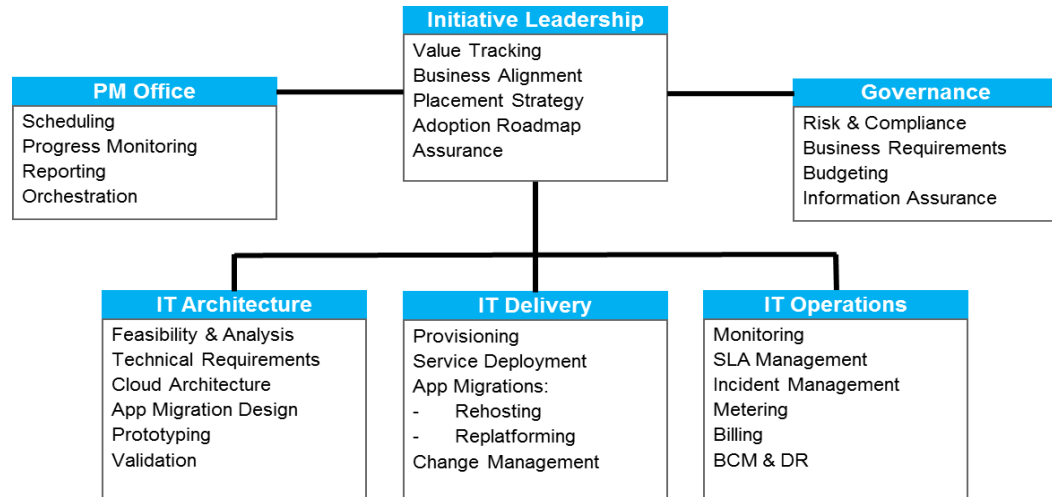


Figure 9: Cloud Adoption Skills

migrate to the cloud, begin to think in terms of how cloud technologies are optimally architected and operated to deliver value to the business.

During an IT management assessment, you evaluate value, process, and people to determine how your organization is positioned for cloud adoption. For example, to what level is cloud included in strategy development? Is there a continuous review of planning, estimations, and outcomes? Is the capacity and capability of your IT workforce linked to cloud adoption?

For a Governance, Risk, and Compliance (GRC) assessment, you evaluate value, process, and people to determine how current GRC practices are positioned for cloud adoption. Here are a few example questions: Do you have a single, holistic governance framework? Have you described cloud-based usage? Is technology risk-managed across the enterprise? Is compliance based on key business success factors?

For technology and architecture, you evaluate how information and applications are being managed, and you evaluate their readiness for cloud adoption. For example, are application architecture decisions and constraints created with business, application development, and operations teams? Are your data and information architecture integrated with your infrastructure and solution

architecture? Is there a unified architecture discipline that spans across business units, development, and operations?

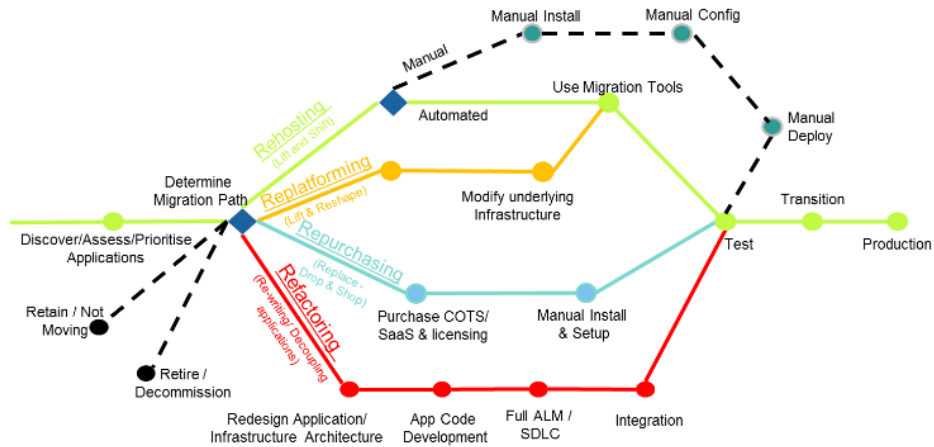
Your organization can use the results of these assessments to create and sequence roadmaps, and inform your cloud readiness and IT management assessments.

## Considerations

- **Do** limit the time spent performing assessments. The time this should take days and not weeks.
- **Do** leverage target platform capabilities to establish the scope of the assessment.
- **Do** make analysis and planning a collective effort with a small group of people, the CCoE, that represents the whole organization.
- **Do** encourage experiments and validated learning early in the transformation lifecycle.
- **Do not** try to use the AWS maturity assessment to attempt to measure your organization against other companies or an industry standard.
- **Do not** over formalize your Work Breakdown Structures (WBS) and project plans. Allow time for experimentation and validated learning to identify opportunities to reduce time to market.
- **Do not** underestimate the big picture clarity that the AWS Well-Architected Program provides.

# Roadmap Sequencing

The Roadmap Sequencing component of the AWS CAF Maturity perspective can be used to define the ordering of all the required initiatives, and any dependencies among them, that are necessary to achieve the goals of cloud adoption. You can use this information to create the roadmap for execution.



**Figure 10: Application Migration Lifecycle**

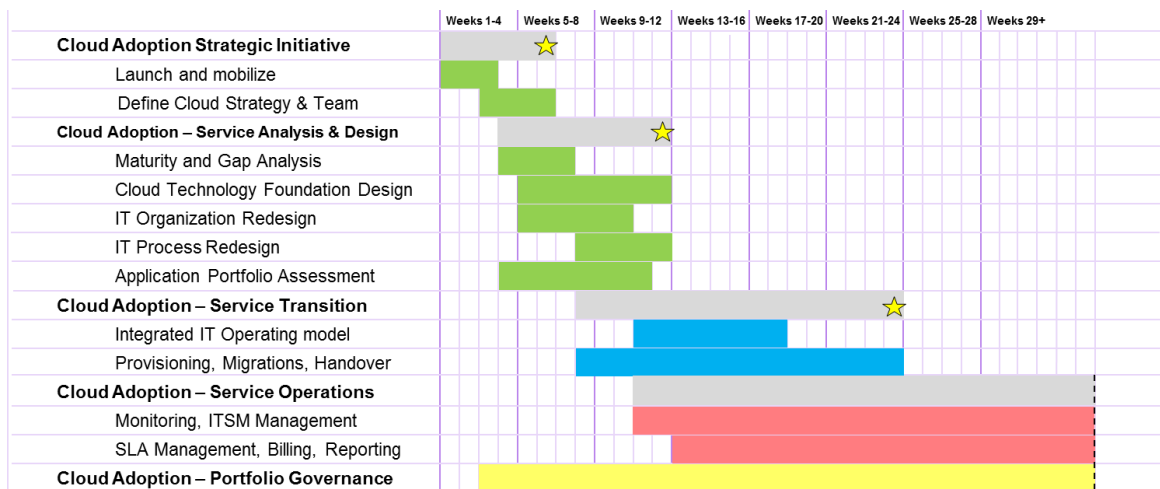
Figure 11 depicts the application migration lifecycle using the six Rs. All transformations occur using one or more of the six Rs. They provide for logical groupings of migration waves that are aligned with the business to minimize disruption and time to value.

Table 5 lists typical roadmap sequences and gives you key activities for each phase in your portfolio.

Phase	Activity
Service Analysis and Design	Identify as-is assets and their configuration. Bare metal and VMs.
Service Transition	Monitor a migration either hybrid or “all-in” on the cloud for the entire migration duration. Strike baselines and run diffs to monitor progress of the evolving architecture. Dev to QA to Prod etc.
Service Transition	Explore before, during, and after migration to identify security vulnerabilities, misconfiguration and under/over utilized assets.
Service Operations	Implement a “log everything” pattern. Integrate security, performance optimization, logging, and compliance.
Portfolio Governance	Conduct TCO optimization, manage obsolescence, and implement enhancements to minimize time to market and time to value.

**Table 2: Roadmap Sequencing Phases**

The timeline should be governed by the organization’s rhythm; if you can establish a bimodal environment, you can use the two modes (fast/agile and slow/serial) to move different capabilities to the cloud at different speeds. Figure 12 shows typical overlapping timeframes on a cloud adoption roadmap. When you use automation and treat infrastructure as code to improve the efficiency and



**Figure 11: Cloud Adoption Roadmap**

quality of migrations and transformations you can increase the velocity of change

to the AWS cloud. This also sets the expectation that initiatives and priorities will change as more information is uncovered.

## Considerations

- **Do** focus on delivering business value rather than focusing on technical change.
- **Do** roll out your plan in waves to maintain flexibility and best use insight uncovered during other programs and projects.
- **Do** validate the roadmap with business sponsors regularly. This provides a feedback loop from project execution to project planning to ensure that business outcomes remain the top priority.
- **Do** integrate (when possible) with current business initiatives rather than making your cloud adoption initiatives separate.
- **Do** leverage the AWS Well-Architected Program to gain clarity and verify your solution design.
- **Do not** attempt to represent all active programs and projects.
- **Do not** over plan before experimenting with migration waves. Learn by doing.
- **Do not** underestimate the importance of using a Cloud Center of Excellence (CCoE) to manage the risk and emergent opportunities of a migration or transformation.

# Cloud Readiness Assessment

The Cloud Readiness Assessment component of the AWS CAF Maturity perspective extends the Heat Map Analysis to determine the readiness of an organization to move to the cloud, focusing on IT management, governance, and technology and architecture as shown in Figure 13. Consider resourcing and staffing a Cloud Center of Excellence (CCoE) to ensure that your organization maintains a business-as-usual posture while rapidly iterating to the cloud.

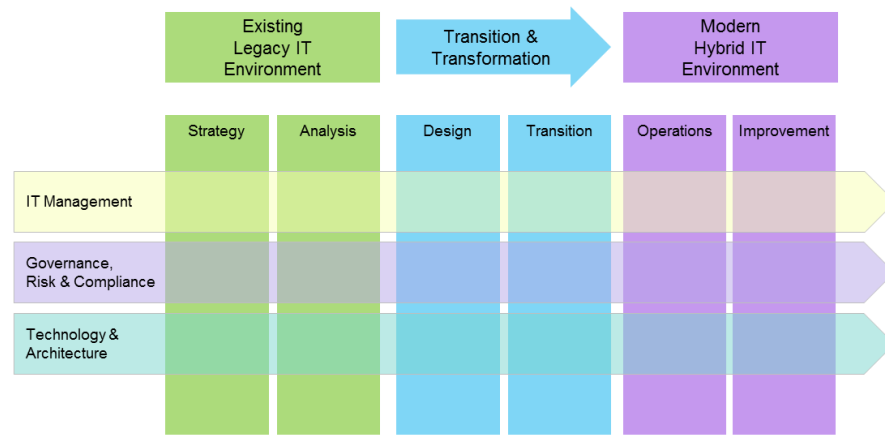


Figure 12: Cloud Readiness Matrix

You use the heat map to review your current maturity, and you use the cloud readiness assessment to focus on addressing gaps that the analysis of your current environment and your currently proposed programs and projects has highlighted. This gives you the opportunity to develop a mitigation strategy to address the areas at risk of failure during cloud adoption efforts. Pivoting and opportunistic transformation then become possible as means to recover value.

Focus on the “hot” areas of the heat map to generate a mitigation strategy you can use as recommendations for moving forward with a cloud adoption strategy. For example, if the GRC analysis indicates a red status for compliance under operations, you would develop a set of recommendations and a mitigation strategy to shift the status from red to green.

The recommendations you create using the heat map and the cloud readiness matrix are not existing parts of programs or projects. You can use these recommendations to mitigate or remove risk and to evaluate programs and projects in flight to identify and mitigate problems as early as possible.



## Considerations

- **Do** use the output from the target platform, application portfolio analysis, and heat map efforts as inputs to cloud readiness assessment.
- **Do** revisit the readiness assessment regularly to update and change plans as you gain new insight.
- **Do** use the insights discovered during readiness assessment to help with roadmap sequencing and prioritization.
- **Do** be flexible. Use experimentation and validated learning to pivot and refocus to minimize time to market and time to value.
- **Do not** perform detailed and exhaustive assessments early in the migration. Consider focusing on the most important areas that need addressing, and use additional insight gleaned to determine next steps.

# IT Management Assessment

The IT Management Assessment component of the AWS CAF Maturity perspective gives you guidance by capturing relevant information on existing IT management structures, practices, and processes that might need to change for cloud adoption.

As your organization prepares to start the journey to the cloud, senior leaders need to engage with all stakeholders to manage blockers and other risk-increasing processes, bureaucracy, and business components. Typically, an organization forms a CCOE to manage the change and transformation, the organization will experience during the transformation. The CCoE provides communication to all stakeholders and manages expectations through regular communication of value realized.

The tactical and strategic factors addressed by the IT Management Assessment component are set out in Figure 14.

## Value Model

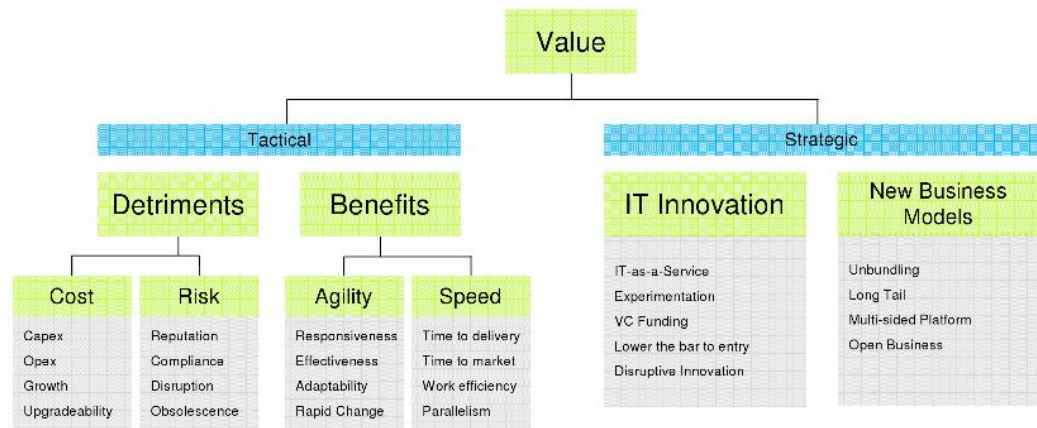


Figure 14: Value Model Hierarchy

## Considerations

- **Do** incorporate SOA and cloud-specific principles into management and governance principles.
- **Do** focus first initiatives on providing the shortest time to value.
- **Do** link the target platform capabilities to business objectives.
- **Do** use the Well-Architected Program to complete regular assessments to highlight progress toward business goals and quality objectives.
- **Do** think about the whole environment, which includes the production, development, and test environments.
- **Do not** attempt to perform an exhaustive application portfolio analysis. Consider assessing a smaller list of the top applications that are expected to provide the greatest return.
- **Do not** just recreate your existing environment in the cloud. Consider taking the first steps toward decomposing the environment to provide greater flexibility and experience growth.
- **Do not** have hosting discussions prior to sourcing discussions. Consider making the hosting decisions dependent upon and aligned to the sourcing decision.
- **Do not** solely rely on rigid plans and milestones as measures of success. Keep focused on time to market and time to value.
- **Do not** wait for all stakeholders to fully define their needs and requirements. Start experimenting early.

# AWS Cloud Maturity Tools

## Well-Architected Program and Trusted Advisor

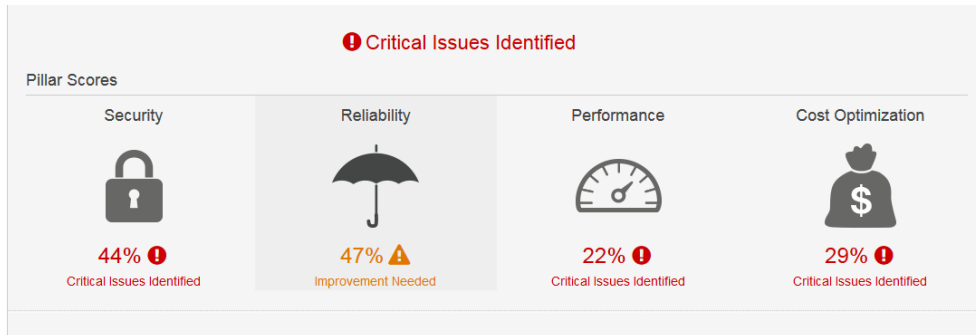
The Well-Architected Program is an AWS offering, unique in the cloud industry, which gives customers access to the knowledge developed over thousands of architectural reviews with customers to ensure that they are aware of best practices and understand how to reduce architectural risk. You can use the Well-Architected Program to reduce risk, whether the risk is on an existing application workload, a new application about to be launched on AWS, or an entire transformation. This program highlights the partnership approach that AWS takes with customers to ensure their success.

The Well-Architected Program is delivered as either an AWS-facilitated Well-Architected Review or a self-service assessment through the Trusted Advisor link on each AWS account. The Well-Architected Review focuses on the four best practice pillars described in Table 6.

Pillar Name	Pillar Definition
Reliability	Ensure a given system is architected to aid in recovering from failures, handling increased demand, and mitigating disruptions.
Security	Leverage best practices to protect data and assets in the AWS cloud.
Performance Efficiency	Establish that a given set of resources is architected to deliver efficient performance.
Cost Optimization	Understand, control, and reduce costs while achieving objectives.

**Table 3 - Pillars of the Well-Architected Program**

During the review, your key business stakeholders and technical experts will work directly with a certified AWS Solutions Architect or Professional Services Consultant to validate that the workload follows AWS best practices and initiate invaluable business and technical conversations across multiple organizations within the organization. A typical high-level summary of a Well-Architected Review is depicted in Figure 15.



**Figure 13: Example of Well-Architected Review Summary**

You can use the Well-Architected Program as a phase review tool at key migration and transformation milestones. The review provides a status of the whole system that complements readiness and major functional reviews. The review supports both waterfall and agile projects and the program management delivery methods used in each project type. Figure 16 illustrates a roadmap for an AWS Well-Architected Review.

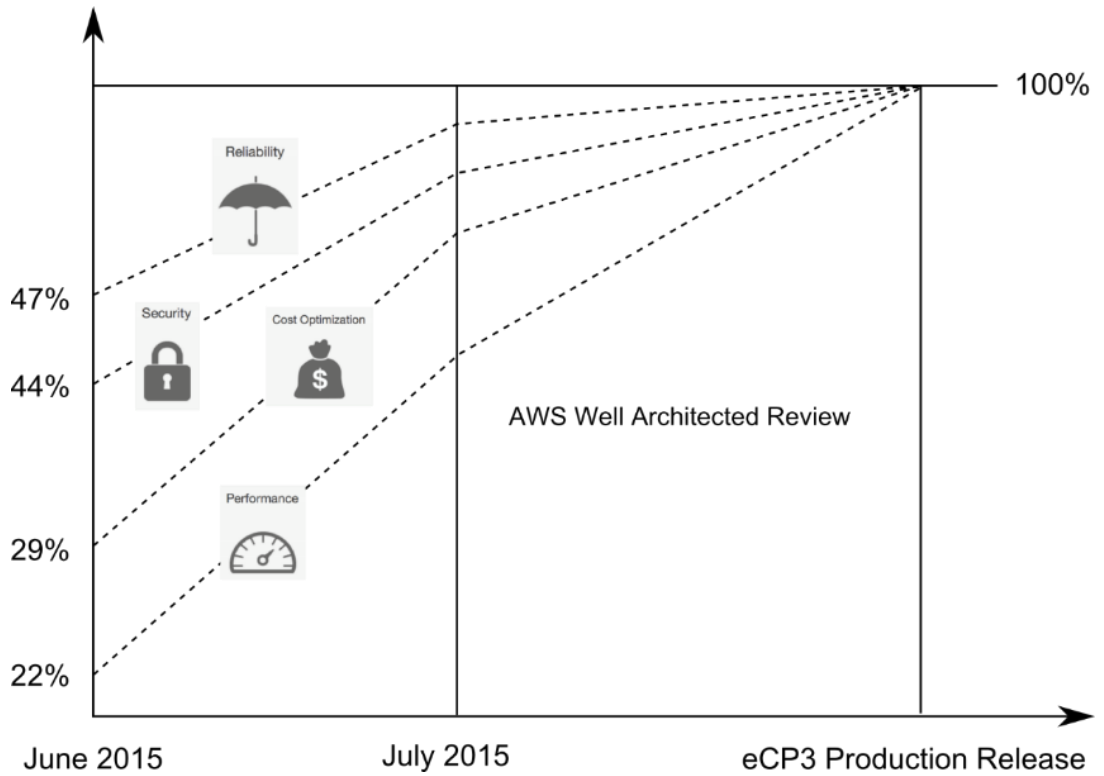


Figure 14: Well-Architected Roadmap

## Conclusion

The speed at which an organization can migrate to the cloud is not constrained by the timelines necessary to procure and prepare on-premises datacenter environments. For example, using AWS automation services, including AWS CloudFormation templates, an entire data center can be created in just minutes. Be aware that hybrid solutions are inherently complex and pose constraints on workload optimization and in maximizing business value.

Any organization considering a move to the cloud needs to understand the need for experimentation and validated learning to fully realize the benefits of cloud computing. Outdated business culture and process are often blockers to successful cloud migrations and transformations. When you take advantage of agile and lean ways of working, such as automation and infrastructure as code, you could drastically minimize time to market and time to value. Consider using a bimodal approach to IT, which can help minimize disruption to the organization while moving rapidly forward. Establish a Cloud Center of Excellence (CCoE) to find the right balance between the fast and slow modes and lessen the friction on your journey to the cloud. Use the AWS Well-Architected Program reviews to learn both best practices and ways to avoid risk.

## CAF Taxonomy and Terms

The Cloud Adoption Framework (CAF) is the framework AWS created to capture guidance and best practices from previous customer engagements. A CAF *perspective* represents an area of focus relevant to implementing cloud-based IT systems in organizations. For example, the Maturity perspective takes in to account the maturity of your people, processes, tools, and technology and provides guidance for determining your organization's readiness to move from its current state to the cloud.

Each CAF Perspective is made up of components and activities. A *component* is a sub-area of a perspective that represents a specific aspect that needs attention. This whitepaper explores the components of the Maturity perspective. An *activity* provides prescriptive guidance for creating actionable plans that the organization uses to move to the cloud and to operate cloud-based solutions.

For example, *Application Portfolio Analysis* is one component of the Maturity perspective and creating application migration patterns for each major workload may be an activity within the component.

When combined, the Cloud Adoption Framework (CAF) and the Cloud Adoption Methodology (CAM) can be used as guidance during your journey to the AWS cloud.

## Notes

<sup>1</sup> [https://do.awsstatic.com/whitepapers/aws\\_cloud\\_adoption\\_framework.pdf](https://do.awsstatic.com/whitepapers/aws_cloud_adoption_framework.pdf)

<sup>2</sup> [https://media.amazonwebservices.com/AWS\\_Cloud\\_Best\\_Practices.pdf](https://media.amazonwebservices.com/AWS_Cloud_Best_Practices.pdf)