Migrating to AWS

Leveraging AWS Marketplace ISV solutions to accelerate your journey to the cloud

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Introduction: Preparing for a Migration Project

Organizations commit to cloud migration for a number of reasons. Among these are a desire to consolidate data centers, drive agility or developer productivity, reduce costs, or deal with concerns such as a lease expiring at a data center. Once the commitment has been made to move to the cloud, organizations are faced with challenges around migrating on-premises IT infrastructure and applications. There are also decisions to be made for selecting the correct migration strategy for a move to the cloud, and whether you should rehost, replatform, retain, refactor, retire, or repurchase. In addition, your organization may be challenged by updating your workforce with the applicable training and adoption of new processes that may be required for cloud adoption. Because these factors can present financial constraints. Another concern is the reconciliation of investments in existing software assets and legacy portfolios, and how these can be preserved during and after migration. There is also the need to address security issues in a new environment, a possible challenge because on-premises security strategies do not always transition smoothly to the cloud.

AWS Technology Partner solutions available through AWS Marketplace can help to overcome a number of these challenges, and present approaches to smooth the transition to the cloud, as well as ensure the transformation is done effectively, securely, and at scale.

Migration to Amazon Web Services (AWS) typically involves moving a meaningful portion of your organization’s existing IT assets to the cloud. This might consist of a data center (data centers), a business unit, or a portfolio of applications. While every organization’s journey to the cloud is unique, there are some common, known challenges in the migration process that AWS Marketplace can help to address.

Migration Challenges

The two biggest obstacles organizations often faced when considering a move to the cloud are lack of skills required to undertake such a project, and embracing the implementation of new, cloud-based operations processes. The detailed analysis required to perform a thorough discovery process on an existing data center, coupled with the need to adopt more agile processes to successfully migrate, can be daunting. To successfully realize your cloud adoption goals, you need to understand your organization’s current environment, define its target state, and map the transition requirements to achieve the target state. A valuable resource to consider during this process is the AWS Cloud Adoption Framework (AWS CAF).

In addition, based on our extensive customer engagement experience, we have discovered that the assistance and guidance available from AWS Professional Services, migration partners, and our AWS Technology Partner solutions in AWS Marketplace, smooth the cloud adoption process. The assistance available from these resources can help your organization avoid potential pitfalls in the migration process, from discovery and planning through the actual move to the cloud, and address your organization’s specific needs.
For example, if your company has the available personnel and knowledge to successfully migrate databases to AWS, but is uncertain about how to develop a storage solution on the cloud, they can find offerings available in AWS Marketplace. Applying the expertise of these ISV solutions in certain scenarios can not only reduce risk, but also save your organization time and money.

**Migration Acceleration Program**

Working with numerous customers to migrate their IT assets to the cloud, AWS teams have developed insights and principles to assist in planning and implementing a successful migration to the cloud. The [AWS Migration Acceleration Program (MAP)](https://aws.amazon.com/migration-acceleration-program/) includes a migration process and a framework for evaluating and selecting application migration strategies. The process and the framework broadly encompass the organizational change management and technical implementation involved for an organization to successfully migrate to AWS.

While there is no one-size-fits-all approach, common steps are found in each successful migration. Furthermore, while migration to AWS is broad and unique to each organization, a common pattern of decisions has emerged, consistent across many customer experiences. One common set of decisions involves selecting and deploying ISV solutions in the migration process. Ideally, the selection is done early on, to minimize delays and retrofitting in the advanced stages of migration.

AWS Marketplace offers the ability to easily integrate popular industry vendor software and processes, and build them into your new or existing cloud environments, or select from a range of new offerings. It is a public software catalog designed to make it easy to procure, deploy, and manage third-party software solutions. Customers can optimize deployment of existing licenses by selecting the available bring your own license (BYOL) pricing model that includes pre-configured AWS Machine Instances (AMIs) in AWS Marketplace. Your organization can also choose to procure solutions in several deployment modes, including AMIs and SaaS. Decisions about whether to use solutions found in AWS Marketplace arise at several points in the migration process.

As your organization takes its first steps in the migration process, you will want to understand the performance, dependency, and financial implications of every workload that is running in your data center. One of the biggest challenges that emerges is incomplete knowledge about what is running in on-premises environments, as well as the dependencies within legacy IT portfolios that are often difficult to identify without thorough analysis.

Automating the discovery process to gain a view of every workload in your data center allows your organization to prioritize your IT assets, and simplify the process of determining what needs to be moved when. It provides better insight on dependencies and makes it easier to determine the impact of moving specific portions of your portfolio together or separately. Automatic discovery information is used to estimate the required sizing and costs of the AWS services that will be utilized. Numerous discovery and migration tools developed by ISVs are available in AWS Marketplace to provide an all-encompassing view of the workloads in your data center before cloud migration begins.

Once your organization has gained full visibility of all the assets in your on-premises IT portfolio and has begun planning the initial stages of actually migrating applications to the cloud, you will want
to ensure you have the proper guidance to establish a Landing zone on AWS. The Landing zone is a configured, secure multi-account cloud environment based on best practices, and it serves as a starting point for your move. Establishing a Landing zone provides your organization a chance to gain initial experience with the migration process, and gain confidence in your ability to successfully undertake cloud adoption through a process of iteration and extension over time.

As the planning of the actual migration phases begins, and application workloads are moved to the cloud, it is important to be aware of the importance of establishing a Landing zone on AWS, and understand how this can smooth the transition. Many solutions are available in AWS Marketplace to assist in establishing a Landing zone for your apps, and determining the best way to meet your networking and storage needs. More details on establishing an effective Landing zone are available below.

In the following pages, we explore how ISV solutions available in AWS Marketplace provide flexible choices for your migration and fit in each of these key areas – discovery and migration tools, Landing zone, security foundation – and how these apply to overall operations.

**Discovery and Migration Tools**

![Diagram of Discovery, Migration, and Cloud Adoption Processes]

Begin your migration to AWS by understanding your on-premises infrastructure. Discovery tools identify and capture relevant information about applications, systems, and infrastructure. Migration tools automate and ease the movement of specific workloads, such as databases. Discovery and migration tools available in AWS Marketplace measure existing workloads in your data center, project the optimal sizing in the cloud to support performance goals, and support the migration process by suggesting the right configuration for the new environment. All migration tools share common goals: to facilitate a migration to AWS by minimizing downtime and application workload impact.
Discovery tools will help you understand the efficiency and output of every workload you have running on-premises, and deliver analytics-drive recommendations. Starting the migration process with infrastructure analysis provides a detailed look at workload interdependencies, and interconnected network traffic between the different workloads—a complete picture of your on-premises environment.

Migration tools in AWS Marketplace can be used to auto-migrate live workloads directly to AWS from your on-premises data center, and offer auto-provisioning for migration control on all AWS supported operating systems. Features of these migration tools include the ability to create a replica of an entire workload or application with the latest configuration and storage data, and then run tests to ensure the replica works properly. When the workload or application are ready to move the cloud, you can create an up-to-date replica in the Landing zone and successfully migrate, with little or no downtime.

**AWS Marketplace Migration sellers** who offer these discovery and migration tools include:
- ATADATA
- Attunity
- Cloudamize
- CloudEndure
- TSO Logic

**Landing Zone**

Solutions available in AWS Marketplace can help simplify the process of establishing a Landing zone on AWS, which in turn, accelerates the overall process of cloud adoption. This makes it easier to achieve organizational goals such as increased flexibility, agility, and cost savings. Setting up a landing zone assists in categorizing applications and identifying migration patterns as more application workloads are moved to the cloud, and also plays a role in targeting where they should land.

Landing zones are most effective when employed with the guiding principles of your cloud operating model, specifically in the layered categorization and prioritization of application migration. Ideally, your organization will establish a standardized landing zone and have an understanding of the cloud capabilities you want to leverage with the applications you are planning to migrate, which often proves beneficial when aligning applications with their proper migration strategy.

Understanding how a landing zone benefits your organization in the overall cloud adoption process, and discovering solutions in AWS Marketplace to establish an effective landing zone, often proves helpful in realizing migration goals such as data center consolidation, as well as more agile dev and test productivity.
Security Foundation

When you choose to deploy on AWS, it is important to understand your role in securing the workloads in your AWS environment. As the [AWS Shared Responsibility Model](https://aws.amazon.com/sharedresponsibility/) illustrates, AWS ensures “security of the cloud,” while your organization will be charged with “security in the cloud” (the security of your content and applications that make use of AWS services):

AWS Marketplace offers industry-leading solutions to secure operating systems, platforms, applications and data that can integrate with existing controls in your AWS Cloud and hybrid environments. These make it possible to deploy a solution, in multiple regions globally, with pre-configured software solutions that are ready to deploy on AWS.
Network and Host-based Security solutions available in AWS Marketplace identify and protect your applications and infrastructure from cyber-attacks and other advanced threats. AWS Technology Partners also offer Data Protection that assists with the safeguarding of your data from unauthorized disclosure and modification, through encryption, key management, and policy-driven controls. Security solutions found in AWS Marketplace make it easy to identify risks in IAM accounts and manage access to web-based applications. While dealing with Vulnerability and Configuration concerns entails finding a solution that inspects application deployments for security risks and vulnerabilities, while receiving priorities and remediation advice.

These solutions can help to strengthen your overall security posture and improve operational efficiency with faster backup times, rapid data recovery, and reduced infrastructure costs. Offerings available in AWS Marketplace, combined with the services of Amazon Simple Storage Service (Amazon S3) and Amazon Glacier may greatly reduce costs, as well as minimize or even eliminate your organization’s need for ongoing maintenance.

**AWS Marketplace Migration sellers** who offer these Security solutions include:
- Barracuda
- Check Point
- Dome9
- Palo Alto Networks
- Sophos
- Symantec
- Trend Micro

**Networking**

![Networking Diagram](image)

*Figure 2: AWS Migration: Extend Networking and Hybrid Capabilities*
Third-party networking solutions extend your on-premises VPN, router, and gateway solutions as virtual appliances to form a hybrid architecture between your data center(s) and your Amazon Virtual Private Cloud (Amazon VPC). They enable your on-premises networking and AWS Cloud workloads for compute and storage, and extend enterprise security policies for AWS.

There are solutions available in AWS Marketplace that make it possible to expand your infrastructure whenever it is necessary and can be used to establish production-ready connectivity between AWS and data centers, branch offices, and colocation environments using hybrid network architecture for optimal performance.

One popular solution for connecting remote locations to AWS is Cisco’s Cloud Services Router (CSR) 1000v. Using Cisco CSR1000v (Cisco IOS-XE), you can extend your enterprise network to AWS using secure tunnels (DMVPN, FlexVPN, S2SVPN) to build scalable enterprise VPNs that support distributed applications across your network.

There are also solutions found in AWS Marketplace that can simplify the migration of your workloads to AWS, and improve networking capabilities for AWS Cloud security, compute, and storage workloads. The BIG-IP Virtual Edition from F5 is one of these solutions because it rapidly and securely delivers applications and enables the Elastic Load Balancing service on AWS, along with traffic management, and robust network and web application firewalls. This makes it possible to automatically and evenly distribute incoming application traffic across multiple Amazon Elastic Compute Cloud (Amazon EC2) instances, with high availability and automatic scaling. Ultimately, this can help you achieve higher levels of fault tolerance for your applications.

**AWS Marketplace sellers** who offer these Networking solutions include:
- Brocade (acquired by Pulse Secure)
- Cisco
- Citrix
- F5
- Juniper
- Riverbed
Storage

The storage solutions available in AWS Marketplace make it possible to seamlessly move data into and out of the cloud using your preferred storage industry vendors in conjunction with your new AWS environment. This allows you to continue using your existing software and processes during the migration process, and makes it possible to even build them into your AWS Cloud presence.

Cloud-based storage targets like Amazon S3 provide centralized storage repositories that can be accessed by teams across the globe, while maintaining existing legacy connections. Many ISV solutions available in AWS Marketplace combine data control with features like data deduplication and compression that reduce your organization’s overall storage footprint. They also take snapshots of your data without requiring additional storage or having an impact on the overall performance of your applications. The replication protocols available in many of these solutions can tie your cloud storage to your data center, and improve your data security with managed encryption.

Backup and recovery of your cloud data on AWS is simplified and accelerated with offerings found in Marketplace, such as NetAPP ONTAP, which makes it possible to move away from traditional tape or disk targets. Employing this solution, or one like it, is a more efficient, cost-effective method of data protection that can be easily integrated with Amazon S3 as the durable backup target for your workloads. If you are operating in a hybrid cloud environment, you will be able to back up on-premises workloads to AWS, as well as utilize cloud recovery to minimize downtime during migration, or in the event of a disaster, enable workload portability.
While Amazon S3 gives you access to scalable, cost-effective storage, your organization still needs a way to get media onto and out of the cloud securely, cost-effectively, and at maximum speed, while leveraging the tools that your business processes are designed around.

To accelerate transfers into and out of AWS storage and enable secure, reliable collaboration with employees and partners across the globe, look at File Transfer solutions in AWS Marketplace that can help you move away from legacy storage to new, AWS storage-based targets like Amazon S3 that accelerate the existing connection to AWS resources.

**AWS Marketplace Migration sellers** who offer these storage solutions include:
- Actifio
- Commvault
- Druva
- N2W Software
- NetApp
- SoftNAS

**Conclusion**

Solutions available in AWS Marketplace can make it simple, easy, and cost-effective for your organization to find and use discovery and migration tools, establish a Landing zone, and determine the security, networking, and storage offerings from ISVs that will best fit the needs of your hybrid cloud architecture. These solutions work seamlessly with existing AWS services and can help you deploy a specific solution that is tailored to your unique requirements. Ultimately, these offerings from AWS Technology Partners help to deliver a seamless experience across both your AWS and on-premises environments. Using these tools, your workforce will have more time to find ways to improve your business as the automated elasticity and agility of the cloud remove the need for the constant manual monitoring and management of updates.