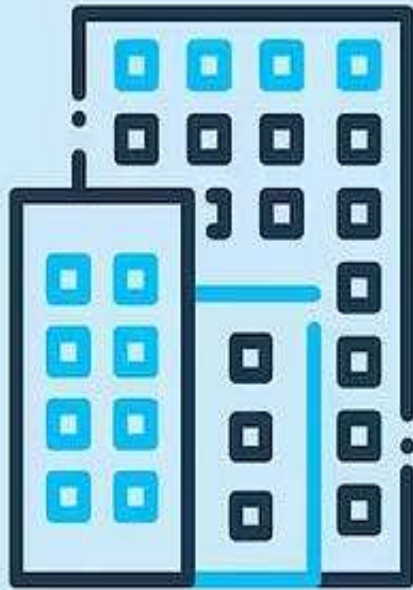# Onprem-Migration

veera

Cloud Migration

On-premises
Cloud

BENEFITS OF CLOUD MIGRATION

1. Scalability
2. Flexibility
3. Cost efficiency
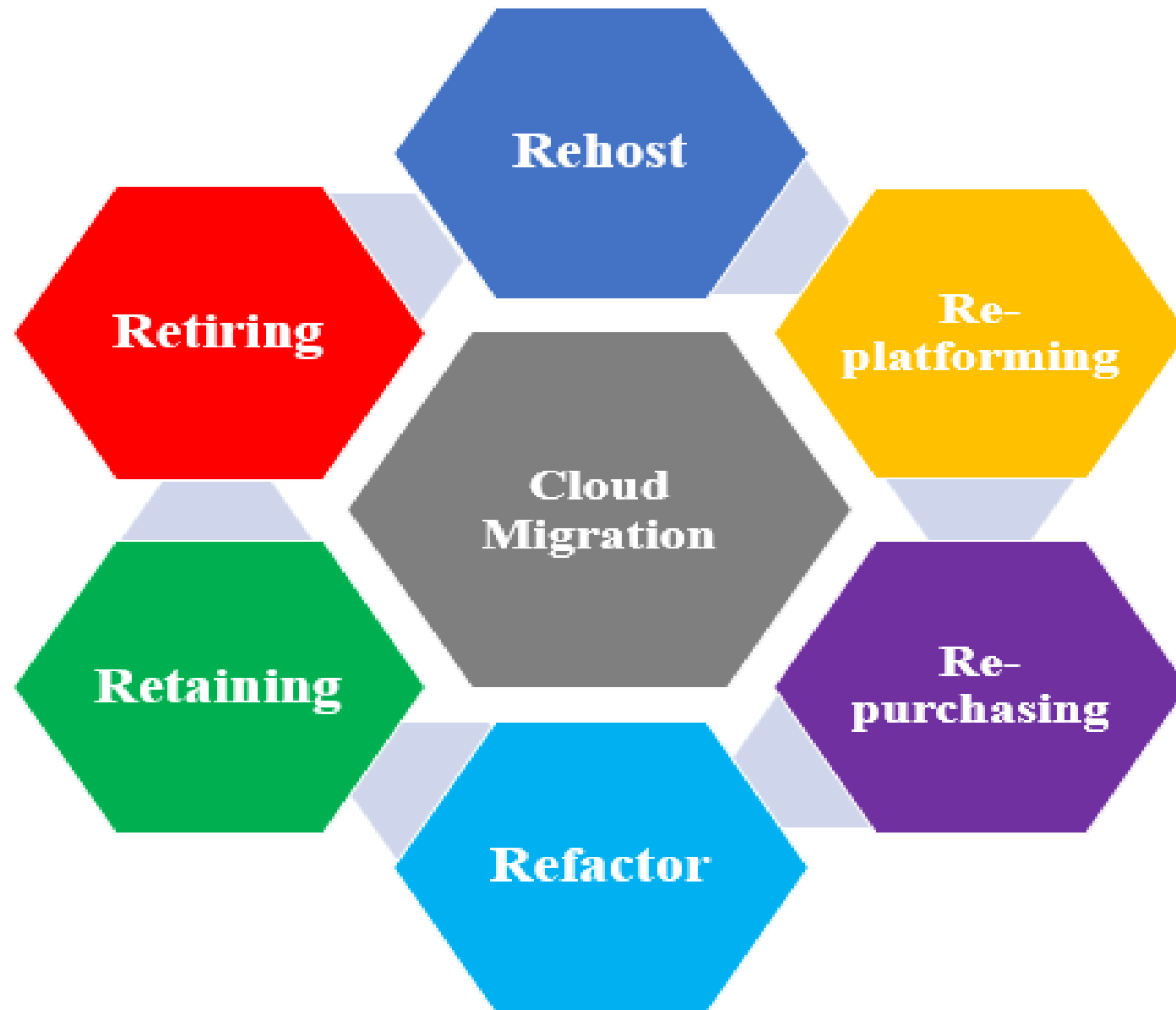4. Data security
5. Resource optimization
6. Reduced downtime
7. Automatic updates

Rehost

- **Rehost (Lift and Shift)**:
- **Description**: Moving applications and their associated data as-is from the current environment to the cloud.
- **Use Case**: Suitable when you want to migrate quickly without making significant changes to the application architecture. It's ideal for legacy systems or when you don't have time for in-depth refactoring.
- **Tools**: AWS Application Migration Service, Azure Migrate, Google Cloud Migrate.

Replatform

- **Description**: Similar to rehosting but involves making minimal optimizations, such as updating the runtime or switching the database to a managed service, without changing the core architecture.

- **Use Case**: Suitable when you want to gain some cloud benefits (e.g., managed services, autoscaling) without a complete rewrite.

Repurchase

- **Repurchase (Drop and Shop)**:

- **Description**: Moving from a traditional license-based solution to a SaaS (Software-as-a-Service) model.

- **Use Case**: Suitable when an equivalent SaaS application exists that meets your needs, reducing the overhead of infrastructure management.

- **Example**: Moving from on-premise CRM to Salesforce or from an on-premise email server to Office 365.

Refactor

- **Refactor / Rearchitect**:

- **Description**: Reimagining how the application is architected and developed using cloud-native capabilities, such as serverless architectures, microservices, or containerization.

- **Use Case**: Ideal when an application's architecture needs major improvements for scalability, performance, or agility, or when modernizing legacy applications.

- **Tools**: AWS Lambda, Azure Functions, Kubernetes, Docker, Google Cloud Functions.

Rearchitect

Refactor / Rearchitect:
•**Description**: Reimagining how the application is architected and developed using cloud-native capabilities, such as serverless architectures, microservices, or containerization.

•**Use Case**: Ideal when an application's architecture needs major improvements for scalability, performance, or agility, or when modernizing legacy applications.

•**Tools**: AWS Lambda, Azure Functions, Kubernetes, Docker, Google Cloud Functions.
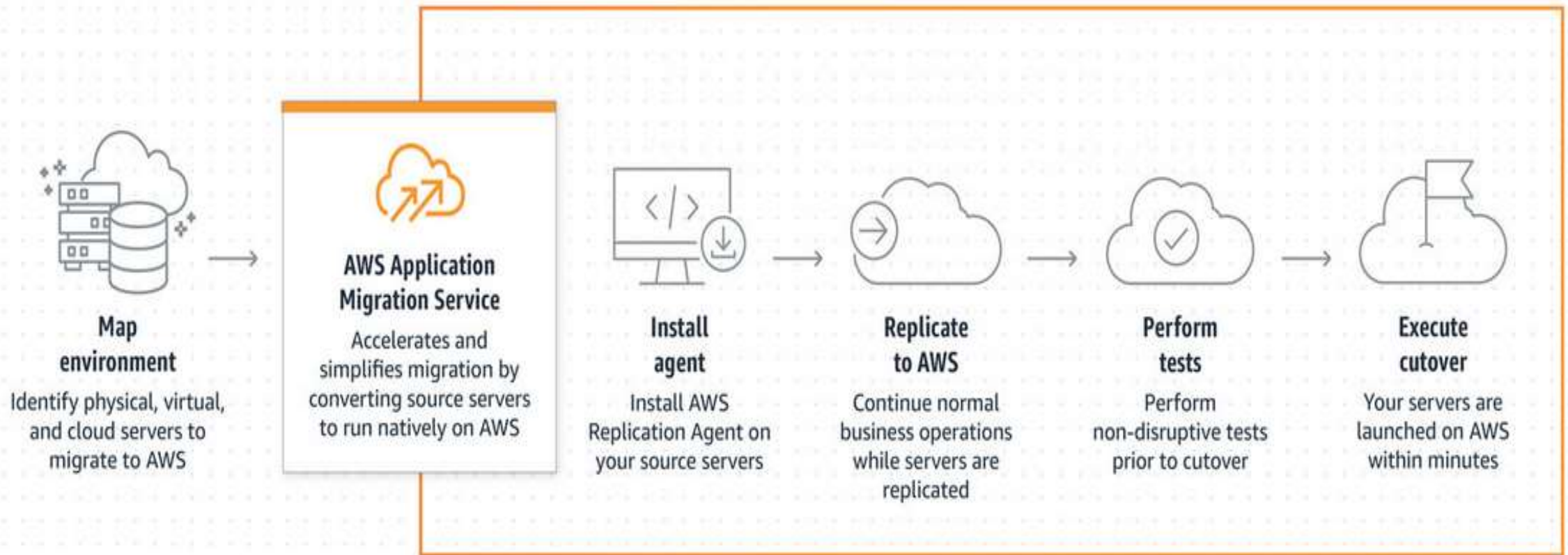
Retire

Retire:
•**Description**: Identifying and shutting down applications that are no longer useful or needed.
•**Use Case**: Suitable when outdated or underused applications can be safely decommissioned, helping reduce costs and management overhead.

Retain

Retain (Revisit):
•**Description**: Keeping applications on-premise, often due to regulatory, compliance, or dependency reasons. These applications may be revisited for migration in the future.

•**Use Case**: Suitable for critical legacy applications that are difficult or unnecessary to migrate in the short term but could be considered for later migration.

AWS MGN tool

AWS Application Migration Service

Accelerates and simplifies migration by converting source servers to run natively on AWS

Map environment

Identify physical, virtual, and cloud servers to migrate to AWS

Install agent

Install AWS Replication Agent on your source servers

Replicate to AWS

Continue normal business operations while servers are replicated

Perform tests

Perform non-disruptive tests prior to cutover

Execute cutover

Your servers are launched on AWS within minutes

VM Import/Export

VM Import/Export:

Overview:

VM Import/Export allows you to import virtual machine (VM) images from your on-premises environment into Amazon EC2, or export EC2 instances as VM images to your on-premises environment.

This service focuses on simple, one-time import/export operations for VMs without providing continuous replication or automated cutover capabilities.

Use Cases:

One-time migrations of VMs to EC2 instances.

Import/export of VM images between on-premises data centres and AWS for backup or disaster recovery purposes.

Exporting EC2 instances back to on-premises or another environment (useful if you're moving back out of AWS).

Process:

Prepare your VM: Ensure it meets the requirements (e.g., supported OS types, file formats like VMDK, VHD, or OVA).

Import the VM: Use the aws ec2 import-image command or the AWS Management Console to upload the VM and convert it into an Amazon Machine Image (AMI).

Launch an EC2 Instance: Once the VM is imported and converted, you can launch EC2 instances from the resulting AMI.

Overview:
•**AWS MGN** automates the migration of **entire applications** and workloads from on-premises, private clouds, or other cloud platforms to AWS using continuous replication and orchestration.
•It is designed for **lift-and-shift migrations** with minimal downtime, offering automated processes for launching migrated workloads in AWS.

Use Cases:
•**Large-scale migrations** of multiple servers or applications to AWS with continuous replication.
•Migrations that require minimal downtime and need automated cutover processes.
•**Disaster recovery**: Use continuous replication to maintain a cloud-ready copy of your on-premises servers.
•**Modernization** post-migration: Once your applications are in AWS, you can gradually modernize or re-architect them.

Process:
1.**Install the AWS MGN Agent** on your source servers (physical or virtual) to enable continuous block-level replication to AWS.
2.**Replication**: AWS MGN replicates your on-premises servers continuously into AWS.
3.**Test and Validate**: You can perform tests on your migrated applications without affecting the source environment.
4.**Cutover**: When ready, perform a final synchronization and cutover, launching your application on AWS as an EC2 instance with minimal downtime.
5.**Post-migration modernization** (optional): After the migration, you can optimize or re-platform your applications.