

# AWS Application Migration

# Definition of Application Migration To AWS

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- Application Migration to AWS - Entire application stack and its dependencies are migrated to AWS together
- AWS provides several services like AWS Application Discovery service, Total Cost of Ownership tool, 6R Migration Strategy and Migration Hub which helps to carry out Migration in a secure, timely and economical way.

# Application Migration Challenges

01

Lack of proper discovery tools and processes

02

System Downtime issues

03

Limited Server & Application Inventory details

04

Bandwidth required for Migration

05

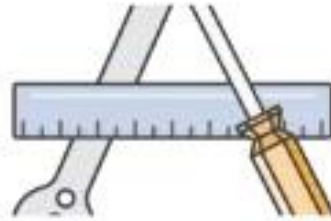
Dependencies & Security issues

# Migration Bubble Components

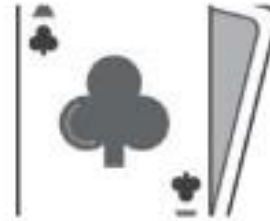
## The Migration Bubble – Components



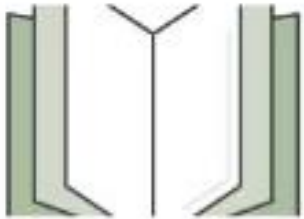
Planning and assessment



Migration tools



Consulting partners



Internal training



Duplicate environments



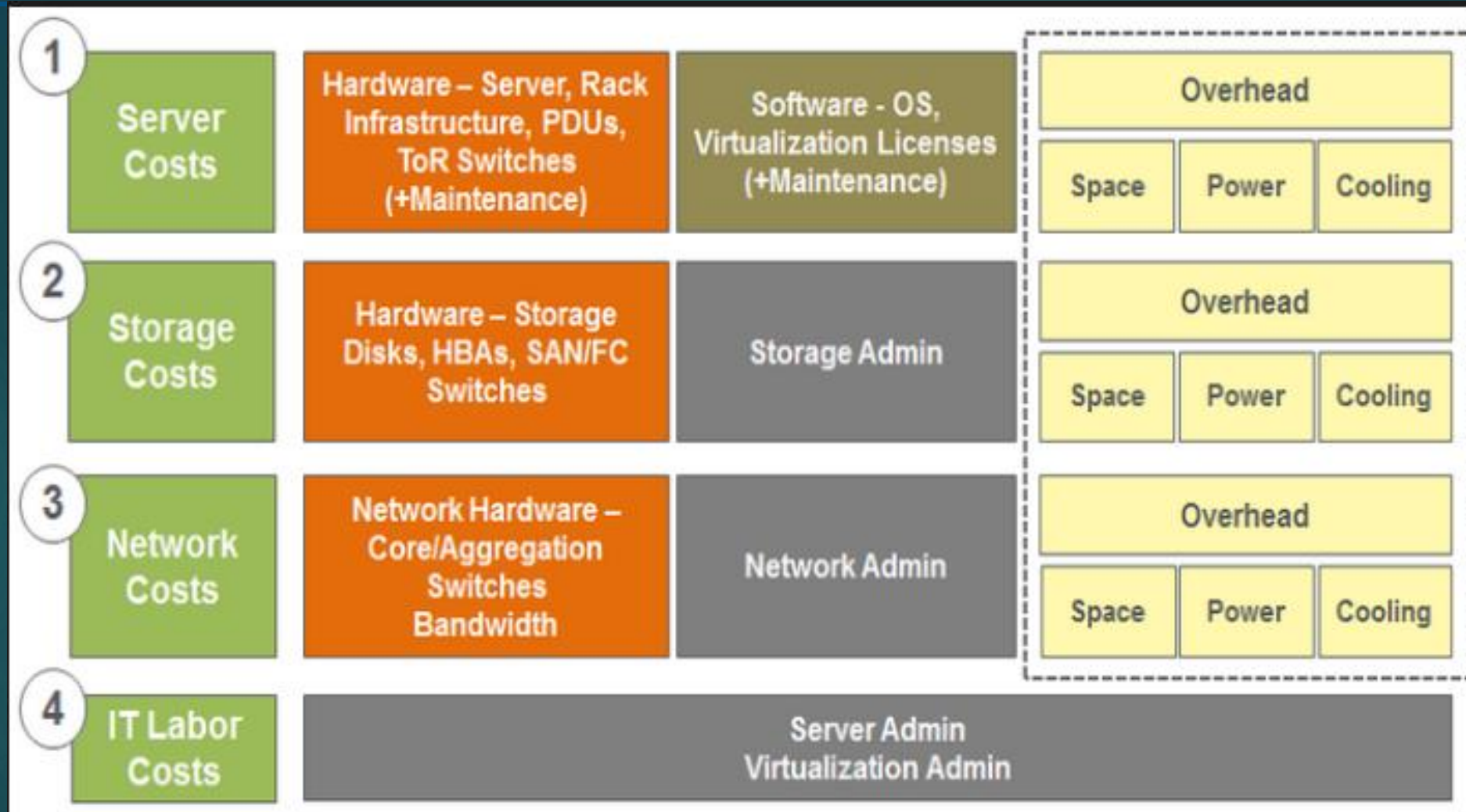
Lease penalties

# Migration Bubble Components

- When planning to migrate Applications to AWS Cloud , the below considerations must be taken by Organizations for
  - Planning and assessing
  - Duplicating environments
  - Bringing current staff up to speed
  - Hiring necessary talent
  - In-depth consulting
  - Conducting third-party tooling
  - Reviewing lease penalties

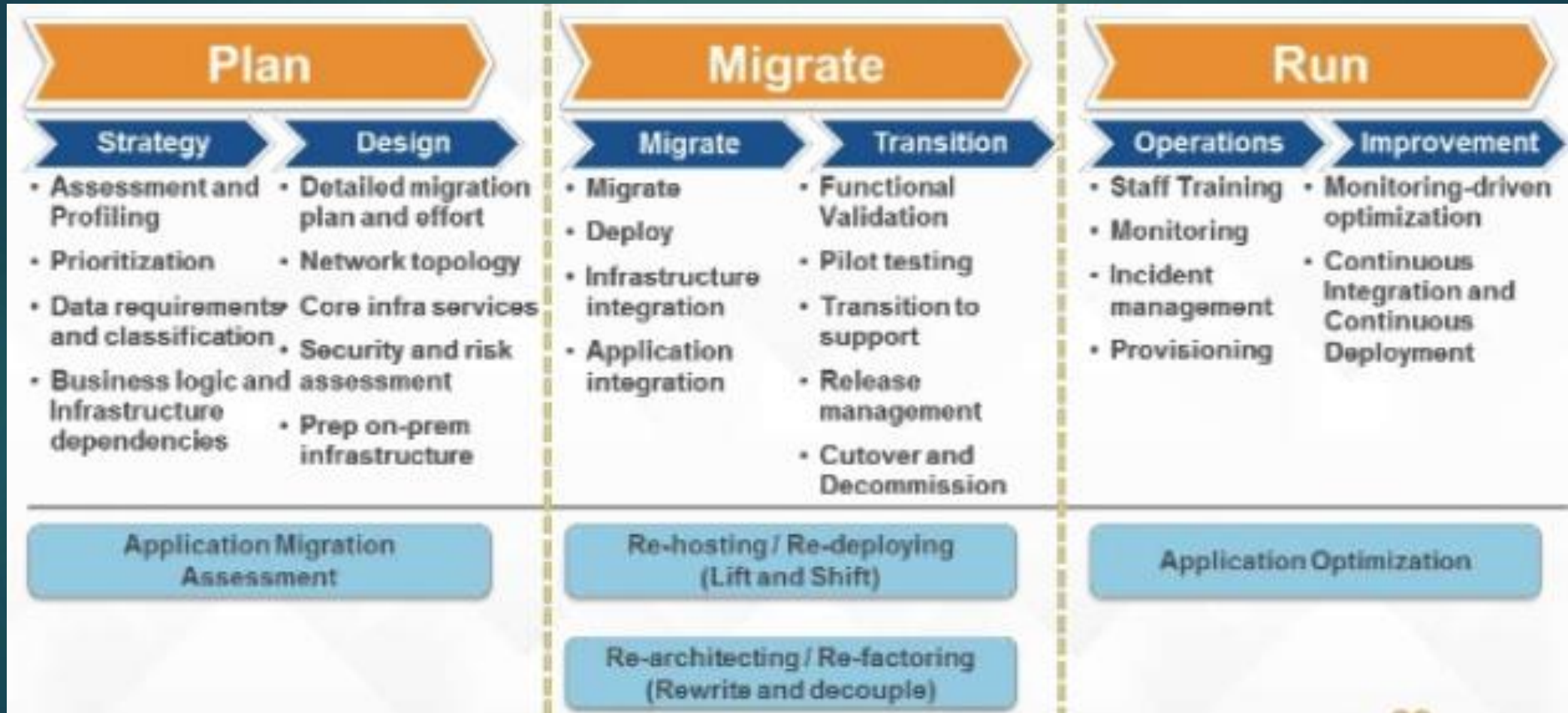


# On-Premises Cost Considerations (TCO)

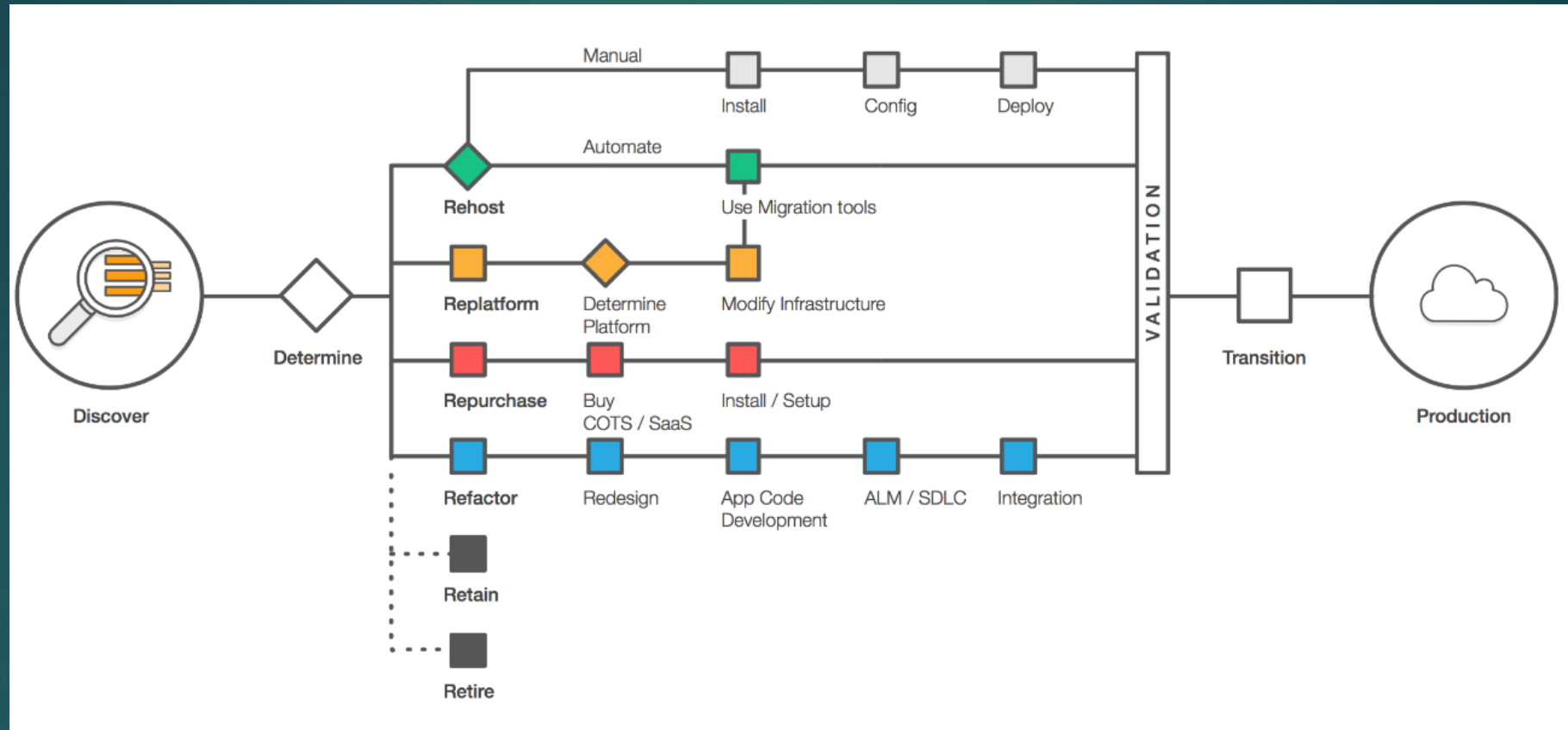




# Application Migration Methodology



# 6R Application Migration Strategy





# Application Discovery Service

## AWS Application Discovery Service

Collect data about servers in your data centers including system specification, performance, dependencies, and other useful information. [Learn more](#)



### Discover servers

Identify servers hosted in data centers



### Measure performance

Collect CPU & RAM utilization and disk I/O

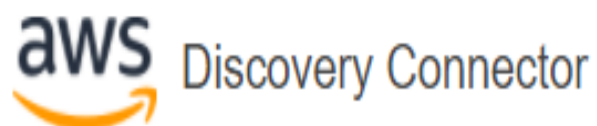


### Capture dependencies

Discover network communications between servers

[Start discovery](#)

# AWS Discovery Tools



To collect system specification and performance information for all VMs in one vCenter, deploy an AWS Agentless Discovery Connector (Discovery Connector) in each VMware vCenter. Deployment is simple and helps you quickly collect info about your VMs.



To collect system specification, performance, processes, and network dependencies, install an AWS Application Discovery Service Agent (Discovery Agent) on each of your VMs or physical servers.

Pre-requisite for Windows Agent:

[Microsoft Visual C++ Runtime for x86 \(vc\\_redist.x86.exe\)](#)

# Agent and Agentless Server Discovery

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- Agentless Service Discovery

- No agent needs to be deployed .
- Virtual Appliances are installed on vCenter Server (On-Premises )environment.
- Discovers performance information and resource utilization of each Virtual Machine.

- Agent Based Service

- Agent runs on hosts On-Premises hosts
- Discovers server consumption data, stores it locally and then uploads to Application Discovery Service.
- Supports both VMware and Hyper-V platforms

# AWS Migration Hub

## Migration Hub

### Dashboard

#### Discover

Servers

Applications

Data Collectors

Tools

#### Migrate

Applications

Updates

Tools

#### Help & Support

#### Feedback

## AWS Migration Hub

Migration Hub simplifies and accelerates discovery and migration from your data centers to the AWS Cloud. [Learn more](#)

 Discover

- Deploy AWS discovery tools (Optional)



 Migrate

- Connect migration tools
- Migrate using connected tools
- Group servers as applications

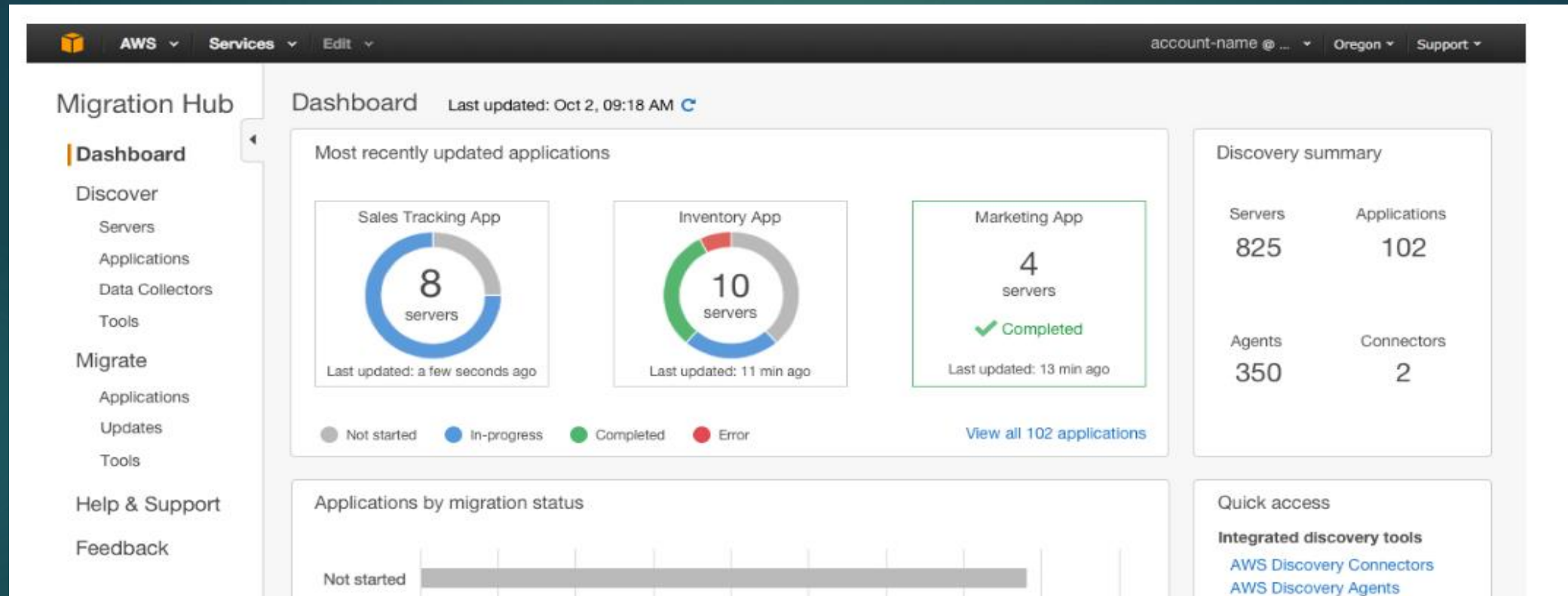


 Track

- Track status of migrations
- [View example](#)

# Application Migration Tracking

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# Migrating Tool Integration

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The screenshot displays the AWS Migration Hub interface. On the left is a navigation sidebar with sections: Migration Hub, Dashboard, Discover (containing Servers, Applications, Data Collectors, and Tools), Migrate (containing Applications, Updates, and Tools), Help & Support, and Feedback. The 'Tools' option under 'Discover' is highlighted. The main content area has a header explaining that migration status can be tracked in Migration Hub and that tools must first be connected. Below this, there are two main categories: 'Server migration tools' and 'Database migration tools'. Under 'Server migration tools', there are three cards: 1) 'aws Server Migration Service' (marked 'Not connected'), which allows importing VM images to Amazon EC2 instances; 2) 'ATADATA ATAmotion', which auto-migrates live workloads to VPC without agents; 3) 'CloudEndure Live Migration', which provides automated migration to AWS from physical or virtual infrastructure. Each card includes a 'Connect' button and links to documentation or the AWS Marketplace. Under 'Database migration tools', there is one card: 'aws Database Migration Service' (marked 'Not connected'), which helps migrate databases to AWS with minimal downtime.

**Migration Hub**

Dashboard

Discover

- Servers
- Applications
- Data Collectors
- Tools

Migrate

- Applications
- Updates
- Tools**

Help & Support

Feedback

You can track the migration status of your applications in Migration Hub using the following tools. To send migration status to Migration Hub, you need to first connect your preferred migration tools. The connected tools will send migration status updates to the us-west-2 region.

### Server migration tools

**aws** Server Migration Service Not connected

Use AWS Server Migration Service (AWS SMS) to import VM images from your existing environment to ready-to-use Amazon EC2 instances. With AWS SMS, you can use your existing VM investments to meet your IT security, configuration management, and compliance requirements.

[Connect](#) [Documentation](#) | [SMS Console](#)

**ATADATA** ATAmotion ⓘ

ATAmotion auto-migrates live workloads directly to your VPC from any physical, virtual or cloud source, without installing agents. The friendly user interface incorporates AWS API integration for features like VPC auto-provisioning, and the proprietary clone engine is purpose built for enterprise class workloads, benchmark migration speeds, flexible deployment, and with no database size restrictions for replication or synchronization.

[Connect](#) [Buy on AWS Marketplace](#) | [ATADATA website](#)

**CloudEndure** Live Migration ⓘ

CloudEndure provides automated migration to AWS from any physical or virtual infrastructure. Its continuous, block-level replication technology enables efficient migration for all workloads, including databases and legacy applications. Replication occurs in the background, without system disruption or performance impact. Automated machine conversion and application stack orchestration minimize cutover window to near-zero.

[Connect](#) [Buy on AWS Marketplace](#) | [CloudEndure website](#)

### Database migration tools

**aws** Database Migration Service Not connected

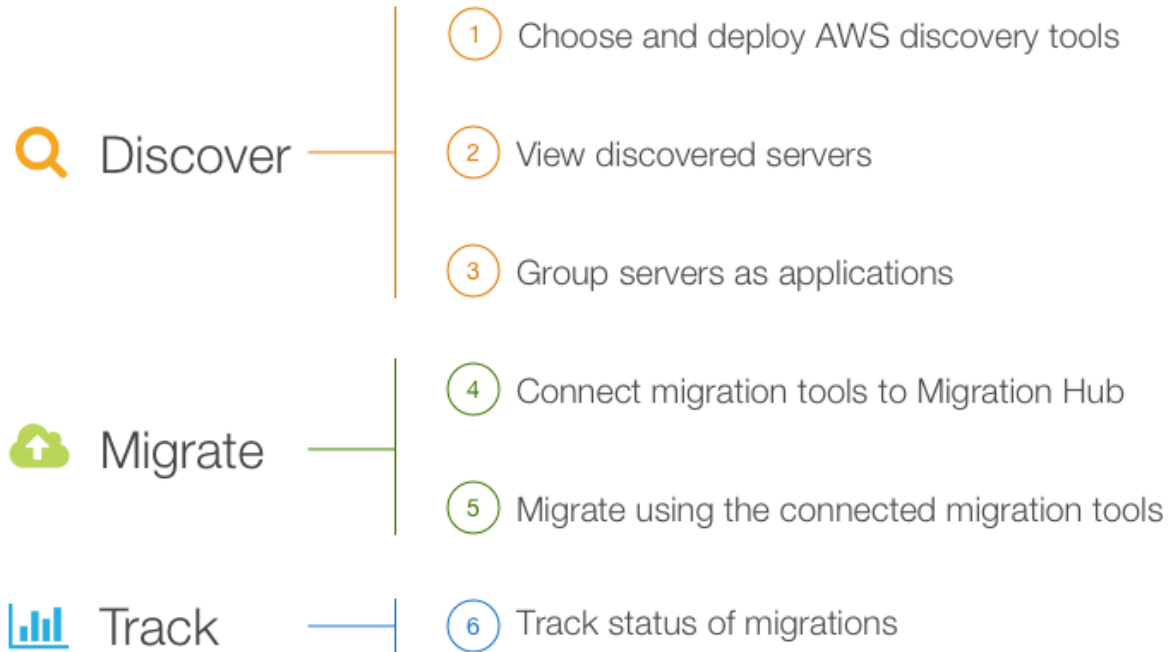
AWS Database Migration Service (AWS DMS) helps you migrate databases to AWS easily and securely. The source database remains fully operational during the migration, minimizing downtime to applications that rely on the database. AWS DMS can migrate your data to and from most widely used commercial and open-source databases. The service supports homogeneous and heterogeneous migrations between different database platforms.



# Migrating Applications using

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## Workflow 1: Perform discovery and then migrate



# Migrate Applications without Discovery

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## Workflow 2: Migrate without performing discovery



Migrate

- 1 Connect migration tools to Migration Hub
- 2 Migrate using connected migration tools
- 3 Group servers as applications



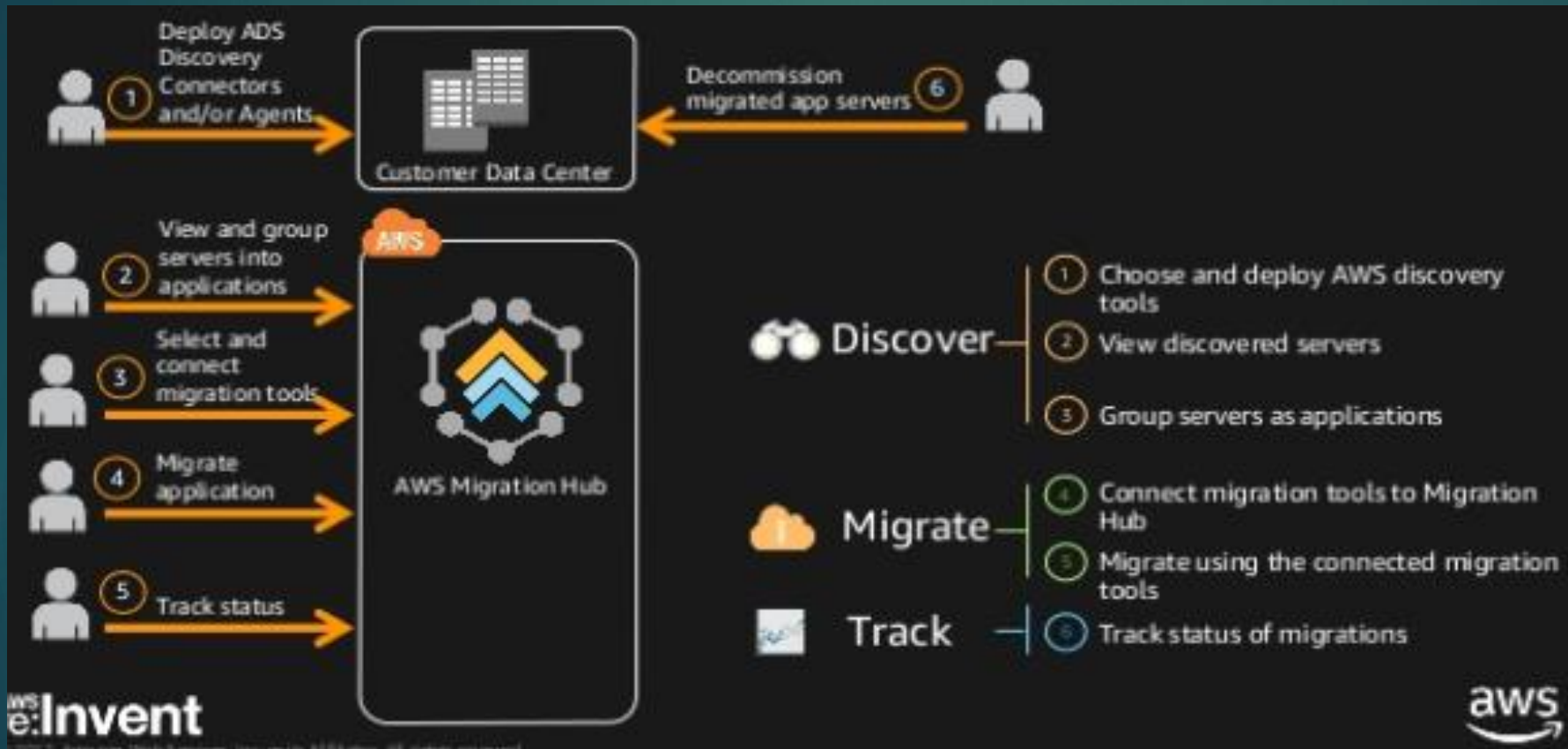
Track

- 4 Track status of migrations

# Demo - Using Discovery Connectors

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# Summary

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- ▶ Learnt about using AWS Application Discovery service, Total Cost of Ownership tool, 6R Migration Strategy and Migration Hub which helps to carry out Migration in a secure, timely and economical way.
- ▶ Using the phase-driven approach company was able to migrate existing web applications to AWS Cloud
- ▶ Resulting architecture was not only elastic and scalable but also flexible and easier to maintain.

THANK YOU