

# AWS Solutions Training for Partners: Migrations –Technical

# Course objectives



- Engage customers in pre-sales, technical discussions
- Identify how to determine customers' cloud-readiness
- Discuss how migration strategies affect architectural decisions
- Identify tools to use for assessing and analyzing migration readiness
- Describe how to use AWS and partner tools and services for migrating servers, databases, applications, data, operations, and governance
- Find more information and additional resources on migrations

# Agenda



- Course overview
- Module 1: Assess
- Module 2: Mobilize
- Module 3: Migrate
- Module 4: Operations
- Module 5: Wrap-up and resources
- Assessment

# Welcome

- Name
- Company
- Job role
- Familiarity with migrating and AWS
- Two learning goals you have for this course



# Module 1: Assess

# Objectives



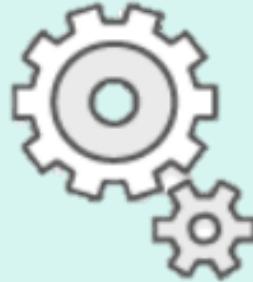
- Explain the importance of the Well-Architected Framework for migration
- Identify services that partners can use to assess their customers' cloud readiness
- Identify a customer's strengths and weaknesses for cloud readiness
- Use available Total Cost of Ownership (TCO) tools to make a business case for migration

# Well-Architected Framework for migration

# Well-Architected Framework overview



**Operational  
excellence**



**Security**



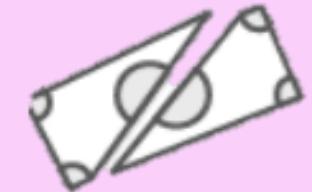
**Reliability**



**Performance  
efficiency**



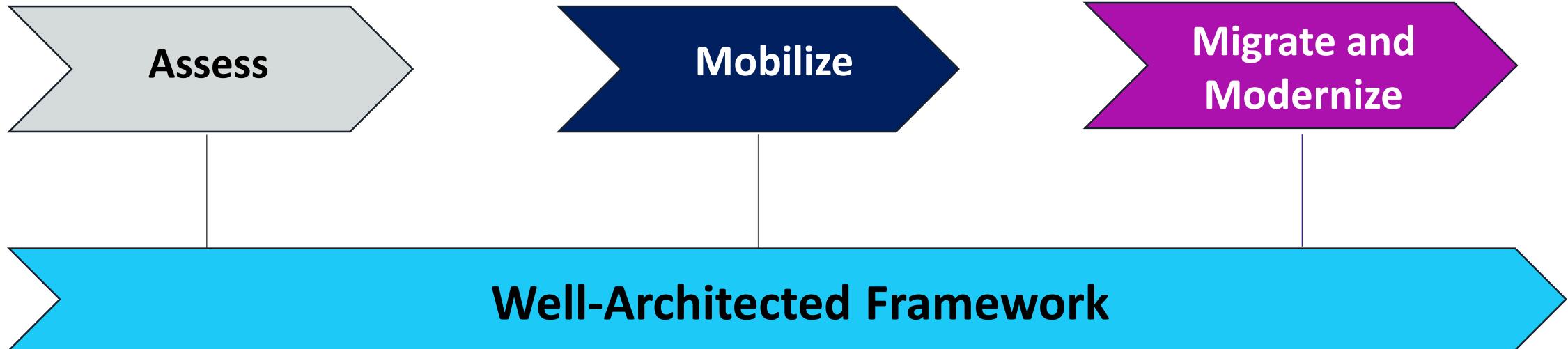
**Cost optimization**



<https://aws.amazon.com/architecture/well-architected/>



# Well-Architected Framework and migration phases



# Importance of the Well-Architected Framework



- Business continuity
- Continuous improvement
- Stakeholder alignment
- Competencies
- Migration Acceleration Program (MAP)



# Tools

# Assess tools

## **Customer cloud readiness**

- Cloud Adoption Readiness Tool (CART)
- Migration Readiness Assessment (MRA)

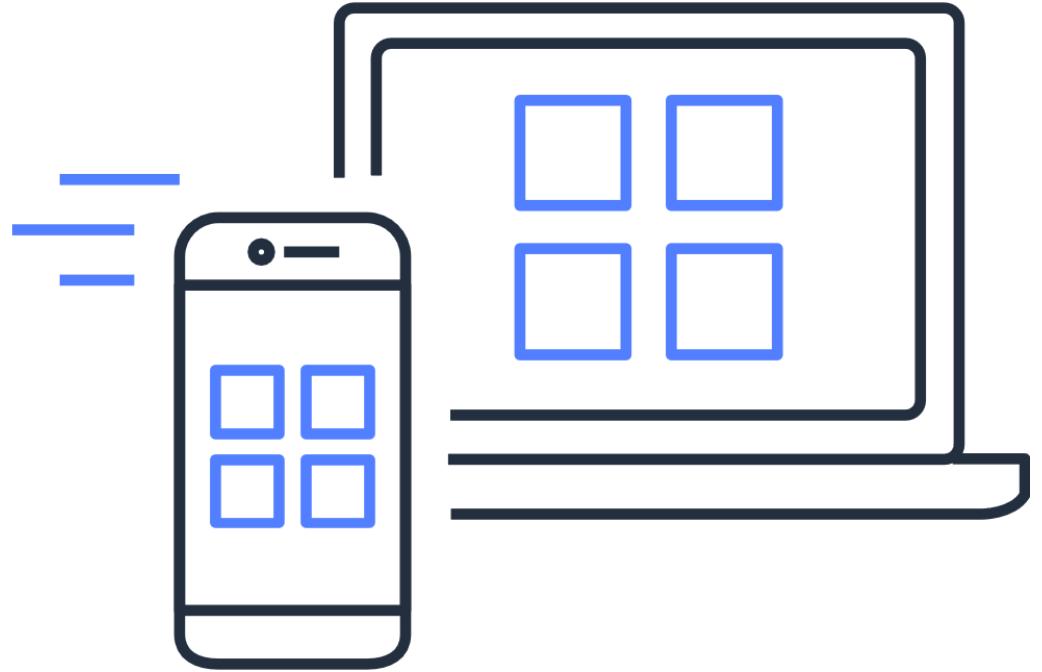
## **Total cost optimization analysis and business case development**

- TSO Logic
- Migration Portfolio Assessment (MPA)

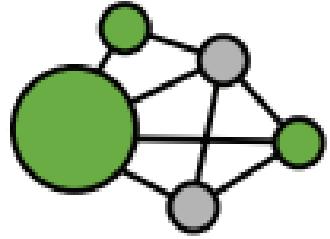
# Cloud Adoption Readiness Tool

# CART overview

- Self-service evaluation
- Plans for cloud adoption
- Surface strengths and weakness



# CART: How it works



**Take the online Cloud Adoption Readiness assessment**

[cloudassessment.amazon.aws.com](https://cloudassessment.amazon.aws.com)



**Receive a report detailing strengths and areas needing attention**



**Gain access to tools and assets to help with alignment**



**Consider engaging with AWS Professional Services**

[Open CART](#)

[Sample report](#)

# Migration Readiness Assessment

# MRA overview

A screenshot of the AWS Assessment Tool interface. The top navigation bar includes the AWS logo and the title "AWS Assessment Tool". On the left, a sidebar menu shows "Management", "Favorites", and "Assessments" with "Assessments" selected. The main content area is titled "List of my Assessments" and contains a table with the following data:

Assessment Description	Account Name	Type	Status
<input type="checkbox"/> Example Assessment v2	Example Customer	MRA	In progress

Select an Assessment to view details or click the Assessment description to start/resume the assessment.

- Readiness to migrate
- Conducted by AWS or a partner
- Identifies priorities

**aws** Migration Readiness Assessment (Partner) FAQ | Contact Us Sign Out

Administration Customer Accounts Overview Recommended Actions Report Templates

Management Favorites Assessments

CAF Perspectives

Scope Business Platform People Governance Operations Security Optional

Report Assessment

## MRP Readiness Assessment Questionnaire (Test Customer Assessment)

<< Previous category < Previous unanswered (0 Answered / 71 Questions) Next unanswered > Next category >>

**Goals** Technical

**Question 1:** Describe the scope for this MRA. What is being considered in scope and what is out of scope?

Enter answer here... (up to 3000 characters)

**Question 2:** What are the outcomes (organizational and/or business) your team is trying to achieve? And why? [Primary Drivers]

Enter answer here... (up to 3000 characters)



# MRA output

Statistics  
Overview  
Import  
  
Management  
Favorites  
Customer Accounts  
Assessments  
  
CAF Perspectives  
Business Platform  
People  
Governance Operations Security Scope  
  
Report  
Assessment

**1**

MRP Readiness Assessment (undefined - Example Customer) In progress

Report Heatmap Scores CAF Radar

Save Refresh Generate PDF Generate PPT

**Business Case**

Readiness Activities Summary Observations & Actions

**High Level Business Case** Pre-MRP

Copy activity comments ↴

Leadership team has directed that XY cloud formal business strategy for cloud has been consolidation and cost savings, but the options available through the use of AWS.

Comments:

No business case has been done; may not be needed

Q: Customer's IT strategy explicitly states it's cloud strategy and how it is tied to their business strategy? Where do you want to invest in infrastructure innovation vs. application outcomes? (Rating: 3)

Comments:

Alignment going on as we speak; go forward right now; exploring a path will help business better understand the AWS TCO been leveraged to help align to the cloud? (Rating: 1)

Comments:

**2**

MRP Readiness Assessment Heatmap

Business Case			Customer Migration Project Plan		
High Level Business Case	Pre-MRP	Delivery Model & Approach	Pre-MRP	Single Threaded Leader	2.3
Key Stakeholder Sign-off	Pre-MRP	Project Management Capability	Pre-MRP	COE Resource Commitment	2.3
Migration Funding Commitment	Pre-MRP	Migration Plan	Pre-MRP	Experience baseline	1.5
Specific Migration Workloads Committed	Pre-MRP		Pre-MRP	Design or Evolve COE	3.0
Detailed Business Case			Pre-MRP	Organizational Training	3.0
<b>Landing Zone</b>					
AWS Master Account/Sub-Accounts	Pre-MRP	Application Discovery Data	Pre-MRP	Identification	2.3
Account Design & Configuration	Pre-MRP	Server & Infrastructure Discovery Data	Pre-MRP	Migration Plan	4.0
Existing Network & Data Center Architecture	Pre-MRP	Workload Owner Buy-In or Alignment	Pre-MRP		2.0
<b>Operating Model</b>					
Shared Responsibility Model Understood	Pre-MRP	Migration Scope Scored & Targeted for Optimization	Pre-MRP		1.9
<b>Security &amp; Compliance</b>					
Pre-MRP	Pre-MRP	Pre-MRP	Pre-MRP		3.0

**3**

Workstream Scores

Business Case	
High Level Business Case	2.3
Key Stakeholder Sign-off	2.3
Migration Funding Commitment	1.5
Specific Migration Workloads Committed	3.0
Detailed Business Case	3.0
	2.0
<b>Customer Migration Project Plan</b>	
Determine Delivery Model & Approach	2.3
Project Management Capability	1.0
Migration Plan	4.0
	2.0
<b>Skills &amp; COE</b>	
Single Threaded Leader	1.9
COE Resource Commitment	3.0
Experience baseline	1.0
Design or Evolve COE	3.0
Organizational Training	1.0

Legend: Red, Yellow, Green

**4**

Cloud Adoption Framework Perspectives Radar Chart

Current assessment state

**5**

MRP Readiness Assessment Review

Amazon Web Services undefined MRP Readiness Assessment Review Nov 17, 2017

Agenda:

- MRP Readiness Assessment Results
- Next Steps

Workstream: Business Case

Workstream: Customer Migration Project Plan

Workstream: Skills & COE

Workstream: Landing Zone

Workstream: Application Portfolio Discovery & Planning

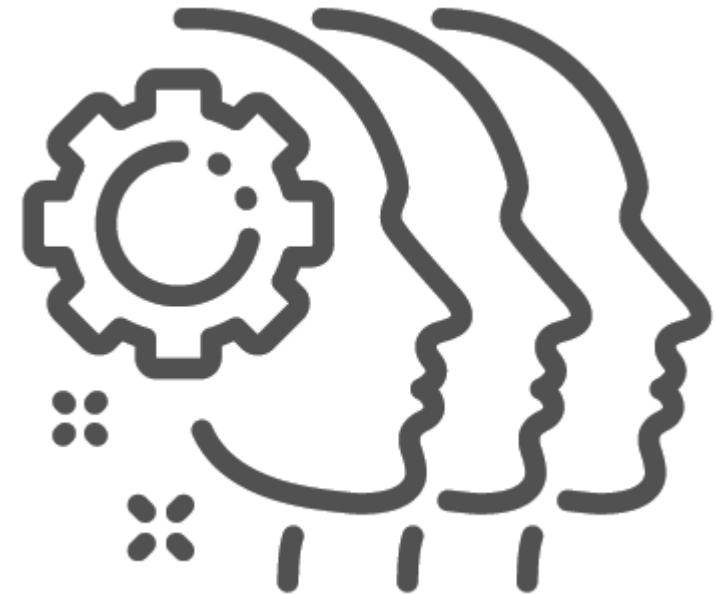
Workstream: Migration Process & Experience

Workstream: Operating Model

Workstream: Security & Compliance

# MRA benefits for account team

- Provides deep knowledge of customer motivation
- Assists Migration Acceleration Program
- Strengthens customer trust



# CART and MRA comparison



	<b>CART</b>	<b>MRA</b>
<b>Access</b>	<ul style="list-style-type: none"><li>Available for all AWS customers</li></ul>	<ul style="list-style-type: none"><li>Available for AWS Professional Services, AWS solutions architects, and APN Partners.</li></ul>
<b>Engagement</b>	<ul style="list-style-type: none"><li>Customers can self-assess</li><li>Customers control assessment duration</li></ul>	<ul style="list-style-type: none"><li>Workshop style engagement</li><li>Typically a 1 day face to face engagement</li></ul>
<b>Content</b>	<ul style="list-style-type: none"><li>Uses 6 perspectives of the AWS Cloud Adoption Framework</li><li>Uses 16 questions</li></ul>	<ul style="list-style-type: none"><li>Uses 6 perspectives of the AWS Cloud Adoption Framework</li><li>Uses over 70 questions</li></ul>
<b>Migration Acceleration Program (MAP)</b>	<ul style="list-style-type: none"><li>Not required for MAP</li></ul>	<ul style="list-style-type: none"><li>Used in the MAP Assess phase</li></ul>

# TSO Logic

## Assess phase

On-premises analysis, including TCO

Evidence-based business case



# TSO Logic: How it works



# Engagement model and period estimate



## Collector method

Project initiation		Deliverables
Scope confirmation VM provisioning	Collection period request for business data	Viewer access summary report
<b>1 Week</b>	<b>2 Weeks</b>	<b>1 Week</b>

## Using existing data

Project initiation	Deliverables
Receipt and review of dataset	Viewer access summary report
<b>2 Days</b>	<b>1 Week</b>

# Migration Portfolio Assessment

## A web application to simplify the portfolio assessment process

### Why

- Shorten the sales and planning cycle, and provide a consistent and scalable solution.

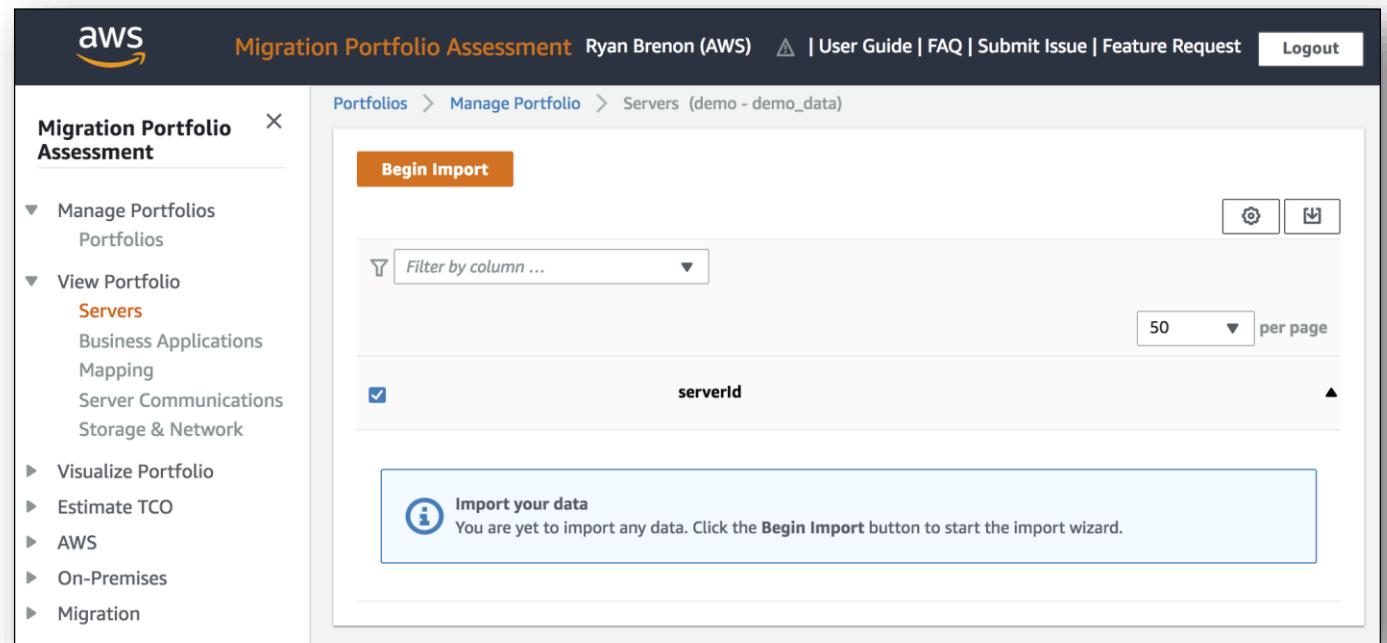
### Use case

- The customer has discovery output or Configuration Management Database (CMDB) extract, and they want to validate the business case for AWS migration.
- Migration analysis and strategy planning.

# MPA data import

Import CSV or Excel files that contain:

- Server
- Application
- Database
- Server communication
- Server-to-application mapping
- Database-to-application mapping
- Application-to-application dependency
- Shared storage and bandwidth data



# MPA target recommendation



Optimize infrastructure spend:

- Provision
- Turn off equipment
- Get the lowest cost

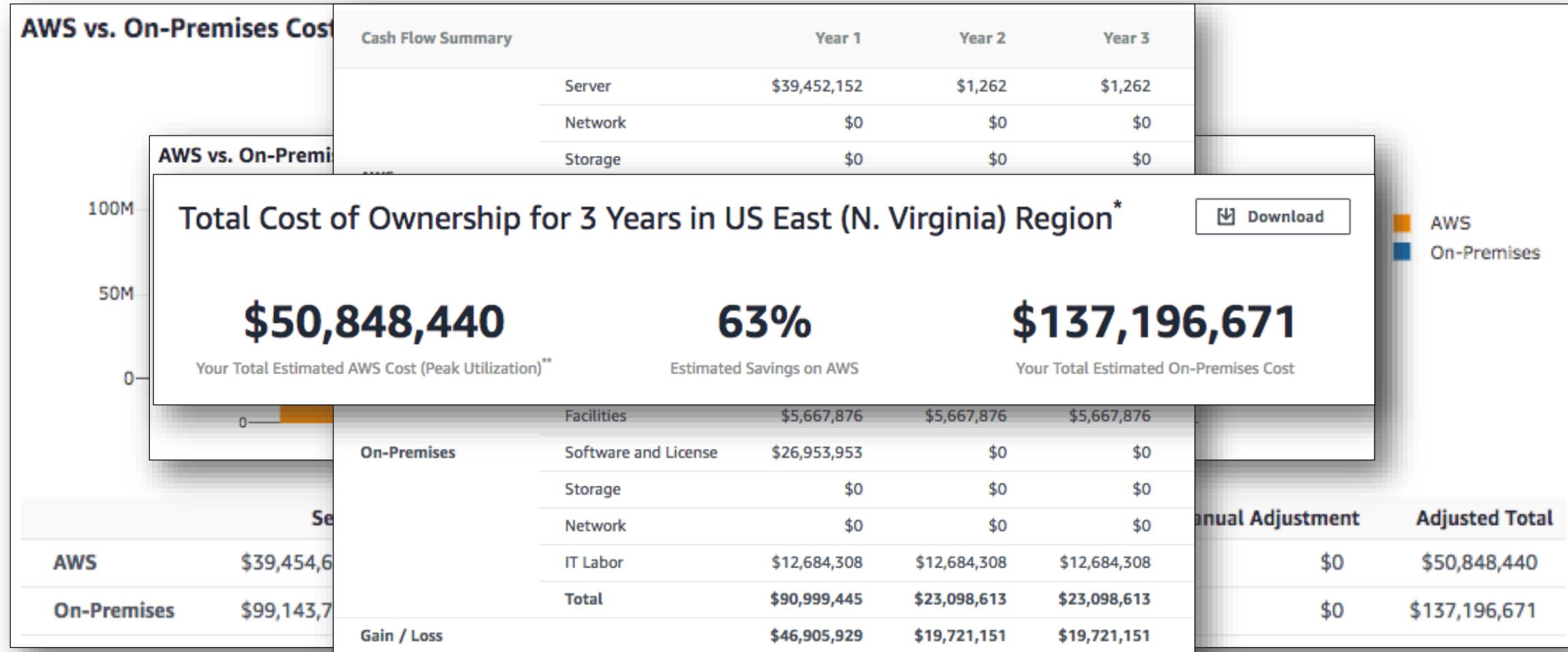
AWS Server Recommendations

Instance Type	vCPU	Memory	Operating System	Tenancy	Recommended Payment Option	Count
r5.large	2	16 GiB	Windows	Shared	Standard 3yr - All Upfront	95
r5.large	2	16 GiB	Windows	Shared	On Demand	2
r5.large	2	16 GiB	SUSE	Shared	Standard 3yr - All Upfront	29
r5.large	2	16 GiB	RHEL	Shared	Standard 3yr - All Upfront	148
r5.large	2	16 GiB	Linux	Shared	Standard 3yr - All Upfront	10
t3.small	2	2 GiB	RHEL	Shared	On Demand	1
t3.small	2	2 GiB	RHEL	Shared	Standard 3yr - All Upfront	296
t3.small	2	2 GiB	Windows	Shared	Standard 3yr - All Upfront	415
t3.small	2	2 GiB	SUSE	Shared	Standard 3yr - All Upfront	87
t3.small	2	2 GiB	Linux	Shared	Standard 3yr - All Upfront	15

# MPA target

AWS Server Cost						
Type	Description	Cost				
EC2	10000 instance(s) - Peak Utilization	\$43,588,108				
Reserved Instance	Volume Discount	-\$4,133,432				
Residual value	Residual value of Reserved Instance(s)	\$0				
<b>Total Cost</b>		<b>\$39,454,676</b>				
Manual Adjustment		\$0				
<b>Adjusted Total</b>		<b>\$39,454,676</b>				
<b>Details</b>						
Cost Per Instance Type	Cash Flow Per Server	Payment Options Per Server	Reserved Instance Volume Discount			
Payment Type Summary	Payment Type Detail					
						
Payment Type	Total Upfront Cost	Total Monthly Cost	RI Tier Discount	Total Cost		
Standard 3yr - All Upfront	\$43,594,139	\$0	-\$4,134,414	\$39,459,725		
Standard 3yr - Partial Upfront	\$15,380,018	\$29,643,161	-\$4,277,318	\$40,745,861		
Standard 3yr - No Upfront	\$0	\$47,038,937	-\$4,478,894	\$42,560,044		

# MPA cost comparison



# MPA key features



- Right-sizing
- On-premises and AWS comparisons
- Total cost of ownership
- Migration project cost estimates

# TSO Logic and MPA comparison



	TSO Logic	MPA	
Engagement model	<ul style="list-style-type: none"><li>Offered as a service by TSO Logic project managers and data analysts.</li><li>TSO Logic is available through APN Partner Central via <a href="#">How to Engage</a>; or contact PDM for external partners</li></ul>	<ul style="list-style-type: none"><li>No engagement is required</li><li>Self-service thru AWS accelerate - <a href="https://accelerate.amazonaws.com/">https://accelerate.amazonaws.com/</a></li></ul>	
Data collection	<ul style="list-style-type: none"><li>Offline manual data transformation and upload by TSO Logic data analyst</li><li>Agent-less method</li></ul>	<ul style="list-style-type: none"><li>Guided self-service process to import discovery result, Configuration Management Data Base (CMDB) or manually gathered data</li></ul>	
Right sizing with Licensing analysis	<ul style="list-style-type: none"><li>Right size includes Operating System (OS) licensing analysis support</li><li>CPU and memory utilization considering age of processor</li></ul>	<ul style="list-style-type: none"><li>Right size recommendations do not include OS licensing analysis support</li><li>CPU and memory utilization considering age of processor</li></ul>	
Network and labor cost analysis	<ul style="list-style-type: none"><li>Not supported</li></ul>	<ul style="list-style-type: none"><li>On-premise and AWS estimate analysis for shared storage, network, labor costs, and support plan</li></ul>	

[TSO Logic](#) , <https://tsologic.com/>



[MPA tool](#) , <https://docs.aws.amazon.com/prescriptive-guidance/latest/migration-tools/aws-services.html#mpa>



# Knowledge check 1



Which statements are correct about the Well-Architected Framework? (Select TWO.)

- A) The Well-Architected Framework should only be used during the Assess phase of migrating to AWS.
- B) The Well-Architected Framework should be incorporated during the Assess, Mobilize, and Migrate and Optimize phases of migration.
- C) The key pillars in the Well-Architected Framework are the security and cost optimization pillars.
- D) The Well-Architected Framework does not require an AWS solutions architect or AWS Professional Services to run an assessment.

# Knowledge check 1 review



Which statements are correct about the Well-Architected Framework? (Select TWO.)

- A) The Well-Architected Framework should only be used during the Assess phase of migrating to AWS.
- B) **The Well-Architected Framework should be incorporated during the Assess, Mobilize, and Migrate and Optimize phases of migration.**
- C) The key pillars in the Well-Architected Framework are the security and cost optimization pillars.
- D) **The Well-Architected Framework does not require an AWS solutions architect or AWS Professional Services to run an assessment.**

# Knowledge check 2



Which tools can be used to determine a migration's TCO? (Select TWO.)

- A) Cloud Adoption Readiness Tool
- B) AWS Migration Hub
- C) AWS Migration Portfolio Analysis
- D) TSO Logic

# Knowledge check 2 review



Which tools can be used to determine a migration's TCO? (Select TWO.)

- A) Cloud Adoption Readiness Tool
- B) AWS Migration Hub
- C) **AWS Migration Portfolio Analysis**
- D) **TSO Logic**

# Knowledge check 3



Which tool would you use to identify a customer's strengths and weaknesses for their cloud migration readiness?

- A) The AWS Cloud Adoption and Readiness Tool
- B) AWS Total Cost of Ownership (TCO) Calculator
- C) AWS Global Accelerator
- D) Amazon Detective

# Knowledge check 3 review



Which tool would you use to identify a customer's strengths and weaknesses for their cloud migration readiness?

- A) The AWS Cloud Adoption and Readiness Tool
- B) AWS Total Cost of Ownership (TCO) Calculator
- C) AWS Global Accelerator
- D) Amazon Detective

# Summary



- Explain the importance of the Well-Architected Framework for migration
- Identify services that partners can use to assess their customers' cloud readiness
- Identify a customer's strengths and weaknesses for cloud readiness
- Use available Total Cost of Ownership (TCO) tools to make a business case for migration

# Module 2: Mobilize

# Objectives

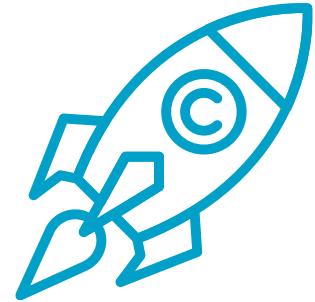


- Describe how to gather information about a customer's application portfolio data
- Discuss how migration strategies affect architectural decisions
- Determine the right migration strategy for a customer's scenario
- Identify how to set up an AWS multi-account baseline using best practices

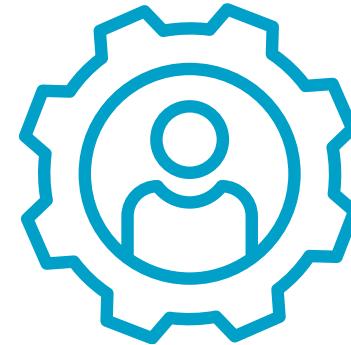
# Mobilize phase work streams



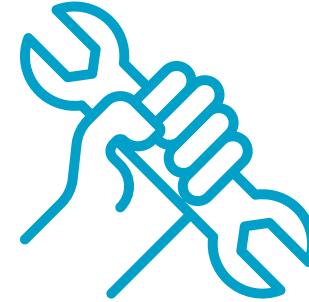
Discovery and planning



AWS landing zone



Skills/  
center of excellence



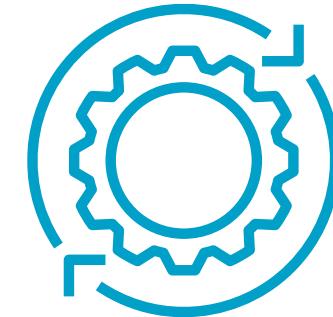
Migration experience



Business case



Migration plan



Operating Model



Security and compliance

# AWS Application Discovery Service

# Application Discovery Service overview



## Discover



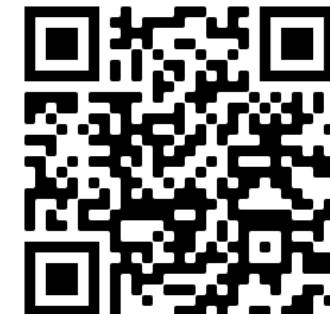
## Usage



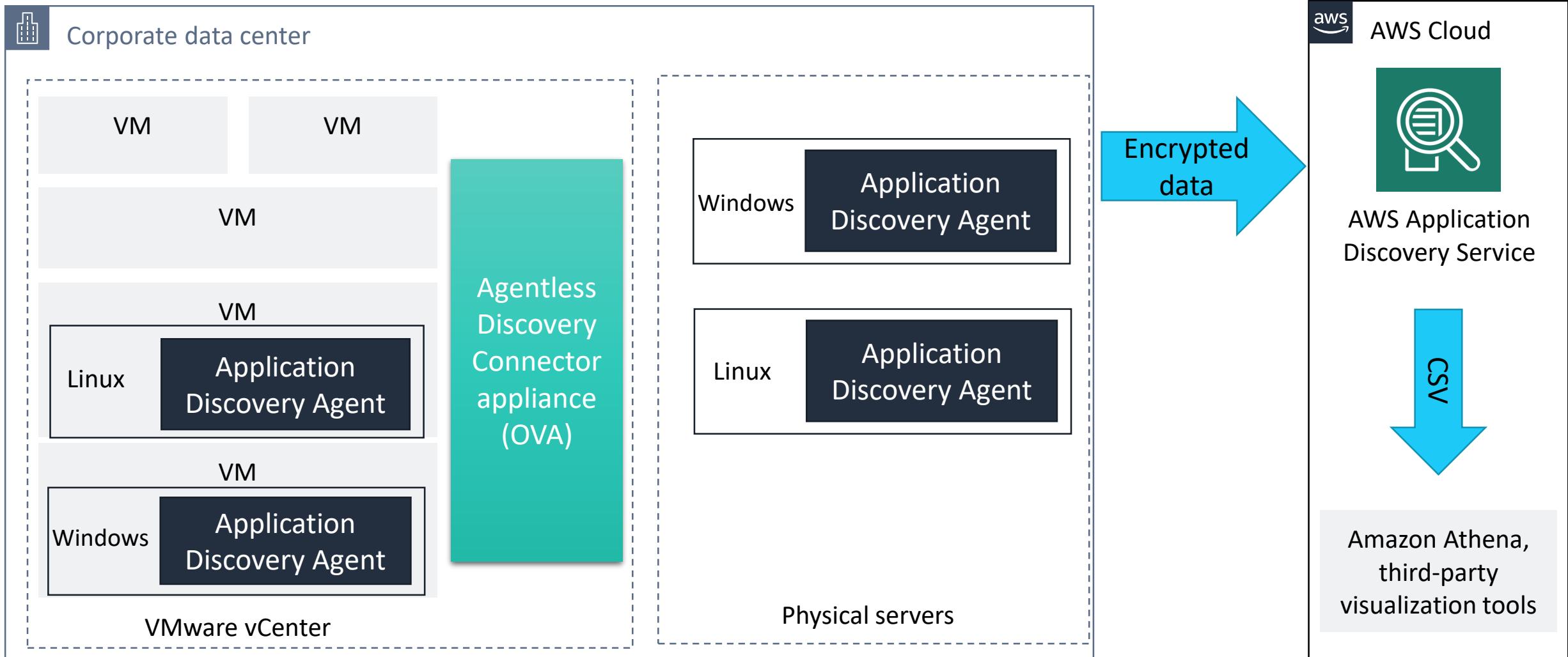
## Dependencies



<https://aws.amazon.com/application-discovery/>



# Application Discovery Service process



# Connector and agents



Supported Server Types	Discovery Connector	Discovery Agent
• VMware virtual machine	Yes	Yes
• Physical server	No	Yes
Deployment		
• Per server	No	Yes
• Per vCenter	Yes	No
Collected data		
• Static configuration data	Yes	Yes
• VM usage metrics	Yes	No
• Time series performance information		Yes – export only
• Network inbound/outbound connections		
• Running processes		



Review the [AWS Application Discovery service documentation](#) for additional comparison information.

# Application Discovery Service dependency



AWS Application  
Discovery Service



AWS Migration Hub

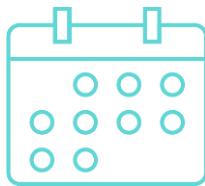
# Application Discovery Service benefits



**Discovery flexibility –  
agent or agentless**



**Securely capture  
discovery data**



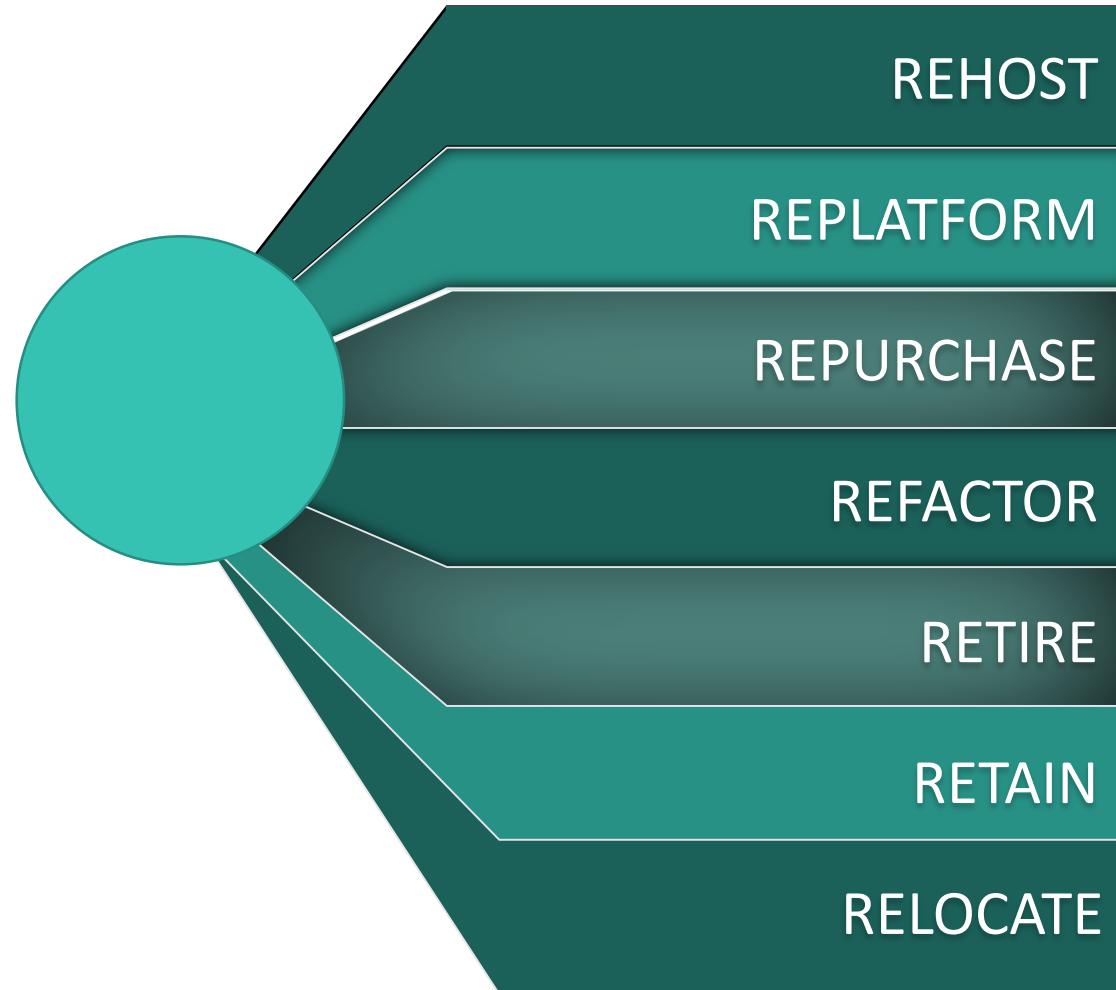
**Migration planning**



**Runs on AWS Migration Hub**

# Migration strategies

# Application migration strategies



# AWS Control Tower

# AWS Control Tower



AWS Control Tower



Automate setup of landing zones using blueprints



Apply guardrails for ongoing governance



Automate account provisioning workflows



Get visibility into metrics via a dashboard

# AWS Control Tower features

- Landing zone
- Account factory
- Guardrails
- AWS Organizations



# AWS Control Tower and the Well-Architected Framework

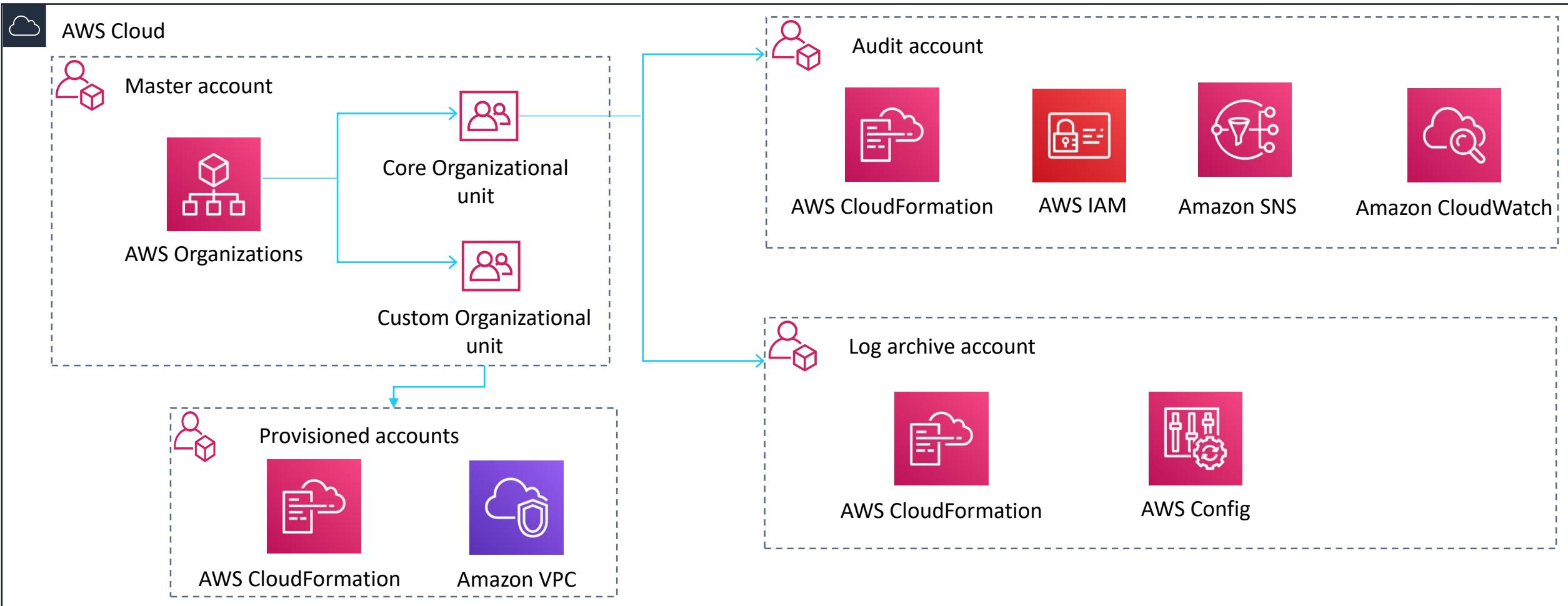


AWS Control Tower



AWS Well-Architected Framework

# Control Tower multi-account architecture



# AWS Control Tower key details

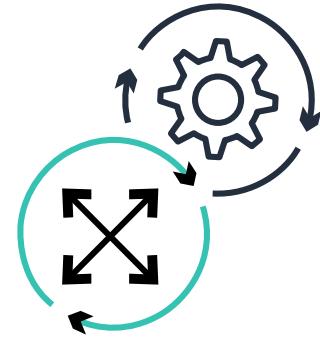
- Sets up new environments
- Enhances the AWS landing zone solution
- Customizations support
- Use cases for mature customers



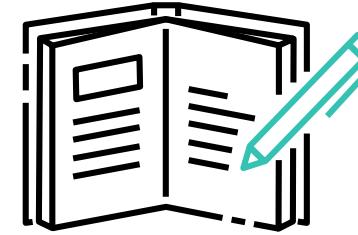
# Control Tower demo

# AWS Management and Governance

# AWS Management and Governance overview



Agility and control: Customers want both.



## Agility

Experiment

Be productive

Empower a distributed team

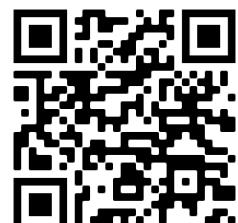
## Governance

Enable

Provision

Operate

<https://aws.amazon.com/products/management-tools/>



# AWS Management and Governance services



- Serverless Application Repository
- AWS Outposts
- EC2 Image Builder

## Containers

- Elastic Container Registry
- Elastic Container Service
- Elastic Kubernetes Service

## Storage

- S3
- EFS
- FSx
- S3 Glacier
- Storage Gateway
- AWS Backup

## Database

- RDS
- DynamoDB

## Management & Governance

- AWS Organizations
- CloudWatch
- AWS Auto Scaling
- CloudFormation
- CloudTrail
- Config
- OpsWorks
- Service Catalog
- Systems Manager
- AWS AppConfig
- Trusted Advisor
- Control Tower
- AWS License Manager
- AWS Well-Architected Tool
- Personal Health Dashboard
- AWS Chatbot
- Launch Wizard
- AWS Compute Optimizer

Inspector

Amazon Macie

AWS Single Sign-On

Certificate Manager

Key Management Service

CloudHSM

Directory Service

WAF & Shield

AWS Firewall Manager

Artifact

Security Hub

Detective

## AWS Cost Management

AWS Cost Explorer

AWS Budgets

AWS Marketplace Subs

## Mobile

AWS Amplify

# Manage and govern concurrently



Enable



AWS Control Tower



AWS Well-Architected  
Tool



AWS Organizations

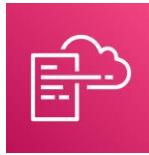


AWS Budgets



AWS License Manager

Provision



AWS CloudFormation



AWS Service Catalog



AWS Marketplace

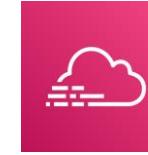


AWS OpsWorks

Operate



Amazon CloudWatch



AWS CloudTrail



AWS Config



AWS Systems Manager



AWS Cost & Usage Report



AWS Cost Explorer

Agility and control

# Knowledge check 1



Which statements are correct about the AWS Application Discovery Service? (Select TWO.)

- A) The Application Discovery Service helps identify interdependencies between servers.
- B) The Application Discovery Service provides three methods for discovery – agent-based method, agentless method, and AWS Snowball method.
- C) The Application Discovery Service secures data in transit but not at rest.
- D) To discover an on-premises environment, the Application Discovery Service requires the AWS Migration Hub service to be set up.
- E) Customers use the Agentless Discovery Connector appliance when discovering in a non-VMware environment.

# Knowledge check 1 review



Which statements are correct about the AWS Application Discovery Service? (Select TWO.)

- A) The Application Discovery Service helps identify interdependencies between servers.
- B) The Application Discovery Service provides three methods for discovery – agent-based method, agentless method, and AWS Snowball method.
- C) The Application Discovery Service secures data in transit but not at rest.
- D) To discover an on-premises environment, the Application Discovery Service requires the AWS Migration Hub service to be set up.
- E) Customers use the Agentless Discovery Connector appliance when discovering in a non-VMware environment.

# Knowledge check 2



Which statements are correct about the seven common strategies customers apply when migrating to AWS? (Select TWO.)

- A) The refactor strategy can be referred to as “lift-and-shift.”
- B) The rehost strategy can be referred to as “lift-and-shift.”
- C) In cases that require decommissioning applications or stopping legacy databases, customers should apply the retire strategy.
- D) All applications should use the same strategy during migrations.
- E) Only AWS solutions architects can recommend migration strategies to customers.

# Knowledge check 2 review



Which statements are correct about the seven common strategies customers apply when migrating to AWS? (Select TWO.)

- A) The refactor strategy can be referred to as “lift-and-shift.”
- B) The rehost strategy can be referred to as “lift-and-shift.”
- C) In cases that require decommissioning applications or stopping legacy databases, customers should apply the retire strategy.
- D) All applications should use the same strategy during migrations.
- E) Only AWS solutions architects can recommend migration strategies to customers.

# Knowledge check 3



Which statement does not apply to the AWS Control Tower service?

- A) AWS Control Tower provides a way to set up and govern a new, secure, multi-account environment based on AWS best practices.
- B) Provisioning of the AWS Control Tower requires AWS solutions architects or AWS Professional Services consultants.
- C) Customers can customize an existing Control Tower landing zone by using the Customizations for AWS Control Tower solution.
- D) AWS Control Tower enhances the AWS Landing Zone solution by automating the creation of a landing zone.

# Knowledge check 3 review



Which statement does not apply to the AWS Control Tower service?

- A) AWS Control Tower provides a way to set up and govern a new, secure, multi-account environment based on AWS best practices.
- B) Provisioning of the AWS Control Tower requires AWS solutions architects or AWS Professional Services consultants.
- C) Customers can customize an existing Control Tower landing zone by using the Customizations for AWS Control Tower solution.
- D) AWS Control Tower enhances the AWS Landing Zone solution by automating the creation of a landing zone.

# Knowledge check 4



Which statement is incorrect about AWS management and governance?

- A) AWS management and governance services only apply to new AWS customers.
- B) AWS management and governance services help customers apply both agility and control at the same time.
- C) The framework used in AWS management and governance is based on feedback received from AWS customers.
- D) Some of the services included in AWS management and governance are AWS Control Tower, AWS Organizations, AWS CloudFormation, and AWS Cost Explorer.

# Knowledge check 4



Which statement is incorrect about AWS management and governance?

- A) AWS management and governance services only apply to new AWS customers.
- B) AWS management and governance services help customers apply both agility and control at the same time.
- C) The framework used in AWS management and governance is based on feedback received from AWS customers.
- D) Some of the services included in AWS management and governance are AWS Control Tower, AWS Organizations, AWS CloudFormation, and AWS Cost Explorer.

# Summary



- Describe how to gather information about a customer's application portfolio data and apply it to guided migration strategies
- Discuss how migration strategies affect architectural decisions
- Determine the right migration strategy for a customer's scenario
- Identify the right migration strategy for a customer's application
- Identify how to set up an AWS multi-account baseline using best practices and the Well-Architected Framework

# Module 3: Migrate

# Learning objectives

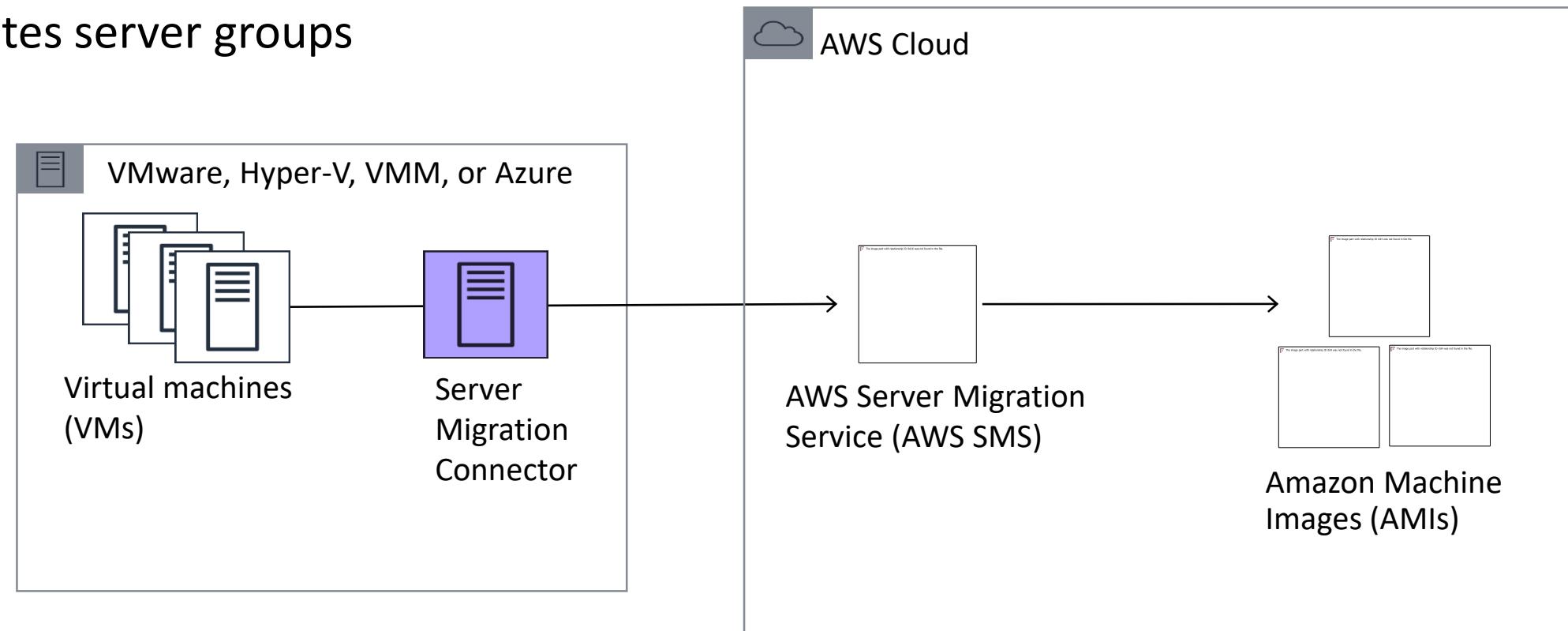


- Identify when to use AWS Server Migration Service or CloudEndure Migration
- Identify when to use AWS Database Migration Service
- Describe how to use AWS Database Migration Service to migrate databases to new platforms or software versions
- Identify how to use AWS Schema Conversion Tool to present gaps and effort needed before a heterogeneous database migration
- Describe how to migrate a database
- Identify when to use VMware Cloud on AWS to migrate to the cloud
- Identify the right data transfer service to use to migrate on-premises storage to AWS

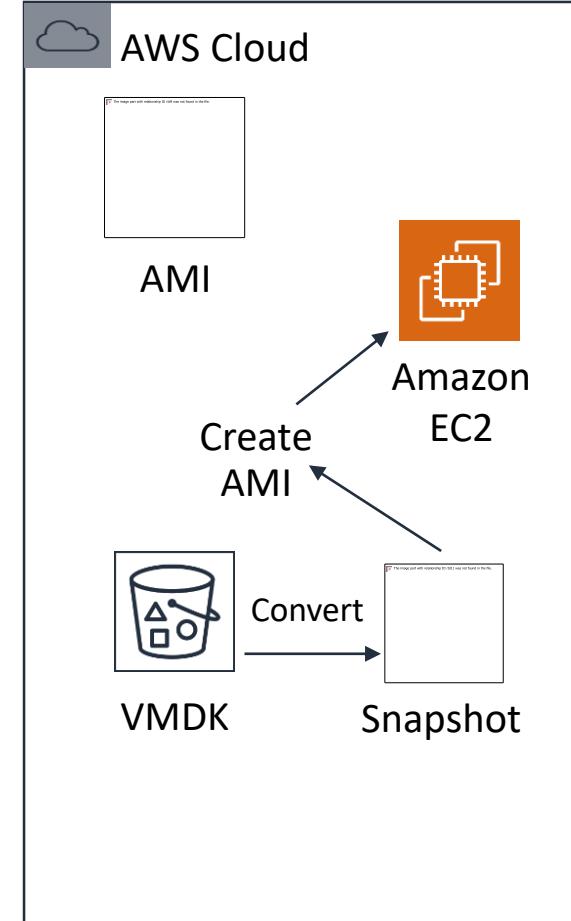
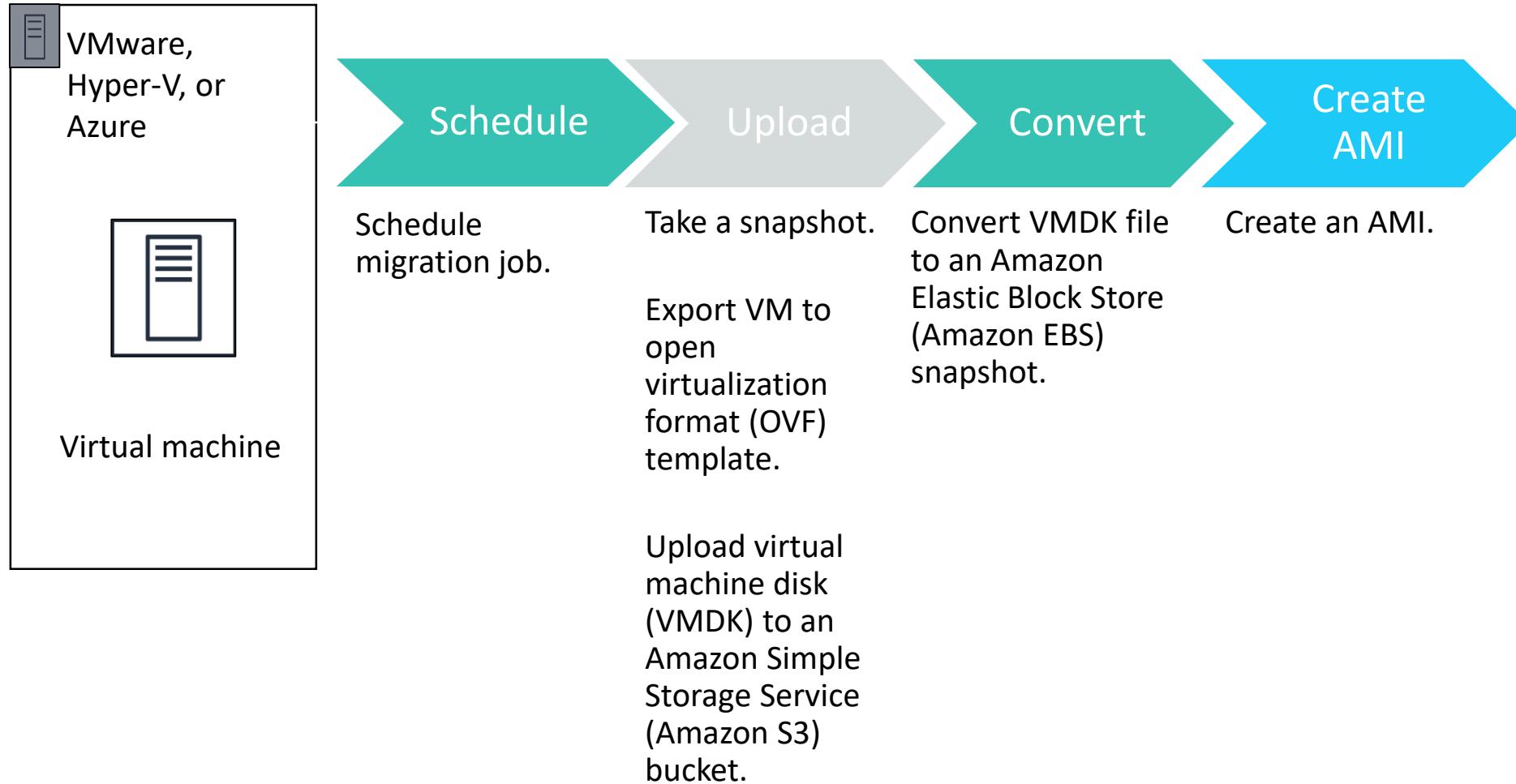
# Migrate servers with AWS Server Migration Service (AWS SMS)

# AWS SMS overview

- Automates migration for Hyper-V, VMware, and Azure VMs
- Replicates continuously
- Migrates server groups



# Replication steps to AWS



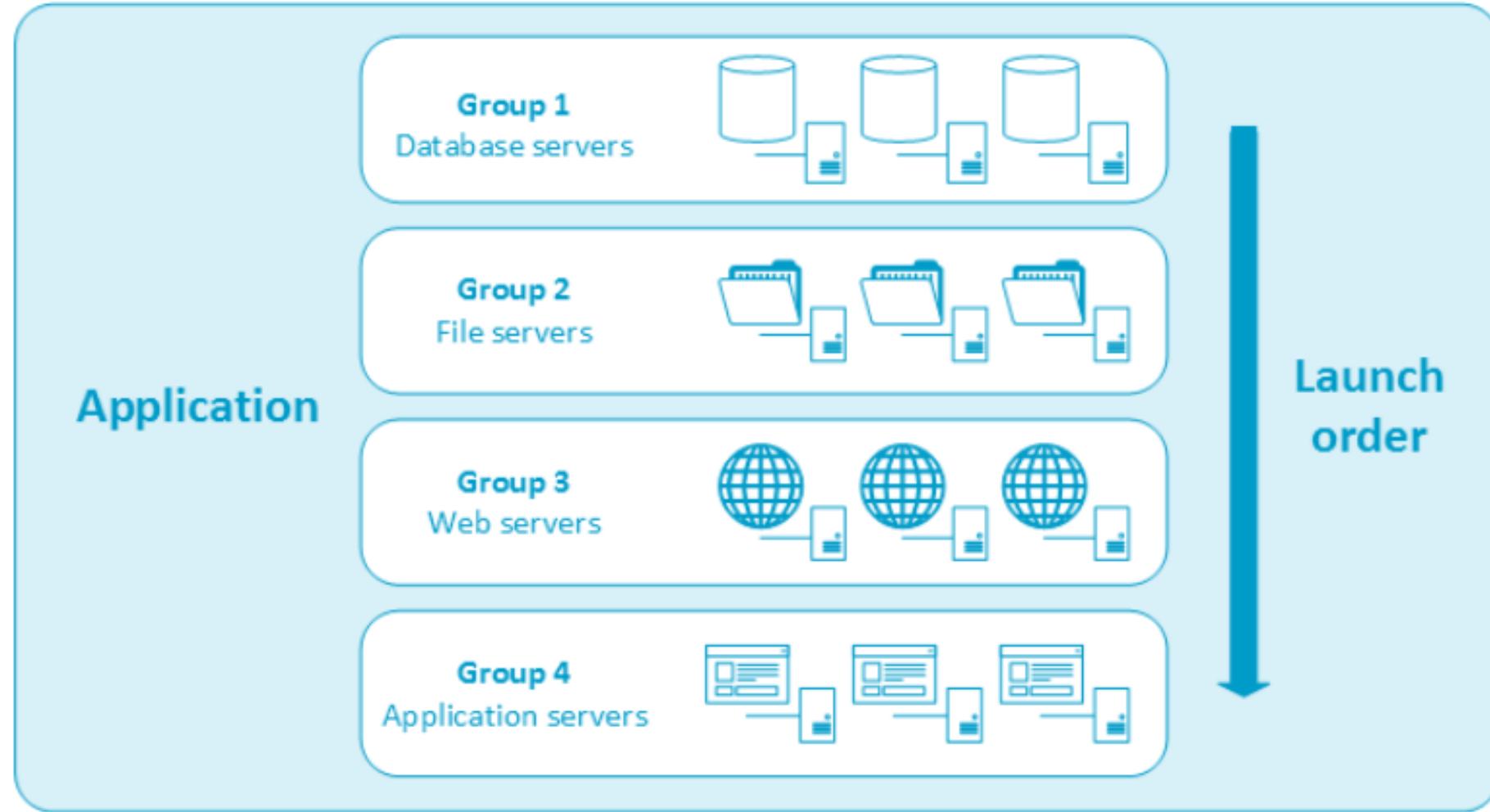
# AWS SMS grouping servers



- Multi-server application migration
- Coordinated launch

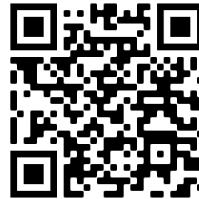
Customer scenario:

- Tiered application



For information about server group migrations, see Migrate Applications Using AWS SMS,  
<https://docs.aws.amazon.com/server-migration-service/latest/userguide/application-migration.html>

# Resources



- Product page:

<https://aws.amazon.com/server-migration-service/>



- Documentation:

<https://aws.amazon.com/documentation/server-migration-service/>



- SMS console:

<https://console.aws.amazon.com/servermigration/home>



- Blogs, videos, webinars, and new product announcements:

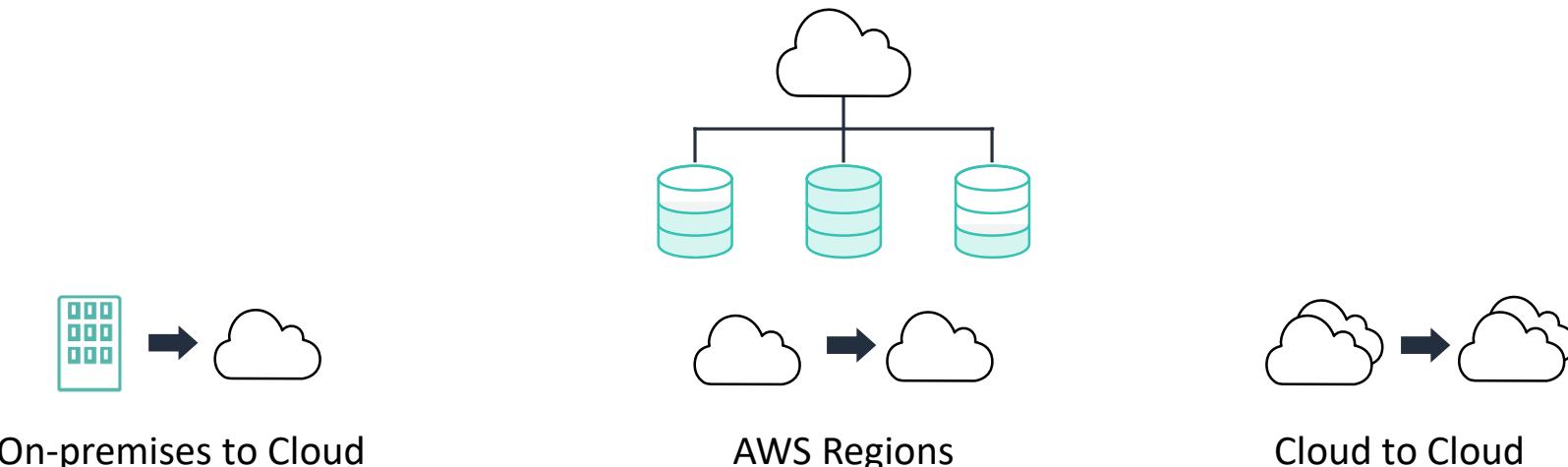
<https://aws.amazon.com/server-migration-service/resources>

# Migrate servers with CloudEndure (an AWS Company)

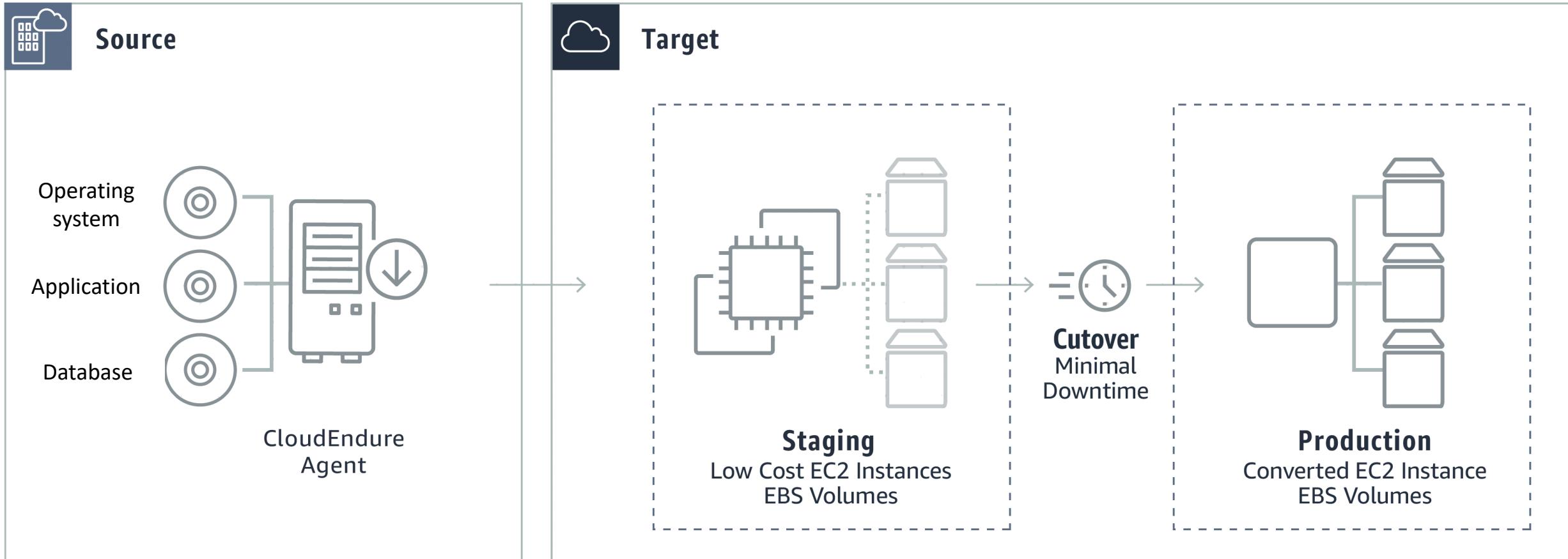
# CloudEndure Migration and CloudEndure Disaster Recovery



- Automatically migrate and protect applications or databases from any source into AWS.
- Business outcomes:
  - CloudEndure Migration – Allows self-service and rapid, reliable migration with minimal business disruption
  - CloudEndure Disaster Recovery – Meet aggressive recovery objectives while reducing IT resilience and total cost of ownership (TCO)



# CloudEndure Migration



# CloudEndure Migration benefits



## Flexible

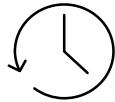


Any source migration

Wide range of  
operating system  
options

Migrate back

## Reliable



Continuous replication

Minimal  
downtime

Highly secure



Reduced effort

Non-disruptive tests

Robust

# Basic concepts



	Description
Accounts	An organization's CloudEndure activity
Projects	A collection of machines replicating to a specific Target
Users	Persons who can administer CloudEndure Projects
Licenses	Required for installing Agent and attached to a Project
Credentials	Project-specific, AWS access keys that allow control of AWS account

# Keys to a successful migration

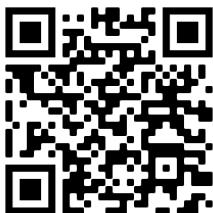


	Action	Benefit
Implementation	<ol style="list-style-type: none"><li>1. Identify the Source machines</li><li>2. Group into waves</li><li>3. Set cutover date for each wave</li></ol>	Better resource allocation and project continuity
Initial Replication	<ol style="list-style-type: none"><li>1. Install Agent in stopped mode</li><li>2. Start the replication, one wave at a time</li></ol>	Avoid network overloading and decrease IT overhead
Continuous Replication	Confirm replication reaches Continuous Data Protection (CDP) mode	Target machines can only be launched after initial replication is complete
Testing	Test target machines 1-2 weeks before planned cutover	Leave time to address any issues that may come up
Cutover	Verify that the machines are in CDP mode	Shorten cutover window and minimize cutover downtime

# Select AWS SMS or CloudEndure Migration



Decision factor	Use case or scenario	Recommendation
Infrastructure source	<ul style="list-style-type: none"><li>Hypervisor based approach for VMware, Hyper-V, MS Azure sources</li></ul>	<ul style="list-style-type: none"><li>AWS SMS</li></ul>
	<ul style="list-style-type: none"><li>Multiple types of sources: VMware, Hyper-V, physical servers, other clouds</li></ul>	<ul style="list-style-type: none"><li>CloudEndure Migration</li></ul>
Deployment preference	<ul style="list-style-type: none"><li>Agent-less method</li></ul>	<ul style="list-style-type: none"><li>AWS SMS</li></ul>
	<ul style="list-style-type: none"><li>Agent based method</li></ul>	<ul style="list-style-type: none"><li>CloudEndure Migration</li></ul>
Level of cutover automation and time	<ul style="list-style-type: none"><li>OK with long cutover window</li></ul>	<ul style="list-style-type: none"><li>AWS SMS</li></ul>
	<ul style="list-style-type: none"><li>Cutover in minutes</li></ul>	<ul style="list-style-type: none"><li>CloudEndure Migration</li></ul>



AWS Server Migration Service  
<https://aws.amazon.com/server-migration-service/>

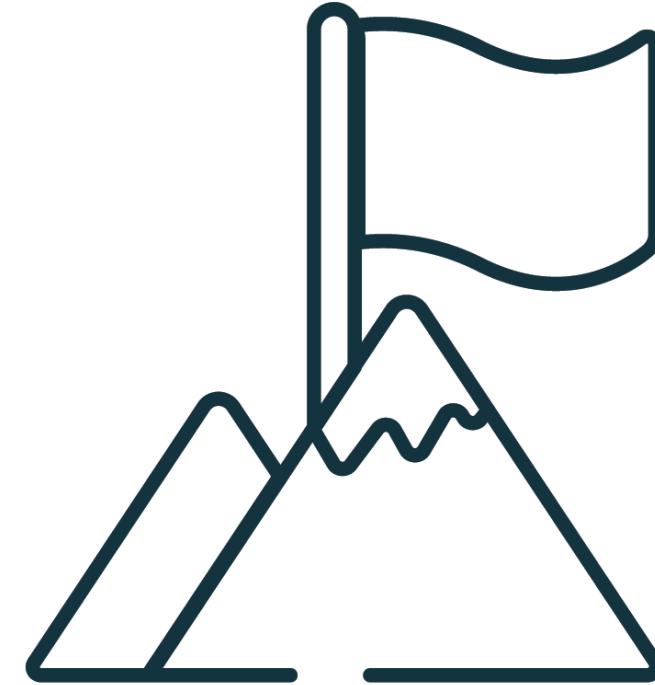


CloudEndure Migration  
<https://aws.amazon.com/cloudendure-migration/>

# AWS Database Migration Service (AWS DMS)

# Database migration challenges

- Migration time
- Application downtime
- Schema conflicts
- Data consolidation and application refactoring



# Amazon Relational Database Service



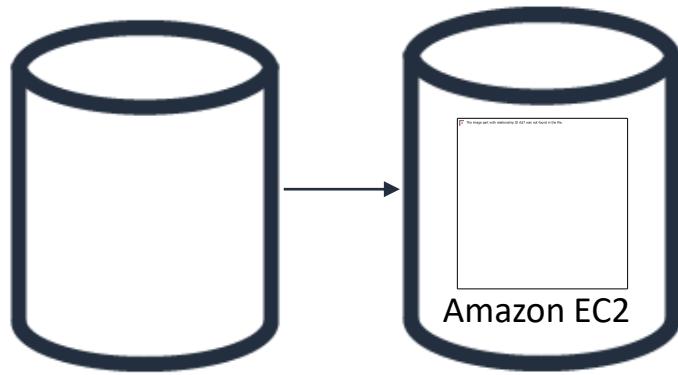
- A **managed service** for MySQL, Oracle, Microsoft SQL Server, MariaDB, PostgreSQL, and Amazon Aurora
- Handles **time-consuming** database management tasks
- Works with **existing** code, applications, and tools



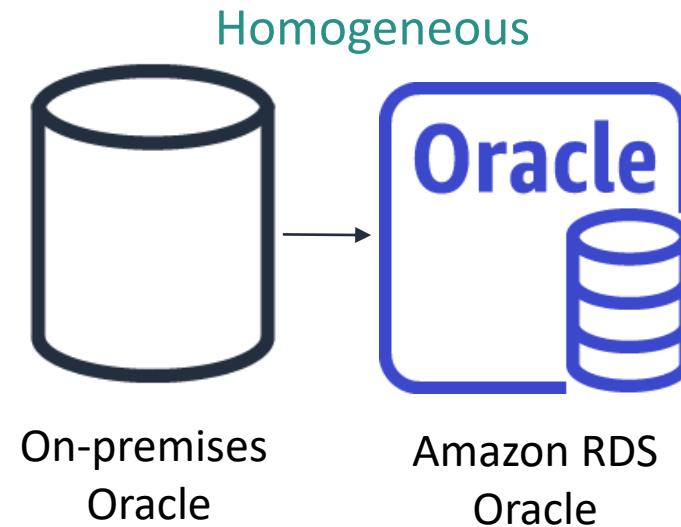
Amazon Relational  
Database Service  
(Amazon RDS)

# Database migration patterns

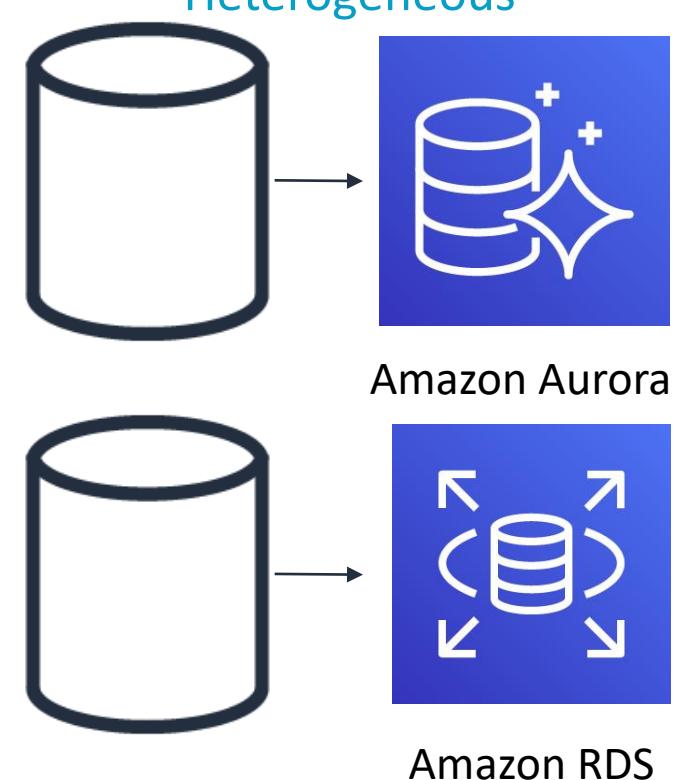
## Lift and shift



## Re-platform

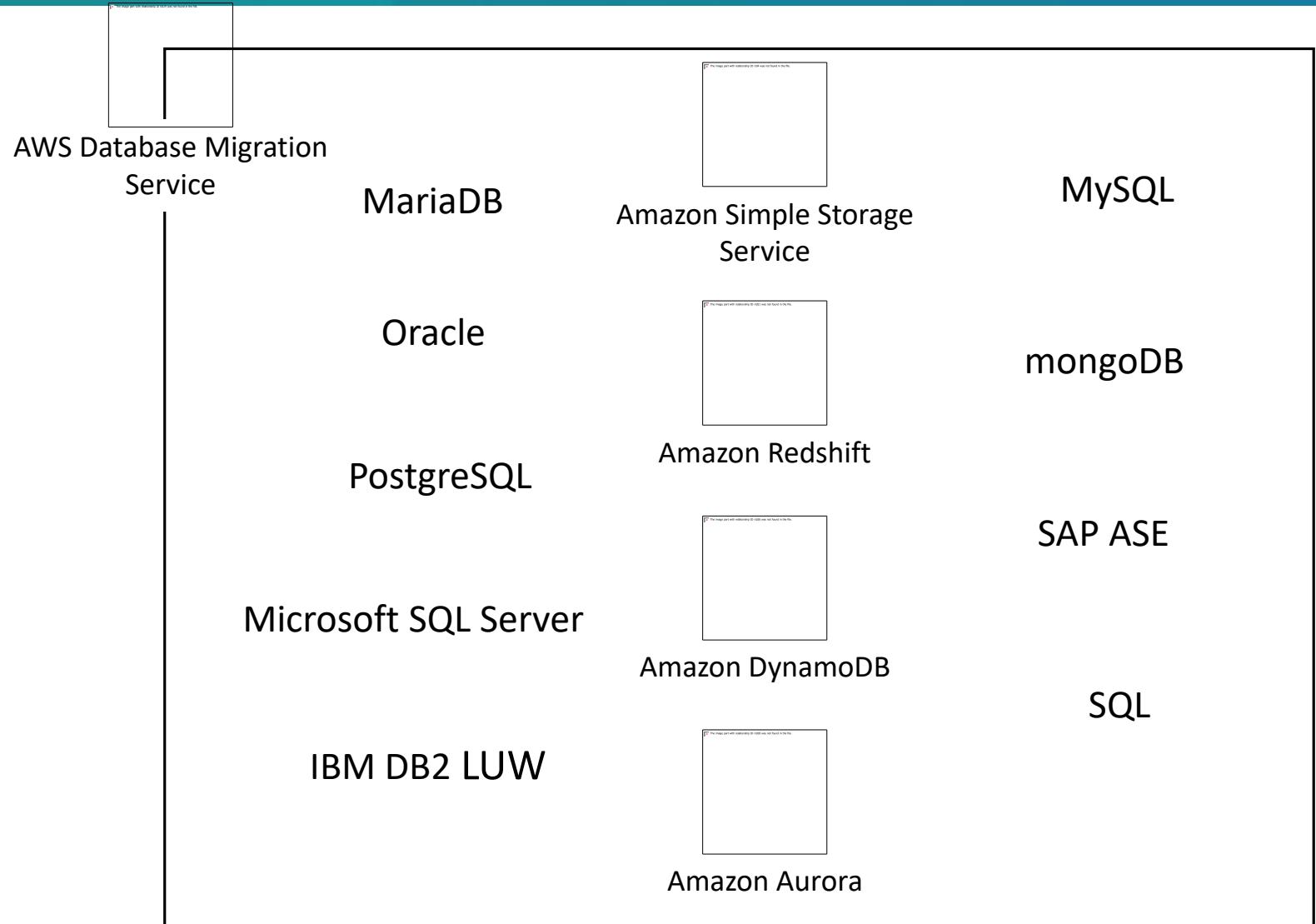


## Heterogeneous Re-platform

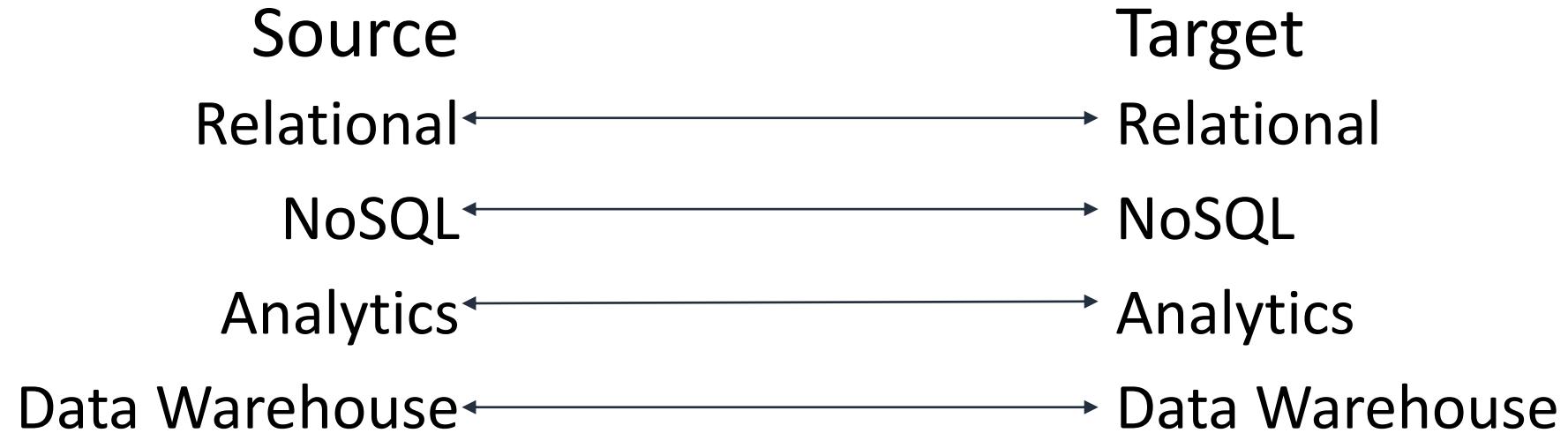


# AWS DMS overview

- Homogenous and heterogeneous
- Commercial and open source databases
- Apps running during migration



# Database source and target combinations



Sources for data migration: [https://docs.aws.amazon.com/dms/latest/userguide/CHAP\\_Source.html](https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Source.html)



Targets for data migration: [https://docs.aws.amazon.com/dms/latest/userguide/CHAP\\_Target.html](https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Target.html)



# Customer scenarios

- Homogeneous
- Heterogeneous
- Development and testing
- Database consolidation
- Continuous data replication

## Sources

Oracle    Microsoft SQL Server

MySQL

mongoDB

PostgreSQL

SQL

MariaDB

IBM DB2 LUW



Oracle

MySQL

PostgreSQL

MariaDB

Microsoft SQL Server

## Targets



Amazon Simple Storage Service



Amazon Redshift

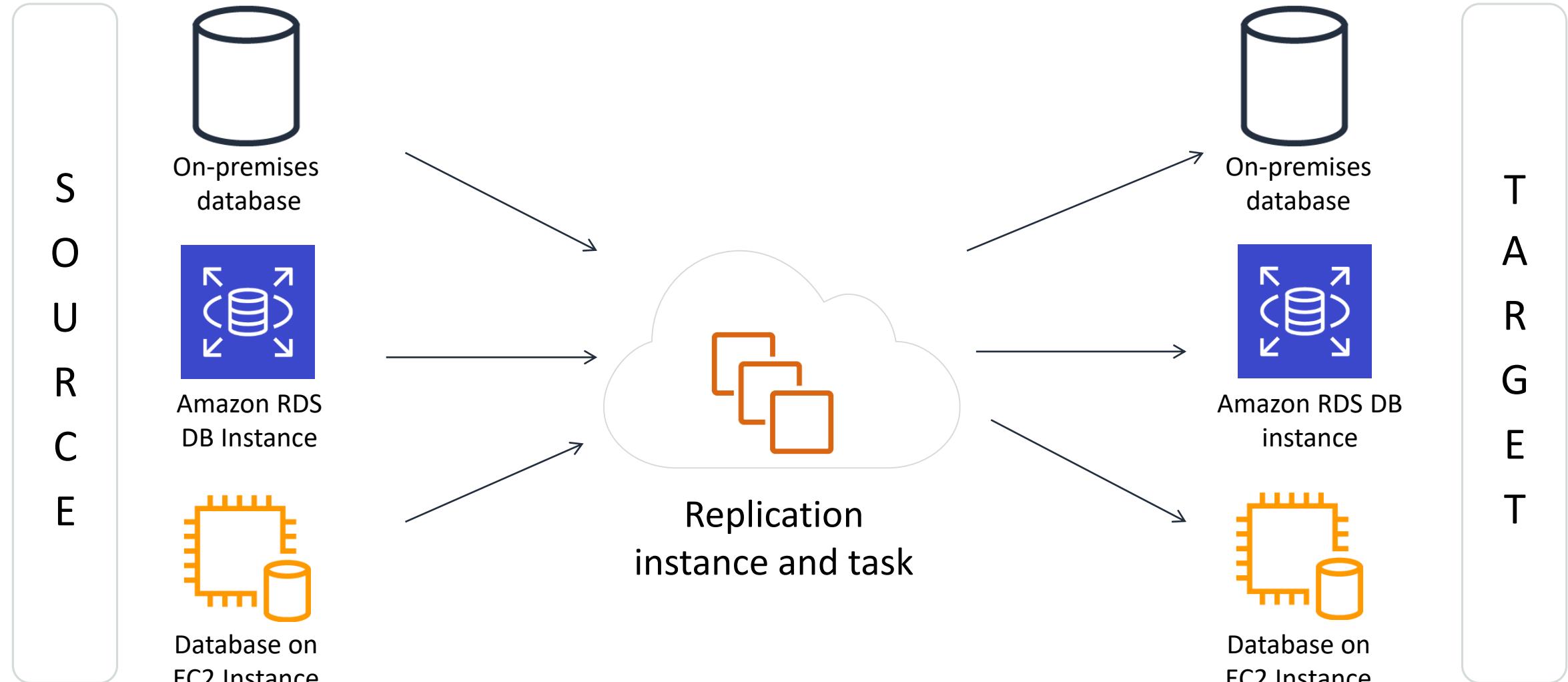


Amazon DynamoDB



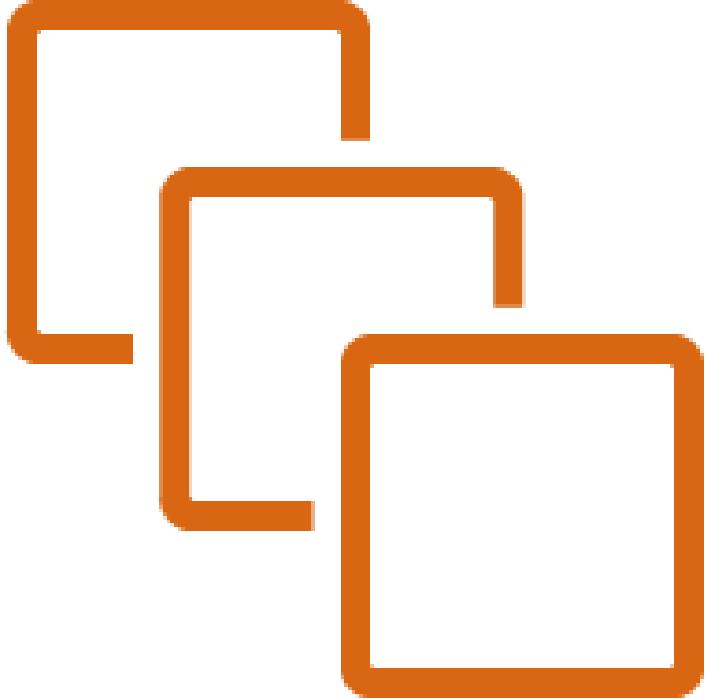
Amazon Aurora

# AWS DMS architecture



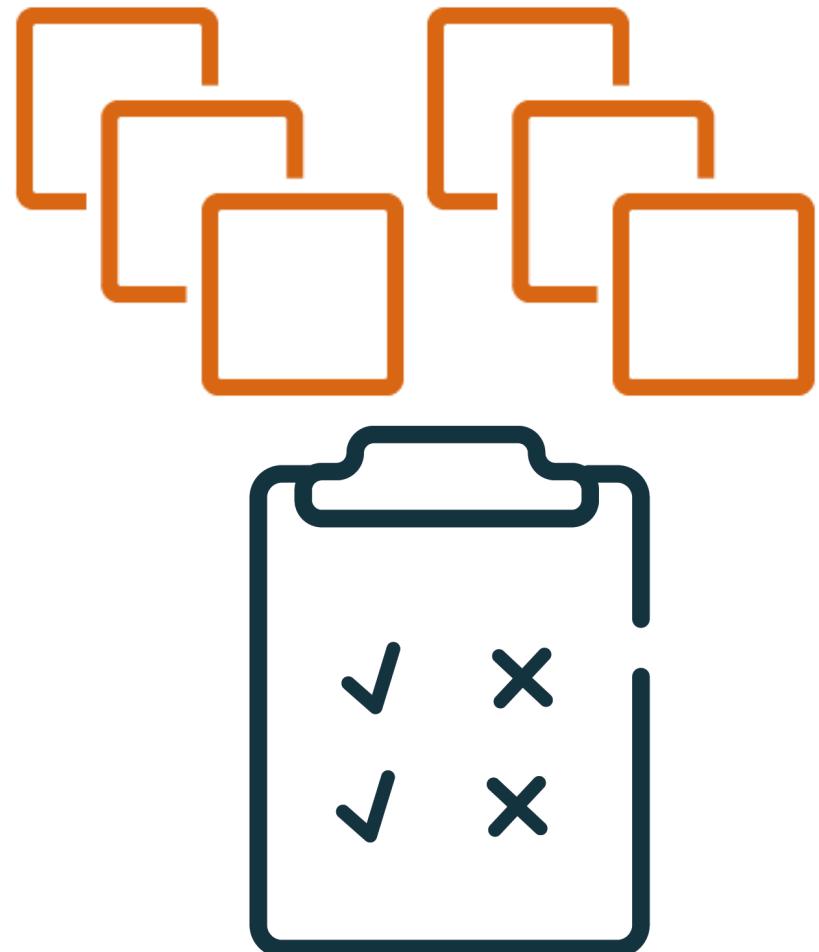
# Replication instance

- Runs migration tasks
- Supports multiple tasks
- Amazon EC2 T2, C4, and R4 instance classes



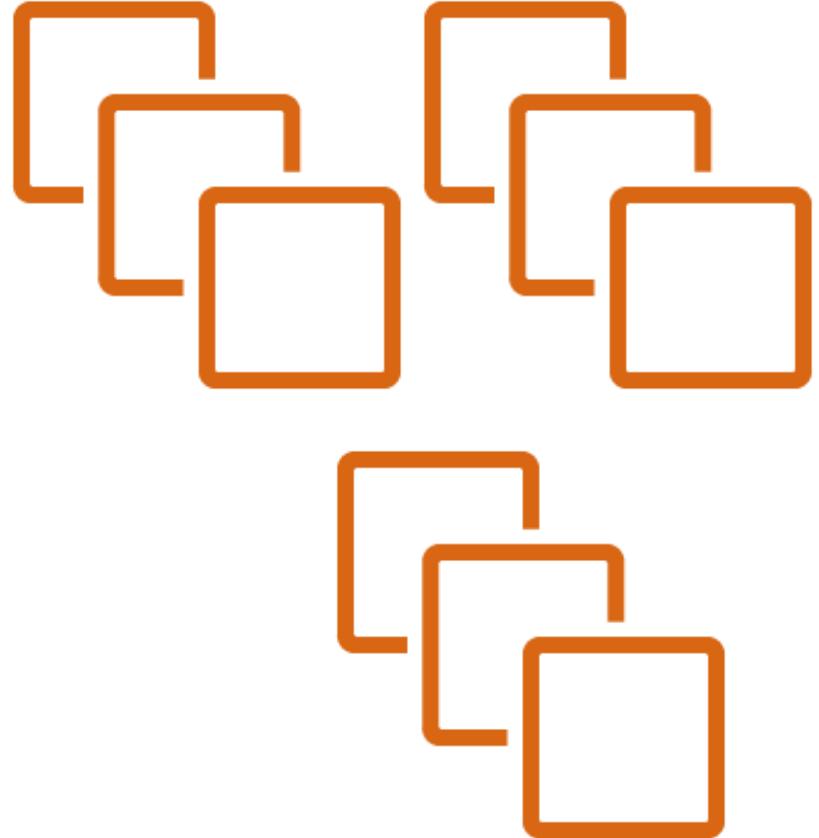
# Replication task

- Runs on a replication instance
- Contains **two endpoints**
- Offers migration **method**
- Applies **rules and filters**



# Replication task migration methods

- Migrate **existing** data
- Migrate **existing** data and replicate **ongoing** changes
- Replicate data **changes** only



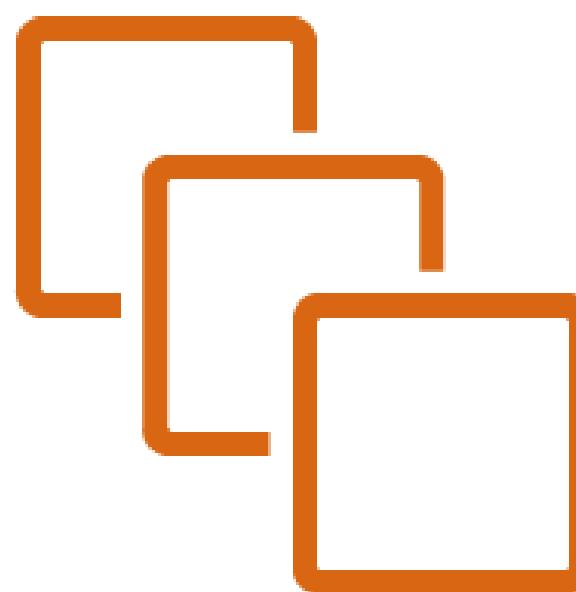
# Replication task rules and filters

Selection rules

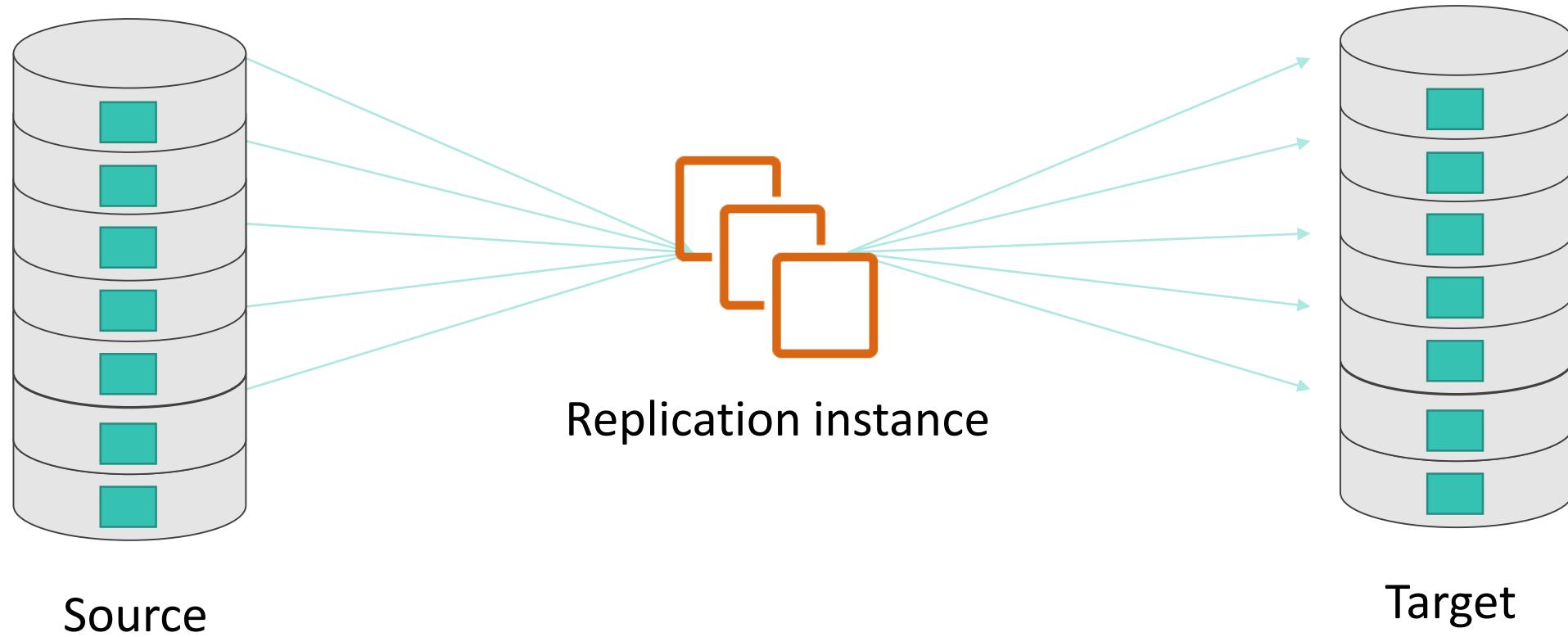
Applied at the **source**

Transformation rules

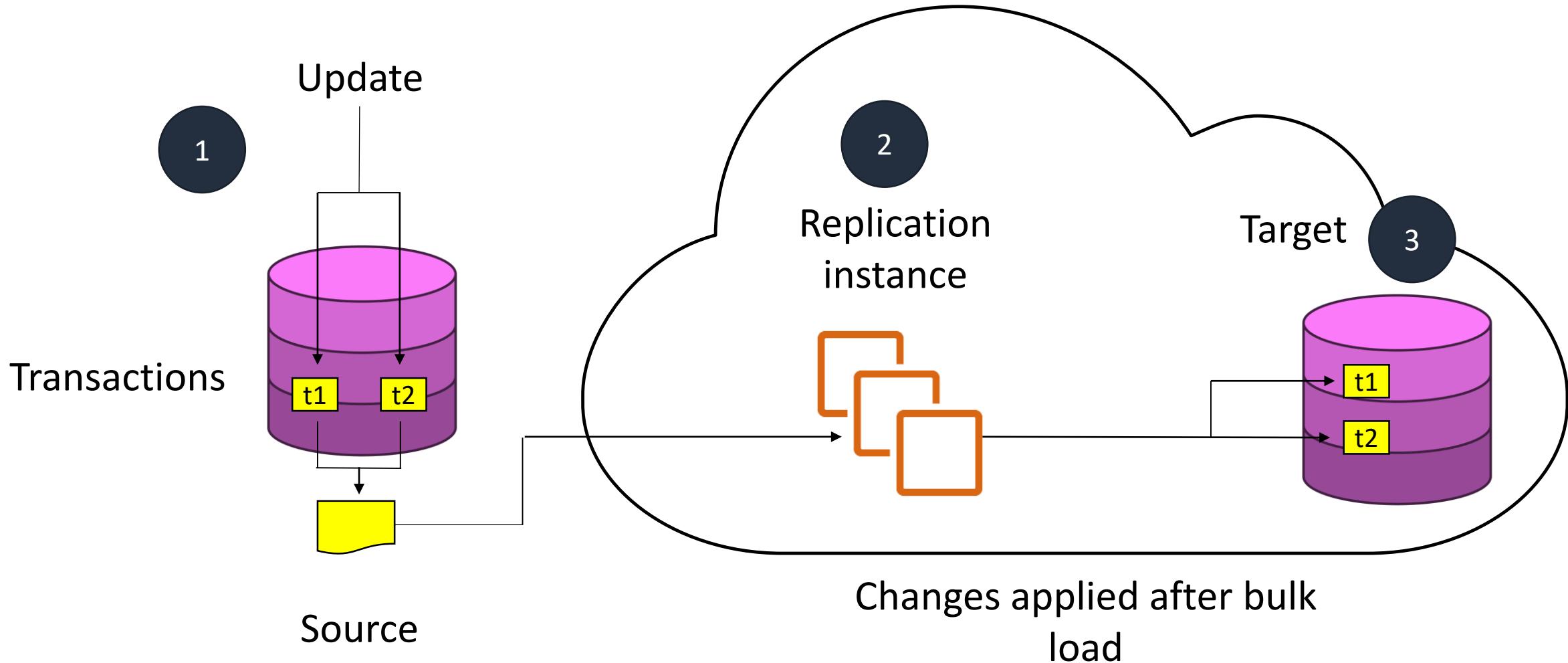
Applied on the **target**



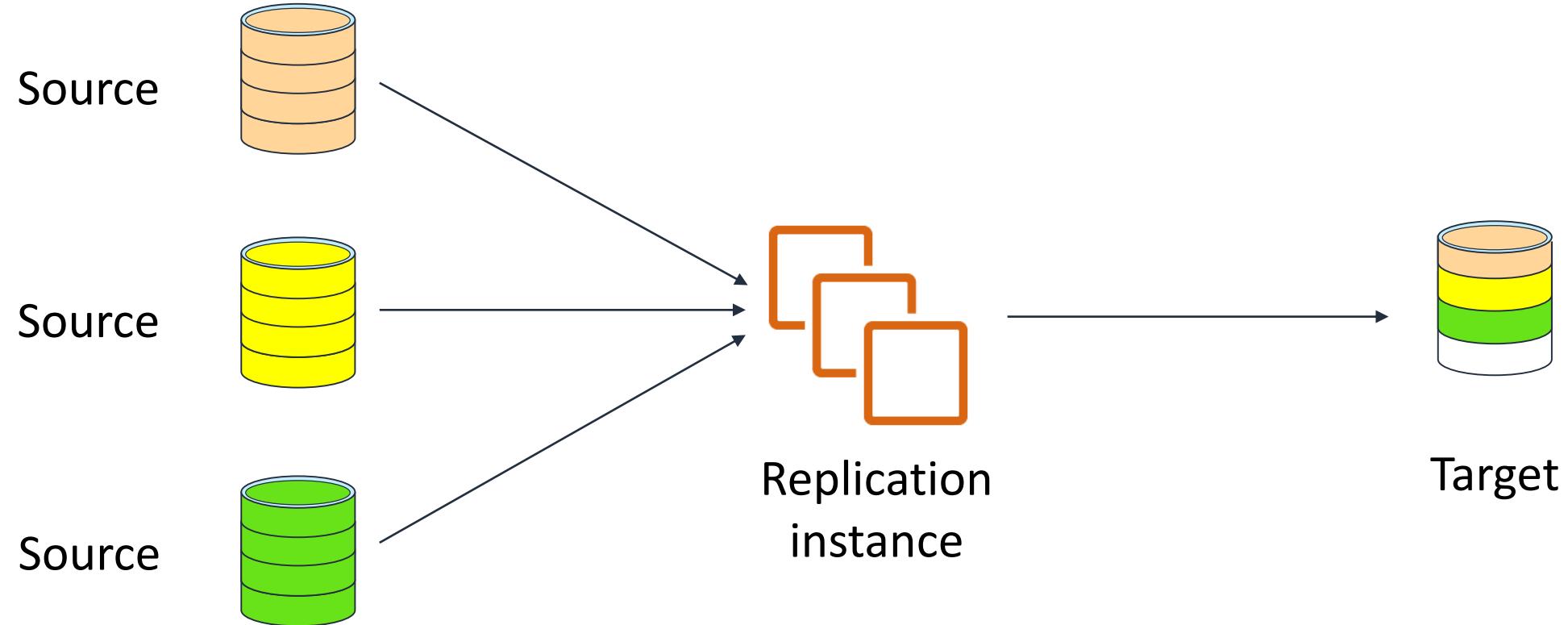
# Load multiple tables in parallel



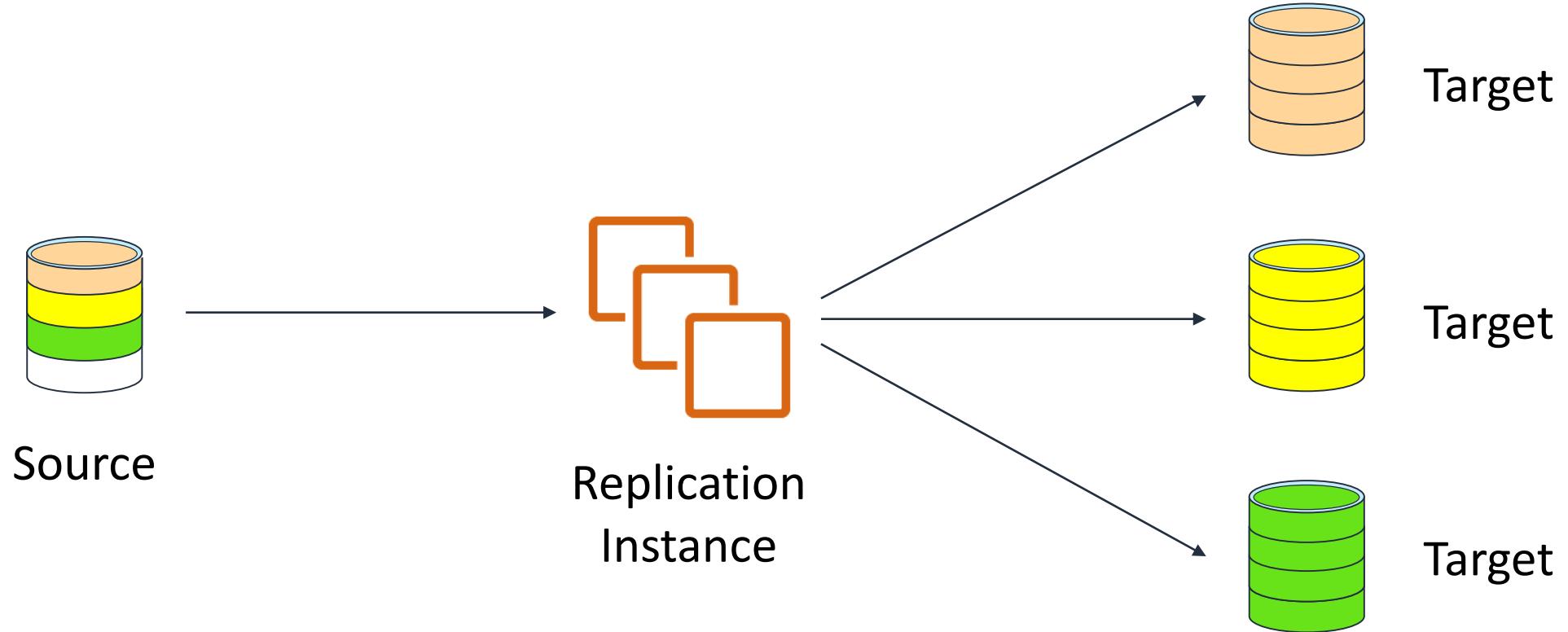
# Change data capture (CDC)



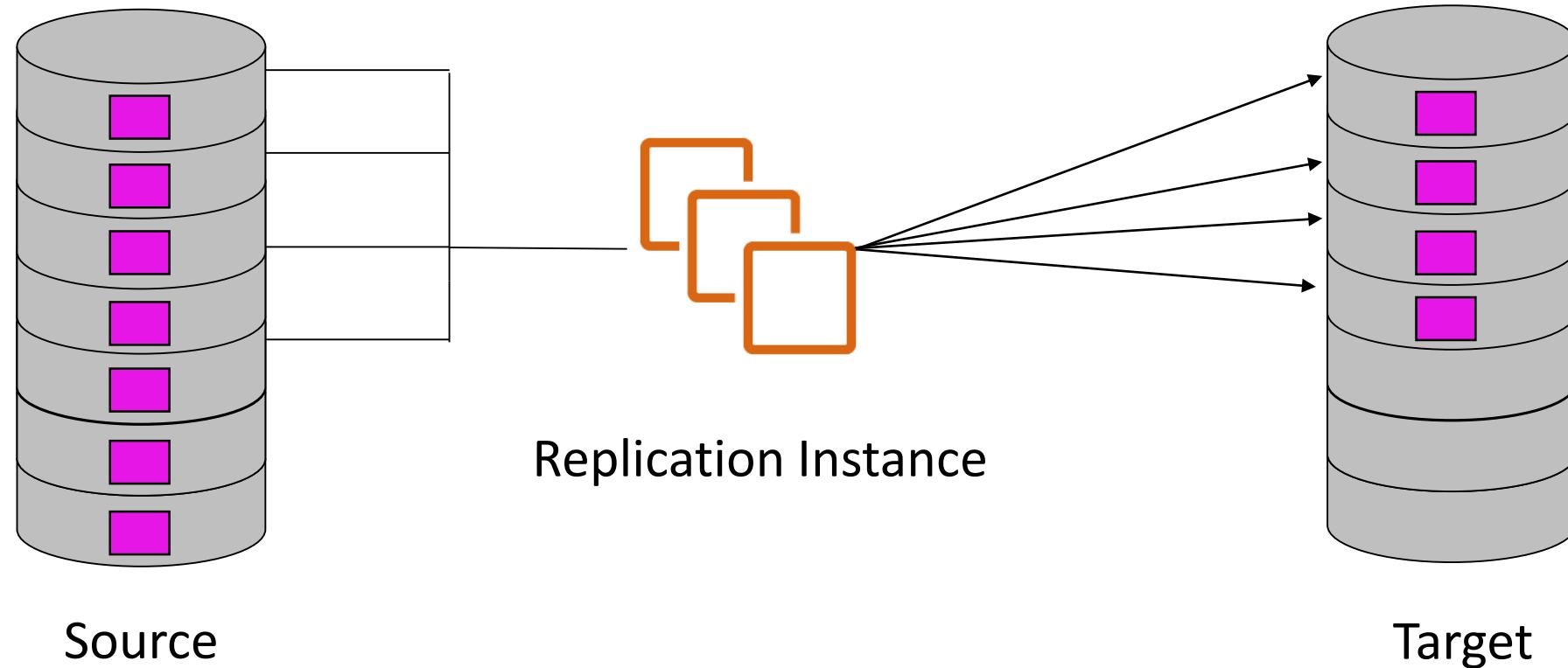
# Merge data



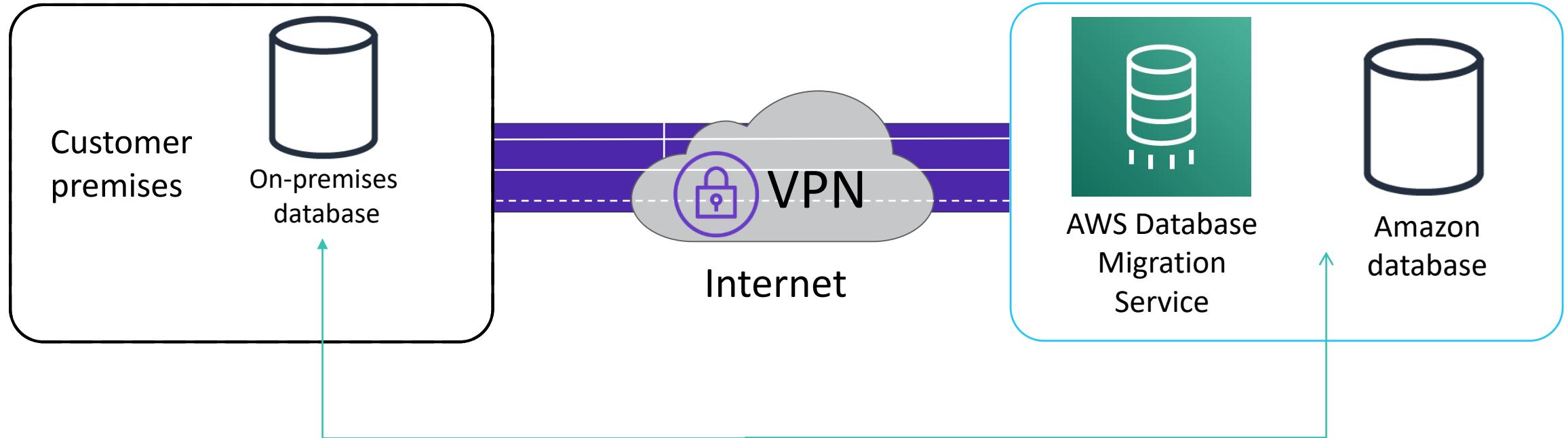
# Split data



# Filter data



# Applications running during migration



1. Start replication instance.
2. Connect to source and destination.
3. Select tables, schemas, or databases.

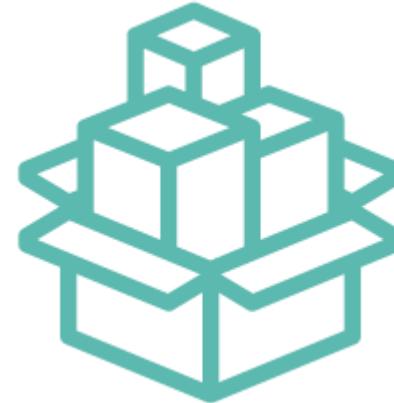


4. Confirm AWS DMS creates tables, loads data, and synchronizes the data.
5. Switch applications to a new target when needed.

# Other AWS DMS features and resources



- Free AWS DMS
- Database migration validation
- AWS DMS guides and playbooks:  
<https://aws.amazon.com/dms/resources>



# Other AWS DMS features and resources



- AWS DMS support for AWS Snowball



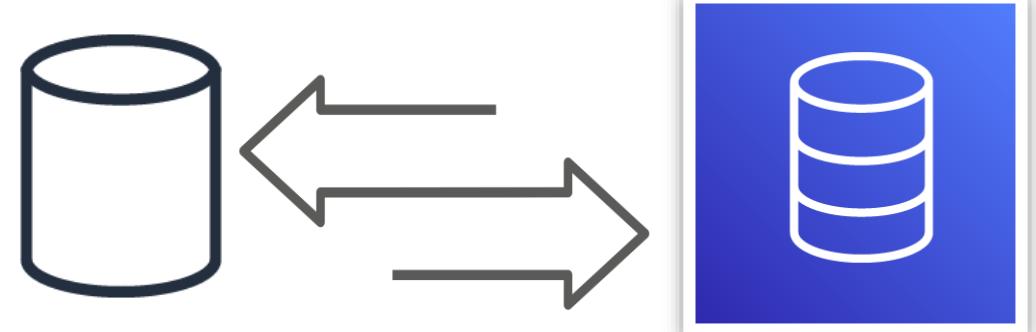
AWS Snowball

# AWS Schema Conversion Tool

Automates database schema and code conversion

Converts:

- Database schema
- Data warehouse schema
- SQL applications



# OLTP conversion support



Source Database	Target Database on Amazon RDS
Microsoft SQL Server (version 2008 and later)	Amazon Aurora with MySQL compatibility, Amazon Aurora with PostgreSQL compatibility, MariaDB 10.2 and 10.3, Microsoft SQL Server, MySQL, PostgreSQL
Oracle (version 10.2 and later)	Aurora MySQL, Aurora PostgreSQL, MariaDB 10.2 and 10.3, MySQL, Oracle, PostgreSQL

See more supported OLTP database conversions online on the [AWS Schema Conversion Tool](#) page, including data warehouse conversions.

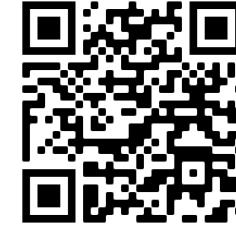
[https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP\\_Welcome.html](https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP_Welcome.html)



# Applying AWS SCT steps



- Install AWS SCT
  - <https://aws.amazon.com/dms/schema-conversion-tool/>
- Create a project
- Connect the source and target databases
- Create a database migration assessment report



# Database migration assessment report



Open sample report document

A screenshot of a Microsoft Word document titled "Database migration assessment report". The document header indicates the source database is "HRsct\_user@10.43.1.73:1521:xe" and "Oracle Database 11g Express Edition 11.2.0.2.0 (64bit Production), Express edition". The main content includes an "Executive summary" section detailing the conversion analysis for various targets like MySQL, PostgreSQL, Aurora, and MariaDB. The document uses a standard Microsoft Word template with sections and bullet points.

**Database migration assessment report**

Source database: HRsct\_user@10.43.1.73:1521:xe  
Oracle Database 11g Express Edition 11.2.0.2.0 (64bit Production), Express edition

**Executive summary**

We completed the analysis of your Oracle source database and estimate that 100% of the database storage objects and 80% of database code objects can be converted automatically or with minimal changes if you select Amazon RDS for MySQL as your migration target. Database storage objects include schemas, tables, table constraints, indexes, types, collection types, sequences, synonyms, view-constraints, clusters and database links. Database code objects include triggers, views, materialized views, materialized view logs, procedures, functions, packages, package constants, package cursors, package exceptions, package variables, package functions, package procedures, package types, package collection types, scheduler-jobs, scheduler-programs and scheduler-schedules. Based on the source code syntax analysis, we estimate 96% (based on # lines of code) of your code can be converted to Amazon RDS for MySQL automatically. To complete the migration, we recommend 7 conversion action(s) ranging from simple tasks to medium-complexity actions to complex conversion actions.

If you select Amazon Aurora (MySQL compatible) as your migration target, we estimate that 100% of the database storage objects and 80% of database code objects can be converted automatically or with minimal changes. Based on the syntax analysis we estimate that 96% of your entire database schema can be converted to Amazon Aurora (MySQL compatible) automatically. We recommend 7 conversion action(s) to complete the conversion work.

If you select Amazon RDS for PostgreSQL as your migration target, we estimate that 100% of the database storage objects and 40% of database code objects can be converted automatically or with minimal changes. Based on the syntax analysis we estimate that 96% of your entire database schema can be converted to Amazon RDS for PostgreSQL automatically. We recommend 13 conversion action(s) to complete the conversion work.

If you select Amazon Aurora (PostgreSQL compatible) as your migration target, we estimate that 100% of the database storage objects and 40% of database code objects can be converted automatically or with minimal changes. Based on the syntax analysis we estimate that 96% of your entire database schema can be converted to Amazon Aurora (PostgreSQL compatible) automatically. We recommend 13 conversion action(s) to complete the conversion work.

If you select Amazon RDS for MariaDB 10.2 as your migration target, we estimate that 100% of the database storage objects and 80% of database code objects can be converted automatically or with minimal changes. Based on the syntax analysis we estimate that 96% of your entire database schema can be converted to Amazon RDS for MariaDB 10.2 automatically. We recommend 5 conversion action(s) to complete the conversion work.

If you select Amazon RDS for MariaDB 10.3 as your migration target, we estimate that 100% of the database storage objects and 80% of database code objects can be converted automatically or with minimal changes. Based on the syntax analysis we estimate that 96% of your entire database schema can be converted to Amazon RDS for MariaDB 10.3 automatically. We recommend 5 conversion action(s) to complete the conversion work.

# AWS SCT console

The screenshot illustrates the AWS SCT console interface for comparing Oracle and Amazon Aurora databases.

**Left Panel (Oracle Database):**

- Summary tab selected.
- Action items tab.
- Tree view of Oracle schema objects:
  - Schemas [13]: ANONYMOUS, APEX\_040000, APEX\_PUBLIC\_USER, CTXSYS, FLOWS\_FILES.
  - HR: Tables [7], External Tables, Views [1], Packages, Procedures [2].
    - Selected: ADD\_JOB\_HISTORY, SECURE\_DML, Functions, User Defined Types, Collection Types, Sequences [3], Materialized Views, Materialized View Logs, Synonyms, Clusters, Database Links, Scheduler, Queuing, MDSYS, OUTLN.
- Central Panel (Issues and Comparison):**
  - Issue: 5075: PostgreSQL doesn't support VIEW with the READ ONLY option.
  - Issue: 5326: PostgreSQL doesn't support status definition in the CREATE statement for triggers/constraints.
  - Issue: 5340: Unable to convert functions.
  - Issue: 5581: PostgreSQL doesn't support index-organized table.
  - Issue: 5584: Converted functions depends on the time zone settings.

Number of occurrences: 1 | Documentation reference(s): <http://www.postgresql.org/docs/9.6/static/sql-createview.html>

Number of occurrences: 1 | Documentation reference(s): <http://www.postgresql.org/docs/9.6/static/sql-createtable.html>

Number of occurrences: 7

Number of occurrences: 1

Number of occurrences: 3 | Documentation reference(s): <http://www.postgresql.org/docs/9.6/static/functions-datetime.html>

**Bottom Left (Oracle Procedure):**

Properties, SQL, Parameters, Related converted objects, Mapping, Settings.

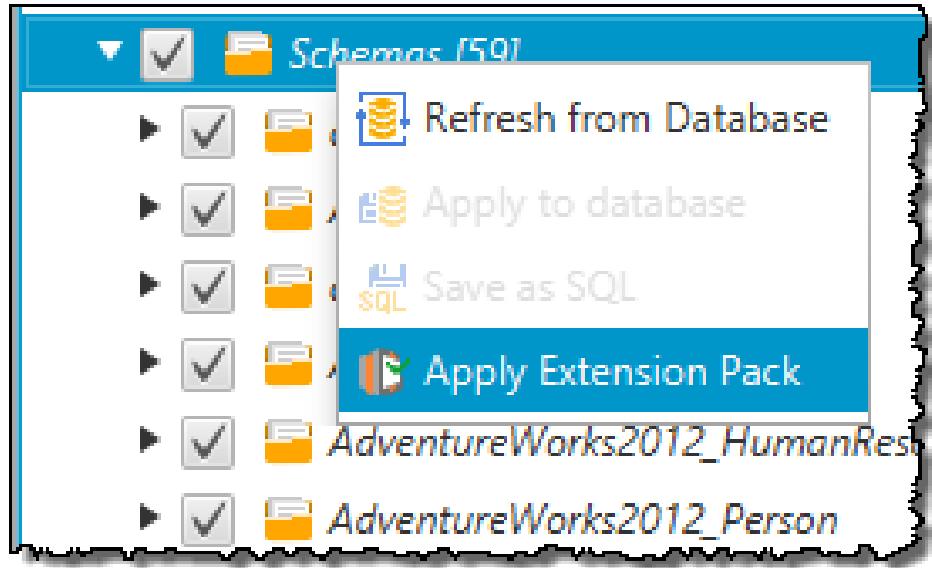
```
01 PROCEDURE add_job_history
02   ( p_emp_id          job_history.employee_id%type
03   , p_start_date      job_history.start_date%type
04   , p_end_date        job_history.end_date%type
05   , p_job_id          job_history.job_id%type
06   , p_department_id  job_history.department_id%type
07 )
08 IS
09 BEGIN
10   INSERT INTO job_history (employee_id, start_date, end_date,
11                           job_id, department_id)
12     VALUES (p_emp_id, p_start_date, p_end_date, p_job_id, p_department_id);
13 END add_job_history;
```

**Bottom Right (Amazon Aurora Function):**

Properties, SQL, Parameters, Apply status.

```
01 CREATE OR REPLACE FUNCTION hr.add_job_history(
02   IN p_emp_id DOUBLE PRECISION,
03   IN p_start_date TIMESTAMP WITHOUT TIME ZONE,
04   IN p_end_date TIMESTAMP WITHOUT TIME ZONE,
05   IN p_job_id TEXT,
06   IN p_department_id DOUBLE PRECISION
07 ) RETURNS void
08 AS
09 $BODY$
10 BEGIN
11   /*
12   [5340 - Severity CRITICAL - PostgreSQL doesn't support the
13   INSERT INTO job_history (employee_id, start_date, end_date
14   job_id, department_id)
15   VALUES(p_emp_id, p_start_date, p_end_date, p_job_id, p_department_id);
16   */
17   BEGIN
18   END;
19 END;
20 $BODY$
```

# Extension pack



- Provides an add-on module
- Emulates source database functions

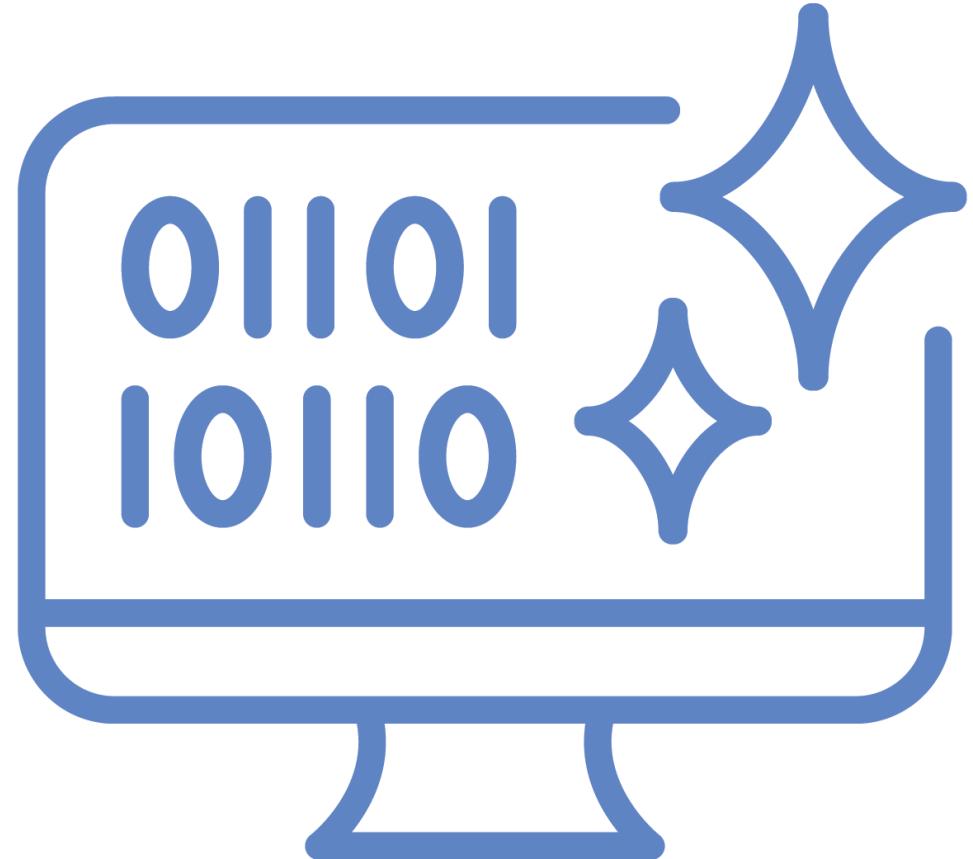
AWS SCT Extension Pack [user guide](#)



[https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP\\_ExtensionPack.html](https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP_ExtensionPack.html)

## SQL in applications code:

- C++
- C#
- Java
- Other application code



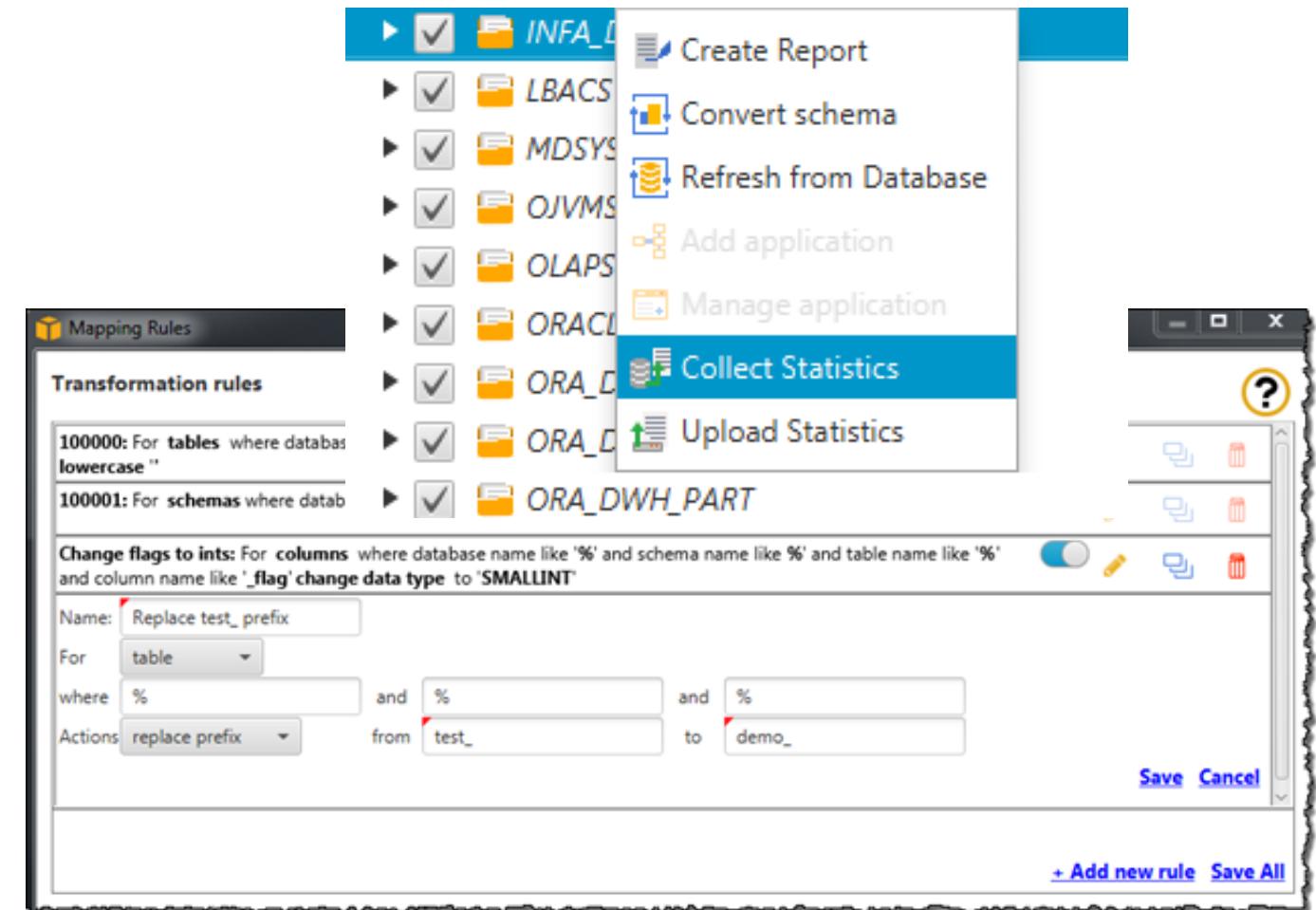
# Data warehouse schema conversion



To optimize data warehouse schema conversion:

- Choose **strategies** and **rules**
- Collect or upload **statistics**
- Create **mapping rules**

AWS SCT Data warehouse schema conversion [user guide](#) information



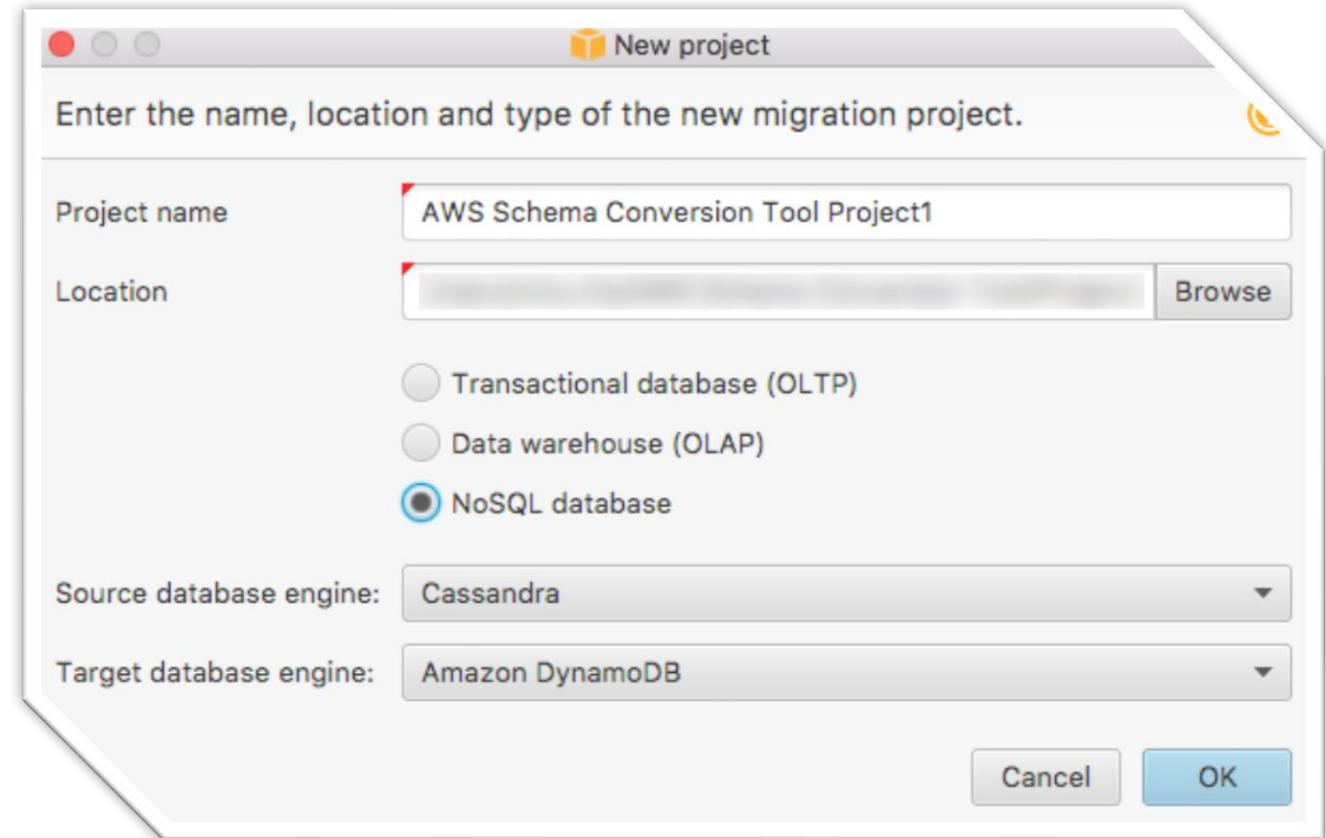
[https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP\\_Converting.DW.html](https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/CHAP_Converting.DW.html)

# Data extraction agents



- Additional transformation
- Optimized for Amazon Redshift and DynamoDB

AWS SCT data extraction agents  
[user guide](#) information



<https://docs.aws.amazon.com/SchemaConversionTool/latest/userguide/agents.html>

# Database migration

# Database migration phases



Phase	Description	Tools
1	Remove unneeded objects	
2	Schema conversion assessment	SCT
3	Schema issues remediation	SCT
4	Application conversion/remediation	SCT
5	Data migration	DMS
6	Data migration validation	DMS
7	Performance tuning	
8	Deployment	

# Lab: application migration

# Lab – Database and Application Migration



## Objective

- Migrate an application using AWS DMS and CloudEndure Migration.

## Lab access

- [Application migration](#)



<https://application-migration-with-aws.workshop.aws/intro.html>

# VMware Cloud on AWS migration

# VMware Cloud on AWS for migration



- Accelerated cloud migration
- Seamless application migration
- No re-architecting required
- Single point of contact
- No learning curve



VMware Cloud on AWS

For more information, review the [VMware Cloud on AWS FAQs](#).  
<https://aws.amazon.com/vmware/faqs/>



## Cloud migrations

Migrate to cloud without converting or re-architecting

## Data center extension

Expand data center capacity in a cost-effective way

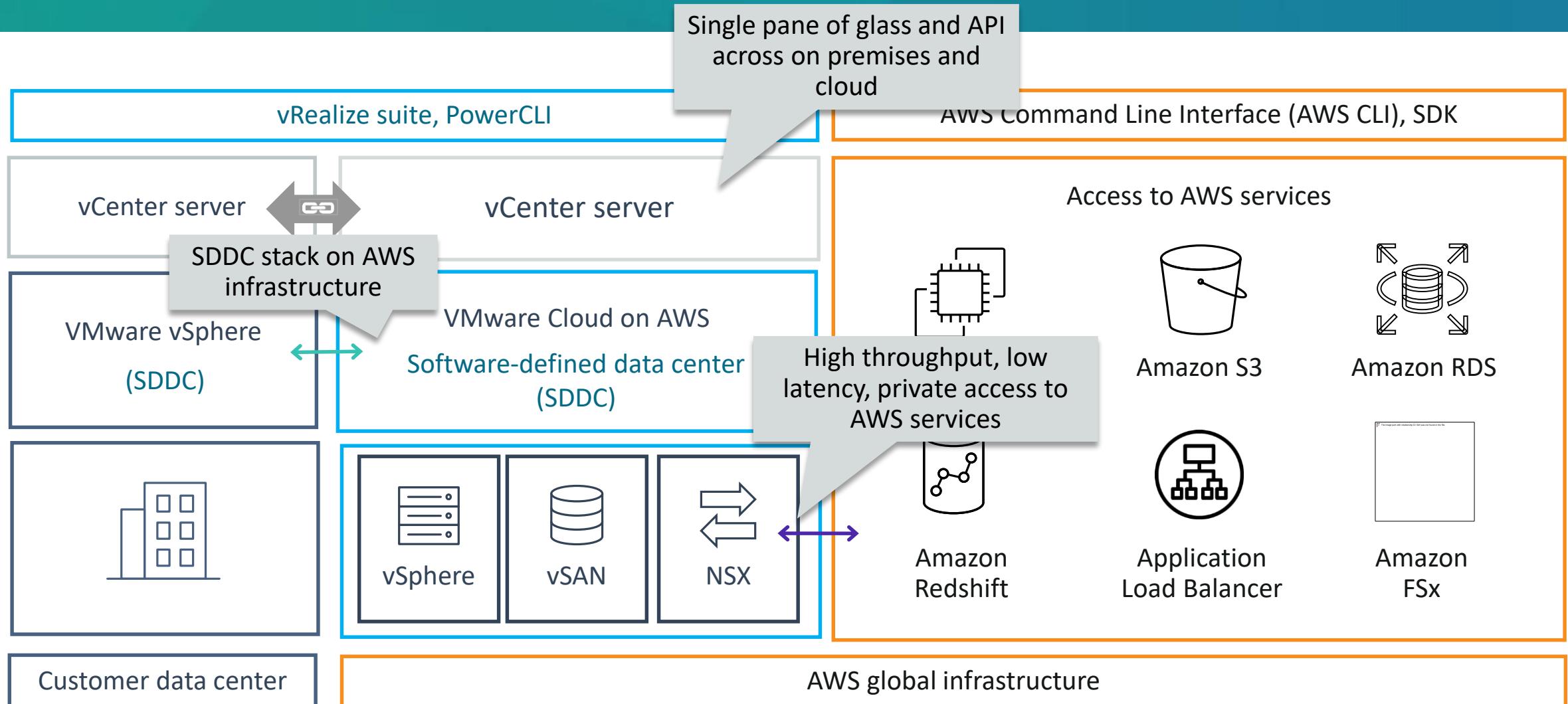
## Disaster recovery

Combine VMware disaster recovery with AWS Cloud

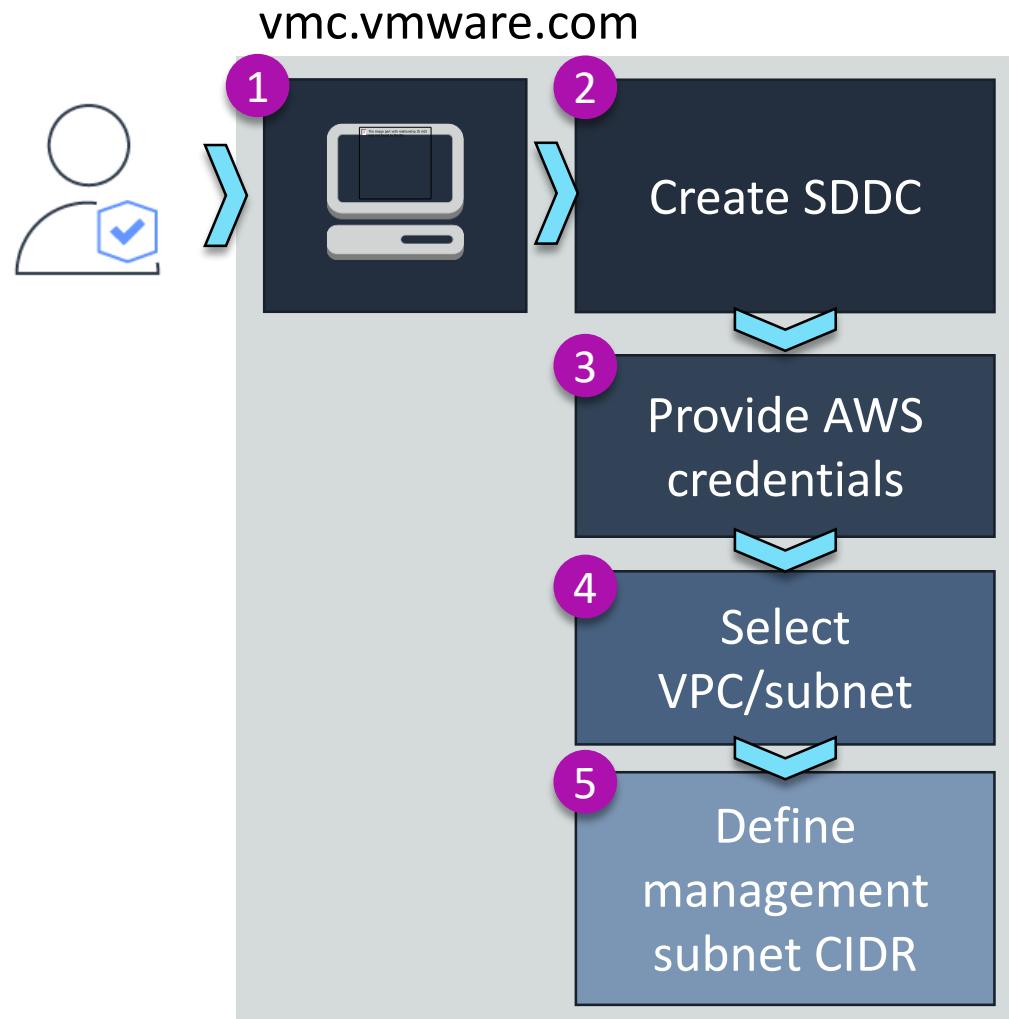
## Application modernization

Use private access to AWS services to enrich architectures

# VMware Cloud on AWS environment



# VMware Cloud on AWS getting started



Create an SDDC with 3–16 hosts

Connect to an AWS account

Select an Amazon Virtual Private Cloud in the account

Define the Classless Inter-Domain Routing (CIDR) to use

# Services for data transfer

# AWS DataSync

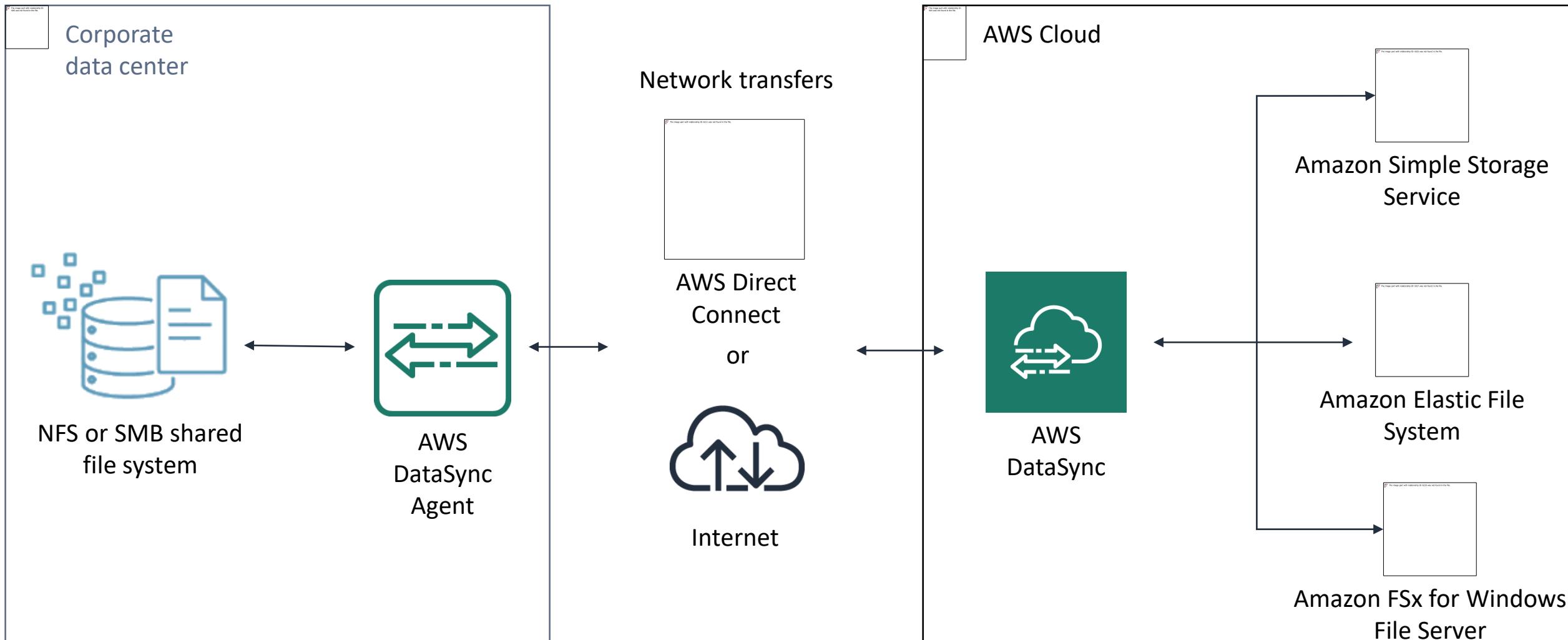
# AWS DataSync overview

- Online data migration of NFS and SMB data
- Fast data transfer
- Easy to use
- Secure and reliable
- Cloud integrated
- Cost-effective
- Secure data transit



AWS DataSync

# AWS DataSync setup diagram

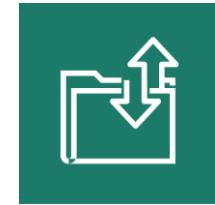


# AWS Transfer Family

# AWS Transfer Family overview



- Provides managed support for file transfers using:
  - Secure File Transfer Protocol (SFTP)
  - File Transfer Protocol over SSL (FTPS)
  - File Transfer Protocol (FTP)
- Integrates with existing authentication systems
- Stores in Amazon S3



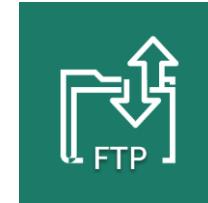
AWS Transfer Family



SFTP



FTPS



FTP

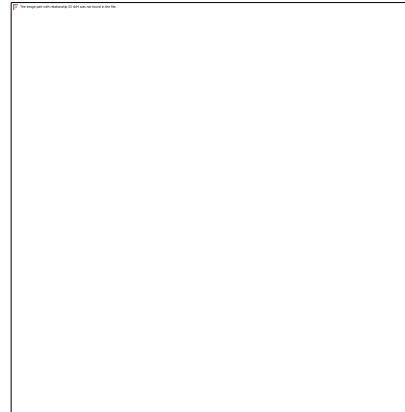
# AWS Snow Family

# AWS Snow Family members

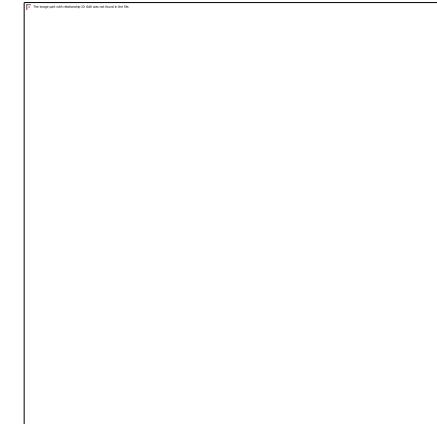


- AWS Snowball Edge  
**Storage Optimized**
- AWS Snowball Edge  
**Compute Optimized**
- AWS Snow**mobile**

Optimized for  
storage or  
compute



AWS Snowball Edge



AWS Snowmobile

# AWS Snow Family comparison



	AWS Snowball Edge Storage Optimized	AWS Snowball Edge Compute Optimized	AWS Snowmobile
Usage Scenario	Data migration	Data analytics	Data migration
Storage Capacity	80 TB usable	42 TB usable	100 PB
Encryption	Yes	Yes	Yes
Typical Job Lifetime	Offline data transfer: Days–weeks	Edge compute: Weeks–months	Data migration: Months

Review the AWS Snow Family [comparison table](#).  
[https://aws.amazon.com/snow/#Feature\\_comparison](https://aws.amazon.com/snow/#Feature_comparison)



# Knowledge check 1



A customer wants to migrate servers in groups that represent a tiered application. They also want to specify the launch order after migration with AWS CloudFormation. Which service should the customer use?

- A) CloudEndure Migration
- B) AWS Transfer for SFTP
- C) AWS Server Migration Service
- D) AWS Direct Connect

# Knowledge check 1 review



A customer wants to migrate servers in groups that represent a tiered application. They also want to specify the launch order after migration with AWS CloudFormation. Which service should the customer use?

- A) CloudEndure Migration
- B) AWS Transfer for SFTP
- C) AWS Server Migration Service
- D) AWS Direct Connect

# Knowledge check 2



A customer wants to migrate physical servers and VMs located in multiple clouds to AWS Cloud. Which service should the customer use for migration?

- A) AWS Server Migration Service
- B) CloudEndure Migration
- C) AWS Outposts
- D) Amazon API Gateway

# Knowledge check 2 review



A customer wants to migrate physical servers and VMs located in multiple clouds to AWS Cloud. Which service should the customer use for migration?

- A) AWS Server Migration Service
- B) CloudEndure Migration
- C) AWS Outposts
- D) Amazon API Gateway

# Knowledge check 3



Which statements are correct about AWS Database Migration Service (AWS DMS)? (Select TWO.)

- A) AWS DMS only supports database migrations that use the “lift-and-shift” strategy.
- B) The source and target databases can be any of the supported database types.
- C) The source database can be an on-premises, Amazon Relational Database Service (Amazon RDS), or Amazon Elastic Container Service (Amazon EC2) database.
- D) The target database must match the source database when using AWS DMS.
- E) AWS DMS only supports on-premises source databases.

# Knowledge check 3 review



Which statements are correct about AWS Database Migration Service (AWS DMS)? (Select TWO.)

- A) AWS DMS only supports database migrations that use the “lift-and-shift” strategy.
- B) The source and target databases can be any of the supported database types.
- C) The source database can be an on-premises, Amazon Relational Database Service (Amazon RDS), or Amazon Elastic Container Service (Amazon EC2) database.
- D) The target database must match the source database when using AWS DMS.
- E) AWS DMS only supports on-premises source databases.

# Knowledge check 4



Which statement is NOT true about the AWS Schema Conversion Tool?

- A) AWS SCT enables the conversion of an existing database schema from one database engine to another.
- B) AWS SCT can convert an Oracle source database to Amazon Aurora, MariaDB, MySQL, or PostgreSQL.
- C) AWS SCT supports conversion of SQL code in applications to enable interaction with the new database engine.
- D) AWS SCT only supports source database schema conversion to Amazon Elastic Compute Cloud (Amazon EC2) as a target.

# Knowledge check 4 review



Which statement is NOT true about the AWS Schema Conversion Tool?

- A) AWS SCT enables the conversion of an existing database schema from one database engine to another.
- B) AWS SCT can convert an Oracle source database to Amazon Aurora, MariaDB, MySQL, or PostgreSQL.
- C) AWS SCT supports conversion of SQL code in applications to enable interaction with the new database engine.
- D) AWS SCT only supports source database schema conversion to Amazon Elastic Compute Cloud (Amazon EC2) as a target.

# Knowledge check 5



A customer is invested in VMware-based applications. They have skilled administrators who are comfortable operating VMware technology. The customer wants to modernize their applications, and use the scalability and access of AWS services. Which service should the customer use?

- A) AWS Server Migration Service
- B) AWS Database Migration Service
- C) VMware Cloud on AWS
- D) CloudEndure Migration

# Knowledge check 5 review



A customer is invested in VMware-based applications. They have skilled administrators who are comfortable operating VMware technology. The customer wants to modernize their applications, and use the scalability and access of AWS services. Which service should the customer use?

- A) AWS Server Migration Service
- B) AWS Database Migration Service
- C) VMware Cloud on AWS
- D) CloudEndure Migration

# Knowledge check 6



Which services have AWS Managed Services that can be used for data transfer from on-premises to AWS? (Select THREE.)

- A) AWS DataSync
- B) AWS Transfer for SFTP
- C) Amazon Simple Storage Service (Amazon S3)
- D) Amazon Elastic Compute Cloud (Amazon EC2)
- E) AWS Snowball
- F) Amazon Elastic File System (Amazon EFS)

# Knowledge check 6 review



Which services have AWS Managed Services that can be used for data transfer from on-premises to AWS? (Select THREE.)

- A) AWS DataSync
- B) AWS Transfer for SFTP
- C) Amazon Simple Storage Service (Amazon S3)
- D) Amazon Elastic Compute Cloud (Amazon EC2)
- E) AWS Snowball
- F) Amazon Elastic File System (Amazon EFS)

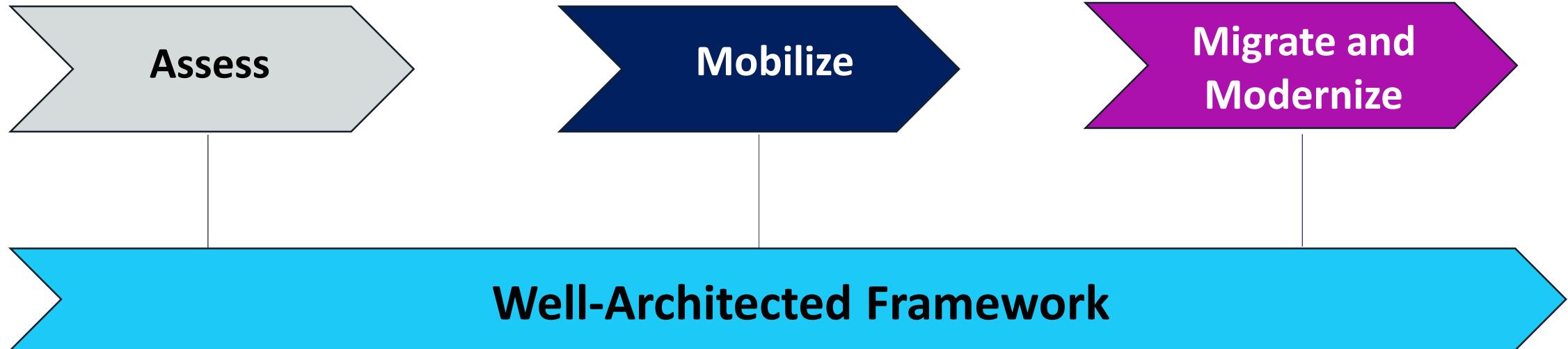
# Summary



- Identify when to use AWS Server Migration Service or CloudEndure Migration
- Identify when to use AWS Database Migration Service
- Describe how to use AWS Database Migration Service to migrate databases to new platforms or software versions
- Identify how to use AWS Schema Conversion Tool to present gaps and effort needed before a heterogeneous database migration
- Discuss how to migrate a database
- Identify when to use VMware Cloud on AWS to migrate to the cloud
- Identify the right data transfer service to use to migrate on-premises storage to AWS

# Module 4: Operations

# Operations – Migrate and Modernize



# Objectives

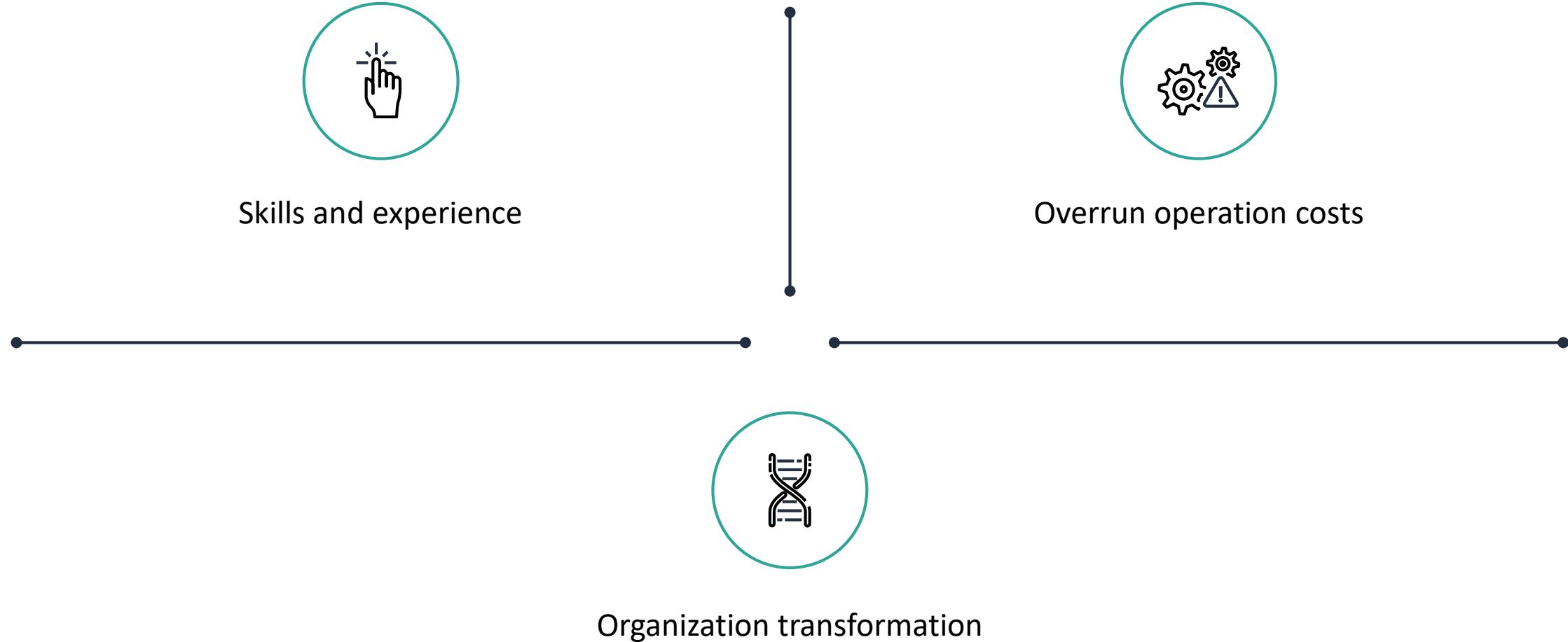


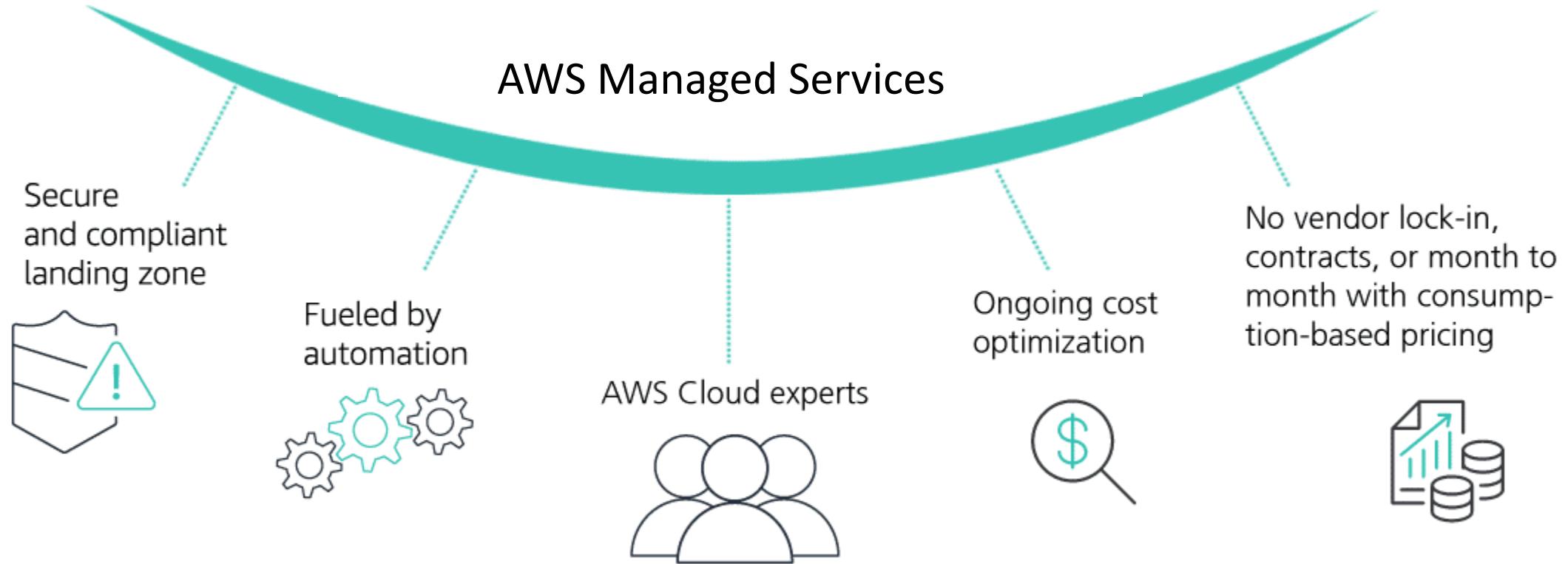
- Identify ways to optimize migrated workloads by using guided operational rules and governance
- Identify how customers can use AWS Managed Services and AWS Service Catalog
- Discuss operational excellence within the AWS Well-Architected Framework
- Identify additional partner resources

# Operational services for migrations

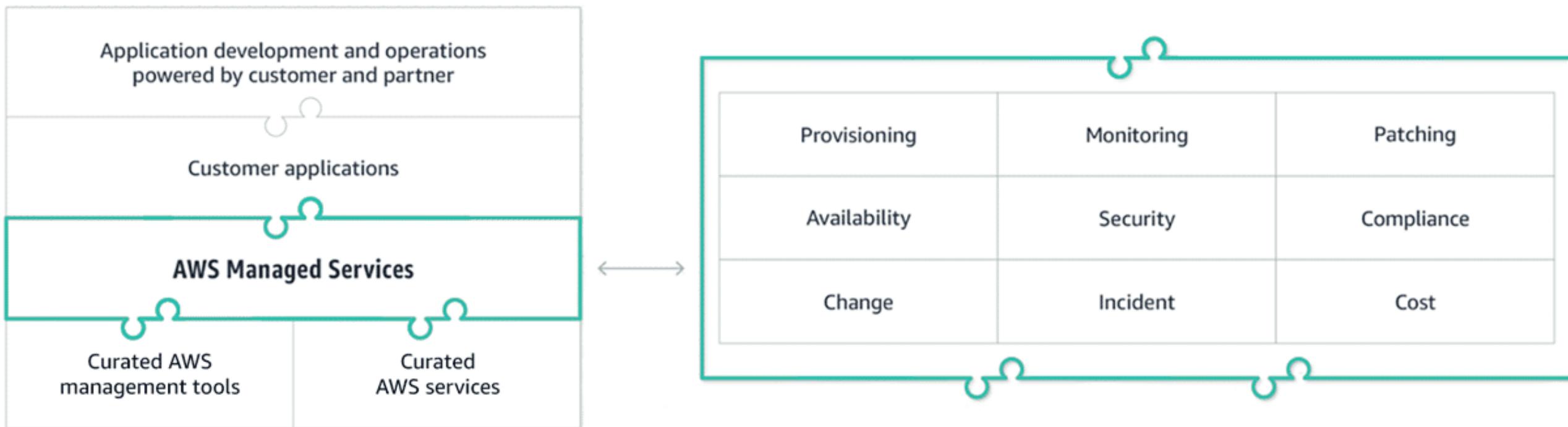
# AWS Managed Services

# Migrating to AWS Cloud challenges





# AMS capabilities



# AMS capabilities – support



24/7 service desk



AWS Enterprise Support

# AWS Managed Service Provider (MSP) Partners



Migrate  
traditional  
workloads

Develop and  
manage apps

Hybrid cloud

Cloud  
providers

Expertise

One vendor

# APN Partner AMS services



- Middleware support
- Database support
- Application management and patching
- Application modernization
- DevOps services
- Continuous integration and continuous deployment
- Systems integration
- ITSM strategy and integrations



Access the latest [AWS Managed Services partners](#)

<https://aws.amazon.com/managed-services/partners/>

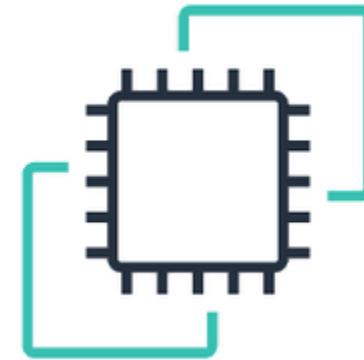
# When to use an alternative to AMS



Require frequent,  
short lead time  
changes



Virtualized  
environments



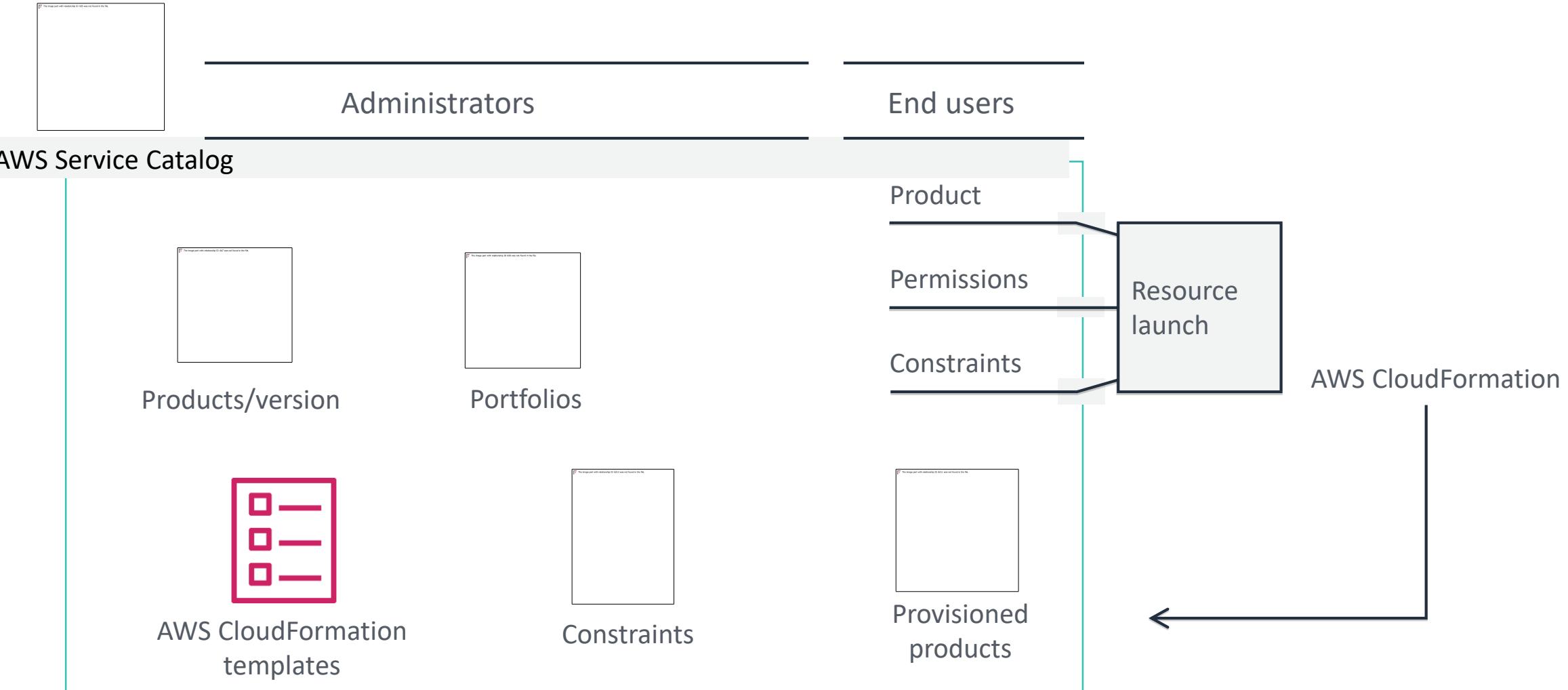
Application and EC2  
instance Active  
Directory setup



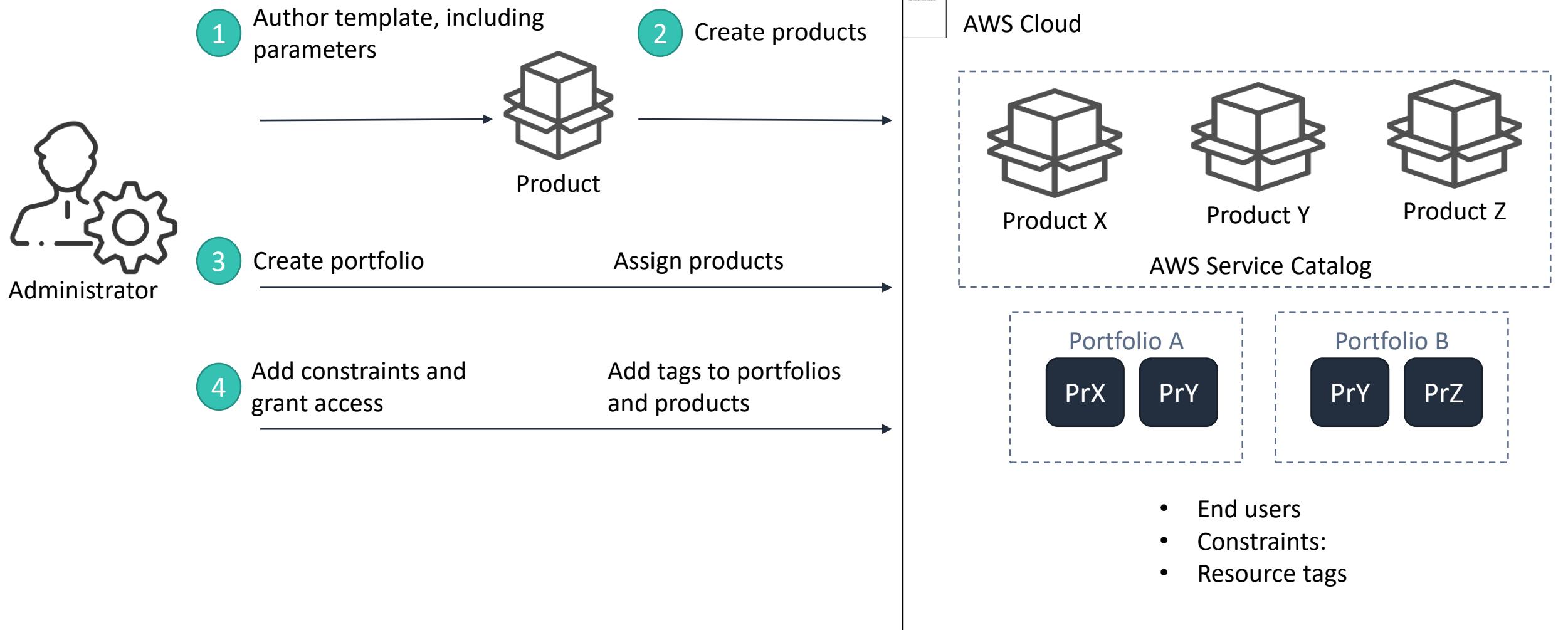
Primarily use  
containers, Lambda  
based design

# AWS Service Catalog

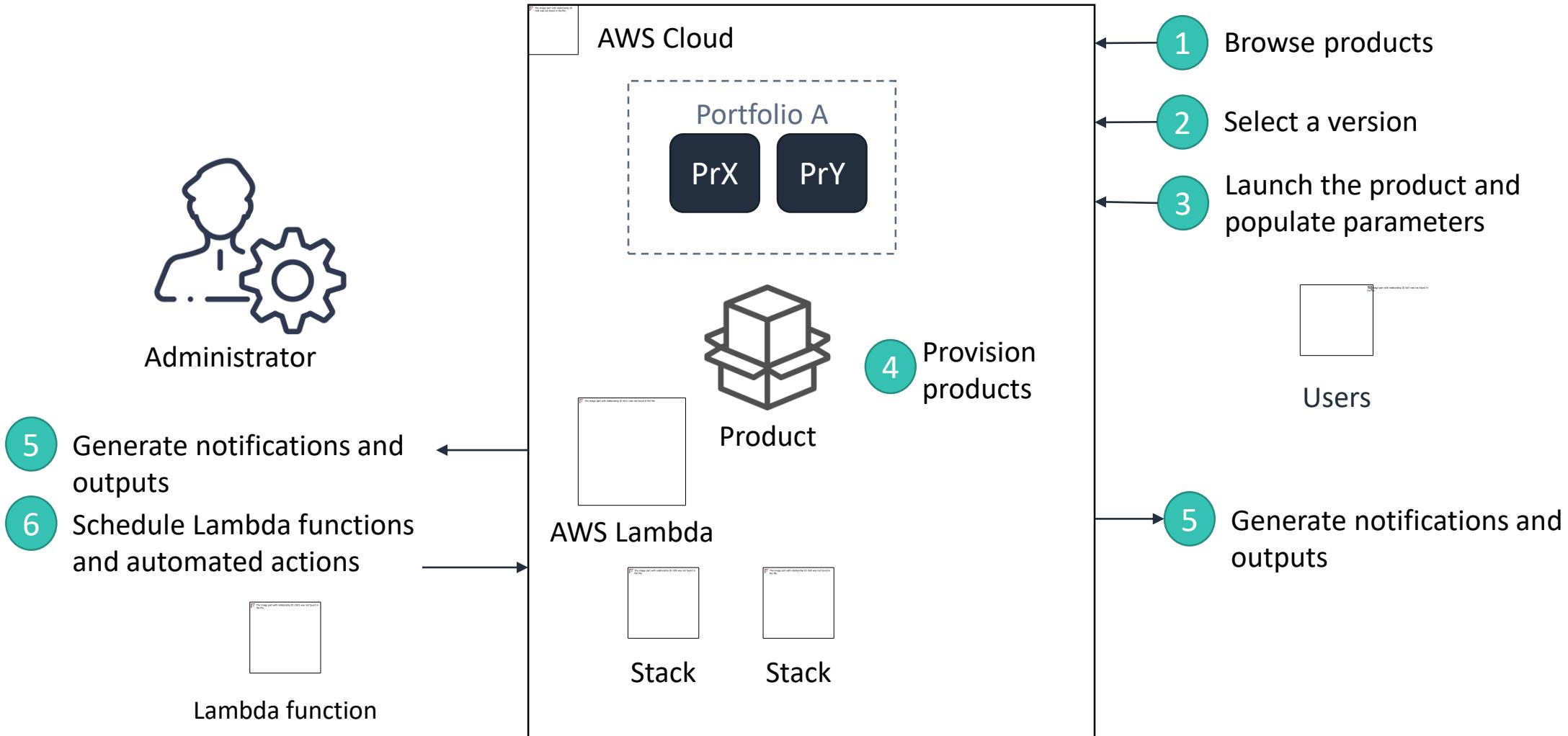
# AWS Service Catalog overview



# Initial administrator workflow



# Initial end-user workflow

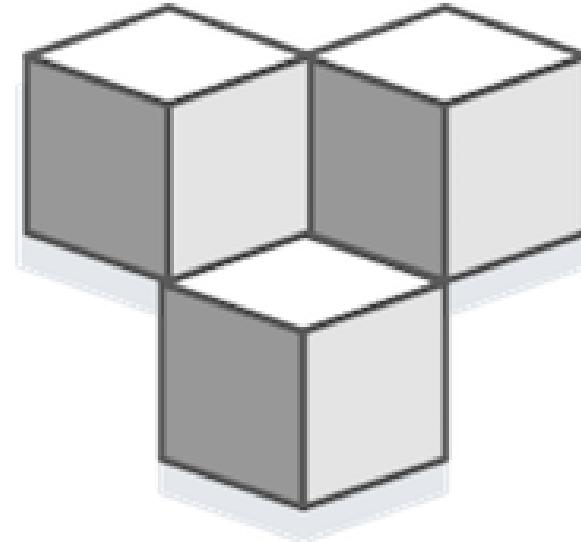


# AWS Service Catalog integrations

# Other AWS and partner products



- AWS Marketplace
- ServiceNow connector
- Atlassian Jira Service Desk management connector

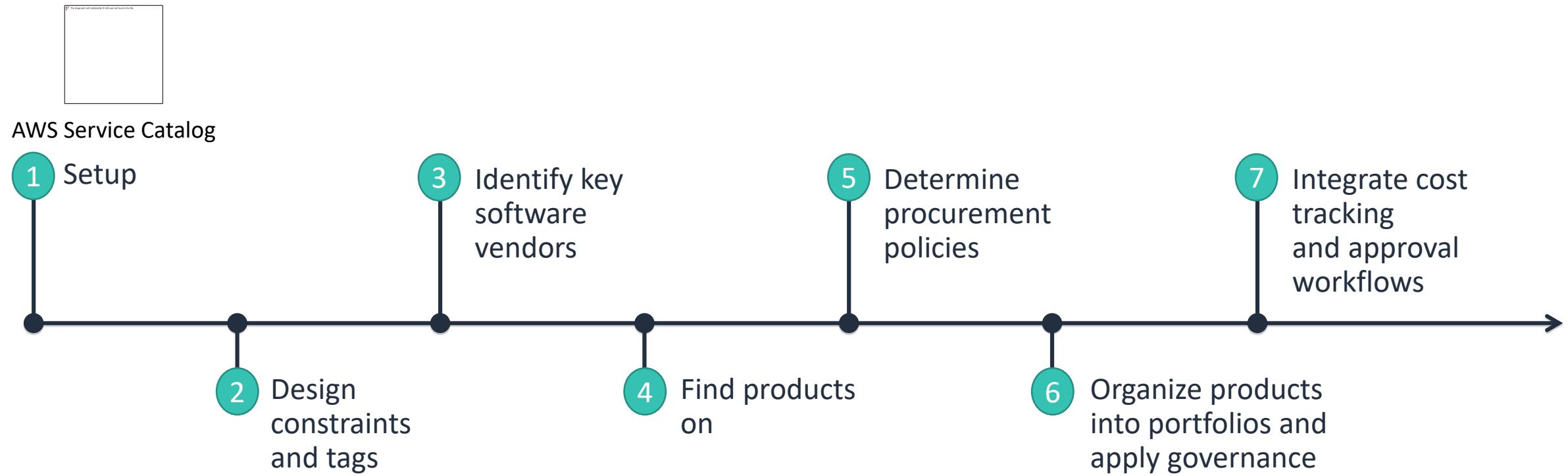


Access AWS documentation for [products and service integrations](#) information

<https://docs.aws.amazon.com/servicecatalog/latest/adminguide/integrations.html>

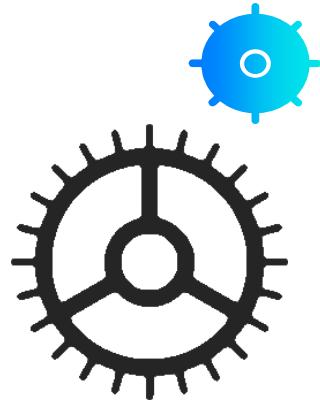


# AWS Service Catalog and AWS Marketplace operations



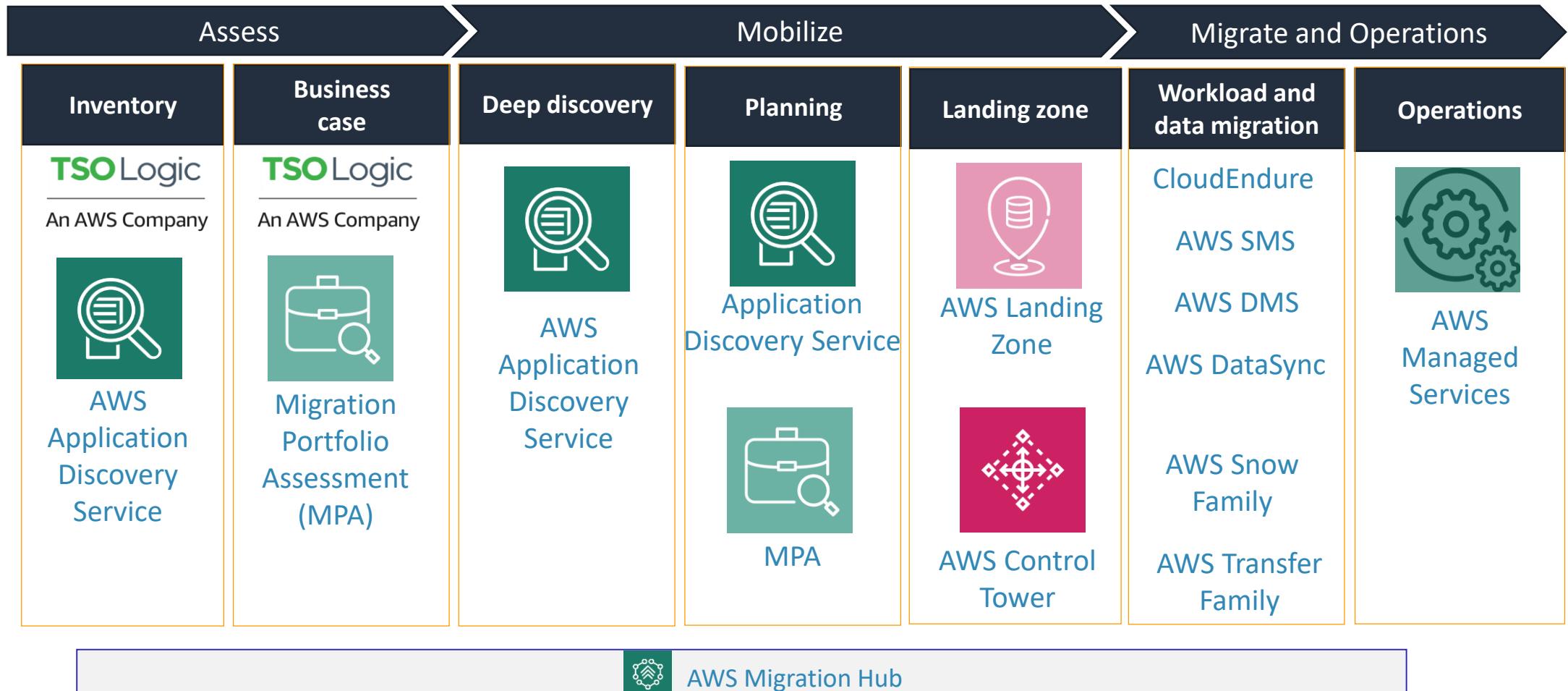
## Operational excellence

- Anticipate failure
- Perform operations as code
- Make regular, small, reversible changes
- Refine operations procedures frequently



Operational  
excellence

# Migration phases and tools



# Migration phases and APN Competency Partners



Assess

Mobilize

Migrate and Operations



## Migration Partner Solutions

Move existing applications to the AWS Cloud to reduce cost, increase agility, and improve security.

Partner migration tools found on AWS Marketplace

<https://aws.amazon.com/migration/partner-solutions/>

# Knowledge check 1



How does AWS Managed Services accelerate modernizing cloud workloads? (Select TWO.)

- A) AMS handles the underlying cloud infrastructure, allowing customers to move to higher-level services more quickly.
- B) AMS automatically refactors all customer applications to run on Amazon Elastic Kubernetes Service (Amazon EKS).
- C) AMS is a "quick on-ramp" to AWS, baking in best practices for cloud operations and security so customers can proceed without learning complex subjects.
- D) AMS is integrated with Amazon Echo devices, allowing customers to deploy cloud applications with just their voice.
- E) AMS creates a cluster of Bitcoin mining instances in every account, increasing return on investment and offsetting operational costs.

# Knowledge check 1 review



How does AWS Managed Services accelerate modernizing cloud workloads? (Select TWO.)

- A) AMS handles the underlying cloud infrastructure, allowing customers to move to higher-level services more quickly.
- B) AMS automatically refactors all customer applications to run on Amazon Elastic Kubernetes Service (Amazon EKS).
- C) AMS is a "quick on-ramp" to AWS, baking in best practices for cloud operations and security so customers can proceed without learning complex subjects.
- D) AMS is integrated with Amazon Echo devices, allowing customers to deploy cloud applications with just their voice.
- E) AMS creates a cluster of Bitcoin mining instances in every account, increasing return on investment and offsetting operational costs.

# Knowledge check 2



Which services can APN Partners provide to customers while working with AWS Managed Services? (Select TWO.)

- A) Support application management and patching
- B) Troubleshoot Amazon Elastic Compute Cloud (Amazon EC2) failures
- C) Create landing zones
- D) Support applications' continuous integration and continuous deployment
- E) Create Amazon Elastic Block Store (Amazon EBS) snapshots

# Knowledge check 2 review



Which services can APN Partners provide to customers while working with AWS Managed Services? (Select TWO.)

- A) Support application management and patching
- B) Troubleshoot Amazon Elastic Compute Cloud (Amazon EC2) failures
- C) Create landing zones
- D) Support applications' continuous integration and continuous deployment
- E) Create Amazon Elastic Block Store (Amazon EBS) snapshots

# Knowledge check 3



When using AWS Service Catalog, what is the initial administrator workflow?

- A) Create products > Author a template > Create portfolio > Assign products > Add constraints and resource tags
- B) Author a template > Create products > Create portfolio > Assign products > Add constraints and resource tags
- C) Create products > Create portfolio > Assign products > Author a template > Add constraints and resource tags
- D) Author a template > Assign products > Create products > Create portfolio > Add constraints and resource tags

# Knowledge check 3 review



When using AWS Service Catalog, what is the initial administrator workflow?

- A) Create products > Author a template > Create portfolio > Assign products > Add constraints and resource tags
- B) Author a template > Create products > Create portfolio > Assign products > Add constraints and resource tags
- C) Create products > Create portfolio > Assign products > Author a template > Add constraints and resource tags
- D) Author a template > Assign products > Create products > Create portfolio > Add constraints and resource tags

# Knowledge check 4



Which features and capabilities are provided by AWS Service Catalog? (Select TWO.)

- A) Allows end users to deploy approved AWS services only
- B) Integrates with AWS Marketplace and partner services like ServiceNow and Atlassian Jira
- C) Allows end users to deploy unapproved AWS services in sandbox accounts
- D) Enables administrators to deploy AWS Direct Connect on behalf of end users
- E) Allows end users to manage templates by adding new products to a portfolio

# Knowledge check 4 review



Which features and capabilities are provided by AWS Service Catalog? (Select TWO.)

- A) Allows end users to deploy approved AWS services only
- B) Integrates with AWS Marketplace and partner services like ServiceNow and Atlassian Jira
- C) Allows end users to deploy unapproved AWS services in sandbox accounts
- D) Enables administrators to deploy AWS Direct Connect on behalf of end users
- E) Allows end users to manage templates by adding new products to a portfolio

# Summary



- Identify ways to optimize migrated workloads by using guided operational rules and governance
- Identify how customers can use AWS Managed Services and AWS Service Catalog
- Discuss operational excellence within the AWS Well-Architected Framework
- Identify additional partner resources

# Module 5: Wrap-up and Resources

# Course summary



- Engage customers in pre-sales, technical discussions
- Identify how to determine customers' cloud-readiness business strengths and challenges
- Discuss how migration strategies affect architectural decisions
- Identify tools to use for assessing migration readiness and performing migrations for customers
- Describe how to use AWS, as well as partner tools and services, for migrating servers, databases, and applications or data
- Describe how to perform operations and governance for migrations
- Find more information and additional resources on migrations

# APN Navigate



Enable Your Business

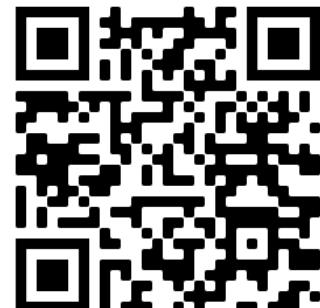


Gain AWS Visibility

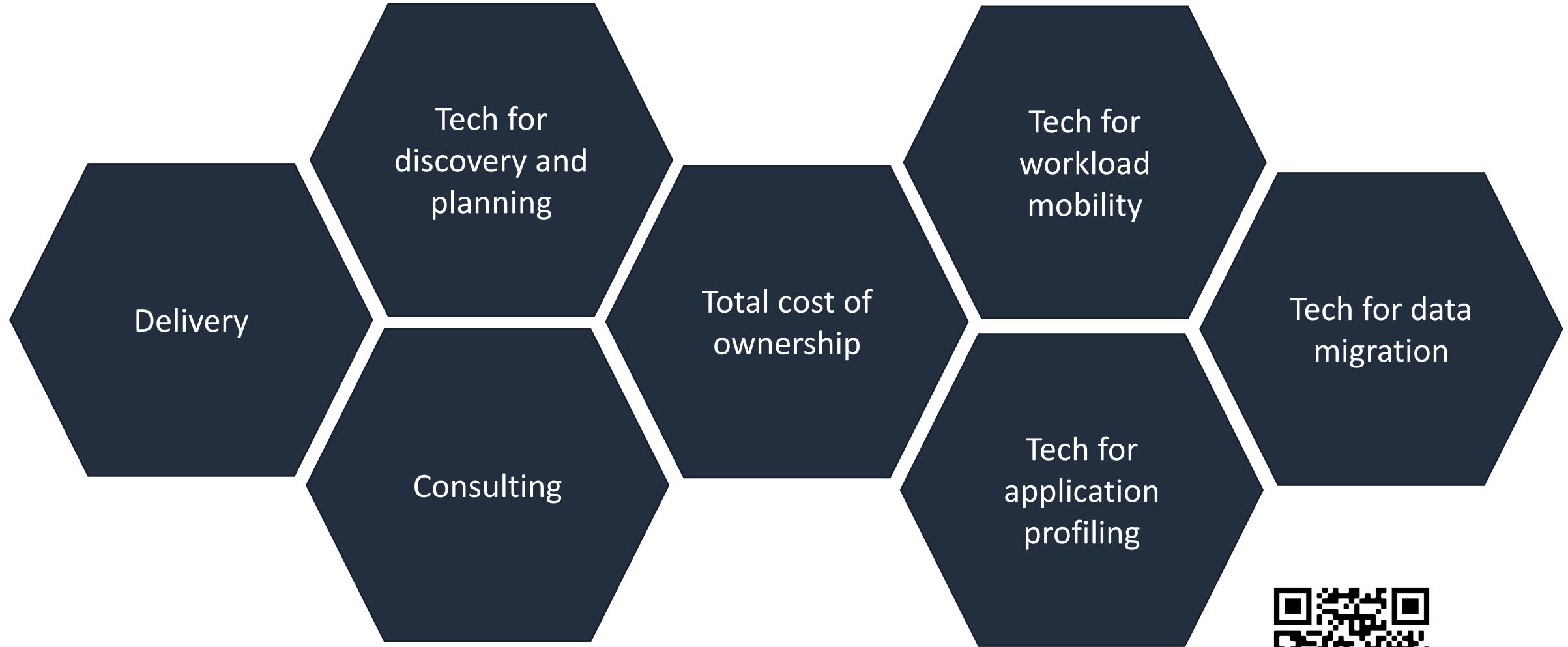


Build Your Portfolio

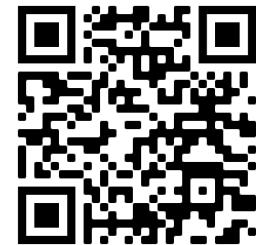
<https://aws.amazon.com/partners/navigate/>



# Migration Competency APN Partners



<https://aws.amazon.com/migration/partner-solutions/>



# Additional resources

- AWS Prescriptive Guidance

- <https://aws.amazon.com/prescriptive-guidance/>



- AWS Competency Program

- <https://aws.amazon.com/partners/competencies/>



- Migration Consulting/Delivery Competency Checklist

- <https://s3-us-west-2.amazonaws.com/competency.awspartner.com/Migration/AWS+Migration+Competency+Consulting+Partner+Validation+Checklist.pdf>



- Migrate with AWS

- <https://aws.amazon.com/cloud-migration/>



- AWS Migration Acceleration Program

- <https://aws.amazon.com/migration-acceleration-program/>



- AWS Managed Services description

- <https://s3.amazonaws.com/ams.contract.docs/AWS+Managed+Services+Service+Description.pdf>



# Lab – Migration Immersion Day



- Advanced
- Aligns to Migration Acceleration Program (MAP)
- Cost \$10–\$15
- <https://migration-immersionday.workshop.aws/en>



# Lab – Migration Factory

- Advanced
- Aligns to Migration Factory with Cloud Endure and Migration Hub
- <https://migration-immersionday.workshop.aws/en/migrationfactory.html>



# Class evaluation and assessment



## Survey

[https://amazonmr.au1.qualtrics.com/jfe/form/SV\\_8H5gLqs9PiYwG21](https://amazonmr.au1.qualtrics.com/jfe/form/SV_8H5gLqs9PiYwG21)



Look for an email link to take the [survey](#) and an online [assessment](#) and that gives you formal credit for the course.

THANK  
YOU!

## Assessment

<https://partnercentral.awspartner.com/LmsSsoRedirect?RelayState=%2flearningobject%2fwbc%3fid%3d49729>



# Thank You

© 2020 Amazon Web Services, Inc. or its affiliates. All rights reserved. This work may not be reproduced or redistributed, in whole or in part, without prior written permission from Amazon Web Services, Inc. Commercial copying, lending, or selling is prohibited. Corrections or feedback on the course, please email us at: [aws-course-feedback@amazon.com](mailto:aws-course-feedback@amazon.com). For all other questions, contact us at: <https://aws.amazon.com/contact-us/aws-training/>. All trademarks are the property of their owners.

