

Migration to AWS

Overview

Juan Llanas

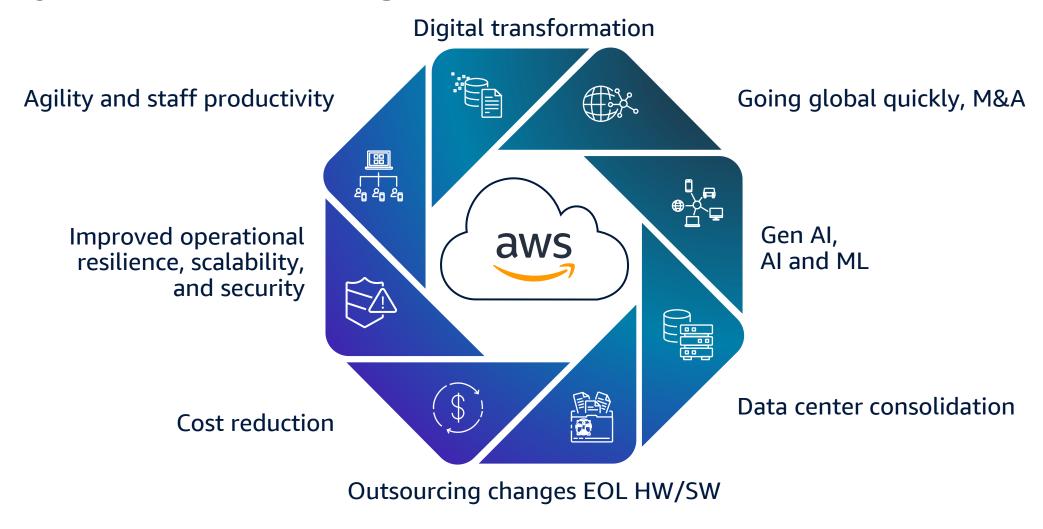
Customer Solutions Manager (CSM)

Agenda

- WHY MIGRATE? DRIVERS AND BENEFITS
- AWS CLOUD MIGRATION METHODOLOGY (3-STEP APPROACH)
- WORKLOAD DISCOVERY, MRAS, CCOE
- CLOUD CENTER OF EXCELLENCE
- BUILDING TEAM CAPACITY
- MIGRATION TOOLS
- MODERNIZATION
- SUMMARY



Why customers migrate and modernize





Potential barriers to cloud adoption

Possible challenges to migrating quickly and cost-effectively



Existing investments



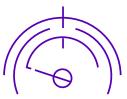
Upfront expenses



Skeptical stakeholders



Application interdependencies



Concerns of downtime during migration



Lack of cloud expertise

Elements of a Successful Journey



Executive Sponsorship

Align on business requirements; bring all stakeholders with you



Cloud-First Strategy

Create your vision; incentivize team members to follow your lead



Organizational Change

Define new operating models, policies, processes, economics; provide training



Adoption Roadmap

Start small and iterate, measure, manage and update plan



Cloud Center of Excellence

Provide centralized expertise; guide decentralized innovations



Principles & Standards

Publish guidance and guard rails for how to adopt cloud successfully

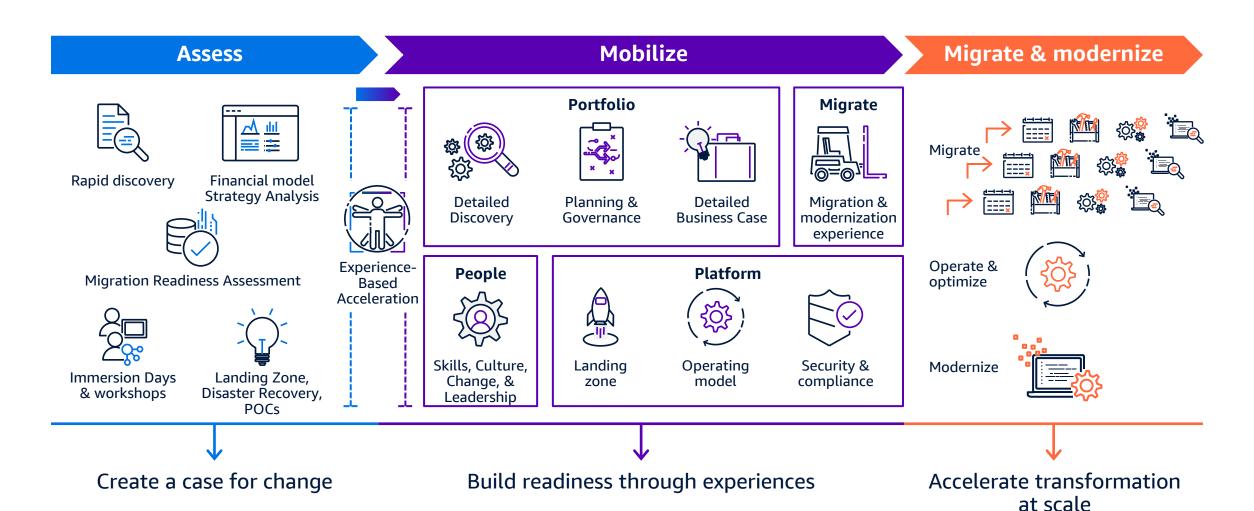


Experiment

Define Architectures, patterns, governance; measure, monitor, iterate



Migration and modernization customer journey



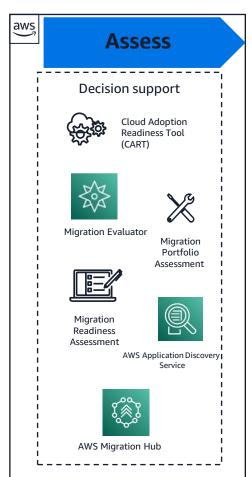


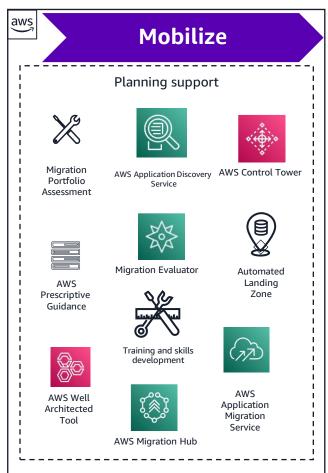
Migration Readiness

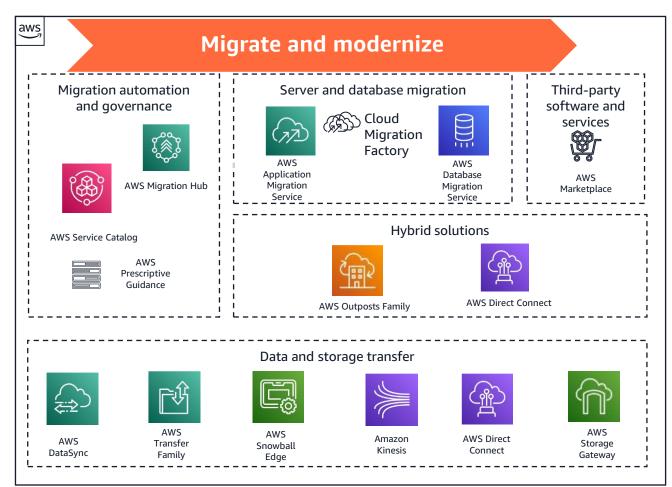
Inventory current Discover & organize data Migration strategies for each workload (i.e. 7 Rs) environment Refactor App Performance Asset inventories **Applications** Re-platform configuration Information data Repurchase Infrastructure Level Rehost effort Performance Relocate Architecture **CMDB** SLA/OLA Retain Retire Tribal knowledge Migration strategy decision criteria should be based on both business and technical needs



Broad and deep set of migration capabilities







Migration and Modernization by AWS and ISV Software Partners

Assess

Mobilize

Migrate & **Modernize**

Operate & **Optimize**

INVENTORY



AWS

S

ER

ARTN



AWS Application **Discovery Service** **BUSINESS** CASE



Migration **Evaluator**



Migration Portfolio Assessment

PLANNING



AWS Application Discovery Service



AWS Migration Hub Strategy Recommendations



Migration Portfolio Assessment LANDING ZONE



AWS Control Tower



AWS Service Catalog

Mainframe Modernization



AWS Mainframe Modernization Blu Age



AWS Mainframe Modernization Micro Focus

APPLICATION AND DATA MOBILITY





REPLATFORM

App2Container

Porting Assistant for .NET

AWS DataSync

AWS Database Migration Service REFACTOR

AWS Schema Conversion Tool



AWS Migration **Hub Refactor Spaces**



Microservices Extractor for .NET



AWS Management & Governance Services

AWS Proton

Infrastructure

Automation

AWS Migration Hub

Discovery, Planning, and Recommendation



APPSCORE

virtana

modelizeIT matilda cloud DEVICE42 FLEXera CloudSphere tds tidal migrations

VFunction

Business Case



on

Mainframe Modernization











Application and Data Mobility







matilda cloud

Deloitte

stromasys











databricks

Application Monitoring and Orchestration



TT-Conductor





Pulumi



paloalto

HHashiCorp







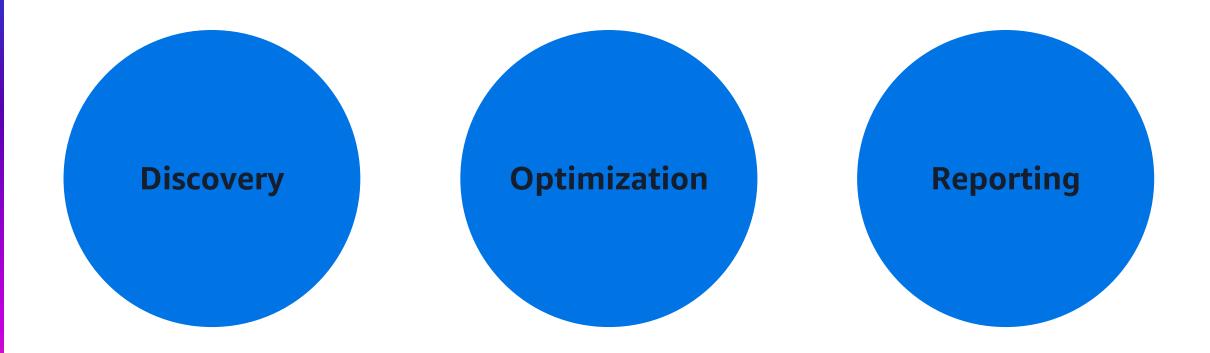


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Workload Discovery and Business Case



Current workloads discovery





AWS Migration Evaluator



Simplifies discovery

On-premises compute, local storage, memory, Microsoft licenses

Identifies resources and utilization

Optimizes cloud planning

Finds the best instance size, licensing option, and storage type

All Regions and payment models

Delivers assessment

Directional reports, including Windows OLA

Delivered via AWS teams or AWS Partners

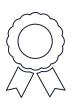
- ✓ Fast
- ✓ Agentless
- ✓ Leverage existing data
- ✓ Reduce time to analysis
- ✓ Complimentary
- ✓ Works with other AWS services



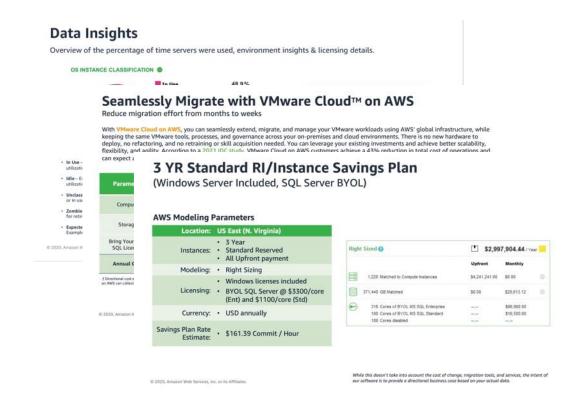
Migration Evaluator deliverables

Quick insights





Directional business case





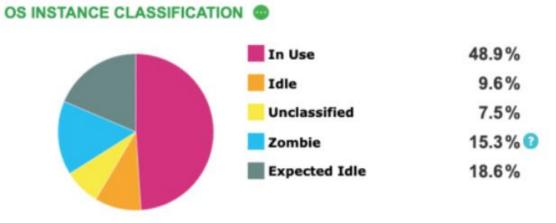
https://aws.amazon.com/migration-evaluator/



Executive Summary

The **15.3**% zombie server count offers a good opportunity for savings in this assessment. **827** servers had peak CPU utilization under **20**% over the **12** days we collected, these are great candidates for right-sizing onto more efficient EC2 instances to help eliminate over-provisioning.

| | On-Premises (annual) | AWS (annual) |
|---|----------------------|-----------------|
| Compute | \$1,529,586 | \$1,413,747 |
| Storage | \$727,917 | \$343,357 |
| Total | \$2,252,503 | \$1,757,104 |
| 22% Savings via Migration Evaluator Right-Sizing only | | |



Potential Refinement

- Further confirmation on license mobility for SQL servers will allow for more accuracy in AWS modeling
- Using Environment tagging to target servers for On-Demand modeling (dev/test workloads)



Migration Readiness Assessment (MRA)



Migration Readiness Assessment Overview



MRA is an interactive workshop designed to generate a specific set of actions needed to build momentum and capability based on your current state, business goals and defined objectives.

→ Target Outcomes

- Trust and a shared view of the desired target state
- Alignment of domain leaders on gaps and interdependencies to achieve target outcomes
- A reliable implementation roadmap

Built for Action

- Accelerates decisions on tactical implementation needs
- Agreement on ownerships for the next phase

Deliverables

- Assessment report
- Prioritized list of actions
- Roadmap



Build and align on a plan for change

KNOW WHERE YOUR PEOPLE ARE STARTING TO ACCELERATE YOUR JOURNEY

Diagnose migration readiness and build a case for change

1-day workshop to align and identify readiness gaps for a large-scale migration

Deliver an action plan proposal to close the gaps (e.g., accelerators, a mobilize project plan by ProServe/partner) Technical Business capability-focused capability-focused

Business

Value realization

People

Roles and readiness

Governance

Prioritization and control

Platform

Applications and infrastructure

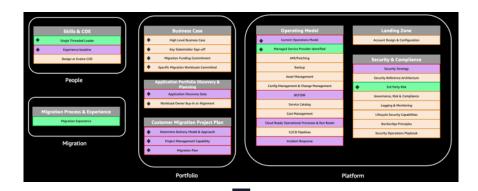
Security

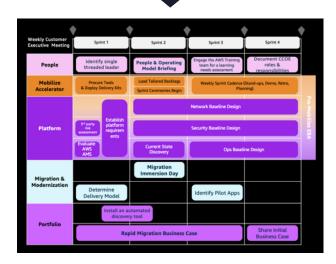
Risk and compliance

Operations

Hybrid and dynamic

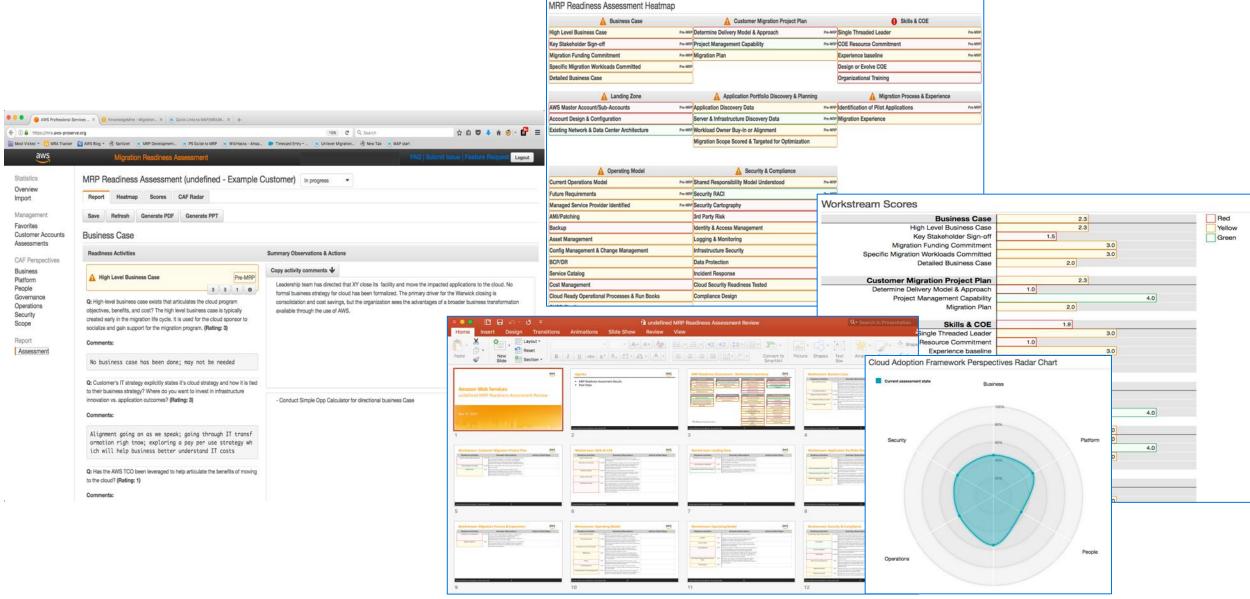
https://aws.amazon.com/professional-services/CAF/







Tools and Outputs





MRA Required Attendees

The MRA workshop should be attended by <u>all</u> members or future members of the CCOE Cloud Center of Excellence team. (It is recommended for all participants to be in the room during the entire workshop. Breaks/Lunch will be taken based upon the days progress.)



- Executive Sponsor
- App Development Leader
- Cloud Program Manager/Executive
- Escalation / Incident Manager
- Finance (Business Case and Financial Governance)
- Infrastructure Leader/Key Staff
- Network Leader
- Operations Leader/Key Staff
- Product/Business Unit Owners
- Project Manager
- Security Leader



- Buyer
- CTO

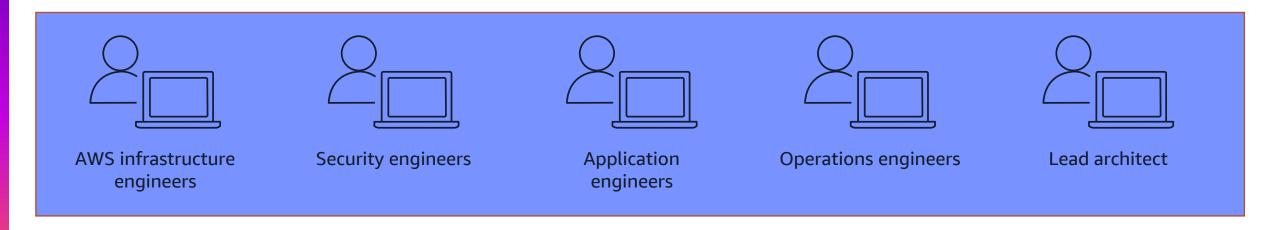


Cloud Center of Excellence



Build a Cloud Center of Excellence (CCoE)







Building Team Capacity



Build team capacity through learning

Immersion
Days and
workshops

Experiencebased acceleration

AWS Skill Builder

AWS Certification

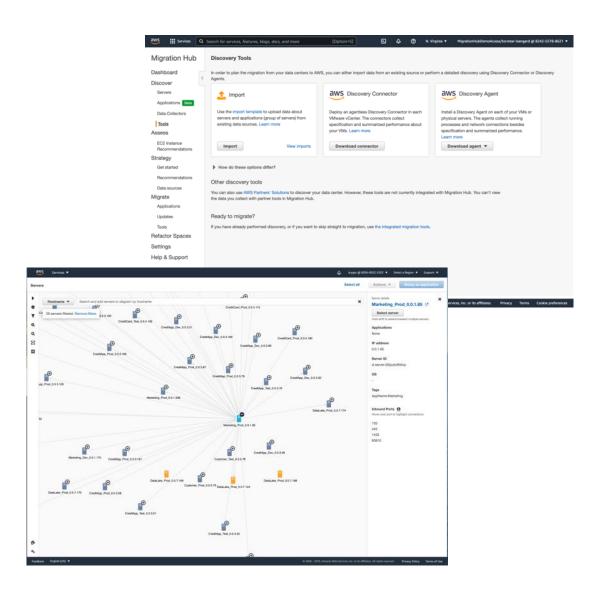


Migration Tools





 Track the progress of app migrations across multiple AWS and partner solutions.



Building the landing zone



Management account

Identity management

Single sign-on



Log archive account



Audit account

Logging and monitoring

Security and governance

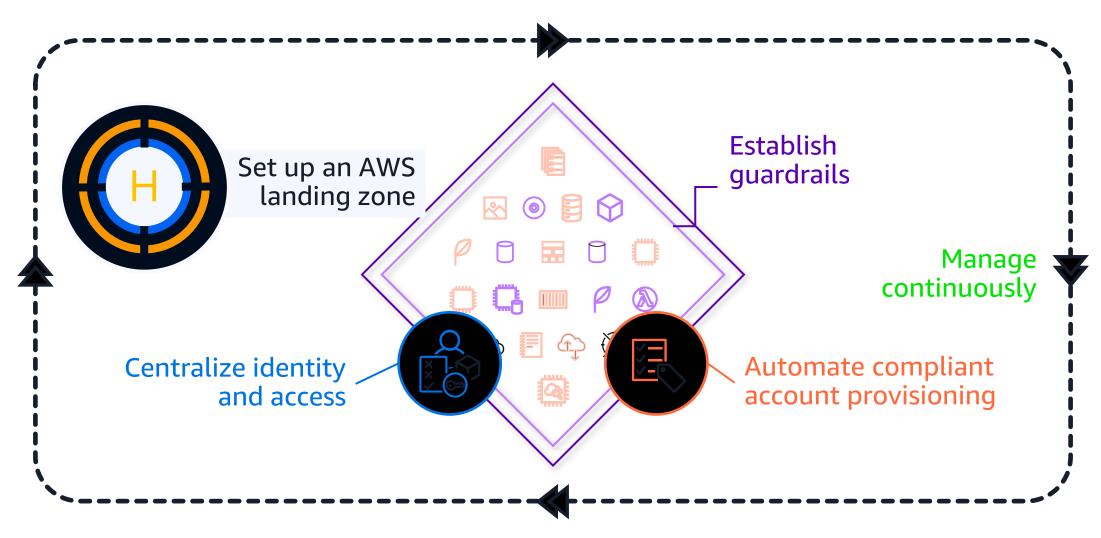


Provisioned

Accounts provisioning



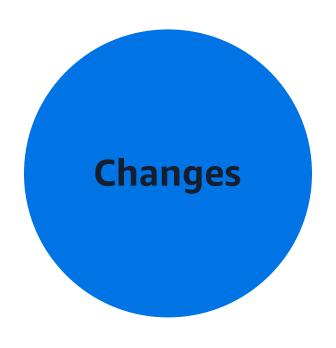
Enable governance using AWS Control Tower





Production workload migration challenges









Application Migration Service (MGN)

SIMPLIFY, EXPEDITE, AND REDUCE THE COST OF MIGRATING YOUR APPLICATIONS TO AWS

Flexible



Migrate from any source

Reliable



Short cutover windows with minimal downtime



Highly secure

Highly automated



Minimal skill set required to operate



Easy, non-disruptive tests prior to cutover



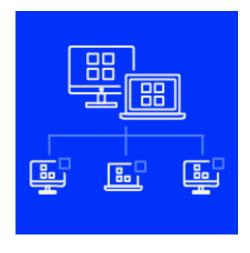
Wide range of OS, application, and database support



Large-scale migrations: Challenges



Time to perform manual tasks



Complexity due to scale of migration and integration



Live migration tracking



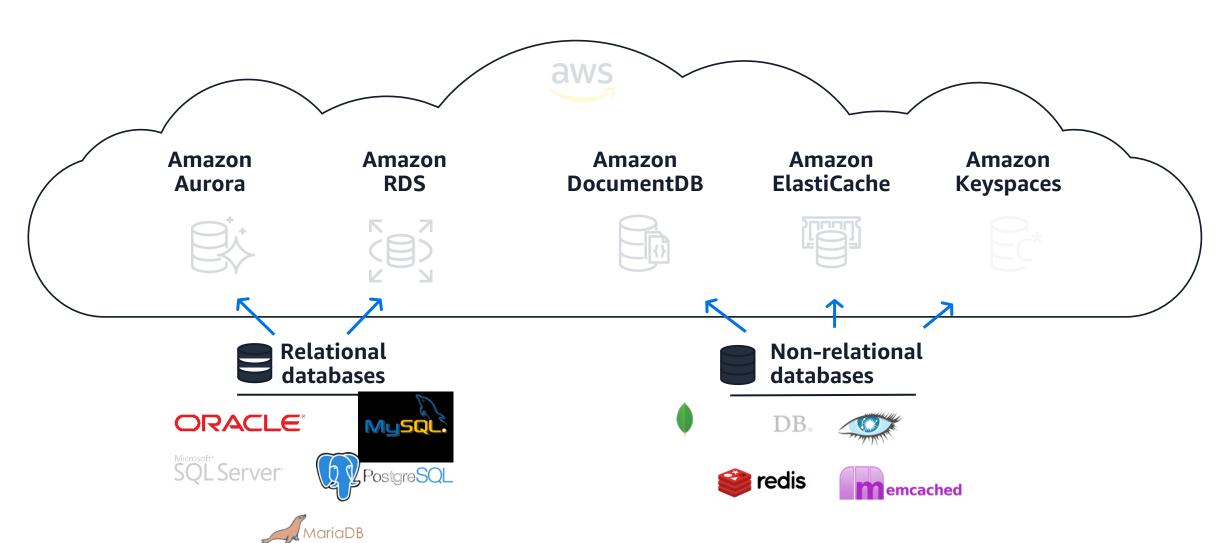
Cloud Migration Factory (CMF)

Configuration management Discovery tooling Migration wave planning database (CMDB) 1110001001001010101010101111100011001 10101010101011011010101001001001010101 **Application Migration Service status Target AWS configuration** Migration progress update



Move to fully managed databases

MIGRATE ON-PREMISES OR SELF-MANAGED DATABASES TO FULLY MANAGED SERVICES





AWS migration tooling



AWS Database Migration Service (AWS DMS)

Easily and securely migrate and / or replicate your databases and data warehouses to AWS.

Fleet Advisor automatically inventories and assesses your on-premises databases and analytics server fleet and identifies potential migration paths.



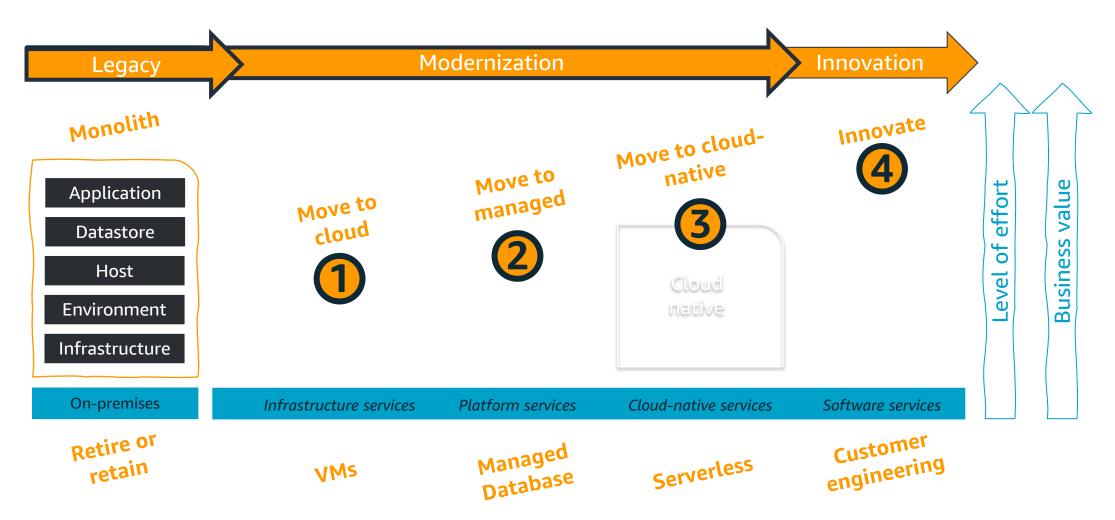
AWS Schema Conversion Tool (AWS SCT)

Convert your commercial database and data warehouse schemas to open-source engines or AWS-native services such as Amazon Aurora and Amazon Redshift

Modernization



Both migrating and modernizing are important to fully realize the benefit of cloud





Modernization Pathways SPI Services

Re-platform or re-architect



Move to cloud native

Refactor Spaces API Gateway Lambda Elastic Container Registry (ECR) Elastic Container Service (ECS) Fargate EventBridge **Step Functions** Simple Queue Service (SQS) Simple Notification Service (SNS) Amazon MO **AppSync** Cognito **Amplify** X-Ray



Move to containers

Elastic Container Registry (ECR) Elastic Container Service (ECS) Elastic Kubernetes Service (EKS) Fargate App Runner



Move to managed databases

RDS (MySQL, Postgres, MariaDB) Aurora DynamoDB **DvnamoDB** Accelerator (DAX) DocumentDB **KeySpaces** Neptune ElastiCache Timestream **Quantum Ledger Database** (QLDB) MemoryDB **Database Migration Service** (DMS)



Move to open source

RDS (MySQL, Postgres, MariaDB) Aurora Linux containers on Elastic Container Service (ECS)/Elastic Kubernetes Service (EKS)/Fargate, Lambda



Move to managed analytics

Lake Formation
Kinesis
EMR
Redshift
MSK
Athena
Glue
QuickSight
OpenSearch

SageMaker



Move to modern DevOps

CloudFormation
Config
CodeCommit
CodeBuild
CodeDeploy
CodePipeline
CodeGuru, Amplify
X-Ray
CodeArtifact
CodeCatalyst
Proton



Summary

- 1 Drivers and Benefits
- Migration Methodology
- Migration Tools
- 4 Cloud Center of Excellence
- Modernization Pathways





Thank you

Juan Llanas

CSM