
AWS
re:Invent

DAT204

Beyond AWS DMS: Programs and partners to ace your migration

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Agenda

- Database migration options
- Migration challenges
- AWS solutions and programs
  - Database Freedom
  - Migration Acceleration Program (MAP)
  - Database Migration Accelerator (DMA)
- Available resources



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Lift and Shift, Move to Managed, or Modernize?

Time

Value

Migrate: Lift and Shift
(re-host)

- Database runs exactly as on-premises
- Quickest way to onboard workloads
- Vendor lock-in
- Platforms such as Oracle, SQL Server, etc.

Migrate: Move to Managed
(re-platform)

- Auto provisioning, backups, recovery, patching
- Reduce undifferentiated heavy lifting
- Platforms such as Amazon Relational Database Service (Amazon RDS) Commercial and Open Source Engines, Amazon EMR, MCS, Amazon DocumentDB (with MongoDB compatibility), etc.

Modernize
(re-factor)



- Break free from legacy platforms
- Reduced licensing costs
- Enjoy the friendliness of open source solutions
- Enable faster innovation with Amazon Aurora, Amazon DynamoDB, and Amazon Redshift
- Pick the right tool for the right job – choose from purpose-built databases and analytics services

Common challenges



Lack of a compelling business case



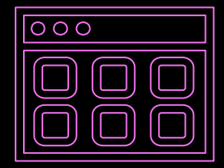
Technical complexity



Level of effort



Data volume, variety, velocity



Support from third-party application vendors



Database Freedom is an AWS program focused on accelerating migrations from commercial data platforms to AWS Cloud–native database and analytics services

Database Freedom program benefits



- Increase innovation and agility by leveraging AWS purpose-built services
- Reduce risk and complexity to migrate between on-premises and AWS
- Improve data access, empowering users to make data-driven decisions
- Shorten migration timelines by leveraging AWS or partner migration services
- Decrease migration costs using incentives

Migrate with minimal risk

AWS Database Migration Service	AWS Schema Conversion Tool	Native Tooling	Open Source	Commercial
Database migration and replication managed service	Development tooling to convert schemas between databases and data warehouses	Migration options included with the engine	Ora2Pg and others	Attunity, Golden Gate, Informatica, Talend, HVR, and others
Benefit • Easily and securely migrate and/or replicate your databases and data warehouses to AWS • Migrate between different database engines • Low cost and global availability	**Benefit** • Automates schema conversion including database structure and code • Minimizes manual effort of performing a schema re-write • Allows conversion from commercial to open source platforms	**Benefit** • Leverage a familiar environment • Full support for native features	**Benefit** • Tailored solution for a specific problem • Multiple tools can offer a more complete solution than any one product	**Benefit** • Commercial solutions are available for a wide range of migration sources and targets, including legacy mainframe systems

Database Freedom workshop

Scope

- **Determine** potential scope and timelines with key stakeholders
- **Address** questions and concerns from technical and business stakeholders
- **Educate** key personnel on AWS technologies

Key activities

- **Analyze** existing applications/databases for complexity and sizing on ~5 representative DBs
- **Rationalize** potential re-factoring and re-platforming against AWS DBs, determine right purpose-built database engines, and level of migration effort
- **Provide** high-level timeline, effort, and cost savings against existing architecture

Outcome

Buy-in across key stakeholders to move forward with the Database Freedom initiative

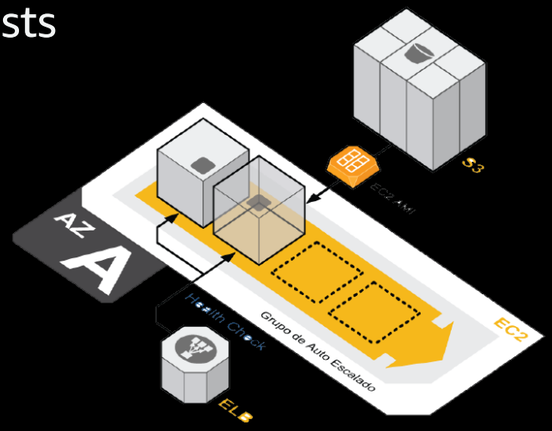
Resources

AWS

- DB Freedom Technical Specialists
- AWS Professional Services/Partners

AWS users

- App/DB Specialists
- Migration Lead



AWS database migration partners

































This is only a representative sample of these partners and is not a complete list.
Current as of October 2020.

Customer examples



Verizon is migrating **over 1,000** business-critical applications and **database backend systems** to AWS, several of which also include the migration of production databases to Amazon Aurora



Amazon.com migrated **100%** of its fulfillment center Oracle DBs to Amazon Aurora and Amazon Wallet and **migrated 60 Oracle databases to Amazon DynamoDB, creating 50% reduction in latency and 90% reduction in manual tasks.** It also migrated its **50 PB Oracle Data Warehouse** to AWS (Amazon S3, Amazon Redshift, and Amazon EMR)



Trimble migrated its Oracle databases to Amazon RDS and project it **will pay about 1/4** of what it paid when managing its private infrastructure



Samsung Electronics migrated its Cassandra clusters to Amazon DynamoDB for its Samsung Cloud workload with **70% cost savings.** Samsung also migrated its Oracle 2-node RAC to Aurora PostgreSQL without interruption and gained a significant cost savings



Intuit migrated from Microsoft SQL Server to Amazon Redshift **to reduce data-processing timelines and get insights to decision makers faster** and more frequently

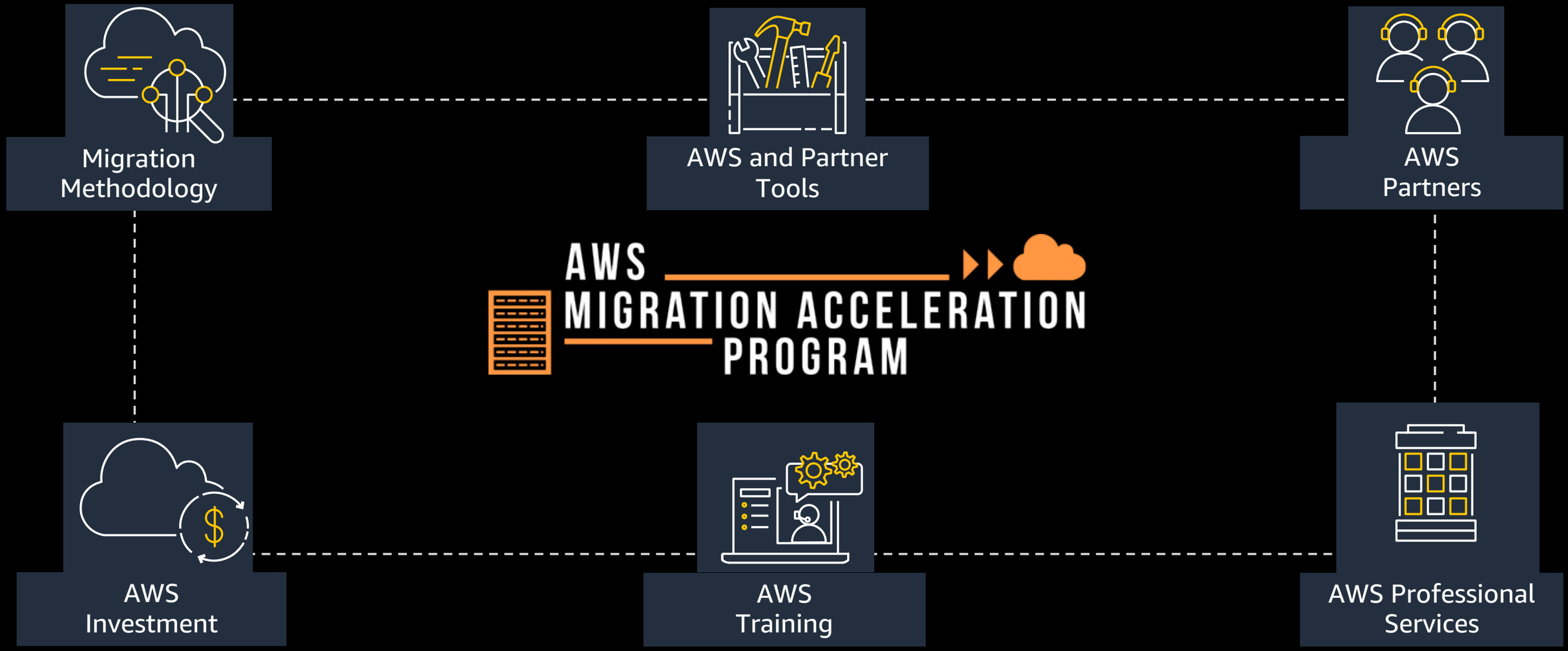


Equinox Fitness migrated its Teradata on-premises data warehouse to Amazon Redshift. It went from static reports to a modern data lake **that delivers dynamic reports**

Dow Jones & Company, Inc.

Dow Jones migrated its Market Data system from SQL Server to Aurora MySQL using AWS Database Migration Service (DMS) to replicate data nightly. **Reduced its processing times from 8 hours to 3 hours**

Migration Acceleration Program (MAP)



MAP customer journey

Assess

Discovery & Business case

Rapid discovery

TCO report

Pre-MRP accelerators

Briefings and workshops

Immersion day

Mobilize

Discovery and planning

Landing zone

Skills/center of excellence

Migration experience

Business case

Migration plan

Operating model

Security and compliance

Migrate & Modernize



Operate

Modernize



Create a case for change

Mobilization through experiences

Accelerate migration at scale

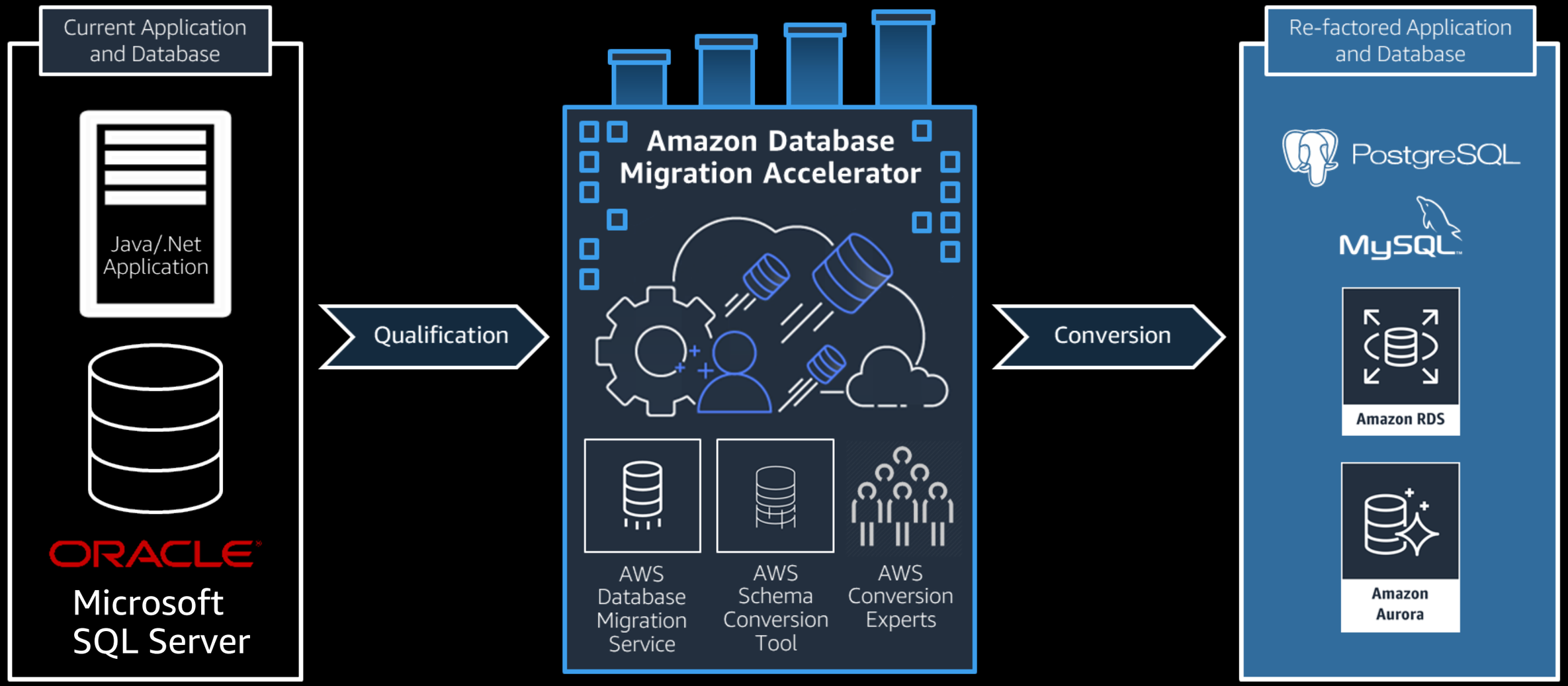
Database Migration Accelerator (DMA)



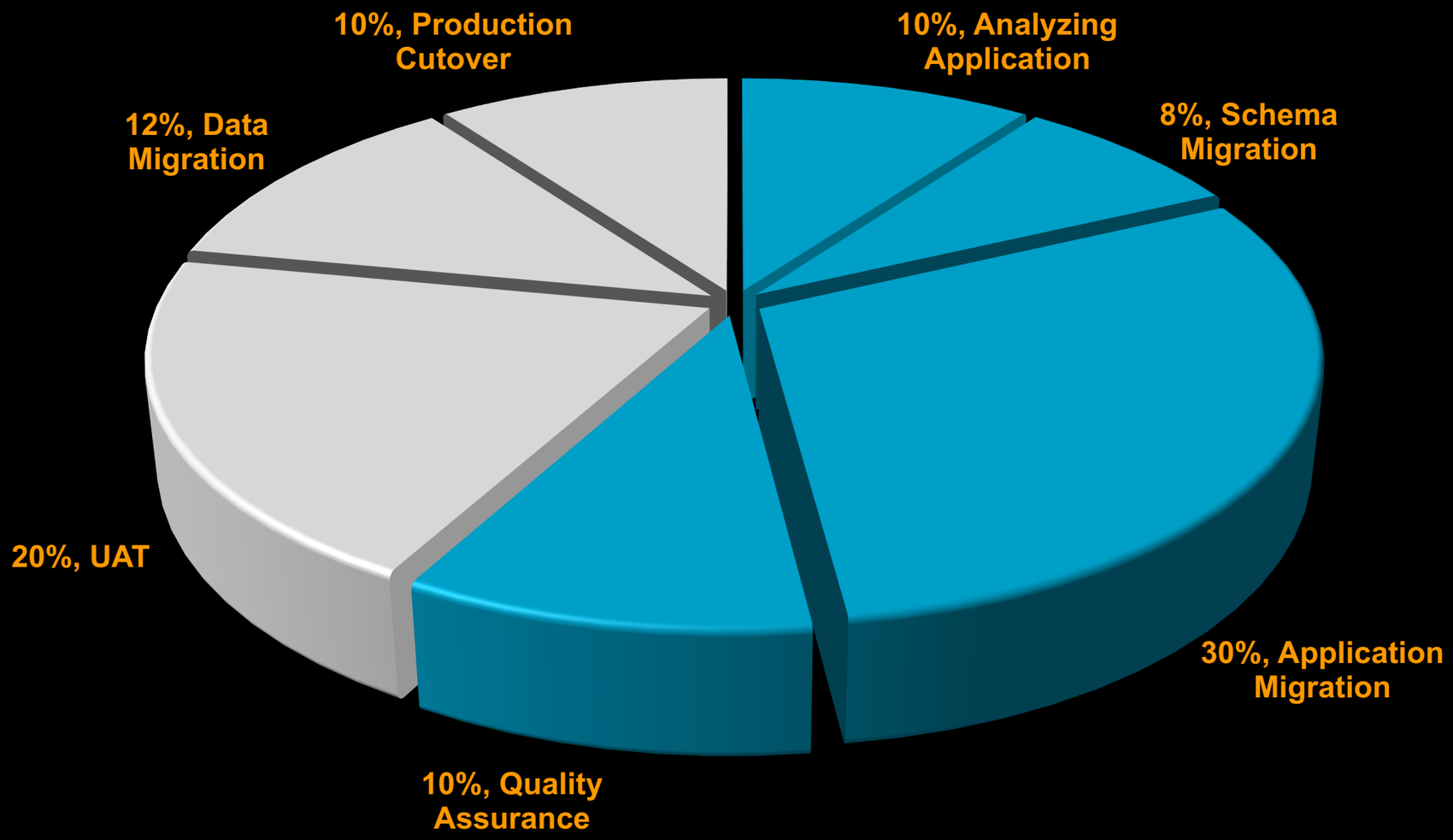
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What is Amazon DMA?



What is involved in migrating an application?



Amazon DMA process



Customer provides

- Access to application code
- Source databases
- Non-production environment in Amazon Elastic Compute Cloud (Amazon EC2)
- Acceptance test criteria

Decreased risk, time, and effort

Amazon DMA Delivers

- Re-factored application and database to deploy in a non-production environment
- Validated test cases
- Add-ons from AWS professional services and training and certification options are available as needed

Available resources

- Database Migrations on AWS
  https://aws.amazon.com/products/databases/migrations/
- Database Freedom Program
  https://aws.amazon.com/solutions/databasemigrations/database-freedom/?p=dm
- Migration Acceleration Program
  https://aws.amazon.com/migration-acceleration-program/
- Database Migration Accelerator
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Related sessions

DAT205

Enterprise database transition: License-free cloud databases

DAT312

Dive deep into AWS Schema Conversion Tool and AWS DMS

DAT213

Break free from legacy commercial databases to save, grow, and innovate

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Summary

1. Start your Database Freedom journey by initiating database discovery and assessment
2. Leverage database migration experts via Amazon DMA
3. Select AWS Professional Services and/or Partners who can help

Thank you!



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