
AWS
re:Invent
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DAT218

What's new with database migrations

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Agenda

- Why migrate?
- Customer modernization and migration journey
- Introduction to AWS Database Migration Service (AWS DMS)
- New service capabilities
- Product demo

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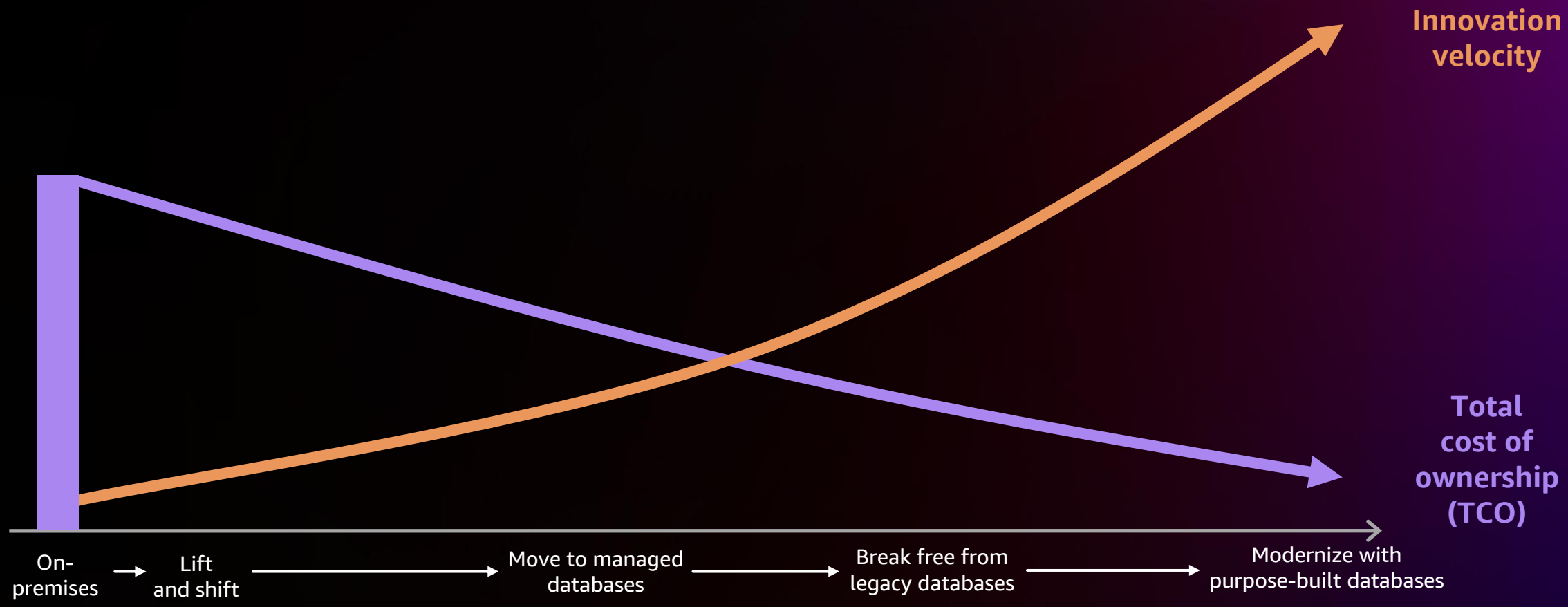
“Migrations are fun!”

No one

Ever

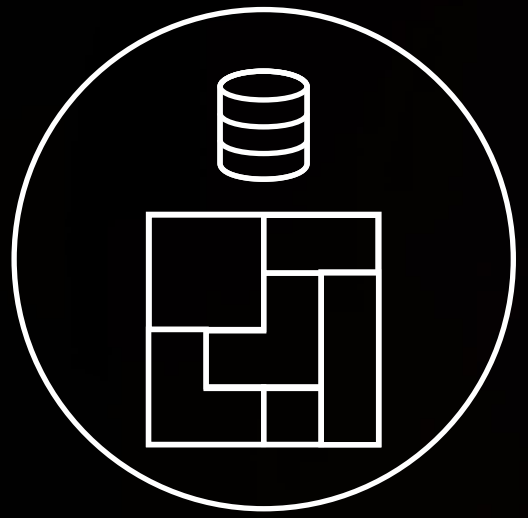
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Modernizing leads to maximum innovation velocity and optimal total cost of ownership



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Typical database modernization journeys start here



Relational database application

Existing business-critical applications

- Typically monolithic
- Made to fit relational databases
- Transactional in nature

. . . but also

- Start new applications
- Rapid prototyping, developed locally
- ORM/ODM heavy for agility

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Let’s wind it back . . .

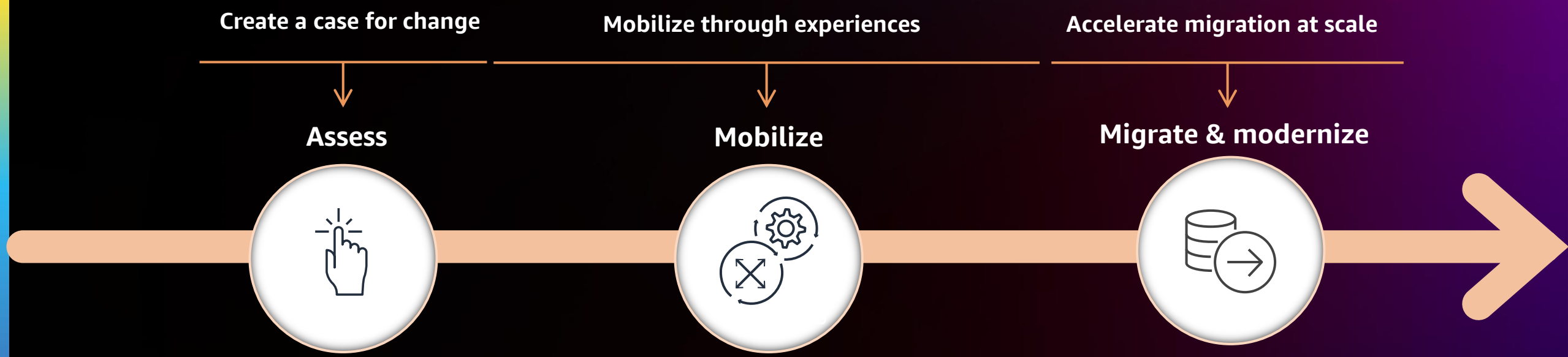
- The salesperson said it would be easy
- There’s more to it than just the database isn’t there?
- The database is comprised of
  - The schema
  - The database
- Plus, there are the applications that use it
- And the impact to the business users
- Then before all of that, do you even know what you have?



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Migration tools and services

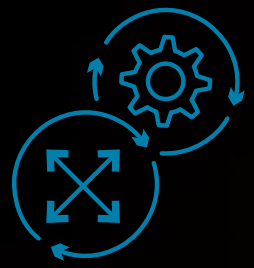


Tools	AWS DMS Fleet Advisor	AWS Schema Conversion Tool (AWS SCT)	AWS Database Migration Service (AWS DMS)
People	AWS Solutions Architects	AWS Partners & Professional Services	Database Migration Accelerator – Advisors
Programs	Migration Acceleration Program (MAP & OLA)	Database Freedom	Database migration best practices, playbooks, & guides	Data Lab	Database Migration Accelerator – Fixed Price

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AWS Database Migration Service (AWS DMS)

SECURELY MIGRATE YOUR DATABASES AND DATA WAREHOUSES TO AWS WITH EASE & MINIMAL DOWNTIME



Managed migration

Automated migration service will discover, assess, convert, and migrate your database and analytics workloads to AWS

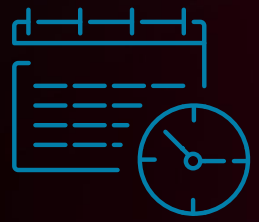
Just a few clicks to start the process



Breadth of options

Migrate data to and from most widely used commercial and open-source databases

Supports SQL, NoSQL, text-based, and data warehouse targets



High availability

Multi-AZ option; highly resilient and self–healing with continuous replication and monitoring for minimal downtime



Low cost

Self-service tool

Only pay for compute resources and additional log storage used

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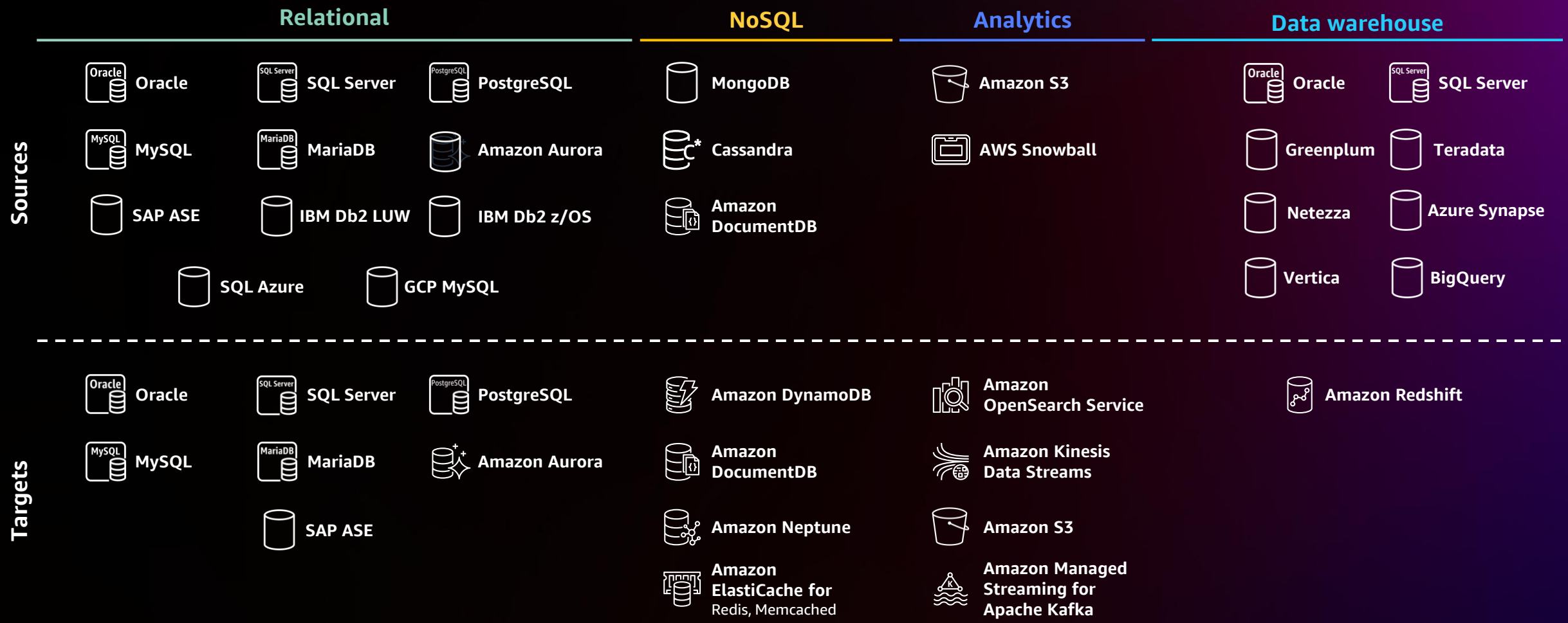
775,000+ databases migrated using DMS



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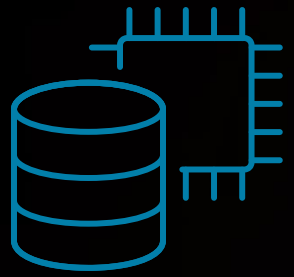
AWS DMS supported sources and targets



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AWS DMS Fleet Advisor

AUTOMATICALLY INVENTORIES AND ASSESSES ON-PREMISES DATABASE AND ANALYTICS SERVER FLEETS



Identify databases to migrate at scale with minimal effort



Save on costs associated with migration planning and migrating workloads



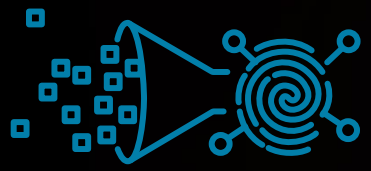
Build a migration plan in hours instead of weeks

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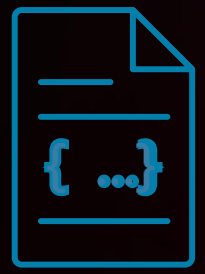
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AWS Schema Conversion Tool (AWS SCT)

CONVERT YOUR COMMERCIAL DATABASE AND DATA WAREHOUSE SCHEMAS TO AWS



Automated inventory and migration recommendations to accelerate migrations



Converts schema and code objects to target engine

Supports a wide variety of source and target databases and data warehouses



Extracts and migrates data warehouses to Amazon Redshift

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Common customer use cases



Migrate

Migrate business-critical applications and data warehouses

Migrate from NoSQL to SQL, SQL to NoSQL, or NoSQL to NoSQL

Upgrade to a minor/major version

Consolidate and archive data

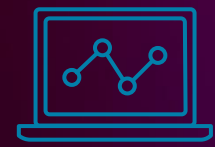


Replicate

Create cross-Region read replicas

Hydrate your data lakes/ data warehouses

Replicate to streaming platform



Modernize

Move to AWS modern managed databases like Aurora, DynamoDB, and Amazon Redshift for faster innovation

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

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New since last year

AWS DMS

- Babelfish target
- Db2 mainframe
- SQL Server read replica
- VPC endpoints
- Pre-flight enhancements
- Enhanced logging and Time Travel
- AL2 and Gen6 instances
- IPv6

AWS SCT

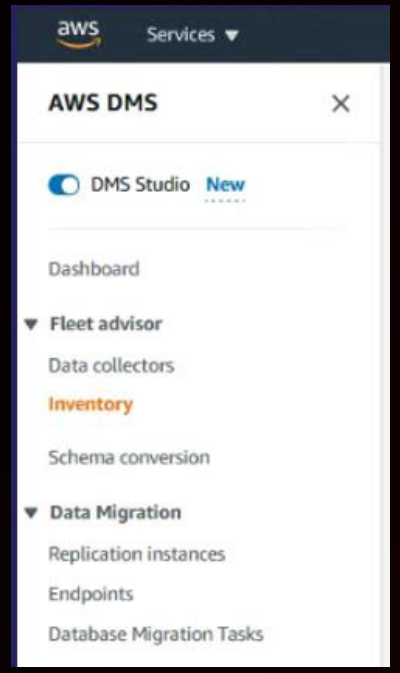
- Babelfish assessments
- Snowflake schema conversion
- Azure Synapse
- Amazon Redshift Serverless
- Google BigQuery to Amazon Redshift
- SSIS to AWS Glue Studio
- Informatica to Amazon Redshift redirector
- Improved code conversion

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Product integration

- Many tools to use during a migration
- Not always clear when to use what tool
- Disjointed workflow

Phase 1: Fleet Advisor





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AWS DMS schema conversion

Discovery
- AWS DMS Fleet Advisor

Re-factoring
- AWS DMS schema conversion

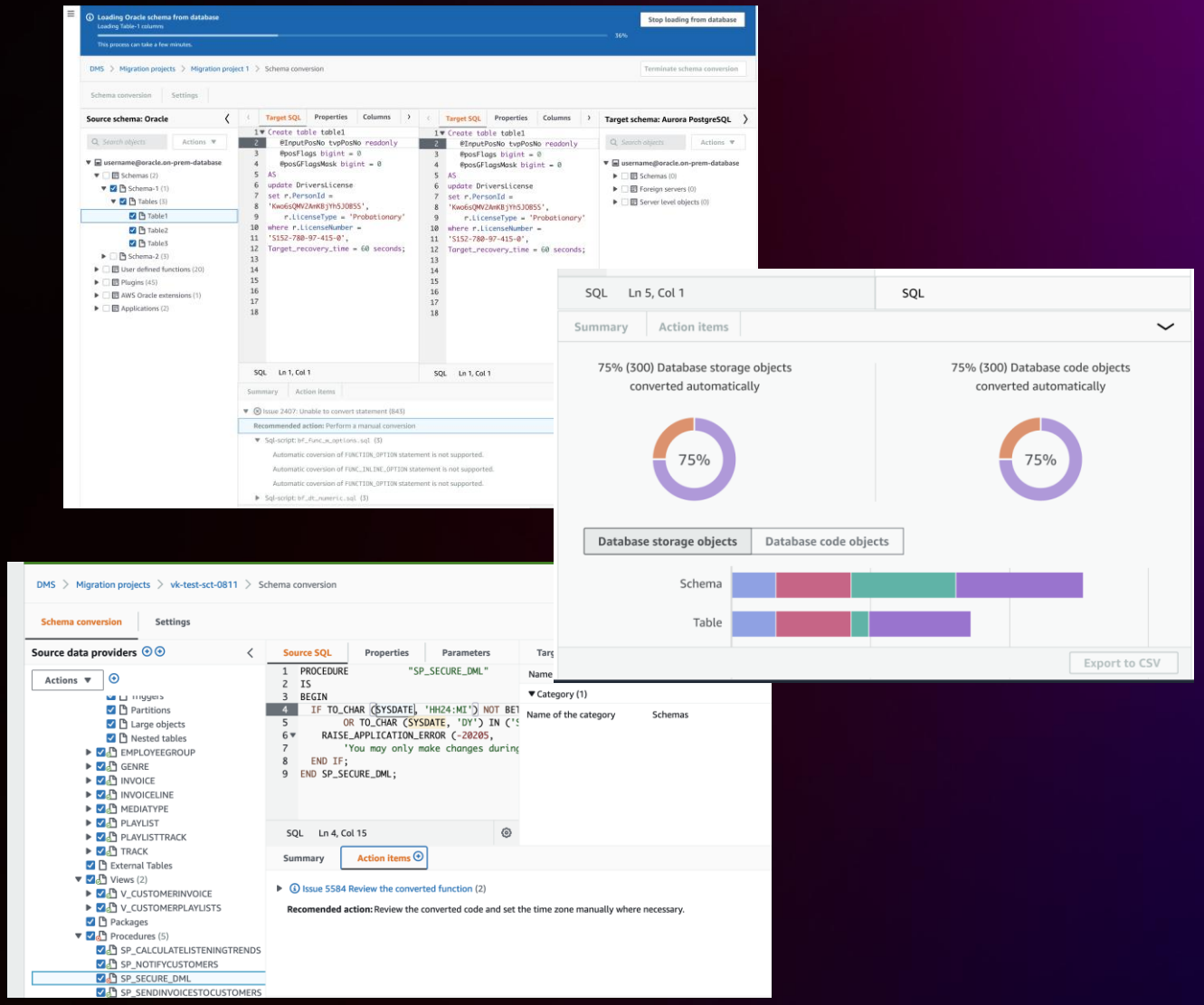
Data movement
- AWS DMS replication



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AWS DMS schema conversion

- Convert database schema
- Secure connection to your databases
- Run and view schema assessment report in the AWS DMS console
- View converted SQL code in the AWS DMS console



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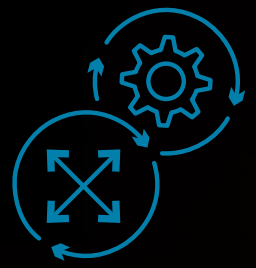
AWS DMS schema conversion

Product demo

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AWS DMS

A CLOSER LOOK



Logical replication

Two phases of migration:

1. Full load

2. Change data capture

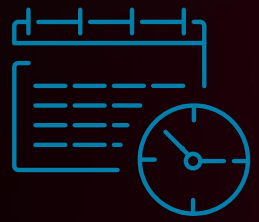


Breadth of options

Can migrate from any supported source to any supported target

Default mappings can be adjusted as needed

Used in conjunction with schema conversion



Business continuity

Ongoing replication ensures that you can continue to use the source system during migration



Managed service

AWS handles the operation and maintenance of the replication server

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Automation with DMS

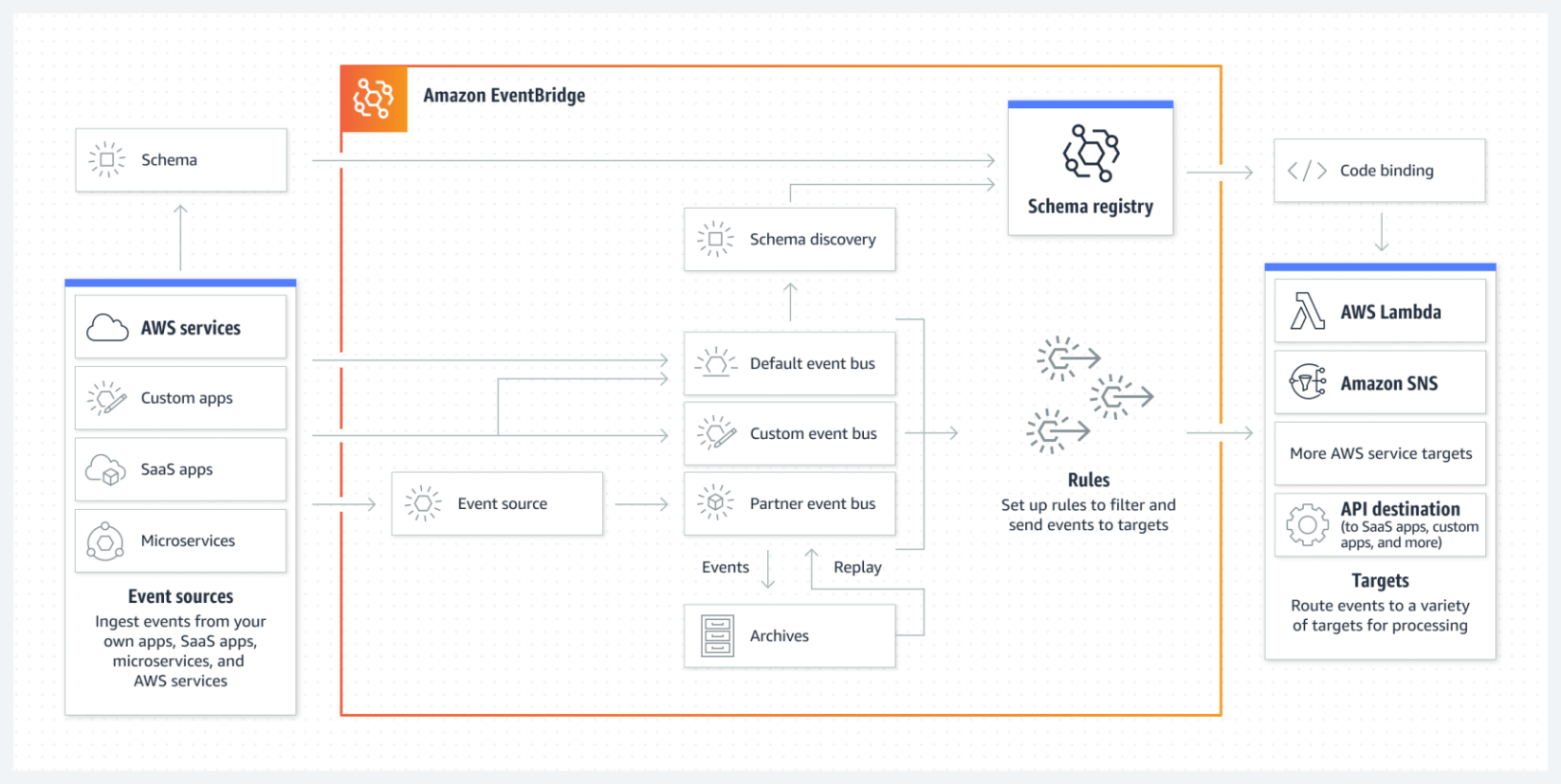
- AWS CloudFormation templates
- Amazon CloudWatch events
- AWS API
- AWS CLI



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AWS DMS support for Amazon EventBridge

- Configuration changes
  - Size, storage, MAZ, create, delete, maintenance
- Task changes
  - Start, stop, pause, create, delete, fail, modify



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AWS DMS automation

Integration with Amazon EventBridge – Demo

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AWS DMS resources and getting started

- Visit our website at https://aws.amazon.com/dms
- Technical user guide: https://docs.aws.amazon.com/dms
- Pricing: https://aws.amazon.com/dms/pricing
- Support: https://repost.aws/tags
    - Select the “AWS Database Migration Service” tag
- Get started with Free Tier https://aws.amazon.com/free

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