AWS DMS

At the core of the lesson

You will learn how to do the following:

- Describe the AWS Database Migration Service (AWS DMS) and its features.
- Identify key differences between homogeneous database migrations and heterogeneous database migrations.
- Describe the AWS Schema Conversion Tool (AWS SCT).

AWS DMS overview

What is AWS DMS?

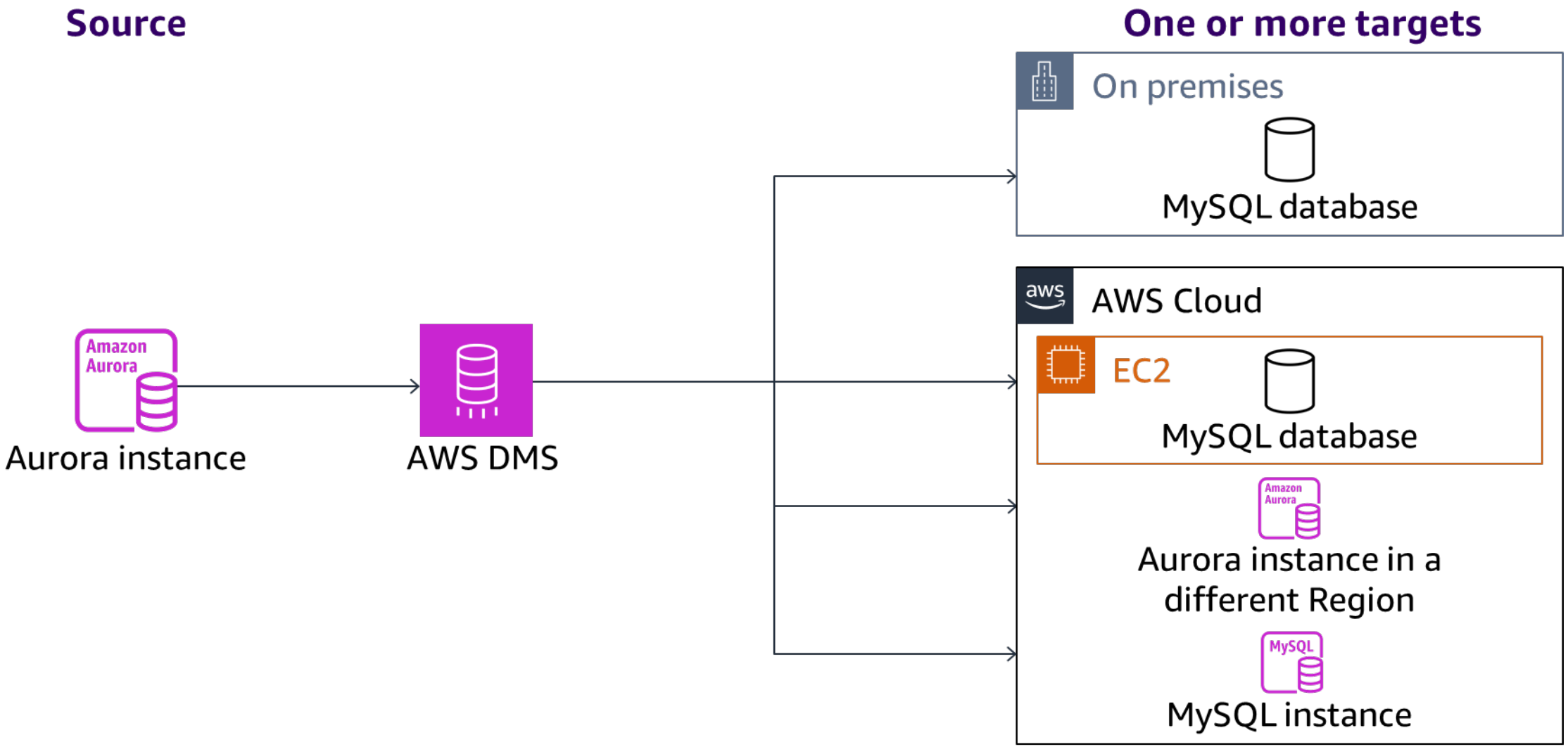
AWS DMS

AWS DMS is a service that migrates databases to Amazon Web Services (AWS) quickly and securely.

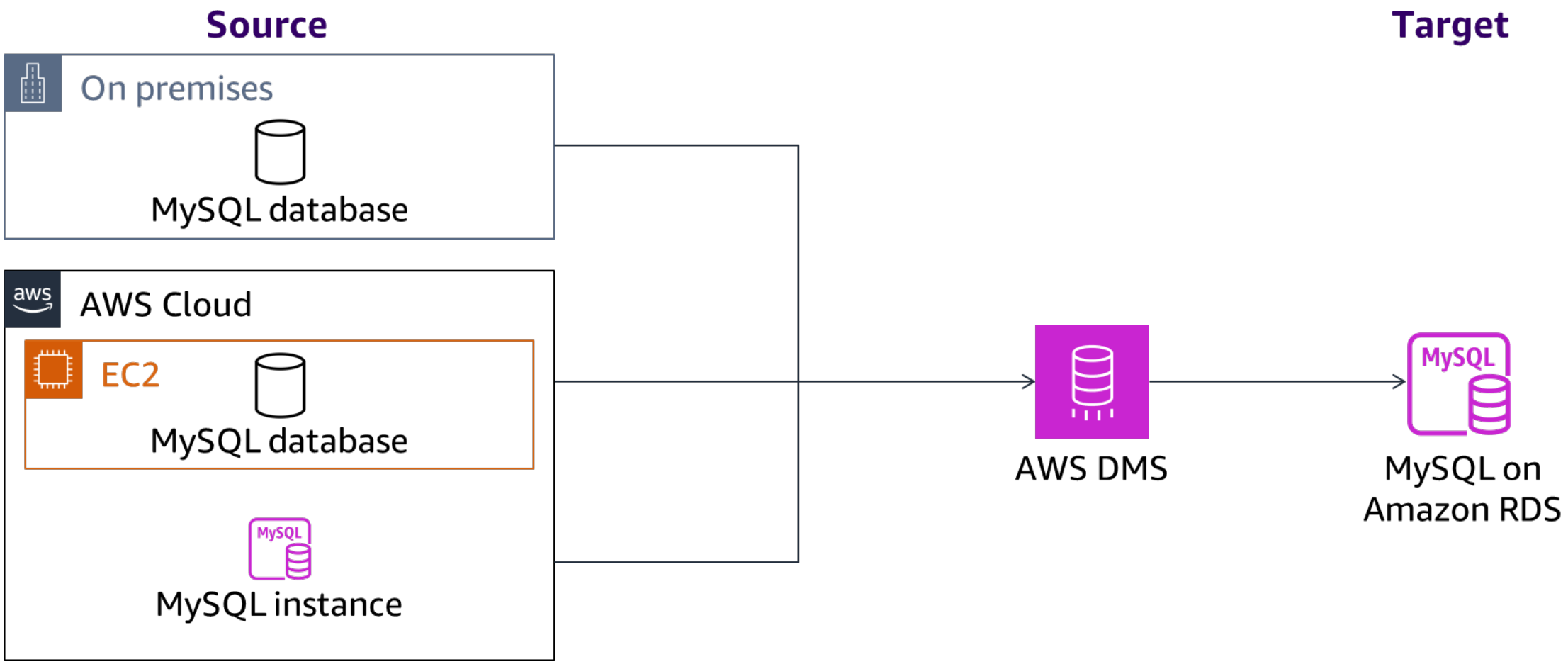
Features of AWS DMS

- Migrate data to and from most databases.
- Keep the source database operational during migration.
- Keep applications live or running during the migration.
- Conduct syntax migration conversion.
- Replicate data near-continuously.
- Consolidate databases.
- Deploy to multiple Availability Zones for high availability and failover support.

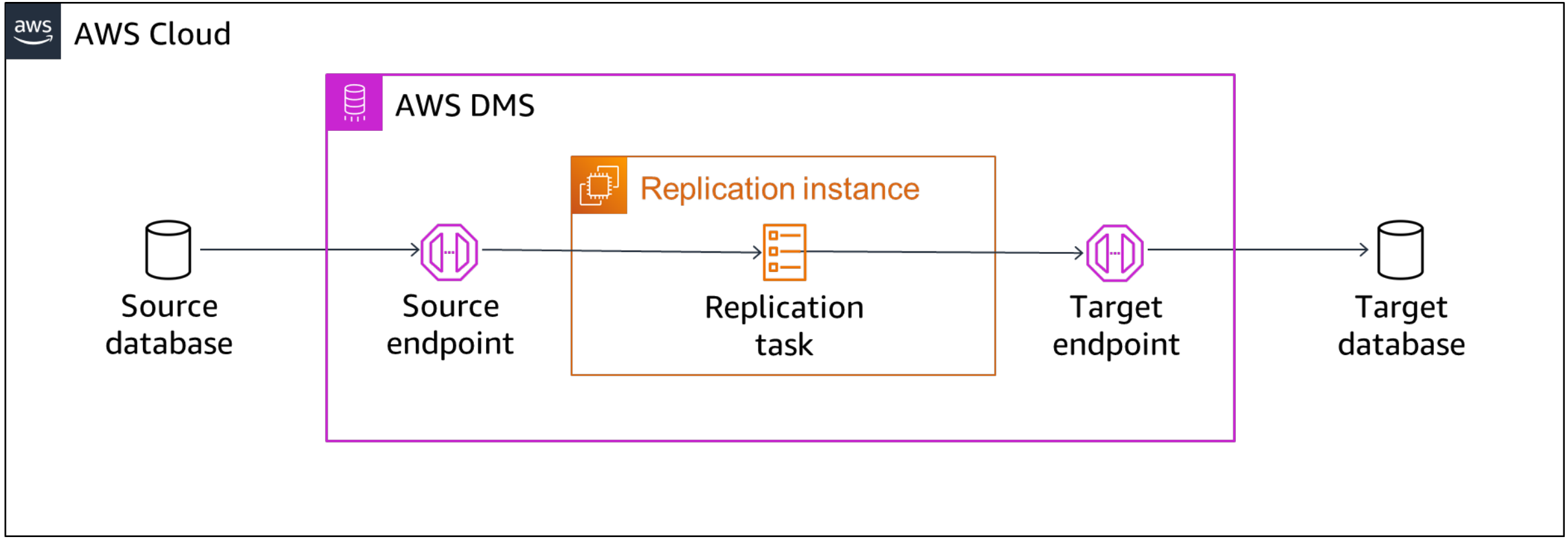
Near-continuous data replication



Database consolidation



Database migration process

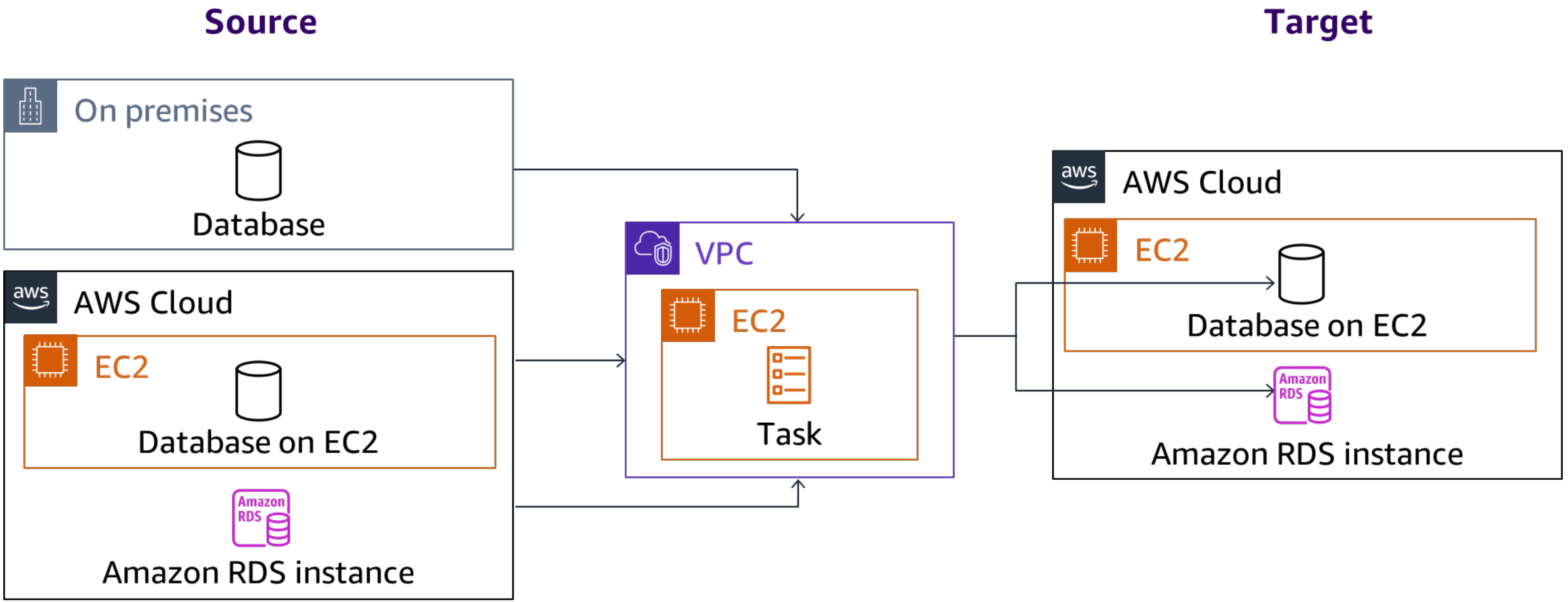


Components of AWS DMS

The AWS DMS architecture consists of the following components:

- Replication instance
- Task
- Source
- Target

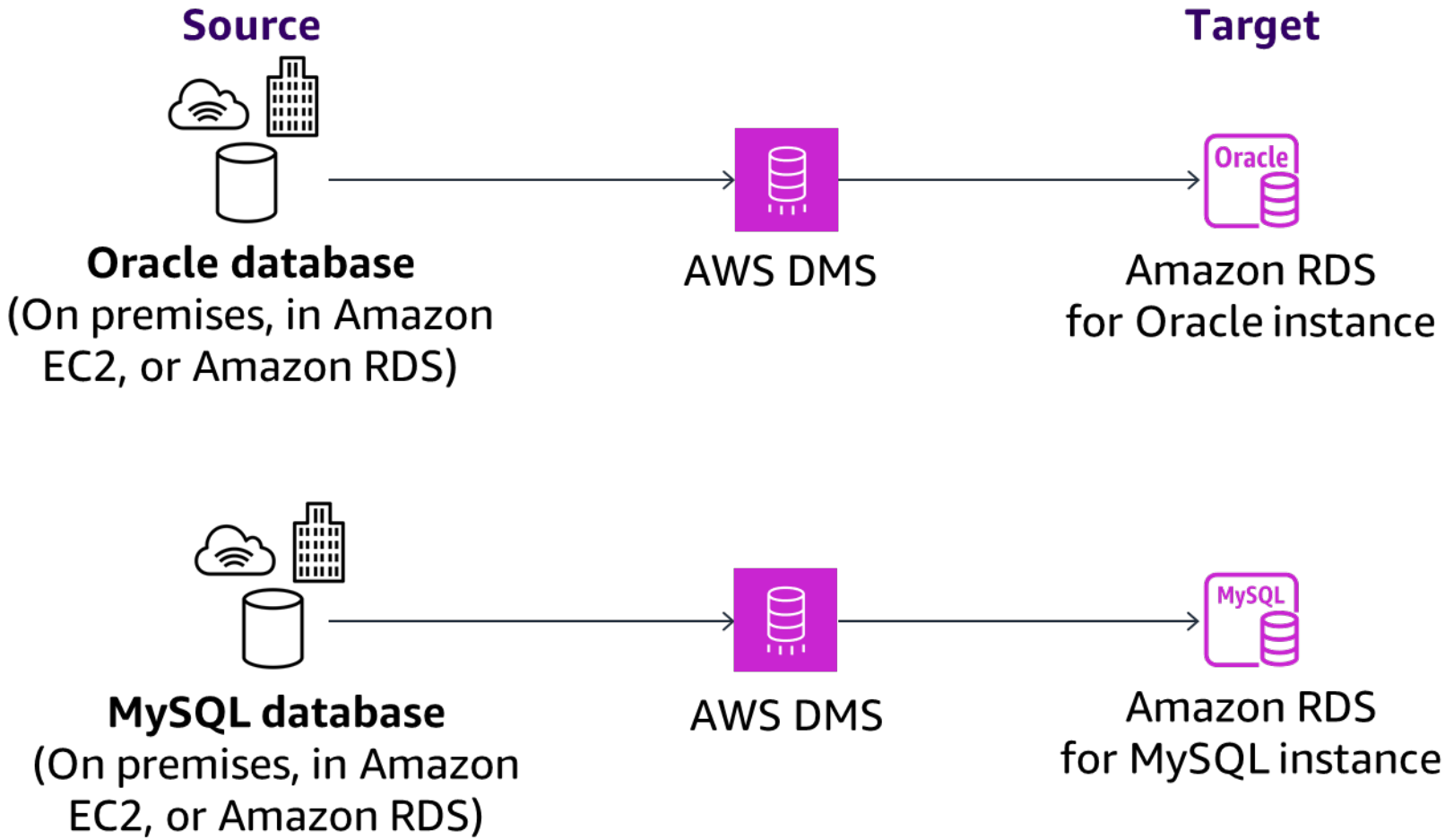
AWS DMS example



Types of database migrations

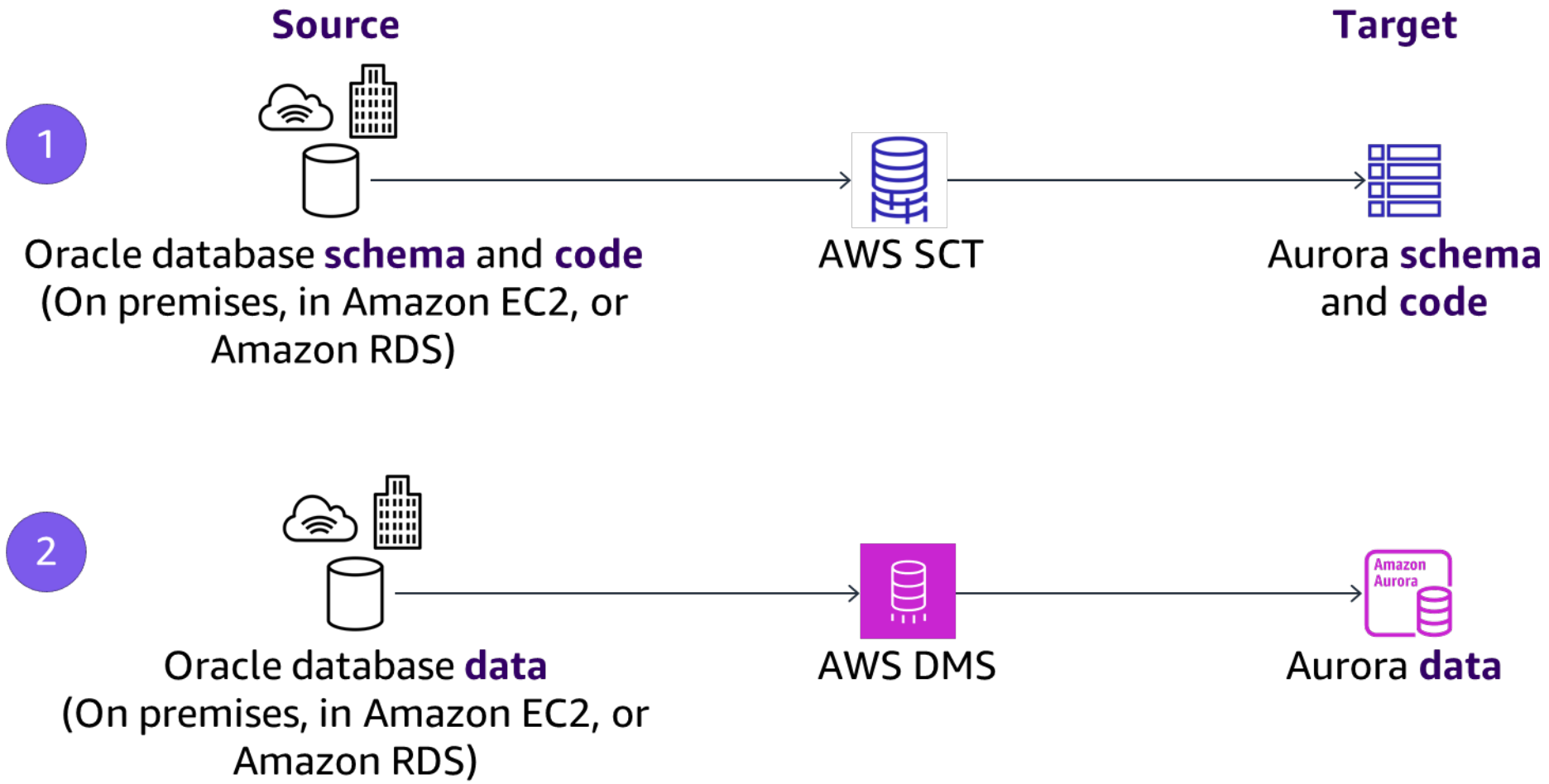
Homogeneous database migrations

In homogeneous database migrations, the source and target database engines are the same or are compatible.



Heterogeneous database migrations

Heterogeneous migration is a two-step process.



AWS SCT

What is the AWS SCT?

- The AWS SCT converts your existing database schema and code objects from one database engine to another.
  - It is used for heterogeneous migrations.
  - You can convert a relational schema or a data warehouse schema.
  - The database objects that the AWS SCT converts include the source database schema, views, stored procedures, and functions.
- The AWS SCT can also scan your application source code for embedded SQL statements and convert them so that they are compatible with the target database.

Examples of conversions supported by the AWS SCT

Source Database	Target Database on Amazon RDS
Oracle database	Aurora, MySQL, PostgreSQL, and MariaDB
Oracle data warehouse	Amazon Redshift
Microsoft Azure SQL database	Aurora, MySQL, and PostgreSQL
Microsoft SQL Server	Aurora, Amazon Redshift, MySQL, PostgreSQL, and MariaDB
Teradata	Amazon Redshift
IBM Netezza	Amazon Redshift
MySQL	Aurora PostgreSQL, MySQL, and PostgreSQL
PostgreSQL	Aurora, MySQL, and PostgreSQL
IBM Db2 LUW	Aurora, MySQL, and PostgreSQL
Apache Cassandra	Amazon DynamoDB
SAP ASE	Aurora, MySQL, PostgreSQL, and MariaDB

Checkpoint questions

1. What are the steps in the heterogeneous database migration process?
2. Why would a user choose to use AWS DMS?
3. What does the AWS SCT do?

Key ideas

- AWS DMS and the AWS SCT help migrate homogenous and heterogeneous databases from on-premises data centers and cloud instances to AWS.
- Heterogeneous database migrations involve two steps: converting the schema by using the AWS SCT and migrating the data by using AWS DMS.

Thank you

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