

Dms data base migration

Data base migration

A data migration system is a set of tools, processes, and technologies used to transfer data from one system or storage location to another. It involves moving data from a source system or environment to a target system or environment while ensuring data integrity, consistency, and security. Here are some key components and considerations of a data migration system

The screenshot shows the AWS Database Migration Service (AWS DMS) console. The left sidebar contains a navigation menu with options like Dashboard, Conversion & migration (Database migration tasks), and Resource management (Replication instances, Endpoints, Certificates, Subnet groups, Events, Event subscriptions). The main content area features a large banner with the text "AWS Database Migration Service" and "Migrate your databases to AWS with minimal downtime". Below the banner, a sub-banner states "The quickest and easiest way to migrate databases to AWS with low cost and minimal downtime." To the right of the banner is a "Migration Playbook" section with a link to "Learn more about Migration Playbook". At the bottom right of the main content area is a "AWS Schema Conversion Tool" section with a link to "Learn more about Migration Playbook".

This screenshot shows a specific section of the AWS DMS console under the "downtime" heading. The left sidebar is identical to the previous screenshot. The main content area has a dark header with the word "downtime". Below it is a sub-banner with the same migration information as the first screenshot. A "What's new" section lists several recent changes: "AWS Database Migration Service is now available in the AWS China (Beijing) Region, Operated by Sinnet, and AWS China (Ningxia) Region, Operated by NWCD.", "AWS DMS adds support for native CDC start points.", "AWS DMS adds support for Memory-Optimized R4 instances.", and "AWS DMS adds Db2 LUW as a source.". To the right of the "What's new" section is a "AWS Schema Conversion Tool" section with a "Download AWS SCT" button and links to "SCT getting started", "AWS SCT blogs", and "SCT forums". At the bottom right is a "Getting started" section.

Create Replication Instance

Billing is based on [DMS pricing](#).

Engine version
Choose an AWS DMS version to run on your replication instance.

3.1.3

Allocated storage (GB)

Maintenance

Maintenance window (UTC) [Info](#)

Start day

Start time
 (Hour) 06 (Minute) 13

Duration (hours)

Minor version automatic upgrade
 Choose whether you want AWS DMS to apply minor engine version upgrades to your replication instance, whenever these upgrades are available. See [AWS DMS Maintenance](#)

Yes

No

(i) DMS requires access permissions to manage your VPC resources. By clicking Create replication instance, you grant permission for DMS to create a role that has this access.

after you create start and end point

AWS DMS

DMS > Endpoint

Endpoints

Name	Type	Status	Engine	Server name	Port	Migration Hub Mapping	ARN
Empty endpoint table							
You don't have any endpoints.							

Create endpoint

Select RDS DB instance

Endpoint configuration

Endpoint identifier [Info](#)
A label for the endpoint to help you identify it.

Source engine
The type of database engine this endpoint is connected to.

▶ Endpoint-specific settings

Endpoint identifier [Info](#)
A label for the endpoint to help you identify it.

Source engine
The type of database engine this endpoint is connected to.

Server name

Port
The port the database runs on for this endpoint.

Secure Socket Layer (SSL) mode
The type of Secure Socket Layer enforcement

User name [Info](#) **Password** [Info](#)

Database name

▶ Endpoint-specific settings

☰

▼ KMS master key

KMS master key [Info](#)
(Default) aws/dms

Account
387124123361

Description
Default master key that protects my DMS replication instance volumes when no other key is defined

Key ARN
arn:aws:kms:us-east-1:387124123361:key/19794209-96b7-4f4f-a01b-384b31e789a9

▶ Test endpoint connection (optional)

[Cancel](#) [Create endpoint](#)

☰

DMS > Create endpoint

Create endpoint

Endpoint type [Info](#)

Source endpoint
A source endpoint allows AWS DMS to read data from a database (on-premises or in the cloud), or from other data source such as Amazon S3.

Target endpoint
A target endpoint allows AWS DMS to write data to a database, or to other data source.

Select RDS DB instance

Endpoint configuration

Endpoint identifier [Info](#)
A label for the endpoint to help you identify it.

☰

Task settings

Target table preparation mode [Info](#)
 Do nothing
 Drop tables on target
 Truncate

Include LOB columns in replication [Info](#)
 Don't include LOB columns
 Full LOB mode
 Limited LOB mode

Maximum LOB size (KB) [Info](#)

Enable validation
Choose this setting if you want AWS DMS to compare the data at the source and the target, immediately after it performs a full data load. Validation ensures that your data was migrated accurately, but it requires additional time to complete.

Enable CloudWatch logs [Info](#)

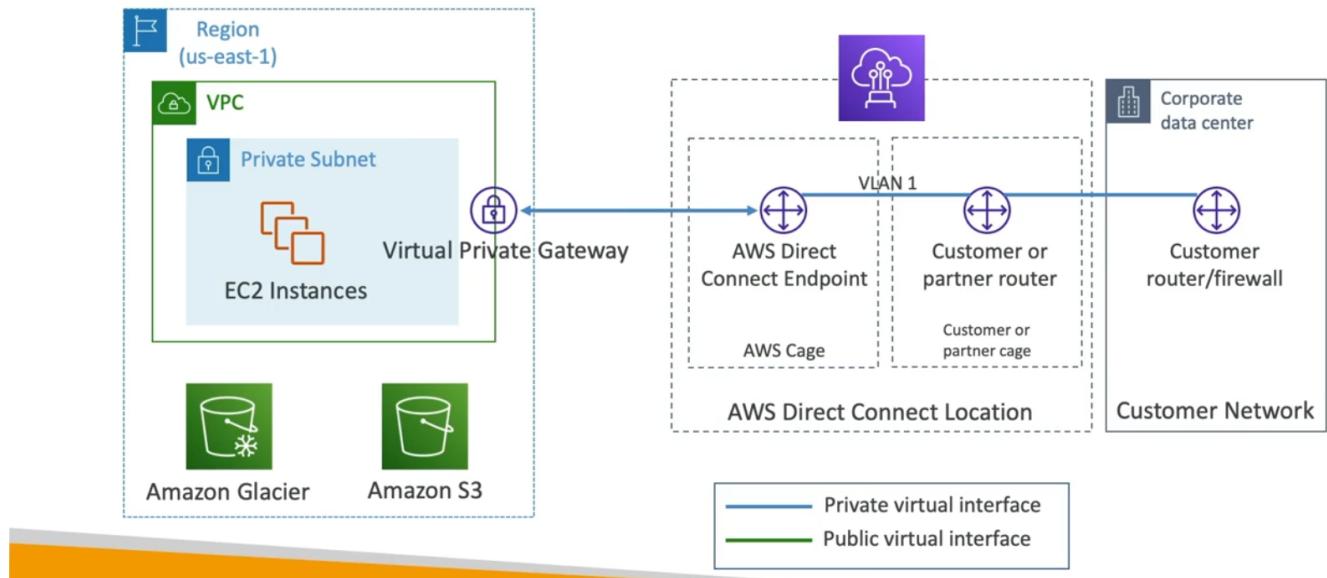
[Advanced task settings](#)

Direct Connect (DX)



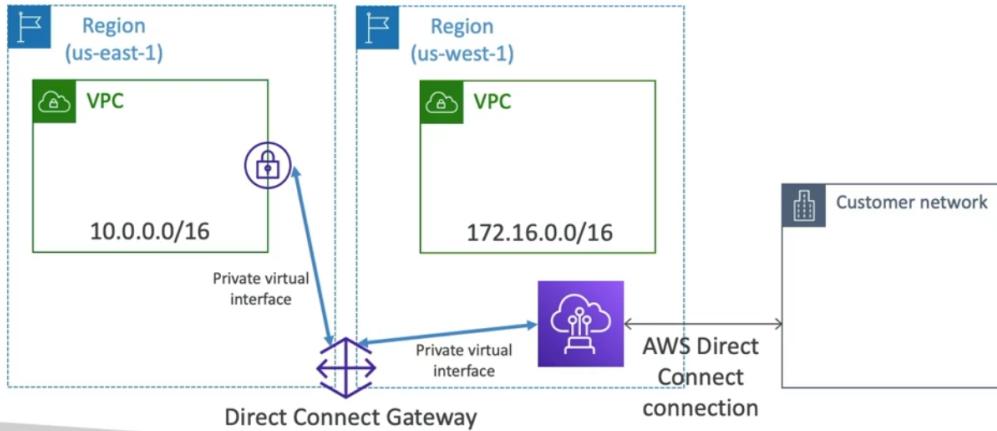
- Provides a dedicated private connection from a remote network to your VPC
- Dedicated connection must be setup between your DC and AWS Direct Connect locations
- You need to setup a Virtual Private Gateway on your VPC
- Access public resources (S3) and private (EC2) on same connection
- Use Cases:
 - Increase bandwidth throughput - working with large data sets – lower cost
 - More consistent network experience - applications using real-time data feeds
 - Hybrid Environments (on prem + cloud)
- Supports both IPv4 and IPv6

Direct Connect Diagram



Direct Connect Gateway

- If you want to setup a Direct Connect to one or more VPC in many different regions (same account), you must use a Direct Connect Gateway



Direct Connect – Connection Types

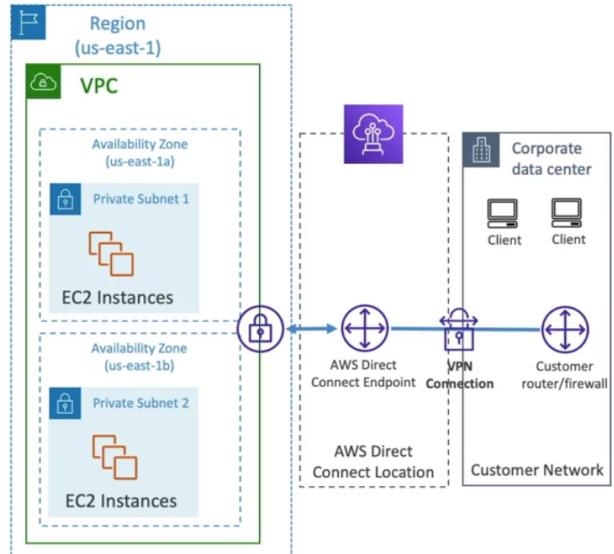
- **Dedicated Connections:** 1 Gbps, 10 Gbps and 100 Gbps capacity
 - Physical ethernet port dedicated to a customer
 - Request made to AWS first, then completed by AWS Direct Connect Partners
- **Hosted Connections:** 50Mbps, 500 Mbps, to 10 Gbps
 - Connection requests are made via AWS Direct Connect Partners
 - Capacity can be added or removed on demand
 - 1, 2, 5, 10 Gbps available at select AWS Direct Connect Partners
- Lead times are often longer than 1 month to establish a new connection

Direct Connect – Connection Types

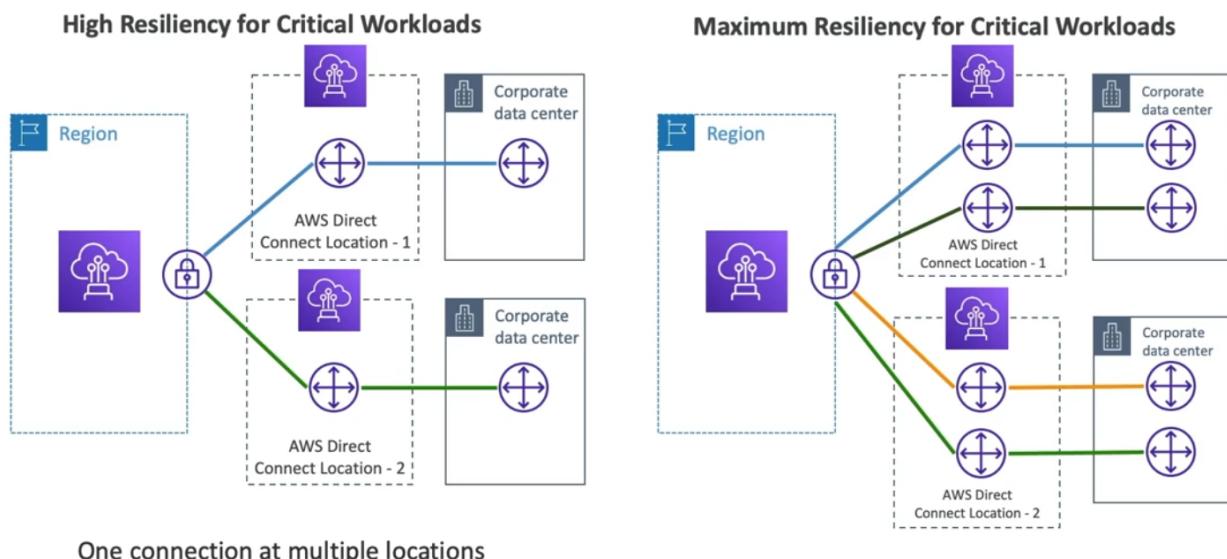
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Direct Connect – Encryption

- Data in transit is not encrypted but is private
- AWS Direct Connect + VPN provides an IPsec-encrypted private connection
- Good for an extra level of security, but slightly more complex to put in place



Direct Connect - Resiliency



Cost Optimization: Direct Connect can help optimize data transfer costs, especially for organizations with large data volumes. By using Direct Connect, you can reduce or eliminate data transfer fees that would be incurred when transferring data over the public internet