



Architecture Diagrams

AWS Direct Connect Traffic Flow with AWS Local Zone



AWS Direct Connect Traffic Flow with AWS Local Zone: Architecture Diagrams

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Table of Contents

Direct Connect Local Zone **i**

AWS Direct Connect traffic flow with AWS Local Zone architecture 1

Further reading 2

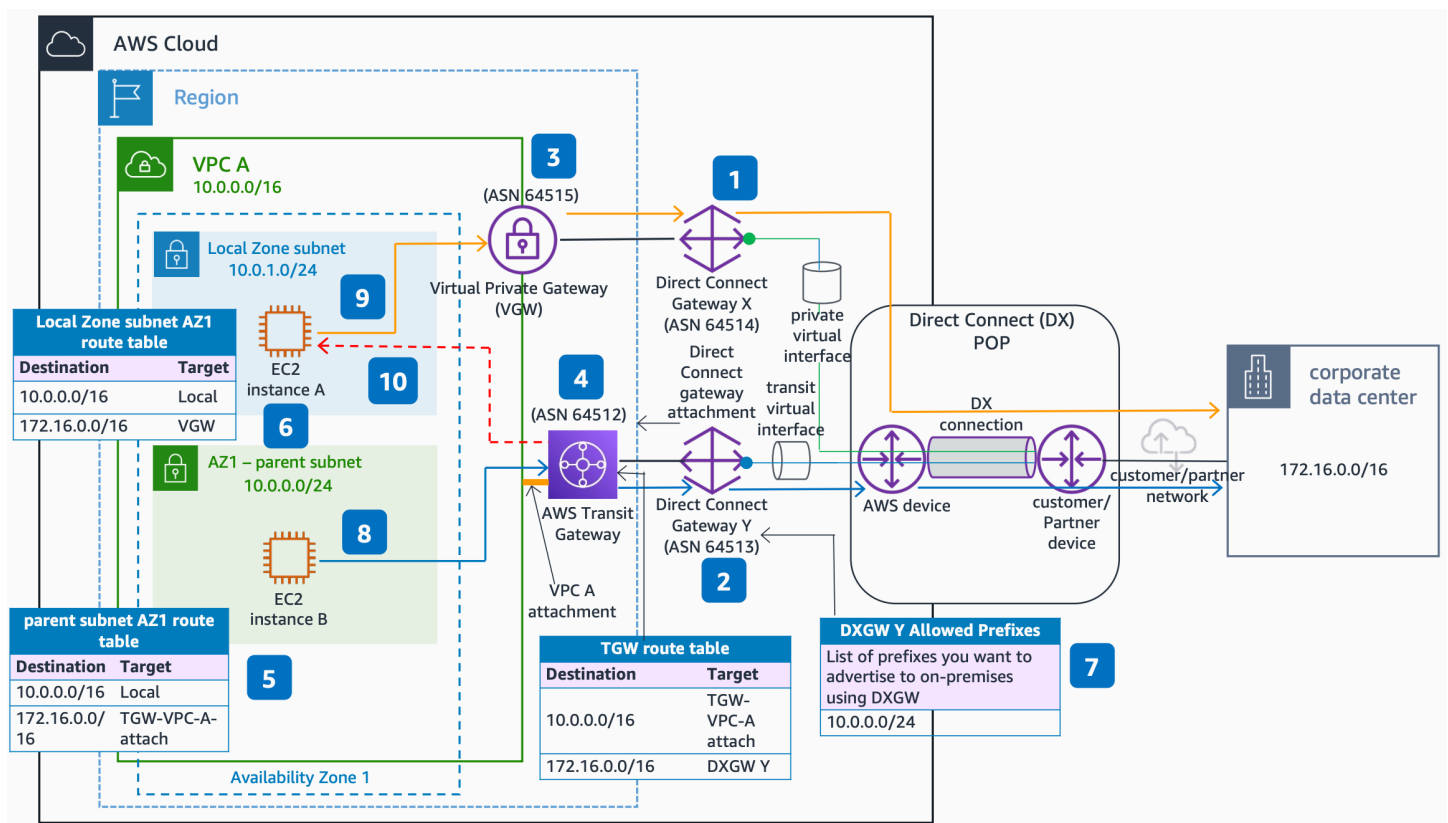
Diagram history 2

AWS Direct Connect Traffic Flow with AWS Local Zone

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This architecture shows traffic flows from an on-premises data center to an AWS Local Zone using [AWS Direct Connect](#) for latency-sensitive applications running in [Amazon VPC](#).

AWS Direct Connect traffic flow with AWS Local Zone architecture



The following steps describe this architecture:

1. Create AWS Direct Connect gateway (DXGW) "X" and assign a unique autonomous system number (ASN). Attach the Private Virtual Interface (VIF) to DXGW X.
2. Create DXGW "Y" and assign a unique ASN. Attach the Transit VIF to DXGW Y.
3. Create a Virtual Private Gateway (VGW) and attach it to **DXGW X**. Assign a unique ASN to the VGW. Attach the VGW to **VPC A**.

4. Create an [AWS Transit Gateway](#) (TGW) and attach it to **DXGW Y** using a DXGW attachment. Attach the TGW to **VPC A** using a **VPC A** attachment.
5. Create a parent subnet (**10.0.0.0/24**) with an [Amazon Elastic Compute Cloud](#) instance in an Availability Zone (AZ1) and associate it with a route table.
6. Create another subnet (**10.0.1.0/24**) in the AWS Local Zone where the latency-sensitive application runs. Associate this subnet with a separate Local Zone route table.
7. Add the AZ1 parent subnet (**10.0.0.0/24**) in the **DXGW Y** allowed prefixes list. For more information about allowed prefixes, see [Allowed prefixes interactions](#).
8. AWS Transit Gateway and **DXGW Y** advertise the AZ1 parent subnet (**10.0.0.0/24**) back to on-premises. Traffic destined to the parent subnet follows the TGW path.
9. Traffic destined to the Local Zone subnet (**10.0.1.0/24**) follows the shorter VGW path without hairpinning through the Local Zone parent Region.
10. Avoid routing resources to the Local Zone subnet from on-premises through Transit Gateway because traffic using this path hairpins through the parent Region.

Further reading

For additional information, see the following resources:

- [AWS Architecture Icons](#)
- [AWS Architecture Center](#)
- [AWS Well-Architected](#)

Diagram history

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Change	Description	Date
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