What is a transit gateway?

A transit gateway is a network transit hub that you can use to interconnect your virtual private clouds (VPCs) and on-premises networks. As your cloud infrastructure expands globally, inter-Region peering connects transit gateways together using the AWS Global Infrastructure. Your data is automatically encrypted and never travels over the public internet.

Getting started with transit gateways

The following tasks help you become familiar with transit gateways. You will create a transit gateway and then connect two of your VPCs using the transit gateway.

Tasks • Prerequisites

Step 1: Create the transit gateway

Step 2: Attach your VPCs to your transit gateway

Step 3: Add routes between the transit gateway and your VPCs

Step 4: Test the transit gateway

Step 5: Delete the transit gateway

**Prerequisites**

• To demonstrate a simple example of using a transit gateway, create two VPCs in the same Region. The VPCs cannot have overlapping CIDRs. Launch one Amazon EC2 instance in each VPC. For more information,

• You cannot have identical routes pointing to two different VPCs. A transit gateway does not propagate the CIDRs of a newly attached VPC if an identical route exists in the transit gateway route tables.

• Verify that you have the permissions required to work with transit gateways. For more information, see Authentication and access control for your transit gateways .

• You can't ping between hosts if you haven't added an ICMP rule to each of the host security groups. For more information, see Work with security groups in the Amazon VPC User Guide.

**Step 1: Create the transit gateway**

When you create a transit gateway, we create a default transit gateway route table and use it as the default association route table and the default propagation route table.

To create a transit gateway

1. Open the Amazon VPC console at <https://console.aws.amazon.com/vpc/>.

2. In the Region selector, choose the Region that you used when you created the VPCs.

3. On the navigation pane, choose Transit Gateways.

4. Choose Create transit gateway.

5. (Optional) For Name tag, enter a name for the transit gateway. This creates a tag with "Name" as the key and the name that you specified as the value.

6. (Optional) For Description, enter a description for the transit gateway.

7. For Amazon side Autonomous System Number (ASN), enter the private ASN for your transit gateway. This should be the ASN for the AWS side of a Border Gateway Protocol (BGP) session. The range is from 64512 to 65534 for 16-bit ASNs. The range is from 4200000000 to 4294967294 for 32-bit ASNs. If you have a multi-Region deployment, we recommend that you use a unique ASN for each of your transit gateways.

8. (Optional) You can modify the default settings if you need to disable DNS support, or if you don't want the default association route table or default propagation route table.

9. Choose Create transit gateway. When the gateway is created, the initial state of the transit gateway is pending.

**Step 2: Attach your VPCs to your transit gateway**

Wait until the transit gateway you created in the previous section shows as available before proceeding with creating an attachment. Create an attachment for each VPC.

Confirm that you have created two VPCs and launched an EC2 instance in each,

**Create a transit gateway attachment to a VPC**

1. Open the Amazon VPC console at <https://console.aws.amazon.com/vpc/>.

2. On the navigation pane, choose Transit Gateway Attachments.

3. Choose Create transit gateway attachment.

4. (Optional) For Name tag, enter a name for the attachment.

5. For Transit gateway ID, choose the transit gateway to use for the attachment.

6. For Attachment type, choose VPC.

7. Choose whether to enable DNS support. For this exercise, do not enable IPv6 support.

8. For VPC ID, choose the VPC to attach to the transit gateway.

9. For Subnet IDs, select one subnet for each Availability Zone to be used by the transit gateway to route traffic. You must select at least one subnet. You can select only one subnet per Availability Zone.

10. Choose Create transit gateway attachment. Each attachment is always associated with exactly one route table. Route tables can be associated with zero to many attachments. To determine the routes to configure, decide on the use case for your transit gateway, and then configure the routes. For more information

**Step 3: Add routes between the transit gateway and your VPCs**

A route table includes dynamic and static routes that determine the next hop for associated VPCs based on the destination IP address of the packet. Configure a route that has a destination for non-local routes and the target of the transit gateway attachment ID. For more information, see Routing for a transit gateway in the Amazon VPC User Guide.

To add a route to a VPC route table

1. Open the Amazon VPC console at <https://console.aws.amazon.com/vpc/>.

2. On the navigation pane, choose Route Tables.

3. Choose the route table associated with your VPC.

4. Choose the Routes tab, then choose Edit routes.

5. Choose Add route.

6. In the Destination column, enter the destination IP address range. For Target, choose Transit Gateway, and then choose the transit gateway ID.

7. Choose Save changes

**Step 4: Test the transit gateway**

You can confirm that the transit gateway was successfully created by connecting to an Amazon EC2 instance in each VPC, and then sending data between them, such as a ping command.

**Step 5: Delete the transit gateway**

When you no longer need a transit gateway, you can delete it. You cannot delete a transit gateway that has resource attachments. If you try to delete a transit gateway with attachments, you'll be prompted to first delete those attachments before you can delete the transit gateway. As soon as the transit gateway is deleted, you stop incurring charges for it.

To delete your transit gateway

1. Open the Amazon VPC console at <https://console.aws.amazon.com/vpc/>.

2. On the navigation pane, choose Transit Gateways.

3. Select the transit gateway, and then choose Actions, Delete transit gateway.

4. Enter delete and choose Delete.

The State of the transit gateway on the Transit gateways page is Deleting. Once deleted the transit gateway is removed from the page.