



Setting up an AWS transit gateway for HA pairs in multiple AZs

Cloud Manager

Ben Cammett
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Table of Contents

Setting up an AWS transit gateway for HA pairs in multiple AZs 1

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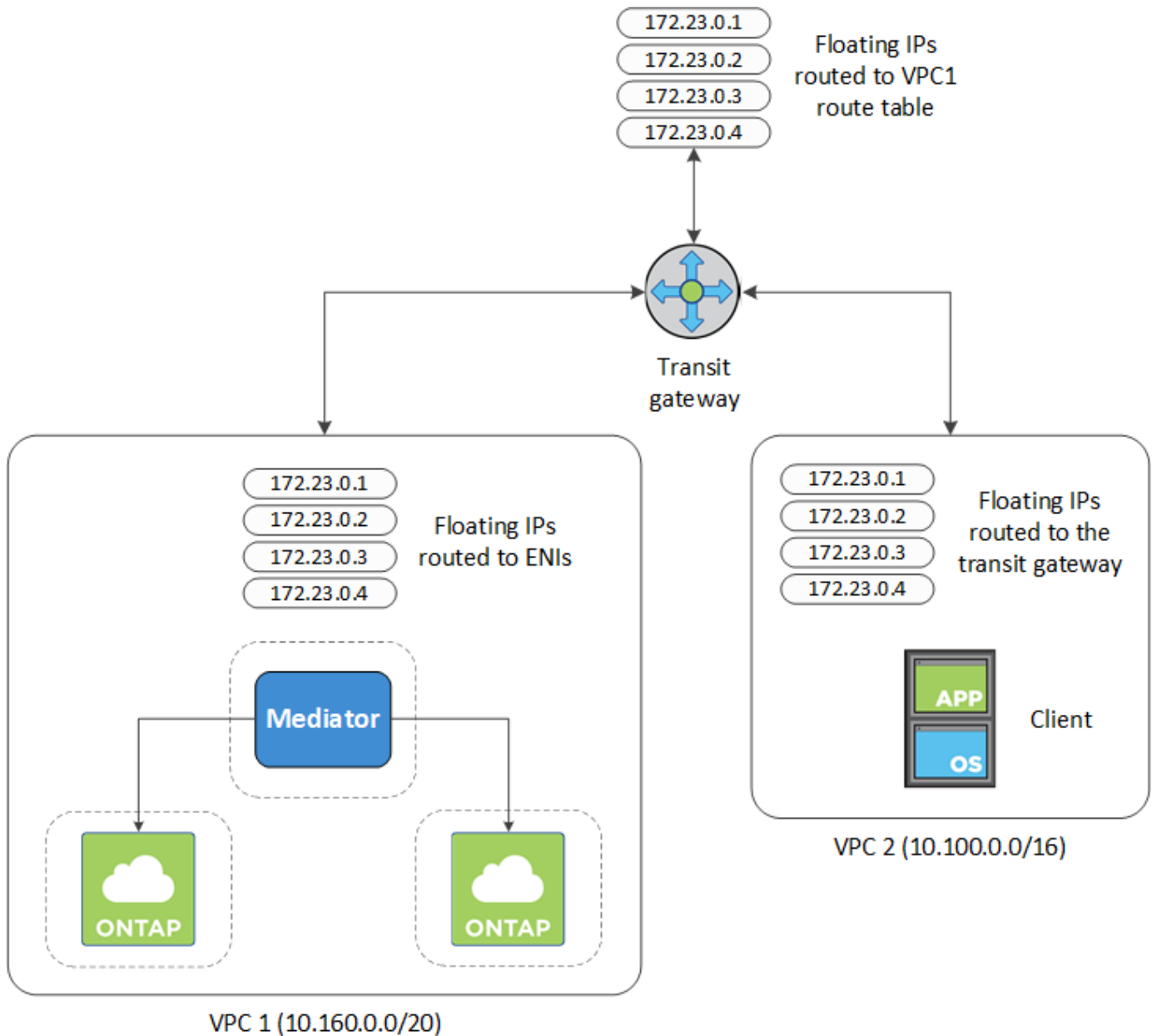
Set up an AWS transit gateway to enable access to an HA pair's [floating IP addresses](#) from outside the VPC where the HA pair resides.

When a Cloud Volumes ONTAP HA configuration is spread across multiple AWS Availability Zones, floating IP addresses are required for NAS data access from within the VPC. These floating IP addresses can migrate between nodes when failures occur, but they are not natively accessible from outside the VPC. Separate private IP addresses provide data access from outside the VPC, but they don't provide automatic failover.

Floating IP addresses are also required for the cluster management interface and the optional SVM management LIF.

If you set up an AWS transit gateway, you enable access to the floating IP addresses from outside the VPC where the HA pair resides. That means NAS clients and NetApp management tools outside the VPC can access the floating IPs.

Here's an example that shows two VPCs connected by a transit gateway. An HA system resides in one VPC, while a client resides in the other. You could then mount a NAS volume on the client using the floating IP address.



The following steps illustrate how to set up a similar configuration.

Steps

1. [Create a transit gateway and attach the VPCs to the gateway.](#)
2. Associate the VPCs with the transit gateway route table.
 - a. In the **VPC** service, click **Transit Gateway Route Tables**.
 - b. Select the route table.
 - c. Click **Associations** and then select **Create association**.
 - d. Choose the attachments (the VPCs) to associate and then click **Create association**.
3. Create routes in the transit gateway's route table by specifying the HA pair's floating IP addresses.

You can find the floating IP addresses on the Working Environment Information page in Cloud Manager. Here's an example:

NFS & CIFS access from within the VPC using Floating IP

Auto failover

Cluster Management : 172.23.0.1

Data (nfs,cifs) : Node 1: 172.23.0.2 | Node 2: 172.23.0.3

Access

SVM Management : 172.23.0.4

The following sample image shows the route table for the transit gateway. It includes routes to the CIDR blocks of the two VPCs and four floating IP addresses used by Cloud Volumes ONTAP.

Transit Gateway Route Table: tgw-rtb-0ea8ee291c7aeddd3

Details Associations Propagations **Routes** Tags

The table below will return a maximum of 1000 routes. Narrow the filter or use export routes to view more routes.

Create route

Replace route

Delete route

Filter by attributes or search by keyword

<input type="checkbox"/>	CIDR	Attachment	Resource type	Route type	Route state
<input type="checkbox"/>	10.100.0.0/16	tgw-attach-05e77bd34e2ff91f8 vpc-0b2bc30e0dc8e0db1	VPC2	propagated	active
<input type="checkbox"/>	10.160.0.0/20	tgw-attach-00eba3eac3250d7db vpc-673ae603	VPC1	propagated	active
<input type="checkbox"/>	172.23.0.1/32	tgw-attach-00eba3eac3250d7db vpc-673ae603	VPC	static	active
<input type="checkbox"/>	172.23.0.2/32	tgw-attach-00eba3eac3250d7db vpc-673ae603	Floating IP	static	active
<input type="checkbox"/>	172.23.0.3/32	tgw-attach-00eba3eac3250d7db vpc-673ae603	Floating IP	static	active
<input type="checkbox"/>	172.23.0.4/32	tgw-attach-00eba3eac3250d7db vpc-673ae603	Floating IP	static	active

4. Modify the route table of VPCs that need to access the floating IP addresses.
 - a. Add route entries to the floating IP addresses.
 - b. Add a route entry to the CIDR block of the VPC where the HA pair resides.

The following sample image shows the route table for VPC 2, which includes routes to VPC 1 and the floating IP addresses.

Route Table: rtb-0569a1bd740ed033f

Summary Routes Subnet Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.100.0.0/16	local	active	No
0.0.0.0/0	lgw-07250bd01781e67df	active	No
10.160.0.0/20	tgw-015b7c249661ac279	active	No
172.23.0.1/32	tgw-015b7c249661ac279	active	No
172.23.0.2/32	tgw-015b7c249661ac279	active	No
172.23.0.3/32	tgw-015b7c249661ac279	active	No
172.23.0.4/32	tgw-015b7c249661ac279	active	No

VPC1

Floating IP Addresses

- Modify the route table for the HA pair's VPC by adding a route to the VPC that needs access to the floating IP addresses.

This step is important because it completes the routing between the VPCs.

The following sample image shows the route table for VPC 1. It includes a route to the floating IP addresses and to VPC 2, which is where a client resides. Cloud Manager automatically added the floating IPs to the route table when it deployed the HA pair.

Summary Routes Subnet Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status
10.160.0.0/20	local	active
pl-68a54001 (com.amazonaws.us-west-2.s3, 54.231.160.0/19, 52.218.128.0/17, 52.92.32.0/22)	vpce-cb51a0a2	active
0.0.0.0/0	lgw-b2182dd7	active
10.60.29.0/25	pcx-589c3331	active
10.100.0.0/16	tgw-015b7c249661ac279	active
10.129.0.0/20	pcx-ff7e1396	active
172.23.0.1/32	eni-0854d4715559c3cdb	active
172.23.0.2/32	eni-0854d4715559c3cdb	active
172.23.0.3/32	eni-0f76681216c3108ed	active
172.23.0.4/32	eni-0854d4715559c3cdb	active

VPC2

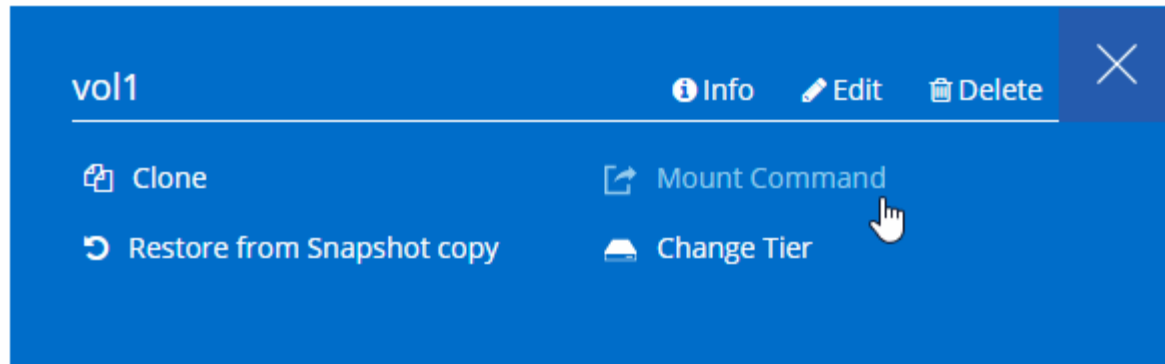
Floating IP Addresses

- Mount volumes to clients using the floating IP address.

You can find the correct IP address in Cloud Manager by selecting a volume and clicking **Mount Command**.

Volumes

2 Volumes | 0.22 TB Allocated | < 0.01 TB Used (0 TB in S3)



7. If you're mounting an NFS volume, configure the export policy to match the subnet of the client VPC.

[Learn how to edit a volume.](#)

Related links

- [High-availability pairs in AWS](#)
- [Networking requirements for Cloud Volumes ONTAP in AWS](#)

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