Centralized IPv4 Egress with Outbound-only Decentralized IPv6 Egress

These step by step instructions describe how to setup the Centralized IPv4 Egress with Outbound-only Decentralized IPv6 Egress solution illustrated in Centralizing outbound Internet traffic for dual stack IPv4 and IPv6. Before proceeding, make sure to complete the steps described in Baseline Architecture. The following diagrams outline the network architecture and the corresponding route tables we're going to setup:

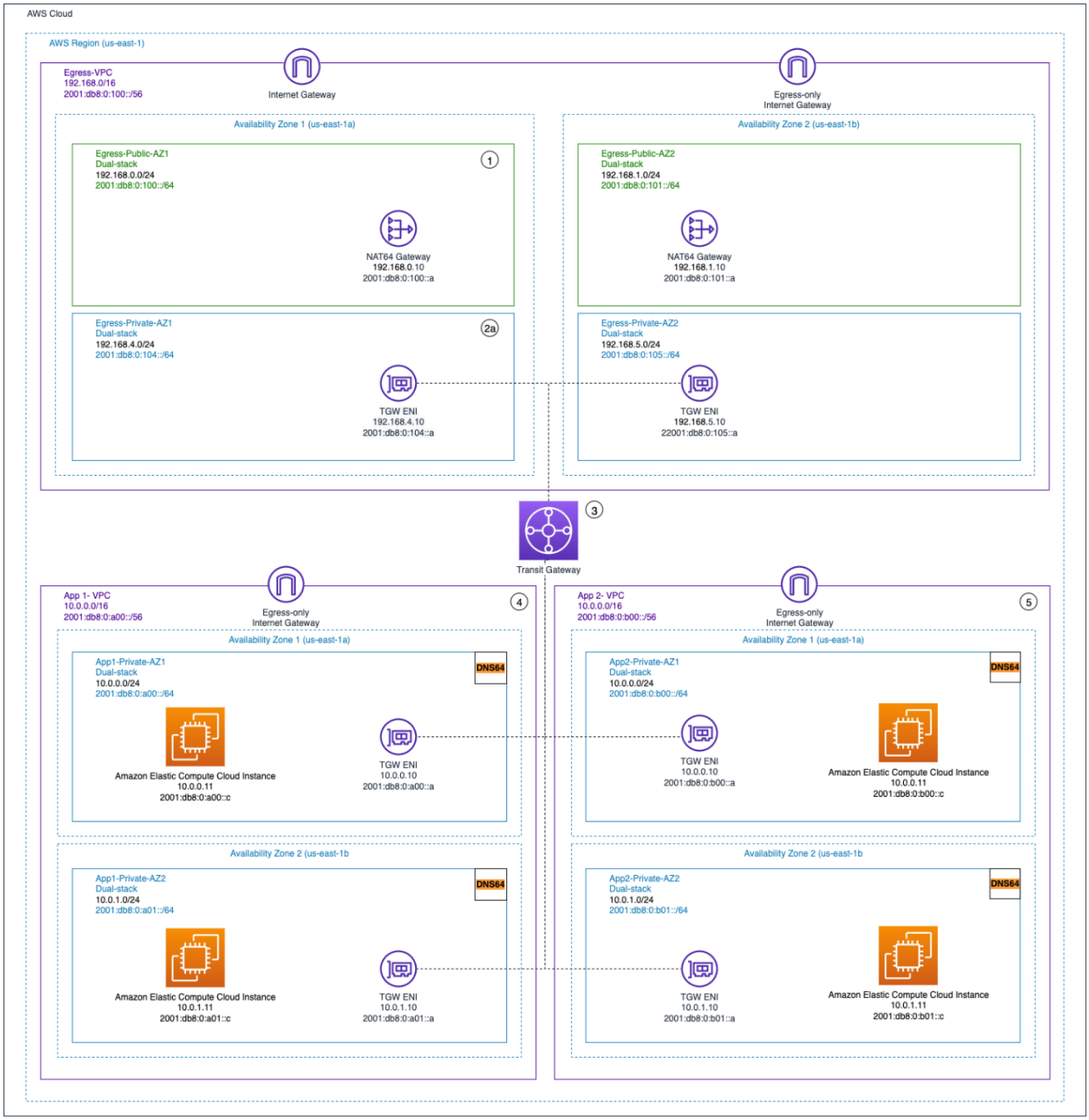

Figure 1: Centralized IPv4 Egress with Outbound-only Decentralized IPv6 Egress

1	Egress VPC Public Subnet - Dual-stack
ROUTE	NEXT HOP
192.168.0.0/16	local
2001:db8:0:100::/56	local
2001:db8:0:a00::/56	Transit GW
2001:db8:0:b00::/56	Transit GW
::/0	Egress Only Internet GW
0.0.0.0/0	Internet GW

2a	Egress VPC Private Subnet - Dual-stack - AZ1
ROUTE	NEXT HOP
192.168.0.0/16	local
2001:db8:0:100::/56	local
64:ff9b::/96	NAT Gateway

2b	Egress VPC Private Subnet - Dual-stack - AZ2
ROUTE	NEXT HOP
192.168.0.0/16	local
2001:db8:0:100::/56	local
64:ff9b::/96	NAT Gateway

3a	Transit Gateway App-RouteTable
ROUTE	NEXT HOP
64:ff9b::/96	Transit GW Attachemnt Egress VPC

3b	Transit Gateway Egress-RouteTable
ROUTE	NEXT HOP
2001:db8:0:a00::/56	Transit GW Attachemnt App VPC 1
2001:db8:0:b00::/56	Transit GW Attachemnt App VPC 2

4	App 1 VPC
ROUTE	NEXT HOP
10.0.0.0/16	local
2001:db8:0:a00::/56	local
::/0	Egress Only Internet GW
64:ff9b::/96	Transit Gateway

5	App 2 VPC
ROUTE	NEXT HOP
10.0.0.0/16	local
2001:db8:0:b00::/56	local
::/0	Egress Only Internet GW
64:ff9b::/96	Transit Gateway

Figure 2: Route Tables configuration for Centralized IPv4 Egress with Outbound-only Decentralized IPv6 Egress

Application VPCs and Transit Gateway Setup

1. Create two Egress-only Internet Gateways and attach to App1-VPC and App2-VPC respectively.
2. After creating this, Choose Transit Gateway Route tables from the left navigation pane and select App-RouteTable. Choose Routes, Create route, enter the 64:ff9b::/96 route, and choose the attachment: Egress-Attachment.
3. In the left navigation pane, choose Route Tables and edit the default route tables associated with App1-VPC and App2-VPC, adding a 64:ff9b::/96 route and set TGW-Internet as the target. Also, create an IPv6 default route with a destination of ::/0 with the Egress only Internet Gateway set as the target.

Egress VPC Setup

1. Create a NAT gateway in the VPC Egress-VPC. For more information, see NAT gateways.
    a. For Subnet, enter Egress-Public-AZ1 for the first NAT Gateway. For resiliency, you can create another NAT Gateway in Egress-Public-AZ2.
    b. For Elastic IP Allocation ID, choose Create new EIP for both NAT gateways.
2. Add a new default route in the route table Egress-Private-RT, with the destination 64:ff9b::/96 for IPv6 traffic. You can also have a destination of 0.0.0.0/0 for IPv4 traffic, if you want, with the NAT gateway as the target. Then edit the subnet association, adding both the Egress-Private-AZ1 and Egress-Private-AZ2 subnets to this route table.