

Configure AWS Local Zones in Cisco Catalyst 8000V

AWS Local Zones are a type of AWS infrastructure that allow you to deploy and run applications with very low latency. AWS Local Zones place compute, storage, database, and other select services in a physically closer location, enabling you to deliver applications, especially in popular business zones and areas.

From Cisco IOS XE 17.15.1 release, you can extend your AWS Virtual Private Cloud to these Local Zones in select regions. This enables you to deploy your Cisco Catalyst 8000V instances closer to your datacenter and branch locations.

AWS Local Zone for VPN Termination

AWS Local Zones do not support VPN termination. This implies that you won't be able to establish a safe connection between your on-premise location and your cloud. When you deploy a Cisco Catalyst 8000V instance in AWS and enable Local Zones, you can use VPN termination services, which create a secure site-to-cloud VPN.

Cisco Catalyst 8000V supports VPN technologies such as IPSec, DMVPN, and FlexVPN that you can leverage. This virtual router also provides encryption using cryptography standards.

AWS Local Zone for NAT Gateway

Like VPN Termination, NAT Gateway is another functionality that's traditionally not supported with AWS Local Zones. However, when you configure AWS Local Zones with Cisco Catalyst 8000V, you can use NAT functionality.

By using the NAT functionality, you can:

- Access external resources through virtual routing
- Download software updates for your private application server from the internet by using NAT translated public IP addresses
- Provide connectivity between subnets with overlapping IP address spaces, and
- Configure an elastic IP address, which allows up to 63K NAT translations.

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Limitations for AWS Local Zones

- Only Local Zones that support the c5d.2xl and c5.2xl instance types are supported on Cisco Catalyst 8000V.
- The AWS Cloud OnRamp solution will not work in the AWS region if you enable Local Zones. To use Cloud OnRamp solution in the controller mode, disable the Local Zones functionality.

Configuring AWS Local Zones in Cisco Catalyst 8000V

To configure AWS Local Zones in your instance, perform the following procedures:

Enable Local Zones

Procedure

Step 1 Log in to the AWS Marketplace.

Step 2 Go to the **EC2 Dashboard** and click **Zones** under **Account Attributes**.

The system displays the Local Zones page where most of the zones are disabled by default.

Step 3 Click the **Local Zone** that you want to choose and click **Manage**.

Step 4 On the **Zone Group** window, select the **Enabled** radio button.

Step 5 Click **Update Zone Group** to enable the Local Zone that you chose.

Create a Subnet for the Local Zone

To extend your VPC into the Local Zone, you need to perform this procedure and create a subnet for the Local Zone.

Procedure

Step 1 Go to the VPC Dashboard.

Step 2 From the left navigation pane, click **Subnets**.

Step 3 Click **Create Subnet**.

Step 4 From the **VPC ID** drop-down list, choose the VPC that you want to extend into the Local Zone.

Step 5 In the **Subnet Settings** area, enter a name for the subnet in the **Subnet Name** field.

Step 6 From the **Availability Zone** drop-down list, select the Local Zone that you enabled.

Step 7 Allocate the IP address block for your subnet in the **IPv4 subnet CIDR Block** field.

Step 8 Click **Create Subnet**.

When you return to the EC Dashboard, you can see the VPC has extended into the Local Zone you chose.

Deploy Cisco Catalyst 8000V in the Local Zone

After you create a subnet in a Local Zone, you must launch an EC2 instance in a Local Zone. To view the detailed procedure, see Launching the Instance Through the EC2 Console.

When you launch the EC2 instance, in the **Network Settings**, configure the following settings:

Procedure

Step 1 From the **VPC** drop-down list, choose the VPC where you created the subnet.

Step 2 From the **Subnet** drop-down list, choose the subnet you created for the Local Zone.

Step 3 From the **Auto-Assign Public IP** drop-down list, choose **Enable** to assign the Cisco Catalyst 8000V instance a public IP address or to attach an elastic IP address after the deployment.

Step 4 Click **Launch Instance** to configure the Local Zone for your instance.