



NetApp Cloud Volumes Service for AWS

AWS Account Setup

Cloud Volumes Team, NetApp
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Abstract

This document provides instructions to help users set up the initial environment for using NetApp® Cloud Volumes Service for Amazon Web Services (AWS).

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1 Overview

This document guides users through the required steps to (1) Subscribe to NetApp Cloud Volumes Service (CVS) on the AWS Marketplace, (2) Setup a user account in Cloud Volumes Service, and (3) how to setup your network connections from your AWS account to your Cloud Volumes Service account.

2 Important Information

To fully activate your Cloud Volumes Service, you will need to follow these instructions carefully to ensure that your AWS account is set up to accept and connect to the CVS service through the Virtual interfaces that will be published to your account from NetApp, as part of this setup procedure.

Before proceeding with the subscription, you may need to first consult with your AWS administrator, and/or your network security and administration team to review these setup instructions.

3 Requirements

This section details the requirements to access Cloud Volumes Service for AWS.

Administrative

The following administrative tasks are required to access Cloud Volumes Service for AWS:

- Willingness to accept the NetApp End-User License Agreement (EULA)
Note: This EULA is presented as part of the AWS Marketplace subscription process.
- An active AWS account
Note: Please take note of your AWS account ID, a 12-digit number. You will need this during the setup process.

Skills and Knowledge

The following skills and information are required to access Cloud Volumes Service for AWS:

- Access to and knowledge of the AWS Marketplace.
- You must be prepared to enter an IPv4 Classless Inter-Domain Routing (CIDR) for the AWS region in the /28 range when setting up your route table. This CIDR must only contain RFC 1918 (private) addresses.
- Knowledge of your AWS network and connectivity settings and controls.
Note: If necessary, please consult with your AWS and network team prior to completing these setup instructions.

Compute Resources

The following compute resources are required to access Cloud Volumes Service for AWS:

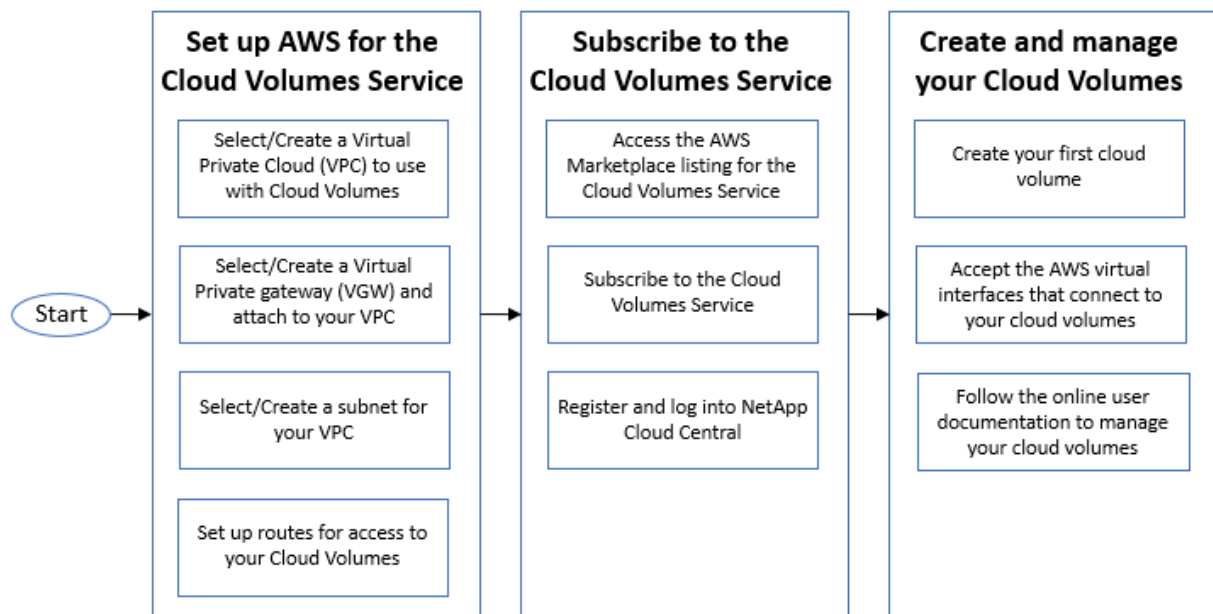
- A valid AWS subscription (with permissions to subscribe to new Marketplace listings).
Note: All AWS compute and other resources used are the sole responsibility of the user.
- A Virtual Private Cloud (VPC) that has been configured and running prior to the setup of Cloud Volumes Service for AWS.
- An Internet browser.

4 Workflow Overview

Figure 1 is a high-level workflow diagram illustrating how to set up your Cloud Volumes Service for AWS account, and how to subscribe to the Cloud Volumes Service for AWS.

For detailed information about creating your Cloud Volumes Service for AWS account, see section 5 and section 6.

Figure 1) Workflow diagram: Cloud Volumes Service for AWS account.



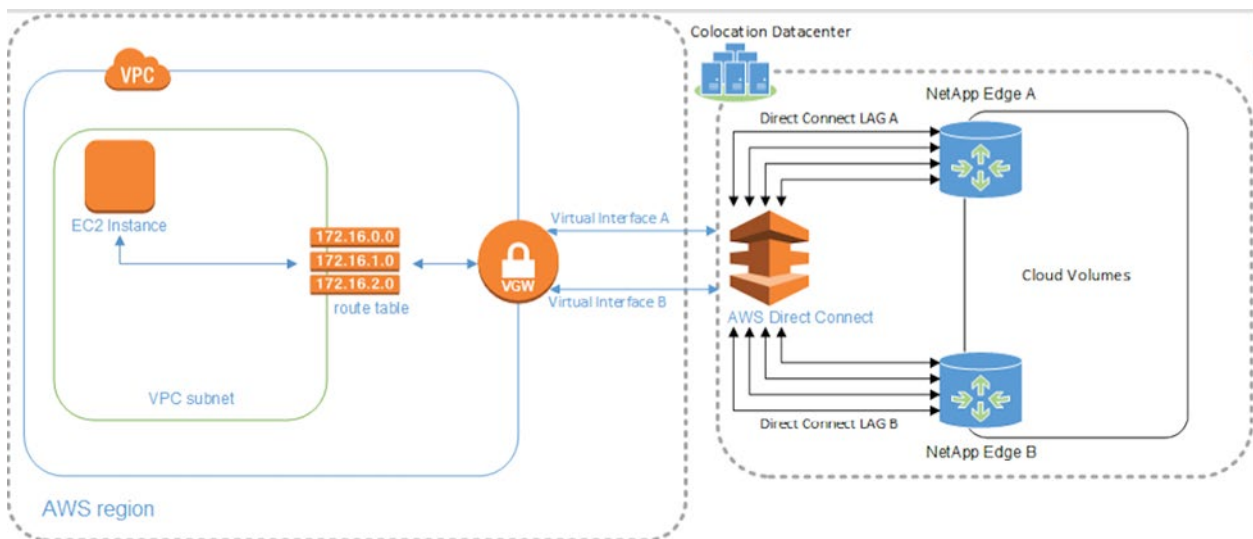
5 Set Up your AWS Account for the Cloud Volumes Service

IMPORTANT: Before you subscribe to NetApp Cloud Volumes Service for AWS, you must complete or verify that your AWS account is correctly configured by completing these tasks:

- Select/create a VPC to use with Cloud Volumes
- Select/create a Virtual Private Gateway (VGW)
- Select/create a subnet for the VPC
- Set up routes to include the Cloud Volumes network

Figure 2 illustrates the connectivity and setup for the Cloud Volumes Service for AWS.

Figure 2) Cloud Volumes Service Architecture for AWS.



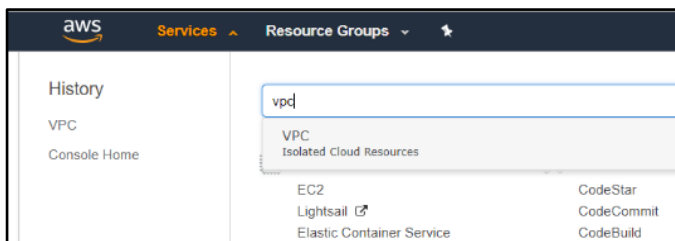
If you already have a VPC and virtual gateway configured, and you plan to use these components to connect to CVS, jump to section 5.5

5.1 Create a VPC to use with Cloud Volumes

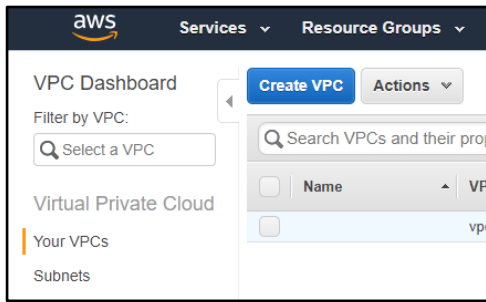
It is not mandatory that you create a new Amazon Virtual Private Cloud (VPC); however, you might need a new VPC to isolate instances associated with the Cloud Volumes project from work in other VPCs.

To create a VPC to use with Cloud Volumes you can use the VPC wizard, or you can follow the configuration steps shown below:

1. Log in to your AWS account and navigate to the VPC dashboard.



2. Click **Your VPCs** on the navigation pane to the left. Then click **Create VPC**.



3. On the Create VPC page, complete these tasks:
 - a. Enter a unique name to help you identify this VPC to use for Cloud Volumes.
 - b. Enter a private range Classless Inter-Domain Routing (CIDR) block that works for your environment. It doesn't matter what it is, you can select from any private class range. A /24 CIDR block is sufficient. In this example, the CIDR block name is 10.2.0.0/24.
 - c. Click **Yes, Create**. A new VPC is created.

Create VPC

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. You must specify an IPv4 address range for your VPC. Specify the IPv4 address range as a Classless Inter-Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can optionally associate an Amazon-provided IPv6 CIDR block with the VPC.

Name tag: MyCloudVolumesVPC

IPv4 CIDR block*: 10.2.0.0/24

IPv6 CIDR block*: ☒ No IPv6 CIDR Block ☐ Amazon provided IPv6 CIDR block

Tenancy: Default

Cancel Yes, Create

5.2 Create a Virtual Private Gateway and Attach it to Your VPC

The VGW is a network gateway that provides a route to NetApp Cloud Volumes.

To create a VGW and attach it to your VPC, complete the following steps:

1. On the VPC page of the AWS console, select **Virtual Private Gateway**.
2. At the top of the page, select **Create Virtual Private Gateway**.
3. Provide an appropriate name tag for the VGW.
4. In the ASN field, NetApp recommends selecting **Amazon default ASN**, in which case your VGW will be assigned an ASN of 64512. You can select the Custom ASN option and assign any valid private ASN.

Note: Make a note of the ASN as you will need to enter this information when setting up your first cloud volume in an AWS region.
5. Click **Create Virtual Private Gateway**.

Virtual Private Gateways > Create Virtual Private Gateway

Create Virtual Private Gateway

A virtual private gateway is the router on the Amazon side of the VPN tunnel.

Name tag

ASN ☒ Amazon default ASN ☐ Custom ASN

Cancel Create Virtual Private Gateway

6. Make a note of the VGW ID and click **Close**. The new VGW is displayed in the detached state.

Virtual Private Gateways > Create Virtual Private Gateway

Create Virtual Private Gateway

✓ Create Virtual Private Gateway succeeded

Virtual Private Gateway ID **vgw-e1e01688**

Close

7. Click the button next to the new Virtual Private Gateway and press **Actions** (above the table).

8. Click **Attach to VPC**.

9. Select the newly created VPC to attach to the VGW, and then click **Yes, Attach**.

Note: You are returned to the Virtual Private Gateway page.

Virtual Private Gateways > Attach to VPC

Attach to VPC

Select the VPC to attach to the virtual private gateway.

Virtual Private Gateway ID **vgw-04ff225f813de5748**

VPC

Filter by attributes

vpc-c602a9a9 MyCloudVolumesVPC

Cancel Yes, Attach

It can take a minute or two for the VGW to transition from the Attaching state to Attached.

Note: Use the Refresh button in the upper-right corner of the page to refresh the status.

5.3 Create a Subnet for the VPC

To create a subnet for the VPC, complete the following steps:

1. On the VPC dashboard, select **Subnets** from the navigation pane on the left. A list of existing subnets is displayed. Click **Create Subnet**.
2. On the Create Subnet page, complete these steps:
 - a. Enter an appropriate name tag for your environment.

- b. Select the newly created VPC.
- c. Unless you want to select a specific availability zone, leave the No Preference default value and the system will select the availability zone for you.
- d. Unless you need to divide the VPC into multiple subnets, use the CIDR block for the entire VPC.

In this example, the 10.2.0.0/24 CIDR block was used—it represents the entire VPC CIDR block.

- e. Click **Yes, Create**. The new subnet will reside in the VPC you selected.

Note: This process can take a few minutes.

Create Subnet

Use the CIDR format to specify your subnet's IP address block (e.g., 10.0.0.0/24). Note that block sizes must be between a /16 netmask and /28 netmask. Also, note that a subnet can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag

VPC

VPC CIDRs	CIDR	Status	Status Reason
	10.2.0.0/24	● associated	

Availability Zone

IPv4 CIDR block

Cancel

Yes, Create

5.4 Set Up Routes

To set up routes, complete the following steps:

1. On the VPC dashboard, select **Route Tables** from the navigation pane on the left.

Note: A route table is automatically assigned as part of the VPC creation.

Create Route Table

Delete Route Table

Set As Main Table

<input type="checkbox"/>	Name	Route Table ID	Explicitly Associated	Main	VPC
<input type="checkbox"/>		rtb-14b7fc68	0 Subnets	Yes	vpc-dfc585a4 MyCloudVolumesVPC

2. Select the route table and the details are displayed at the bottom of the page.

rtb-14b7fc68

Summary Routes Subnet Associations Route Propagation Tags

Route Table ID: rtb-14b7fc68 Main: yes

Explicitly Associated With: 0 Subnets VPC: [vpc-dfc585a4](#) | [MyCloudVolumesVPC](#)

3. Select the **Subnet Associations** tab and associate the newly created subnet with this route table.

rtb-14b7fc68

Summary Routes Subnet Associations Route Propagation Tags

Edit

Subnet	IPv4 CIDR	IPv6 CIDR
You do not have any subnet associations.		
The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:		
Subnet	IPv4 CIDR	IPv6 CIDR
subnet-68424257 MyCloudVolumesSubnet	10.2.0.0/24	-

4. Click **Save**.

rtb-14b7fc68

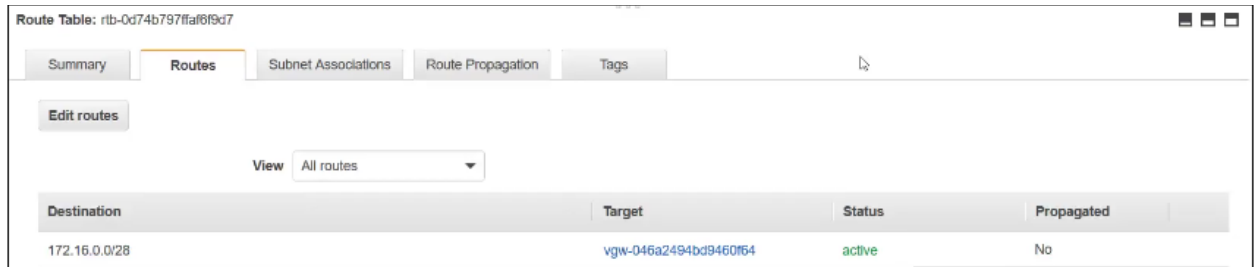
Summary Routes Subnet Associations Route Propagation Tags

Cancel Save

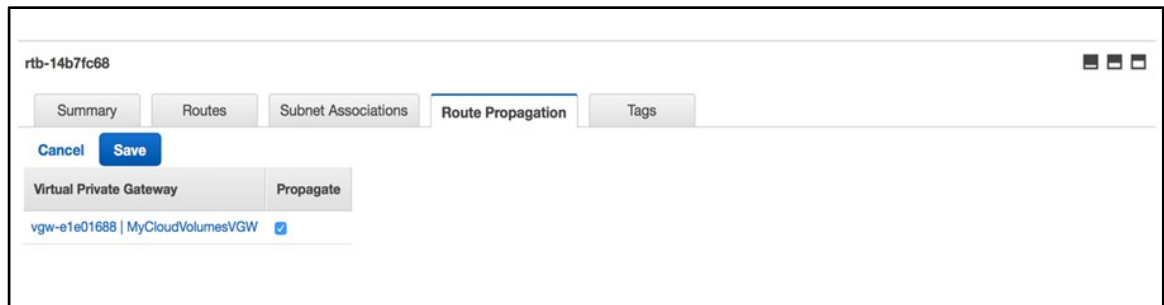
Associate	Subnet	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input checked="" type="checkbox"/>	subnet-68424257 MyCloudVolumesSubnet	10.2.0.0/24	-	Main

5. Select the **Routes** tab if you want to configure a static route or select the **Route Propagation** tab if you want to propagate the routes.
 - a. To configure a static route, in the Routes tab click **Edit** routes. Then enter the destination CIDR block for Destination and select a target for Target, and **Save** the configuration.

The CIDR block must be an IPv4 range for the region in the /28 range. This CIDR must only contain RFC 1918 (private) addresses.



- b. To propagate a route, in the Route Propagation tab, click **Edit** and enable the toggle button to the right of the VGW name, and then click **Save**.



5.5 Gather required AWS configuration information

You are now ready to subscribe to NetApp Cloud Volumes in the AWS Marketplace. When subscribing, be prepared to provide the following information:

- AWS account number
- Regions required
- Private network CIDR preference you entered in the routing section (for example, Class A, B, or C network in RFC 1918)
- ASN: When using a Virtual Private Gateway, use that ASN. When using a Direct Connect Gateway, use that ASN.

6 Enable AWS Subscription and Cloud Volumes Service

6.1 Access AWS Marketplace Listing for Cloud Volumes Service

Locate the **NetApp Cloud Volumes Service** listing on the AWS Marketplace.

Complete the following steps:

1. Go to the [AWS marketplace page](#) and sign in to your AWS account.
2. Type “NetApp Cloud Volumes” in the search bar to view these NetApp products.
3. Select the **NetApp Cloud Volumes Service for AWS** product.
4. Review the content on that page to fully understand the solutions the product provides, and click on the documentation links to identify the prerequisites tasks you must perform before creating your first cloud volume.
5. Click **Continue to Subscribe**.
6. Select the quantity of TB of capacity you wish to subscribe to.
7. Select or unselect the Auto Renew option for the contract.

8. Review the quantity and price of your contract. The Contract Signup page is displayed.
9. Select the quantity of bundles and then click **Create Contract**.

Note: Only select the quantity that matches your total terabyte subscription. In this example, a 5TB is a quantity of 1 (1x 5TB).

The screenshot shows a web page titled "[TEST ONLY] Cloud Volumes for AWS Trial Subscription 5TB". The main heading is "Configure your Software Contract". Below this, a paragraph explains that the user is charged for their purchase on their AWS bill and that they agree to the pricing terms and the seller's end user license agreement (EULA). The page is divided into several sections:

- Contract Duration:** A radio button is selected for "1 month".
- Renewal Settings:** A section titled "Auto Renew when this contract ends on - Thu Dec 27 2018?" with a radio button selected for "Yes". Below this, a disclaimer states: "I understand that when I renew, the seller's pricing terms and end user license agreement (EULA) might have changed. On the renewal date, I will be billed based on the price and EULA applicable on that date, which I can find on the Your Marketplace Software page."
- Contract Options:** A section at the bottom.
- Create Contract:** An orange button at the top right.
- Summary:** A table on the right side showing:
 - Total Contract Price:** \$0.00 (Due Today, Auto Renew - Yes)
 - Trial Bundle 5TB X 1 Units:** \$0.00

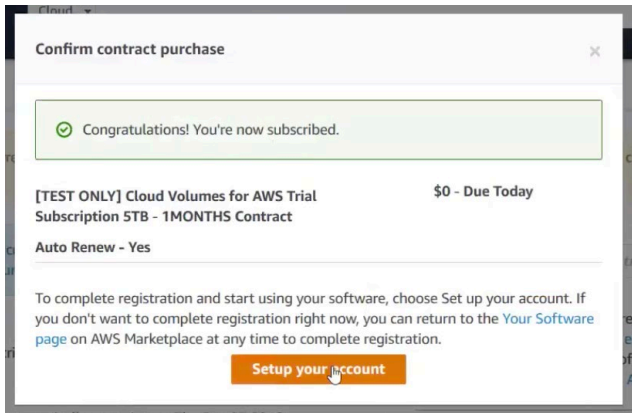
10. The Pay Now pop up window displays. If all is OK, click **Pay now**.

The screenshot shows a "Confirm contract purchase" pop-up window. It contains the following information:

- Confirmation:** "You're purchasing the following contract. When you choose Pay now, your AWS account ID is invoiced. Payment is due when your AWS bill is due. If your usage exceeds your contract, additional usage costs apply."
- Contract Details:** "[TEST ONLY] Cloud Volumes for AWS Trial Subscription 5TB - 1MONTHS Contract" with a price of "\$0.00 - Due Today".
- Auto Renew:** "Auto Renew - Yes".
- Buttons:** "Cancel" and "Pay now" (highlighted with a mouse cursor).

Need to replace all these screenshots with the real pages for the full service.

11. When the congratulations message is displayed, click **Setup Your Account**. Ensure you turn off any ad blocker or pop up blocker on your browser before you select Setup Your Account.



12. You will be redirected to the NetApp Cloud Central page. Complete the steps in the next section to register and log into NetApp Cloud Central.

6.2 Register and Log into NetApp Cloud Central

You may already have a NetApp Cloud Central account. If you do, and this is the account you want to use for CVS, select the “LOGIN” tab and enter your existing User ID and Password.

If this is your first time registering with NetApp Cloud Central, or if you wish to set up an additional account, you will need to register a new account. Select the “SIGN UP” tab.

1. Enter a valid email address.
2. Enter a Password.
3. Enter your company name.
4. Enter your full name.
5. Click Sign Up.

You have completed the initial process for creating Cloud Volumes Service for AWS. The Cloud Volumes user interface is displayed.

6.3 Create your first Cloud Volume

Create your first cloud volume using the Cloud Volumes user interface.

1. Go to the [Creating a cloud volume topic](#) in the NetApp Cloud Volumes Service for AWS documentation and follow the steps to create your first cloud volume.

Note: Make sure you select the same AWS region that you created on AWS from the top of the Cloud Volumes user interface before creating the cloud volume.



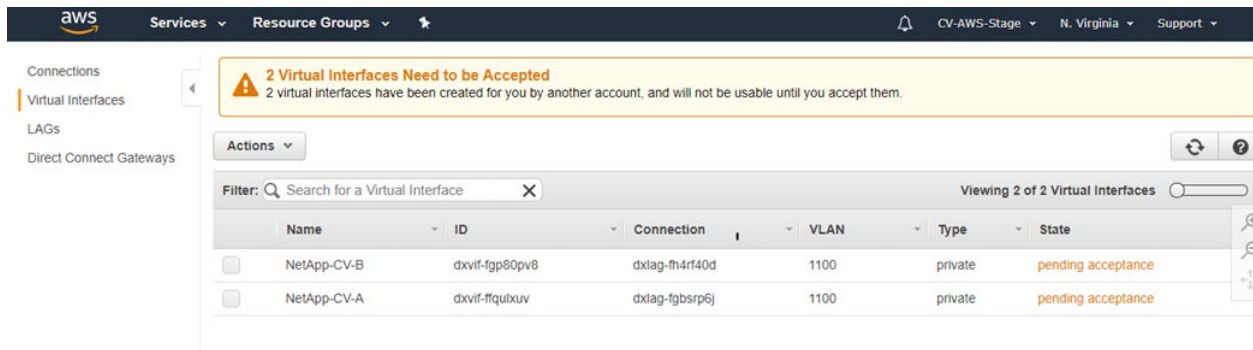
2. At the end of the process when you select **Create Volume** there will be some network configuration that is completed automatically for the first cloud volume in an AWS region. When prompted, follow the steps below to accept the two virtual interface that will be used in this AWS region to connect all your cloud volumes.

6.4 Accept the Direct Connect Virtual Interfaces

NetApp provides virtual interfaces for connectivity to the Cloud Volumes Service. These virtual interfaces must be accepted before they can be used.


To accept the virtual interfaces, complete the following steps:

1. From the AWS console for your account, navigate to the Direct Connect service and click **Virtual Interfaces**.



2. Select one of the virtual interfaces, check the box that you understand how you will be charged for this service, and click **Accept Virtual Interface**.

Connections
Virtual Interfaces
LAGs
Direct Connect Gateways

 **2 Virtual Interfaces Need to be Accepted**
2 virtual interfaces have been created for you by another account, and will not be usable until you accept them.

Actions ▾

Filter: X

	Name ▾	ID ▾	Connection
<input checked="" type="checkbox"/>	NetApp-CV-B	dxvif-fgp80pv8	dxlag-fh4rf40d
<input type="checkbox"/>	NetApp-CV-A	dxvif-ffqulxuv	dxlag-fgbsrp6j

NetApp-CV-B

Summary

Peerings

Name NetApp-CV-B
ID dxvif-fgp80pv8
AWS Account 436376711722
Type private
State **pending acceptance**
Connection dxlag-fh4rf40d

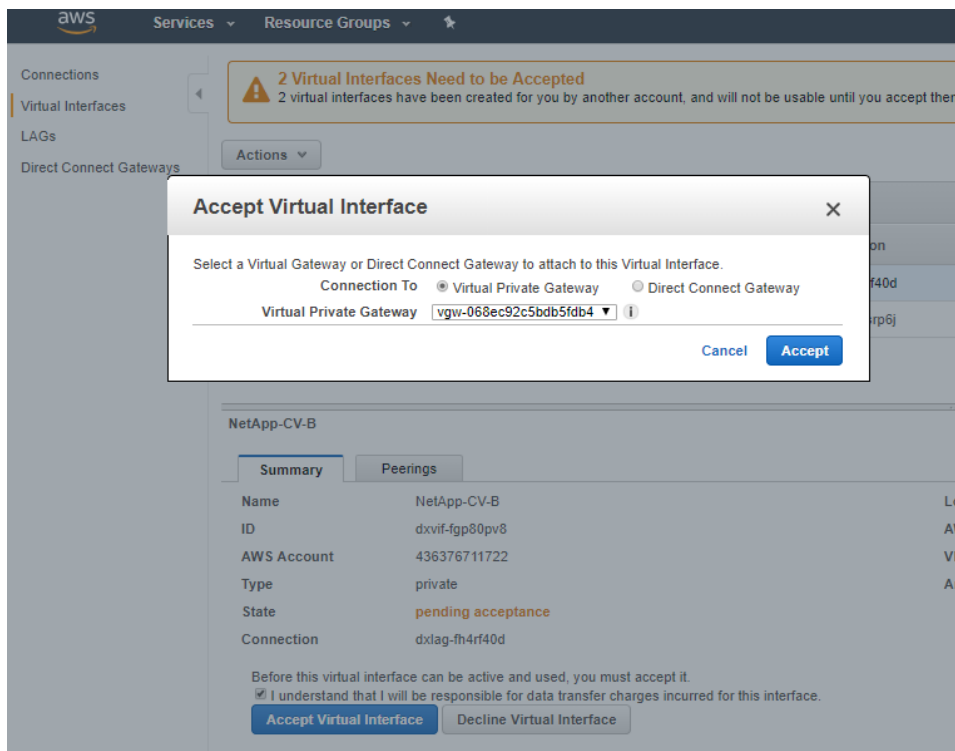
Before this virtual interface can be active and used, you must accept it.

☒ I understand that I will be responsible for data transfer charges incurred for this interface.

Accept Virtual Interface

Decline Virtual Interface

- From the drop-down menu, select whether you will connect the interfaces to the **Virtual Private Gateway** or **Direct Connect Gateway** and click **Accept**.



4. Repeat steps 1 through 3 for each interface.
5. The state of the virtual interface initially goes to **down**, changes to **up**, and finally to **available**.
Note: It can take several minutes before the virtual interfaces become available.
6. Verify that the virtual interfaces are available.

Filter: X

Viewing 2 of 2 Virtual Interfaces

Name	ID	Connection	VLAN	Type	State
NetAppCVS-PM-B	dxvif-ffm4ubqv	dxlag-fguxo1ms	1022	private	available
NetAppCVS-PM-A	dxvif-fgbqfox3	dxlag-fg51xgdt	1022	private	available

7. Return to the Cloud Volumes Service UI to mount the volume and to perform other tasks.

7 Manage Cloud Volumes

To create and manage Cloud Volumes Service for AWS, follow the instructions on [NetApp Cloud Volumes Service for AWS Documentation](#). For example, you can create a cloud volume, mount the volume, and create a NetApp Snapshot™ copy of the volume.

Support

For support information, e-mail aws-bundles-support@netapp.com.

Where to Find Additional Information

To learn more about the information described in this document, refer to the following documents and/or websites:

- NetApp Cloud Volumes product page
<https://www.netapp.com/us/products/cloud-storage/cloud-volumes/index.aspx>
- NetApp Cloud Volumes Service for AWS documentation
https://docs.netapp.com/us-en/cloud_volumes/aws/
- NetApp Cloud Documentation
<https://docs.netapp.com/us-en/cloud/>
- NetApp Product Documentation page
<http://docs.netapp.com>

Version History

Version	Date	Document Version History
Version 1.0	December 2018	Initial release for self-subscription.

Refer to the [Interoperability Matrix Tool \(IMT\)](#) on the NetApp Support site to validate that the exact product and feature versions described in this document are supported for your specific environment. The NetApp IMT defines the product components and versions that can be used to construct configurations that are supported by NetApp. Specific results depend on each customer's installation in accordance with published specifications.

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