



Cross-account and cross-region configurations

Cloud Manager

NetApp
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Cross-account and cross-region configurations

These topics describe how to configure Cloud Backup for cross account configurations when using different cloud providers.

- [Configure Cloud Backup for multi-account access in AWS](#)
- [Configure Cloud Backup for multi-account access in Azure](#)

Configure backup for multi-account access in AWS

Cloud Backup enables you to create backup files in an AWS account that is different than where your source Cloud Volumes ONTAP volumes reside. And both of those accounts can be different than the account where the Cloud Manager Connector resides.

These steps are required only when you are [backing up Cloud Volumes ONTAP data to Amazon S3](#).

Follow the steps below to set up your configuration in this manner.

Set up VPC peering between accounts

1. Log in to second account and Create Peering Connection:
 - a. Select a local VPC: Select the VPC of the second account.
 - b. Select another VPC: Enter the account ID of the first account.
 - c. Select the Region where the Cloud Manager Connector is running. In this test setup both accounts are running in same region.
 - d. VPC ID: Log into first account and enter the acceptor VPC ID. This is the VPC ID of the Cloud Manager Connector.

aws Services ▾

Peering Connections > Create Peering Connection

Create Peering Connection

Peering connection name tag ⓘ

Select a local VPC to peer with

VPC (Requester)* ↕ ↻

CIDRs	CIDR	Status	Status Reason
	10.0.0.0/16	● associated	

Select another VPC to peer with

Account ☐ My account ☒ Another account

Account ID*

Region ☒ This region (us-east-1) ☐ Another Region

VPC ID (Accepter)*

A Success dialog displays.

Success

A VPC peering connection (pcx-049758069d9b7c140) has been requested.
The owner of **vpc-116d9174** must accept the peering connection.

Requester VPC owner	733004784675 (This account)	Accepter VPC owner	464262061435
Requester VPC ID	vpc-82f55afa	Accepter VPC ID	vpc-116d9174
Requester VPC Region	us-east-1	Accepter VPC Region	us-east-1
Requester VPC CIDRs	10.0.0.0/16	Accepter VPC CIDRs	-

The status of the peering connection shows as Pending Acceptance.

<input type="checkbox"/>	Name	Peering Connecti...	Status	Requester VPC	Accepter VPC	Requester CIDRs	Accepter CIDRs	Requester Owner	Accepter Owner
<input checked="" type="checkbox"/>	cbs-multi-ac...	pcx-049758069d9...	Pending Acceptance	vpc-82f55afa VP...	vpc-116d9174	10.0.0.0/16	-	733004784675	464262061435
<input type="checkbox"/>	cbs-multi-peer	pcx-05f2d310cb7f...	Deleted	vpc-82f55afa VP...	vpc-116d9174	-	-	733004784675	464262061435
<input type="checkbox"/>	New_Peering	pcx-6d55ca04	Active	vpc-b16c90d4 V...	vpc-fc2aa39a De...	172.31.0.0/16	192.168.0.0/16	733004784675	733004784675

2. Log into the first account and accept the peering request:

Create Peering Connection
Actions ▾

☐
Name

☐
cbs-multi-ac...

☐
estycvoconnect

☒
pcx-049758069d9b7c140

☐
hlll-vpc-peer-chen

Accept Request
Reject Request
Delete VPC Peering Connection
Edit ClassicLink Settings
Edit DNS Settings
Add/Edit Tags

Active

Active

Pending Acceptance

Active

Requester VPC

vpc-0647747d | M...

vpc-116d9174

vpc-82f55afa

vpc-0d12df59528f...

Accepter VPC

vpc-116d9174

vpc-445d4f21

vpc-116d9174

vpc-824dc0e4 | nf...

Requester CIDRs

10.2.0.0/24

172.31.0.0/16

10.0.0.0/16

10.0.0.0/24

Accepter CIDRs

172.31.0.0/16

10.129.0.0/20

-

10.20.30.0/24

Requester Owner

464262061435

464262061435

733004784675

464262061435

Accepter Owner

464262061435

759995470648

464262061435

464262061435

Accept VPC Peering Connection Request

Are you sure you want to accept this VPC peering connection request (pcx-049758069d9b7c140)?

Requester Account ID	733004784675	Acceptor Account ID	464262061435 (This account)
Requester VPC ID	vpc-82f55afa	Acceptor VPC ID	vpc-116d9174
Requester VPC Region	us-east-1	Acceptor VPC Region	us-east-1
Requester VPC CIDR	10.0.0.0/16	Acceptor VPC CIDR	-

Cancel
Yes, Accept

a. Click **Yes**.

Accept VPC Peering Connection Request

Your VPC Peering Connection has been established.

To send and receive traffic across this VPC peering connection, you must add a route to the peered VPC in one or more of your VPC route tables. [Learn more](#)

[Modify my route tables now](#)

Close

The connection now shows as Active. We have also added a Name tag to identify the peering connection called `cbs-multi-account`.

<input type="checkbox"/>	Name	Peering Connection	Status	Requester VPC	Acceptor VPC	Requester CIDRs	Acceptor CIDRs	Requester Owner	Acceptor Owner
<input type="checkbox"/>		pcx-004715531514cb0d8	Active	vpc-0647747d M...	vpc-116d9174	10.2.0.0/24	172.31.0.0/16	464262061435	464262061435
<input type="checkbox"/>	estycvoconnect	pcx-0305041f9cc2dfbdb	Active	vpc-116d9174	vpc-445d4f21	172.31.0.0/16	10.129.0.0/20	464262061435	759995470648
<input checked="" type="checkbox"/>	cbs-multi-account	pcx-049758069d9b7c140	Active	vpc-82f55afa	vpc-116d9174	10.0.0.0/16	172.31.0.0/16	733004784675	464262061435
<input type="checkbox"/>	hili-vpc-peer-chen	pcx-0d0e5c7fc4360254d	Active	vpc-0d12df59528f...	vpc-824dc0e4 nf...	10.0.0.0/24	10.20.30.0/24	464262061435	464262061435

b. Refresh the peering connection in the second account and notice that the status changes to Active.

<input type="checkbox"/>	Name	Peering Connection	Status	Requester VPC	Acceptor VPC	Requester CIDRs	Acceptor CIDRs	Requester Owner	Acceptor Owner
<input checked="" type="checkbox"/>	cbs-multi-account	pcx-049758069d9b7c140	Active	vpc-82f55afa VP...	vpc-116d9174	10.0.0.0/16	172.31.0.0/16	733004784675	464262061435
<input type="checkbox"/>	New_Peering	pcx-6d55ca04	Active	vpc-b16c90d4 V...	vpc-fc2aa39a De...	172.31.0.0/16	192.168.0.0/16	733004784675	733004784675

Add a route to the route tables in both accounts

- Go to VPC > Subnet > Route table.

VPC > Subnets > subnet-4d315328

subnet-4d315328 / The Subnet created

Details

Subnet ID subnet-4d315328	State Available	VPC vpc-116d9174	IPv4 CIDR 172.31.64.0/20
Available IPv4 addresses 3587	IPv6 CIDR -	Availability Zone us-east-1a	Availability Zone ID use1-az1
Network border group us-east-1	Route table rtb-4da55528	Network ACL acl-c37384a6	Default subnet Yes
Auto-assign public IPv4 address Yes	Auto-assign IPv6 address No	Auto-assign customer-owned IPv4 address No	Customer-owned IPv4 pool -
Outpost ID -	Owner 464262061435	Subnet ARN arn:aws:ec2:us-east-1:464262061435:subnet/subnet-4d315328	

[Flow logs](#)
[Route table](#)
[Network ACL](#)
[Sharing](#)
[Tags](#)

2. Click on the Routes tab.

Route Table ID: rtb-4da55528 Add filter

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
	rtb-4da55528	subnet-4d315328	-	Yes	vpc-116d9174	464262061435

Route Table: rtb-4da55528

[Summary](#)
[Routes](#)
[Subnet Associations](#)
[Edge Associations](#)
[Route Propagation](#)
[Tags](#)

[Edit routes](#)

View All routes

Destination	Target	Status	Propagated
172.31.0.0/16	local	active	No
pl-63a5400a	vpce-098587ed33c36408c	active	No

3. Click **Edit routes**.

Edit routes

Destination	Target	Status	Propagated
172.31.0.0/16	local	active	No
10.20.30.0/24	pcx-0791b47f6f9a27d65	active	No
10.129.0.0/20	pcx-0305041f9cc2dfbdb	active	No

[Add route](#)

* Required

[Cancel](#)
[Save routes](#)

4. Click **Add route**, and from the Target drop-down list select **Peering Connection**, and then select the peering connection that you created.

a. In the Destination, enter the other account's subnet CIDR.

Edit routes

Destination	Target	Status	Propagated
172.31.0.0/16	local	active	No
10.20.30.0/24	pcx-0791b47f6f9a27d65	active	No
10.129.0.0/20	pcx-0305041f9cc2dfbdb	active	No
10.0.0.0/24	pcx-		No

Add route

* Required

pcx-05f2d310cb7f49843

pcx-004715531514cb0d8

pcx-049758069d9b7c140 cbs-multi-account

pcx-094f9db10a2045ea hill-peer-vadim-vpc

pcx-0791b47f6f9a27d65

pcx-0305041f9cc2dfbdb estycvoconnect

Cancel Save routes

b. Click **Save routes** and a Success dialog displays.

[Route Tables](#) > Edit routes

Edit routes

✓ Routes successfully edited

Close

Add the second AWS account credentials in Cloud Manager

1. Add the second AWS account, for example, *Saran-XCP-Dev*.

Credentials

+ Add Credentials

3 Credentials

aws Instance Profile

Credential Type: AWS Keys

464262061435
AWS Account ID

CBS-SR-OCCMOCCM1620912870830...
IAM Role

aws-sub-a2
Subscription

2
Working Environments

aws Saran-XCP-Dev

Credential Type: AWS Keys

733004784675
AWS Account ID

AKIA2VKT5MQRZRAWW3HI
AWS Access Key

aws-sub-a2
Subscription

0
Working Environments

2. In the Discover Cloud Volumes ONTAP page, select the newly added credentials.

Choose an AWS region and then select the working environment that you want to discover.

AWS Region
US East | N. Virginia

aws AWS Credentials

Credential Name

Saran-XCP-Dev | Account ID: 733004784675

Instance Profile | Account ID: 464262061435

To add new AWS credentials, go to the Credentials settings.

Apply Cancel

3. Select the Cloud Volumes ONTAP system you want to discover from second account. You can also deploy a new Cloud Volumes ONTAP system in the second account.

Add an Existing Cloud Volumes ONTAP Region

↑ Previous Step This working environment will be created in Cloud Provider Account: Saran-XCP-Dev | Account ID: 733004784675 | [Switch Account](#)

Choose an AWS region and then select the working environment that you want to discover.

AWS Region
US East | N. Virginia

Cloud Volumes ONTAP instances found

Name	VPC Name	Availability Zone	Subnet Id	Cloud Formation Name	Cluster Address	Type
cbscv001	VPC-NAT	us-east-1f	subnet-68e8d464	cbscv001	10.0.0.80	Cloud Volumes ONTAP
testbyolliraz	VPC for VSA	us-east-1a	subnet-c1d99699	testbyolliraz	172.31.5.142	Cloud Volumes ONTAP
idanAwsHa991001	VPC for VSA	us-east-1a	subnet-c1d99699	idanAwsHa991001	172.31.5.234,172.31.5.110	HA Cloud Volumes ONTAP

Continue

The Cloud Volumes ONTAP system from the second account is now added to Cloud Manager which is running in a different account.



Enable backup in the other AWS account

1. In Cloud Manager, enable backup for the Cloud Volumes ONTAP system running in the first account, but select the second account as the location for creating the backup files.



2. Then select a backup policy and the volumes you want to back up, and Cloud Backup attempts to create a new bucket in the selected account.

However, adding the bucket to the Cloud Volumes ONTAP system will fail because Cloud Backup uses the instance profile to add the bucket and the Cloud Manager instance profile doesn't have access to the resources in the second account.

3. Get the working environment ID for the Cloud Volumes ONTAP system.



Cloud Backup creates every bucket with the prefix `Netapp-backup-` and will include the working environment ID; for example: `87ULeAI0`

4. In the EC2 portal, go to S3 and search for the bucket with name ending with `87uLeAI0` and you'll see the bucket name displayed as `Netapp-backup-vsa87uLeAI0`.



5. Click on the bucket, then click the Permissions tab, and then click **Edit** in the Bucket policy section.



6. Add a bucket policy for the newly created bucket to provide access to the Cloud Manager's AWS account, and then Save the changes.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicRead",
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::464262061435:root"
      },
      "Action": [
        "s3:ListBucket",
        "s3:GetBucketLocation",
        "s3:GetObject",
        "s3:PutObject",
        "s3:DeleteObject"
      ],
      "Resource": [
        "arn:aws:s3:::netapp-backup-vsa87uleai0",
        "arn:aws:s3:::netapp-backup-vsa87uleai0/*"
      ]
    }
  ]
}
```

Note that "AWS": "arn:aws:iam::464262061435:root" gives complete access this bucket for all resources in account 464262061435. If you want to reduce it to specific role, level, you can update the policy with specific role(s). If you are adding individual roles, ensure that occm role also added, otherwise backups will not get updated in the Cloud Backup UI.

For example: "AWS": "arn:aws:iam::464262061435:role/cvo-instance-profile-version10-d8e-lamInstanceRole-IKJPJ1HC2E7R"

7. Retry enabling Cloud Backup on the Cloud Volumes ONTAP system and this time it should be successful.

Configure backup for multi-account access in Azure

Cloud Backup enables you to create backup files in an Azure account that is different than where your source Cloud Volumes ONTAP volumes reside. And both of those accounts can be different than the account where the Cloud Manager Connector resides.

These steps are required only when you are [backing up Cloud Volumes ONTAP data to Azure Blob storage](#).

Follow the steps below to set up your configuration in this manner.

Set up VNet peering between accounts

Note that if you want Cloud Manager to manage your Cloud Volumes ONTAP system in a different

account/region, then you need to setup VNet peering. VNet peering is not required for storage account connectivity.

1. Log in to the Azure portal and from home, select Virtual Networks.
2. Select the subscription you are using as subscription 1 and click on the VNet where you want to set up peering.



3. Select **cbsnetwork** and from the left panel, click on **Peerings**, and then click **Add**.

Subscription * ⓘ
OCCM Automation

Virtual network *
cbse2evnet

Traffic to remote virtual network ⓘ
☒ Allow (default)
☐ Block all traffic to the remote virtual network

Traffic forwarded from remote virtual network ⓘ
☒ Allow (default)
☐ Block traffic that originates from outside this virtual network

Virtual network gateway or Route Server ⓘ
☐ Use this virtual network's gateway or Route Server
☐ Use the remote virtual network's gateway or Route Server
☒ None (default)

Add

4. Enter the following information on the Peering page and then click **Add**.
 - Peering link name for this network: you can give any name to identify the peering connection.

- Remote virtual network peering link name: enter a name to identify the remote VNet.
- Keep all the selections as default values.
- Under subscription, select the subscription 2.
- Virtual network, select the virtual network in subscription 2 to which you want to set up the peering.

The screenshot displays the Azure portal interface for a virtual network named 'cbsnetwork'. The left-hand navigation pane includes options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, and a Settings section with Address space, Connected devices, Subnets, DDoS protection, Firewall, Security, DNS servers, and Peerings (which is currently selected). The main content area shows the 'Peerings' tab with a search bar and '+ Add' and 'Refresh' buttons. Below this is a table listing the peering connections.

Name	Peering status	Peer
cbsnetwork	Connected	cbse2evnet

5. Perform the same steps in subscription 2 VNet and specify the subscription and remote VNet details of subscription 1.

Subscription * ⓘ

OCCM Dev

Virtual network *

cbsnetwork

Traffic to remote virtual network ⓘ

☒ Allow (default)

☐ Block all traffic to the remote virtual network

Traffic forwarded from remote virtual network ⓘ

☒ Allow (default)

☐ Block traffic that originates from outside this virtual network

Virtual network gateway or Route Server ⓘ

☐ Use this virtual network's gateway or Route Server

☐ Use the remote virtual network's gateway or Route Server

☒ None (default)

Add

The peering settings are added.

cbse2evnet | Peerings ...

Virtual network

Search (Cmd+ /) << + Add ↻ Refresh

Filter by name...

Name	Peering status	Peer
cbsnetworkpeer	Connected	cbsnetwork

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Address space

Connected devices

Subnets

DDoS protection

Firewall

Security

DNS servers

Peerings

Create a private endpoint for the storage account

Now you need to create a private endpoint for the storage account. In this example, the storage account is created in subscription 1 and the Cloud Volumes ONTAP system is running in subscription 2.



You need network contributor permission to perform the following action.

```
{
  "id": "/subscriptions/d333af45-0d07-4154-943dc25fbbce1b18/providers/Microsoft.Authorization/roleDefinitions/4d97b98b-1d4f-4787-a291-c67834d212e7",
  "properties": {
    "roleName": "Network Contributor",
    "description": "Lets you manage networks, but not access to them.",
    "assignableScopes": [
      "/"
    ],
    "permissions": [
      {
        "actions": [
          "Microsoft.Authorization/*/read",
          "Microsoft.Insights/alertRules/*",
          "Microsoft.Network/*",
          "Microsoft.ResourceHealth/availabilityStatuses/read",
          "Microsoft.Resources/deployments/*",
          "Microsoft.Resources/subscriptions/resourceGroups/read",
          "Microsoft.Support/*"
        ],
        "notActions": [],
        "dataActions": [],
        "notDataActions": []
      }
    ]
  }
}
```

1. Go to the storage account > Networking > Private endpoint connections and click **+ Private endpoint**.



2. In the Private Endpoint *Basics* page:

- Select subscription 2 (where the Cloud Manager Connector and Cloud Volumes ONTAP system are deployed) and the resource group.
- Enter an endpoint name.
- Select the region.

Create a private endpoint

1 Basics 2 Resource 3 Configuration 4 Tags 5 Review + create

Use private endpoints to privately connect to a service or resource. Your private endpoint must be in the same region as your virtual network, but can be in a different region from the private link resource that you are connecting to. [Learn more](#)

Project details

Subscription * ⓘ OCCM Dev

Resource group * ⓘ cbsoccmdevcvo-rg [Create new](#)

Instance details

Name * cbse2e ✓

Region * (Asia Pacific) East Asia

3. In the *Resource* page, select Target sub-resource as **blob**.

Create a private endpoint ...

✓ Basics **2 Resource** 3 Configuration 4 Tags 5 Review + create

Private Link offers options to create private endpoints for different Azure resources, like your private link service, a SQL server, or an Azure storage account. Select which resource you would like to connect to using this private endpoint. [Learn more](#)

Subscription OCCM Dev (d333af45-0d07-4154-943d-c25fbbce1b18)

Resource type Microsoft.Storage/storageAccounts

Resource test150521

Target sub-resource * ⓘ

4. In the Configuration page:

- Select the virtual network and subnet.
- Click the **Yes** radio button to "Integrate with private DNS zone".

Create a private endpoint ...

✓ Basics ✓ Resource **3 Configuration** 4 Tags 5 Review + create

Networking

To deploy the private endpoint, select a virtual network subnet. [Learn more](#)

Virtual network * ⓘ

Subnet * ⓘ

i If you have a network security group (NSG) enabled for the subnet above, it will be disabled for private endpoints on this subnet only. Other resources on the subnet will still have NSG enforcement.

Private DNS integration

To connect privately with your private endpoint, you need a DNS record. We recommend that you integrate your private endpoint with a private DNS zone. You can also utilize your own DNS servers or create DNS records using the host files on your virtual machines. [Learn more](#)

Integrate with private DNS zone ☒ Yes ☐ No

Configuration name	Subscription	Private DNS zone
privatelink-blob-core-...	OCCM Dev	privatelink.blob.core.windows.net

Review + create < Previous Next: Tags >

5. In the Private DNS zone list, ensure that the Private Zone is selected from the correct Region, and click **Review + Create**.

Configuration name	Subscription	Private DNS zone
privatelink-blob-core-...	OCCM Dev	privatelink.blob.core.windows.net
		<input type="text" value="Filter private DNS zones"/> <div> <div>occm_group_centralus</div> <div>privatelink.blob.core.windows.net</div> <div>occm_group_eastus</div> <div>privatelink.blob.core.windows.net</div> <div>occm_group_eastus2</div> <div>privatelink.blob.core.windows.net</div> </div>

Now the storage account (in subscription 1) has access to the Cloud Volumes ONTAP system which is running in subscription 2.

6. Retry enabling Cloud Backup on the Cloud Volumes ONTAP system and this time it should be successful.

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