



Cross-account and cross-region configurations

Cloud Manager

NetApp
February 23, 2022

This PDF was generated from https://docs.netapp.com/us-en/occm/reference_backup_multi_account_aws.html on February 23, 2022. Always check docs.netapp.com for the latest.

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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 volumes reside. And both of those accounts can be different than the account where the Cloud Manager Connector resides.

Just 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 ▾

☐ Filter by tags and attributes

| <input type="checkbox"/> | Name | Peering Connecti... | Status | Requester VPC | Accepter VPC | Requester CIDRs | Accepter CIDRs | Requester Owner | Accepter Owner |
|-------------------------------------|--------------------|-----------------------|--------------------|---------------------|----------------------|-----------------|----------------|-----------------|----------------|
| <input type="checkbox"/> | estycvoconnect | pcx-049758069d9b7c140 | Active | vpc-0647747d M... | vpc-116d9174 | 10.2.0.0/24 | 172.31.0.0/16 | 464262061435 | 464262061435 |
| <input checked="" type="checkbox"/> | hlll-vpc-peer-chen | pcx-0d0e5c7fc4360254d | Pending Acceptance | vpc-82f55afa | vpc-116d9174 | 10.0.0.0/16 | - | 733004784675 | 464262061435 |
| <input type="checkbox"/> | | | Active | vpc-0d12df59528f... | vpc-824dc0e4 nf... | 10.0.0.0/24 | 10.20.30.0/24 | 464262061435 | 464262061435 |

Accept Request

Reject Request

Delete VPC Peering Connection

Edit ClassicLink Settings

Edit DNS Settings

Add/Edit Tags

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


Instance Profile

Credential Type: AWS Keys

464262061435
AWS Account ID

CBS-SR-OCCMOCCM1620912870830...
IAM Role

aws-sub-a2
Subscription

2
Working Environments


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 |

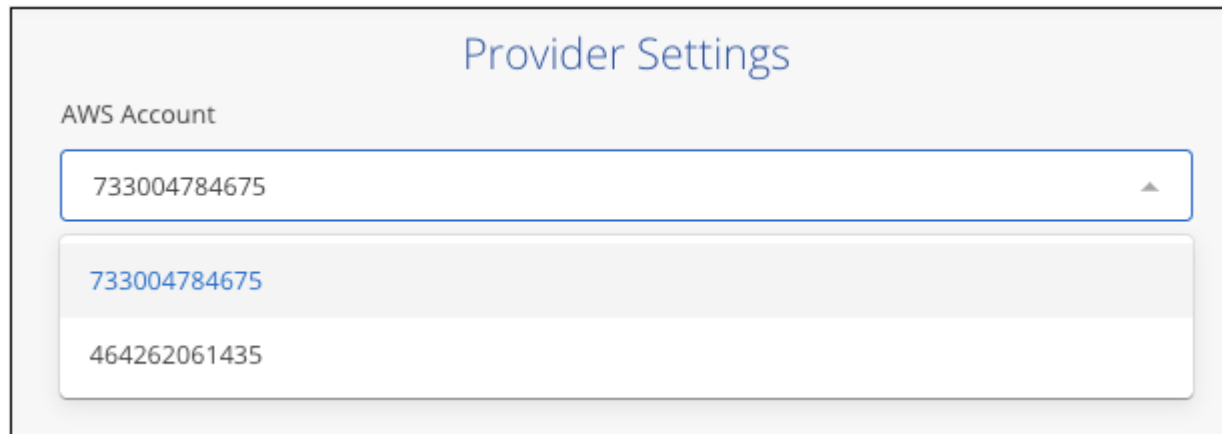
Continue

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 volumes reside. And both of those accounts can be different than the account where the Cloud Manager Connector resides.

Just 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.

Home > Virtual networks

NetApp HCL (netapphcl.onmicrosoft.com)

+ New Manage view Refresh Export to CSV Open query Assign tags Feedback

Filter for any field... Subscription == **OCCM Dev** Resource group == **all** × Location == **all** × Add filter

Showing 1 to 60 of 60 records.

| <input type="checkbox"/> Name | Resource group | Location |
|--|-------------------------------|---------------------|
| <input type="checkbox"/> cbsnetwork | occm_group_eastasia | East Asia |
| <input type="checkbox"/> Vnet1 | occm_group_australiaeast | Australia East |
| <input type="checkbox"/> Vnet1 | occm_group_australiasoutheast | Australia Southeast |

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 shows the Azure portal interface for a virtual network named 'cbsnetwork'. The left-hand navigation pane includes sections for 'Overview' (with links to Overview, Activity log, Access control (IAM), Tags, and Diagnose and solve problems) and 'Settings' (with links to Address space, Connected devices, Subnets, DDoS protection, Firewall, Security, DNS servers, and Peerings). The 'Peerings' option is currently selected. The main content area shows a table of peerings. At the top, there is a search bar labeled 'Filter by name...', an 'Add' button, and a 'Refresh' button. The table has three columns: 'Name', 'Peering status', and 'Peer'. A single peering is listed with the name 'cbsnetwork', a status of 'Connected', and a peer named 'cbse2evnet'.

| 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 * ⓘ

ⓘ 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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