# Unable to delete Vnet which is delegated to flexibleServers

Last updated by | Morgan Ambourn | Apr 3, 2023 at 10:20 AM PDT

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## Issue

Customer is trying to delete the Vnet and getting the below error. Also unable to remove the delegation.

Failed to delete virtual network '<vnet_name>'. Subnet default is in use by /subscriptions/XXXXXXXXX//resourceGroups/<vnet_resource_group>/providers/Microsoft.Network/virtualNetworks/<vnet_name>/subnets/<subnet_name>/serviceAssociationLinks/<sal_name> and cannot be deleted. In order to delete the subnet, delete all the resources within the subnet. See aka.ms/deletesubnet.

## Cause

We have a known bug, which if server creation failed in some specific state, this issue will happen.

(This issue can also happen when flexible server was not deleted successfully. Please check that as well.)

## Investigation/Analysis

**IMPORTANT**: There has been several cases where the VNET can be deleted a few hours after the database server was deleted and the VNET can be deleted just by retrying. You can ask customer to retry the VNET deletion, if the issue still persists, follow the steps below

1. Get customer service association link (SAL) name from the error message, and run following command in "orcasbreadth-adhoccmsquery.xts"

   **NOTE:** You will see what looks to be the URI in the error however it also contains "/serviceAssociationLinks/" and after that will be the SAL Name.

   SAL format example '833a5200-8aed-1925-1999-5a6fd96a28d7-service-association-link' or use esal.service_association_link_name LIKE '%833a5200-8aed-1925-1999-5a6fd96a28d7%'.

```
Select
    subnet_id=esub.id,
    subnet_command=concat('Set-OrcasBreadthFSMState -TableName tbl_operation_unregister_delegated_subnet -Keys
    zone_id=ezone.id,
    zone_command=concat('Set-OrcasBreadthFSMState -TableName tbl_operation_drop_private_dns_zone -Keys ', dzon
    vnet_id=evnet.id,
    vnet_command=concat('Set-OrcasBreadthFSMState -TableName tbl_operation_unregister_delegated_virtual_networ
    sal_id=esal.id,
    sal_command=concat('Set-OrcasBreadthFSMState -TableName tbl_operation_drop_service_association_link -Keys
    orcas_instance_id_link_with_subnet=esub.associated_orcas_instance_id_list_json,
    orcas_instance_id_link_with_private_dns_zone=ezone.associated_orcas_instance_id_list_json,
    orcas_instance_id_link_with_vnet=evnet.associated_orcas_instance_id_list_json,
    orcas_instance_id_link_with_sal=esal.associated_orcas_instance_id_list_json
from
    dbo.entity_delegated_subnet esub
    left join dbo.entity_delegated_virtual_network evnet on evnet.id=esub.delegated_virtual_network_entity_id
    left join dbo.entity_azure_private_dns_zone ezone on evnet.id=ezone.delegated_virtual_network_entity_id
    left join dbo.entity_service_association_link esal on esal.delegated_virtual_network_id = evnet.virtual_ne
    left join operation_unregister_delegated_subnet dsub on dsub.delegated_subnet_entity_id=esub.id
    left join operation_drop_private_dns_zone dzone on dzone.private_dns_zone_entity_id=ezone.id
    left join operation_unregister_delegated_virtual_network dvnet on dvnet.delegated_virtual_network_entity_i
    left join operation_drop_service_association_link dsal on dsal. service_association_link_entity_id=esal.id
where
    evnet.delegated_virtual_network_subscription_id='<vnet-subscription-id>'
    and evnet.delegated_virtual_network_resource_group = '<vnet-resource-group-name>'
    and evnet.network_name = '<vnet_name>'
```

1. Check if there is any orcas instance id linking to the vnet feature related entities. if no any Orcas Instance linking to the entities go to step 5

2. if we do see orcas instance id linking with vnet feature entities, make sure these orcas instance id point to to tombstoned server.

   ```
   select server_name,state
   from entity_orcas_servers
   where orcas_instance_id = '<orcas_instance_id>'
   ```

   - if any of the orcas_instance_id pointing to a succeeded server, then tell customer they have to drop their server first, in order to drop vnet.
   - also run the following query to check if orcas_instance_id is for a standby instance

   ```
   select *
   from entity_orcas_server_instances
   where orcas_instance_id = '<orcas_instance_id>'
   ```

   - if there is no any server found linked to this orcas instance id, try to find the orcas instance from *dbo.entity_wal_replica*

     ```
     select *
     from dbo.entity_wal_replica
     where orcas_instance_id = '<orcas_instance_id>'
     ```

     if it is Wal server, Contact @Chen Liang for further assistance.

3. [Submit ICM to engage Product Group]

   Run the following command in DS console (SqlAzureConsole) to remove orcas instance dependency. Note that you need to get jit access for MeruRpJitAccess (command in orcasbreadth_servers.xts) and you will likely have to open a new console window before you can run these commands. You can find (Subnet_id, Zone_id, Vnet_id and Sal_id) from step 1's query result. (Note only remove orcas instance dependency on entities which has orcas instance id linking to it. Like the image example from step 1, we don't need to remove orcas instance dependency for Vnet entity)

```
Set-OrcasBreadthEntityProperty -TableName entity_delegated_subnet -Keys '<subnet_id>' -Column 'associated
Set-OrcasBreadthEntityProperty -TableName entity_azure_private_dns_zone -Keys '<zone_id>' -Column 'associ
Set-OrcasBreadthEntityProperty -TableName entity_delegated_virtual_network -Keys '<vnet_id>' -Column 'ass
Set-OrcasBreadthEntityProperty -TableName entity_service_association_link -Keys '<sal_id>' -Column 'assoc
```

   after run command, you will see those orcas instance id been removed from those entities.

4. Copy out 4 entity id, with its entity remove command (subnet_command, zone_command, vnet_command, sal_command) from step 1's result. Similar to below commands, where the Keys can be from any of the rows returned in step 1's result.

```
Set-OrcasBreadthFSMState -TableName tbl_operation_unregister_delegated_subnet -Keys <> -ExpectedCurrentStat
Set-OrcasBreadthFSMState -TableName tbl_operation_drop_private_dns_zone -Keys <> -ExpectedCurrentState Comp
Set-OrcasBreadthFSMState -TableName tbl_operation_unregister_delegated_virtual_network -Keys <> -ExpectedCu
Set-OrcasBreadthFSMState -TableName tbl_operation_drop_service_association_link -Keys <> -ExpectedCurrentSt
```

1. Make sure there are no any Network container linking to Subnet by run following command.

   If you could see any NC linking to the subnet that is not in "Dropped" state, it means the server is still alive or server stuck in dropping, please try to clean up the drop workflow. for any VNET related stuck workflow, you can contact @Huizhong Hu or @Tao Zhang for further help.

```
select *
from dbo.entity_dnc_network_container
where delegated_subnet_entity_id = '<subnet_id>'
      and
      state !='Dropped';
```

2. Check each entity could be found in its entity table.

```
select * from <entity table> where id ='<entity id>'
```

   NOTE: don't use cms browser due to it could only show maximum 500 results

Here are entity tables:

- dbo.entity_delegated_subnet
- dbo.entity_azure_private_dns_zone
- dbo.entity_delegated_virtual_network
- dbo.entity_service_association_link

3. Run each command one by one with following order

    1. subnet_command
    2. zone_command
    3. vnet_command
    4. sal_command.

    **NOTE:** you can skip some command if the entity was not be found in step 6. For example, drop vnet before drop zone will cause some operation failure, that you need to jit to portal to fix.

    Confirm last entity remove command works before run next. Some entity removal process will take sometime, but normally will less then 1 minute

    After entity been removed, it will be deleted from entity table

## Mitigation

Submit ICM to run above CAS command

We already have fix for this known issue, which will be carried at M9 train.

**How good have you found this content?**