VCN peering between Oracle Ravello and Oracle Cloud Infrastructure

Oracle Ravello Cloud Service

Oracle Ravello is an overlay cloud that enables enterprises to run their VMware and KVM applications, including complex Layer 2 networking, on a public cloud without making any modifications. With Ravello, enterprises do not need to modify their VMs or change networking. This empowers businesses to rapidly deploy existing data-center applications to the public cloud without any associated infrastructure costs, migration costs, and overhead for a variety of use-cases such as production, dev-test, staging, UAT, etc.

VCN Peering Overview

VCN peering is the process of connecting multiple virtual cloud networks (VCNs). Ravello VCN peering enables you to create an internal network connection between an OCI VCN and VMs running on Ravello on OCI.

You can use VCN peering to manage your production workload while saving costs and managing the risks. For example, you can place your heaviest workload on the bare metal cloud provided by OCI while migrating your environment to the Ravello cloud and maintaining connectivity between all the pieces of your network.
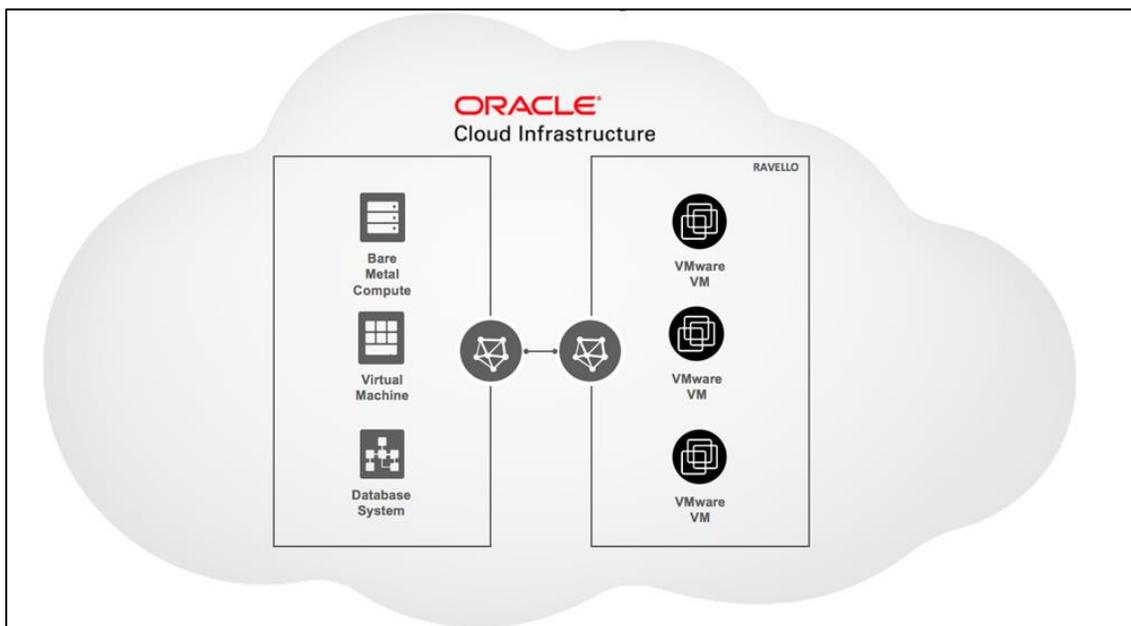

Figure 1: VCN overview

VCN Peering Restrictions

- VCNs can only be edited when the VMs are powered off.

- You can only have a single peered subnet in an application.

- The OCI VCN subnet and the Ravello subnet must not overlap.

- You must have at least one VM connected to the subnet.

- All the VMs connected in the subnet must have either a public or an elastic IP address.

It is recommended that before you begin the peering process, you create a blueprint of your application.

To achieve VCN peering, one must first make the following changes on OCI, followed by changes in the Ravello application

Setting up a VCN connection in OCI

1) Define a local peering gateway in OCI.

   a. Click **Networking** and select the VCN that you want to peer.

   b. Click **Local Peering Gateways**.

   c. Click **Create Local Peering Gateway**.

      Enter the following:

      Name: A friendly name for the LPG. It doesn't have to be unique, and it cannot be changed later in the Console (but you can change it with the API). Avoid entering confidential information.

      Create in compartment: The compartment where you want to create the LPG, if different from the compartment you're currently working in.

      Click **Create Local Peering Gateway**.

Figure 2: Creating Local Peering Gateway

2) Provide routing rules between OCI and the Ravello network.

    a. Click **Networking** and select the VCN that you want to peer.

    b. Click **Route Tables**.

    c. Click on the existing routing table for the VCN to add a route rule.

    d. Click on **Create Route Rule**

    Destination CIDR block: The destination CIDR block for the traffic. This value must be the CIDR block you will define for the subnet in the Ravello side of the peering.

    Target Type: Select Local Peering Gateway to access the peered VCN.

    Target Compartment: The compartment where the target is located, if not the current compartment.

    Target Local Peering Gateway: Select the LPG through which to route the traffic.

    Click **Create.**

Figure 3: Create Route Rule

3) Provide Ravello with the necessary permissions to administer the OCI VCN.

    a.   Click **Identity**.

    b.   Click **Policies**.

    c.   Verify that you have selected the root compartment and click **Create Policy**.

Enter the following:

Name: A unique name for the policy. The name must be unique across all policies in your tenancy. You cannot change this later.

Description: A friendly description. You can change this later if you want to.

Policy Versioning: Select **Keep Policy Current** if you'd like the policy to stay current with any future changes to the service's definitions of verbs and resources.

Policy Statements: The syntax of the policy. Enter the following:

```
ADMIT Service Ravello to manage all-resources in tenancy where
request.subscription equals <Ravello_org_ID>
```

Click **Create**.

Figure 4: Create Policy for Ravello peering

You can find your 'Ravello_org_ID' from the Ravello UI, by clicking on the drop down menu and selecting 'Organization Details'
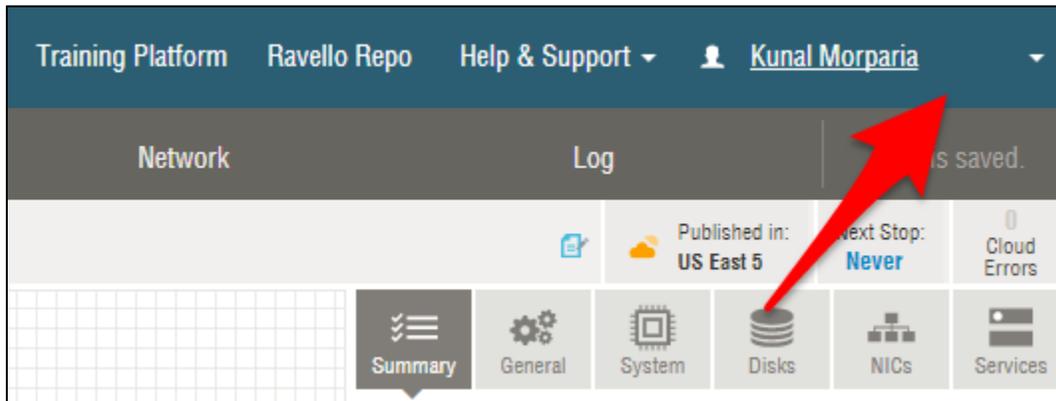

Figure 5: Organization ID

4) Define security rules to control the traffic between the two instances.

Make sure to evaluate your VCN's security rules and whether you want to keep or update them. You should ensure that all inbound or outbound traffic that you permit is intended and well defined.

For more information about configuring routing rules, security rules, and all OCI aspects of VCN peering, see the relevant sections in OCI documentation https://docs.us-phoenix-1.oraclecloud.com/Content/Network/Tasks/VCNpeering.htm

Setting up the VCN Connection in Ravello

1) In your Ravello application, click on the Network tab.

2) Verify that all the VMs connected to the subnet are powered off.

3) Select the subnet you want to peer and verify that you're in the **Properties** page.

Click **Peer with VCN.**

Enter information in the following fields:

Name - An optional value that should indicate descriptive information about the peering.

VCN Tenancy ID - Enter the value that appears as the Tenancy OCID in the OCI Local Peering Gateway that you defined. This value should start with "ocid1.tenancy".

VCN Local Peering Gateway ID - Enter the value that appears as the OCID in the Local Peering Gateway that you created.

Click **OK.**

Figure. 6: Ravello settings

Verifying the VCN connection with OCI

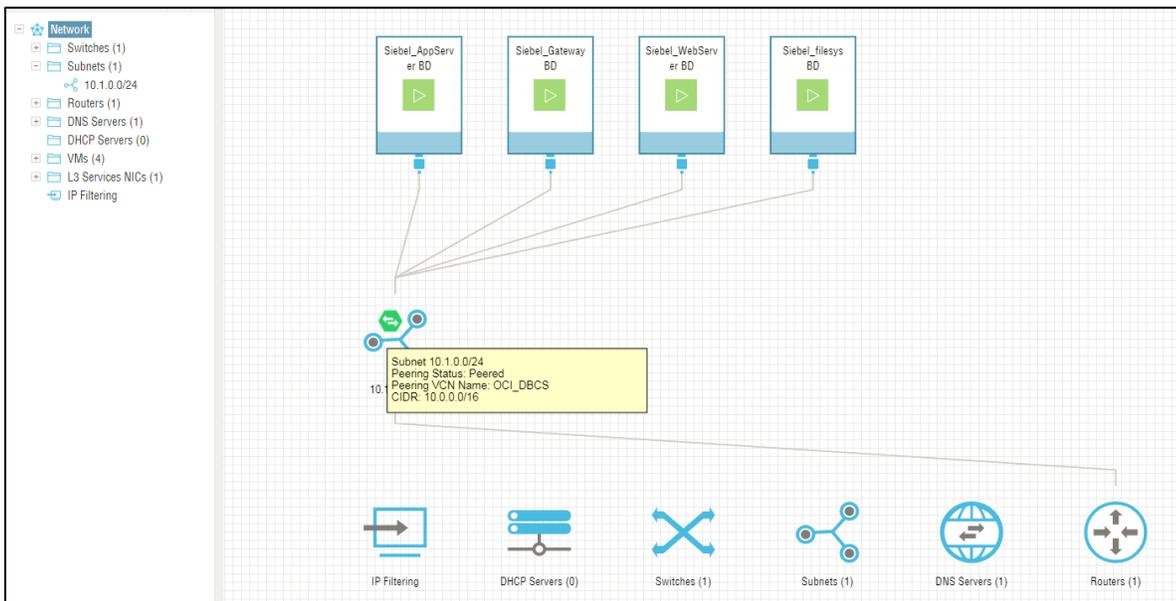Once the above changes are made, you can **Start** or **Publish** the application

Figure 7: Ravello VCN status for the running application

Similarly, on the OCI side, you should see the status of the Local Peering Gateway as '**PEERED**'

Figure 8: OCI LPG status

You should now be able to connect with the OCI instance peering was setup with from your Ravello VMs.

Learn more

Learn more and sign up for a free trial at https://cloud.oracle.com/ravello
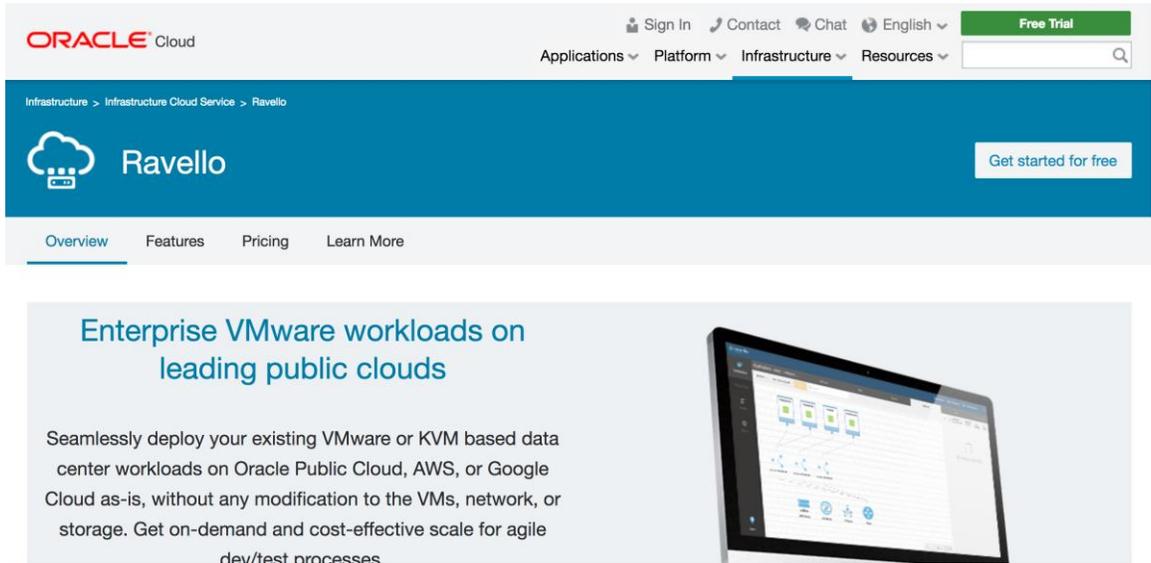
Figure 9: Sign up for a free trial.

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Integrated Cloud Applications & Platform Services

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