**GCP Shared VPC Install Notes**

**Permissions**

A shared vpc install works by utilizing a project where the [shared] vpc will exist (the host project), and a project where all new resources will be created and host the cluster (the service project). The service account used during installation must be present and have the following permissions in each project.

*Host Project Permissions:*

- Compute Admin

- Compute Load Balancer Services User

- Compute Network User

- DNS Administrator

*Service Project Permisisons:*

- Compute Admin

- Compute Load Balancer Admin

- Compute Storage Admin

- Deployment Manager Editor

- DNS Administrator

- Security Admin

- Service Account Admin

- Service Account Key Admin

- Service Account User

- Storage Admin

*\*\*Note: The Service Account Permissions in the Service Project are still being paired down as the above list might be too broad.*

**Private Cluster Installation**

In 4.12, users are **required** to add the tech preview tag to their install configuration files

featureSet: TechPreviewNoUpgrade

An install will **not** succeed without the above line, because fields such as *networkProjectID* must be paired with the feature set.

What does this all mean/why is this important? The *techPreview* tag enforces a rule where kubernetes upstream code is used rather than the RedHat kubernetes distribution. There are changes to the RedHat distribution that are still waiting to be added (open PR) to the upstream code. An error will [more than likely] occur at the cluster initialization stage. An error similar to the following may be observed

Error 400: INSTANCE\_IN\_MULTIPLE\_LOAD\_BALANCED\_IGS - Validation failed for instance 'projects/YOUR-PROJECT/zones/us-central1-b/instances/CLUSTER-NAME-master-1': instance may belong to at most one load-balanced instance group.

The above error can be verified by viewing the instance groups in the service project. The error states that an instance can only belong to a single instance group, but the masters are attempting to be added to multiple groups. This will occur 100% of the time.

*Is there a silver lining?*

Yes, while this error will occur in 4.12 it will not be present in 4.13. In 4.13 the *techPreview* tag is not required (and should not be used with the variables listed above).

*Is there a work around?*

Yes, there is a tested worked around. The install-config file should be created the same (and the *techPreview* tag must remain). When a tech preview tag is added to the install-config, a new manifest is created during installation. The new manifest is causing the install to continue with a tech preview feature, but this needs to be removed. During installation, the manifests need to be explicitly created.

openshift-install create manifests –dir=<install directory>

After the manifests are created, verify that the openshift directory exists in the install directory. In the openshift directory should be a file *99\_feature\_gate.yaml*. In this installation the feature gate is the tech preview data. Remove this file from the openshift directory. Continue the install:

openshift-install create cluster –dir=<install directory>

The installation should succeed.