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本手順は Contrail(2008)と OpenShift 3.11 をインストールする手順となる。
Contrail Command は後からインストール可能であるが必須ではない

Contrail Version 毎に Supported SW Version は異なっているため、以下の通りインストールする必要がある

https://www.juniper.net/documentation/en_US/release-independent/contrail/topics/reference/contrail-supported-platforms.pdf

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環境情報 :

Network:

192.168.17.0/24

Server:

Ansible : 192.168.17.2

Master : 192.168.17.3

Infra : 192.168.17.4

Worker : 192.168.17.5

Command : 192.168.17.6

Server Spec:

Ansible: RHEL7 / 2Core / 8GB Mem / 100GB Disk

Master: RHEL7 / 8Core / 16GB Mem / 100GB Disk

Infra: RHEL7 / 16Core / 64GB Mem / 250GB Disk

Worker: RHEL7 / 4Core / 16GB Mem / 120GB Disk

Command: CentOS / 4Core / 32GB Mem / 100GB Disk

Step0: 各 VM の作成

[KVM]

```
virt-install --name="ansible" --vcpus=2 --ram=8192 --disk  
path=/var/lib/libvirt/images/ansible.qcow2,bus=virtio,size=100 --os-variant centos7.0 --network  
bridge=br17,model=virtio --location /root/rhel-server-7.9-x86_64-dvd.iso --serial pty --  
console pty,target_type=virtio --graphics vnc,listen=0.0.0.0 --noautoconsole
```

```
virt-install --name="master" --vcpus=8 --ram=16384 --disk  
path=/var/lib/libvirt/images/master.qcow2,bus=virtio,size=100 --os-variant centos7.0 --network  
bridge=br17,model=virtio --location /root/rhel-server-7.9-x86_64-dvd.iso --serial pty --  
console pty,target_type=virtio --graphics vnc,listen=0.0.0.0 --noautoconsole
```

```
virt-install --name="infra" --vcpus=8 --ram=65536 --disk  
path=/var/lib/libvirt/images/infra.qcow2,bus=virtio,size=250 --os-variant centos7.0 --network  
bridge=br17,model=virtio --location /root/rhel-server-7.9-x86_64-dvd.iso --serial pty --  
console pty,target_type=virtio --graphics vnc,listen=0.0.0.0 --noautoconsole
```

```
virt-install --name="worker1" --vcpus=4 --ram=16384 --disk  
path=/var/lib/libvirt/images/worker1.qcow2,bus=virtio,size=100 --os-variant centos7.0 --network  
bridge=br17,model=virtio --location /root/rhel-server-7.9-x86_64-dvd.iso --serial pty --  
console pty,target_type=virtio --graphics vnc,listen=0.0.0.0 --noautoconsole
```

Step1. 事前準備

[All]

```
subscription-manager register --username XXXX--password XXXX --force  
subscription-manager attach --pool=XXXXX  
subscription-manager repos --disable="*"

subscription-manager repos --enable="rhel-7-server-rpms" --enable="rhel-7-server-extras-rpms" --  
enable="rhel-7-server-ose-3.11-rpms" --enable=rhel-7-fast-datapath-rpms --enable="rhel-7-server-  
ansible-2.6-rpms"

hostnamectl set-hostname "FQDN"
```

vi /etc/hosts

```
192.168.17.2 ansible.juniper.local ansible  
192.168.17.3 master.juniper.local master  
192.168.17.4 infra.juniper.local infra  
192.168.17.5 worker1.juniper.local worker1  
192.168.17.6 command.juniper.local command
```

[Infra, Master, Woker]

```
yum install -y tcpdump wget git net-tools bind-utils yum-utils iptables-services bridge-utils bash-  
completion kexec-tools sos psacct python-netaddr openshift-ansible
```

[Ansible]

```
yum install -y openshift-ansible python-netaddr
```

Step2. OpenShift / Contrail Install

[Ansible]

DL contrail-openshift-deployer-2008.121.tgz to Ansible Node

```
tar xzvf contrail-openshift-deployer-2008.121.tgz  
cd openshift-ansible
```

vi inventory/ose-install

```
oreg_auth_user=XXXX  
oreg_auth_password=XXXX  
contrail_version=2008  
contrail_container_tag=2008.121-rhel  
contrail_registry=hub.juniper.net/contrail  
contrail_registry_username=XXXX  
contrail_registry_password=XXXX
```

```
openshift_docker_insecure_registries=hub.juniper.net/contrail
openshift_use_openshift_sdn=false
os_sdn_network_plugin_name='cni'
openshift_use_contrail=true
[masters]
master
[etcd]
master
[nodes]
master openshift_node_group_name='node-config-master'
worker1 openshift_node_group_name='node-config-compute'
infra openshift_node_group_name='node-config-infra'
[nfs]
worker1
```

```
ssh-keygen -t rsa
ssh-copy-id root@192.168.17.3
ssh-copy-id root@192.168.17.4
ssh-copy-id root@192.168.17.5

ansible-playbook -i inventory/ose-install playbooks/prerequisites.yml
ansible-playbook -i inventory/ose-install playbooks/deploy_cluster.yml
```

Step3. Install 後の設定

```
[Master]
htpasswd /etc/origin/master/htpasswd admin
oc adm policy add-cluster-role-to-user cluster-admin admin
oc login -u admin
```

以下にて hawkular-metrics-schema 以外全ての POD が Running になっていること

```
oc get pods --all-namespaces
```

```
[All]
service iptables save
```

Step4. Login

OpenShift: <https://192.168.17.3:8443/console>

Contrail: <https://192.168.17.4:8143>

Step5. Contrail Command Install (Option)

```
[KVM]
virt-install --name="command" --vcpus=4 --ram=16384 --disk
path=/var/lib/libvirt/images/command.qcow2,bus=virtio,size=100 --os-variant centos7.0 --network
```

```
bridge=br17,model=virtio --location /root/CentOS-7-x86_64-Minimal-1810.iso --serial pty --
console pty,target_type=virtio --graphics vnc,listen=0.0.0.0 --noautoconsole
```

[command]

```
yum install -y yum-utils device-mapper-persistent-data lvm2
yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo
yum install -y docker-ce-18.03.1.ce
systemctl start docker
systemctl enable docker
docker login hub.juniper.net --username <container_registry_username> --password
<container_registry_password>
docker pull hub.juniper.net/contrail/contrail-command-deployer:2008.121
```

vi /etc/hosts

```
192.168.17.2 ansible.juniper.local ansible
192.168.17.3 master.juniper.local master
192.168.17.4 infra.juniper.local infra
192.168.17.5 worker1.juniper.local worker1
192.168.17.6 command.juniper.local command
```

vi command_servers.yml

```
---
command_servers:
  server1:
    ip: 192.168.17.6
    connection: ssh
    ssh_user: root
    ssh_pass: Juniper
    sudo_pass: Juniper
    ntpserver: 210.173.160.27

    registry_insecure: false
    container_registry: hub.juniper.net/contrail
    container_tag: 2008.121
    container_registry_username: XXXX
    container_registry_password: XXXX
    config_dir: /etc/contrail

    contrail_config:
      database:
        type: postgres
        dialect: postgres
        password: Juniper
      keystone:
        assignment:
          data:
```

```
users:
  admin:
    password: Juniper
insecure: true
no_auth: true
auth_type: basic-auth
client:
  password: Juniper
```

[Ansible]

```
scp openshift-ansible/inventory/ose-install root@192.168.17.6:/root/
```

[Command]

Contrail Command のインストール

```
docker run -t --net host -e orchestrator=openshift -e action=import_cluster -v  
/root/command_servers.yml:/command_servers.yml -v /root/ose-install:/instances.yml -d --privileged -  
-name contrail_command_deployer hub.juniper.net/contrail/contrail-command-deployer:2008.121
```

インストール状況の確認

```
docker logs -f contrail_command_deployer
```

Contrail Command Login

<https://192.168.17.6:9091>