Experience OPNFV on Arm

Deploy OPNFV on Arm with Compass4NFV

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Agenda

• OPNFV overview
• Deploy OPNFV on Arm – experience sharing
• Compass4NFV architecture
  • Bare-metal provisioning
  • Virtual provisioning
• OPNFV CI/CD and testing
• Compass4NFV on Arm
About us

- Arm CE-OSS (Central Engineering – Open Source Software)
- Optimization and enablement for Arm platform
OPNFV overview

Leverage upstream OSS to construct a reference NFV platform.

Major components: Integration, Deployment, Testing

https://www.opnfv.org/software/technical-overview
Deploy OPNFV on Arm – A frustrating experience

**Fuel installer**
- Great experience, if it works.
- Debugging is hard.
- Deployment is very time consuming.

**Kubernetes on OpenStack**
- Unofficial, cannot integrate with OPNFV community.
- What if I only need Kubernetes, not OpenStack?

**Joid installer**
- Only supports Ubuntu.
- Doesn’t support Kubernetes on Arm.
Compass4NFV advantages

• Official OPNFV installer.
• Lightweight, easy for debugging.
• Doesn’t support Arm, but welcomes contributions.
• Supports both OpenStack and Kubernetes.
• Containerized deployment, easy to maintain.
• Distro neutral, Ansible based, flexible configuration.

One line of code for a quick start:

curl https://raw.githubusercontent.com/opnfv/compass4nfv/master/quickstart_k8s.sh | bash
Compass4NFV architecture

Compass-deck

Compass-cobbler
Compass-tasks

VNF

MySQL
RabbitMQ

kubernetes
kubernetes
kubernetes

ubuntu
CentOS

{RESTful API}
Compass4NFV deployment

Jump host

Compass-cobbler

- Ubuntu
- CentOS
- RHEL

Host network

tftp, PXE

Compass-tasks-k8s

- Kubespry
- Ansible

/Linux distro ISO

Jump host

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Deploy on bare-metal

Host configuration

TYPE: baremetal
FLAVOR: cluster
POWER_TOOL: ipmitool
ipmiVer: '2.0'

hosts:
- name: host1
  mac: '14:30:04:F2:24:CB'
  ipmiUser: uuuuuuuu
  ipmiPass: xxxxxxxxx
  ipmiIp: 172.16.130.81
  interfaces:
    - eth1: '14:30:04:F2:24:CC'
  roles:
    - kube_master
    - etcd
    - ha

- name: host2
  mac: '14:30:04:F2:24:3B'
  ipmiIp: 172.16.130.82
  ipmiUser: uuuuuuuu
  ipmiPass: xxxxxxxxx
  interfaces:
    - eth1: '14:30:04:F2:24:3C'
  roles:
    - kube_node
Deploy on VM

Host configuration

TYPE: virtual
FLAVOR: cluster

hosts:
- name: host1
  roles:
  - kube_master
  - etcd
  - ha
- name: host2
  roles:
  - kube_master
  - etcd
  - ha
- name: host3
  roles:
  - kube_master
  - etcd
  - ha
- name: host4
  roles:
  - kube_node
- name: host5
  roles:
  - kube_node

Compass containers

- Compass-deck
- Compass-db
- Compass-mq
- Compass-cobbler
- Compass-tasks

Kube-master VM

- Kube-apiserver
- Kube-controller-manager
- Kube-scheduler
- etcd

Kube-node VM

- Kube-proxy
- Kubelet

Jump Host

- install

PXE

Internet

external_nat
Compass4NFV on Arm

• Supported features
  • Run Compass core containers on Arm jump host
  • Bare-metal OS deployment (CentOS, Ubuntu AArch64)
  • Kubernetes deployment (v1.9.x AArch64)

• Arm daily CI/CD jobs ready in OPNFV community
• 30+ patches merged to support Compass4NFV on Arm
Thank You
Danke
Merci
谢谢
ありがとう
Gracias
Kiitos
감사합니다
धन्यवाद
תודה