

CBIS 18.5 IPv6 Configuration

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简介

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2018/07/19

本文是关于在 CBIS 18.5 上验证 IPv6 情况的简单介绍

IPv6测试用例确认情况

Case支持情况

Case No.	Case描述	是否支持	备注	Red Hat CEE Case Number
6.1.3	支持NTP服务	OK	计算节点手工配置ntp指向controller internalapi IPv6地址	
6.1.4.1	所有portal登录均支持IPv6方式	POK	OSP支持，其他待诺基亚验证	
6.1.4.2	支持告警通过IPv6上报	POK	OSP支持IPv6对接gnocchi，其他待诺基亚验证	
6.1.4.6	VIM北向接口的访问入口	POK	identity admin为IPv4，其他为IPv6 20180725: user_config.yml设置enable_tls为false后所有endpoint为ipv6 20180803: 在设置dns可支持enable_tls为true后部分endpoint为域名，域名可解析为ipv6地址	02152058 已解决
6.1.4.11	内部组件通信/存储面数据传输支持IPV6	OK	无法创建实例	02151129 已解决

CBIS 18.5 ipv6 与 enable_tls 的情况

Keystone Admin Url	enable_tls	deployment	overcloud
ipv4	true	OK	OK
ipv6	false	OK	OK
ipv6	true	OK	NOK
dns+ipv6	true	OK	OK

6.1.3

overcloud 节点

```
[stack@undercloud (stackrc) ~]$ nova list
+-----+-----+-----+-----+
| ID      | Name          | Status | Task State | Po
wer State | Networks     |
+-----+-----+-----+-----+
|
```

```
| 84b04784-01f9-4faa-b5b3-3ad5edee813b | overcloud-Controller-0 | ACTIVE | - | Ru
nning | ctlplane=172.31.255.3 |
| 1c1ab646-4903-46d6-bc86-72a29853237f | overcloud-OvsCompute-0 | ACTIVE | - | Ru
nning | ctlplane=172.31.255.11 |
+-----+-----+-----+-----+
-----+-----+
```

在 controller 上查看 ntp.conf 配置和运行状态

```
[stack@undercloud (stackrc) ~]$ ssh heat-admin@172.31.255.3 'sudo cat /etc/ntp.conf | grep db8'
server 2001:db8::82
[stack@undercloud (stackrc) ~]$ ssh heat-admin@172.31.255.3 'sudo ntpq -p -n'
      remote           refid         st t when poll reach   delay   offset  jitter
=====
*2001:db8::82    LOCAL(0)        4 u  449  512  377     0.704   -6.357   3.521
```

在 compute 上查看 ntp.conf 配置和运行状态

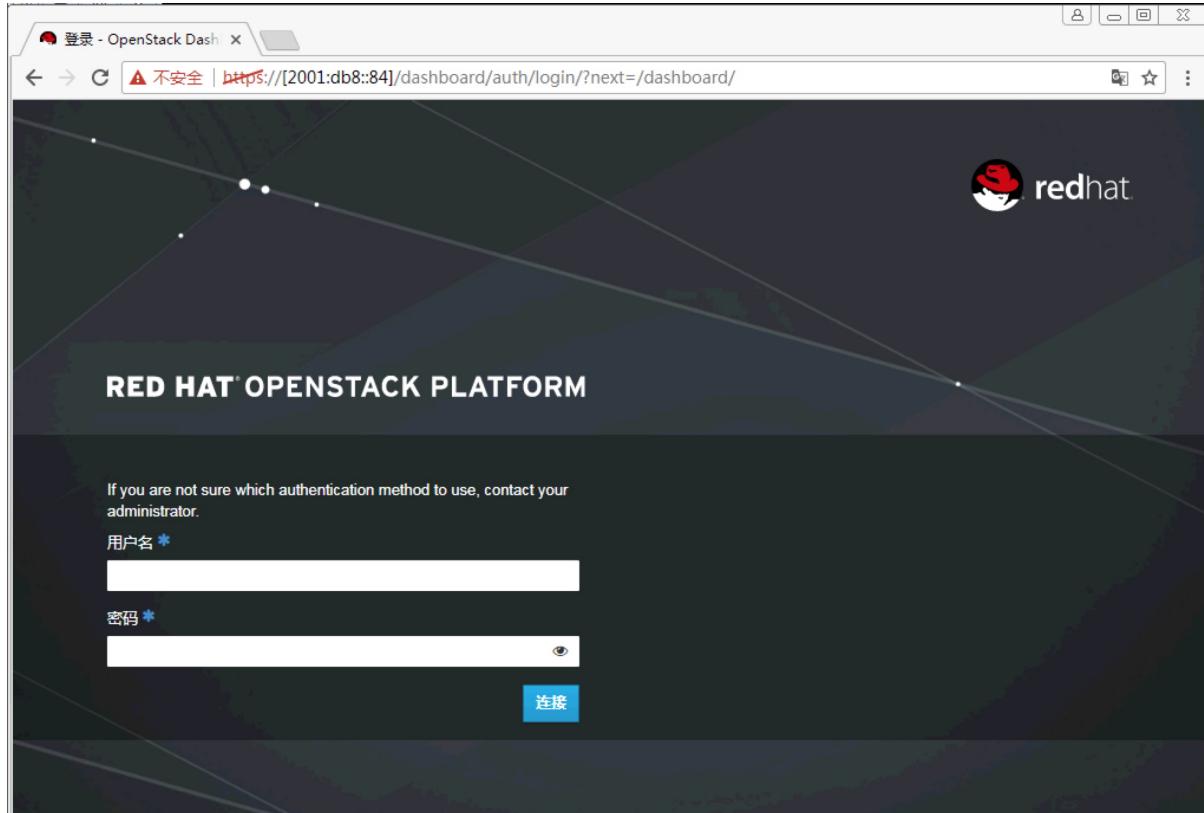
```
[stack@undercloud (stackrc) ~]$ ssh heat-admin@172.31.255.11 'sudo cat /etc/ntp.conf | grep fd'
server fd00:fd00:fd00:1::18
[stack@undercloud (stackrc) ~]$ ssh heat-admin@172.31.255.11 'sudo ntpq -p -n'
      remote           refid         st t when poll reach   delay   offset  jitter
=====
*fd00:fd00:fd00: 186.101.102.249  5 u    22    64  377     0.134   14.306   3.891
```

注意

- 计算节点 ntp 服务器需手工指定到控制节点的 internal api 地址上

6.1.4.1

浏览器访问 overcloud horizon ipv6 地址，入口地址参见 overcloudrc



6.1.4.2

查看 gnocchi endpoint 信息

```
[stack@undercloud (stackrc) ~]$ source overcloudrc
[stack@undercloud (overcloudrc) ~]$ openstack --insecure endpoint show gnocchi
+-----+-----+
| Field      | Value           |
+-----+-----+
| adminurl   | http://[fd00:fd00:fd00:1::10]:8041 |
| enabled     | True             |
| id          | ee9768118c29439cb8e5d799089df38c |
| internalurl | http://[fd00:fd00:fd00:1::10]:8041 |
| publicurl   | https://[2001:db8::84]:13041 |
| region      | regionOne        |
| service_id  | 8e88b38cb0c442ea84d8bcb00a73ca12 |
| service_name | gnocchi          |
| service_type | metric            |
+-----+-----+
```

6.1.4.6

注意： 在正确设置dns解析后，设置enable_tls为true，identity的adminurl也可为ipv6

部署需添加以下模版

```
-e ${template_base_dir}/enable-tls.yaml \
-e ${template_base_dir}/cloudname.yaml \
-e ${template_base_dir}/inject-trust-anchor.yaml \
-e ${template_base_dir}/tls-endpoints-public-dns.yaml \
```

cloudname.yaml

```
parameter_defaults:
  CloudName: osp.example.net
```

域名解析

```
dig @<dns-server> osp.example.net. AAAA
```

注意：参考模版及工具下载地址 链接:<https://pan.baidu.com/s/17LEPQDzlvCney4uPa9wHIQ> 密码:hhlh

```
[stack@undercloud-dl160g8 10]$ for i in identity image compute network volumev2 orchestration; do echo $i ; openstack --insecure endpoint show $i ; echo ; done
identity
+-----+-----+
| Field | Value |
+-----+-----+
| adminurl | https://osp.example.net:13357/v2.0 |
| enabled | True |
| id | 85b990f856eb45dcb64e3fcfd4b69d3ee |
| internalurl | http://[fd00:fd00:fd00:1::10]:5000/v2.0 |
| publicurl | https://osp.example.net:13000/v2.0 |
| region | regionOne |
| service_id | a1848f86ac8d4e6a99f96c9b474790c8 |
| service_name | keystone |
| service_type | identity |
+-----+-----+
...
[stack@undercloud-dl160g8 10]$ ping -6 -c 1 osp.example.net
PING osp.example.net(osp.example.net (2001:db8::84)) 56 data bytes
64 bytes from osp.example.net (2001:db8::84): icmp_seq=1 ttl=64 time=0.651 ms

--- osp.example.net ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.651/0.651/0.651/0.000 ms
```

注意：（已过时）在设置enable_tls为false后，identity的adminurl也可为ipv6

```
identity
+-----+-----+
```

Field	Value
adminurl	http://[2001:db8::84]:35357/v2.0
enabled	True
id	88a1acecc5be438080a6b7a82edc37d1
internalurl	http://[fd00:fd00:fd00:1::11]:5000/v2.0
publicurl	http://[2001:db8::84]:5000/v2.0
region	regionOne
service_id	3da603eb547f4d0aa34398334df357f4
service_name	keystone
service_type	identity

查看 overcloud identity,image,compute,network,volumev2,orchestration endpoint 信息

[stack@undercloud (overcloudrc) ~]\$ source overcloudrc	
[stack@undercloud (overcloudrc) ~]\$ for i in identity image compute network volumev2 orchestration; do echo \$i ; openstack --insecure endpoint show \$i ; echo ; done	
identity	
Field	Value
adminurl	http://172.31.255.4:35357/v2.0
enabled	True
id	16f1cb37d36f46c4976b6a7e1ad9c58f
internalurl	http://[fd00:fd00:fd00:1::10]:5000/v2.0
publicurl	https://[2001:db8::84]:13000/v2.0
region	regionOne
service_id	d8fcf8c2bed64895a463235dedfa3251
service_name	keystone
service_type	identity
image	
Field	Value
adminurl	http://[fd00:fd00:fd00:2::12]:9292
enabled	True
id	33fb07e162fc4fa7813bdaca5089f178
internalurl	http://[fd00:fd00:fd00:2::12]:9292
publicurl	https://[2001:db8::84]:13292
region	regionOne
service_id	35d8bff9001b4c7581c93a076ba97ad4
service_name	glance
service_type	image
compute	

Field	Value
adminurl	http://[fd00:fd00:fd00:1::10]:8774/v2.1
enabled	True
id	b340ecd813f1450ba50d89d96e058726
internalurl	http://[fd00:fd00:fd00:1::10]:8774/v2.1
publicurl	https://[2001:db8::84]:13774/v2.1
region	regionOne
service_id	0afb10d2fb654933be685359137d0e9a
service_name	nova
service_type	compute

network	
Field	Value
adminurl	http://[fd00:fd00:fd00:1::10]:9696
enabled	True
id	3a52b4000b564c40a066b2a199dcdef0
internalurl	http://[fd00:fd00:fd00:1::10]:9696
publicurl	https://[2001:db8::84]:13696
region	regionOne
service_id	e8be1ea252cc48f083d0fe7f193c9c10
service_name	neutron
service_type	network

volumev2	
Field	Value
adminurl	http://[fd00:fd00:fd00:1::10]:8776/v2/%(tenant_id)s
enabled	True
id	d33c5bd425454ee6aacbd1287b532fea
internalurl	http://[fd00:fd00:fd00:1::10]:8776/v2/%(tenant_id)s
publicurl	https://[2001:db8::84]:13776/v2/%(tenant_id)s
region	regionOne
service_id	67f080d8af75417fa2a281e3521226e7
service_name	cinderv2
service_type	volumev2

orchestration	
Field	Value
adminurl	http://[fd00:fd00:fd00:1::10]:8004/v1/%(tenant_id)s
enabled	True
id	f5d390442ed746f187bc41714e78d8b1
internalurl	http://[fd00:fd00:fd00:1::10]:8004/v1/%(tenant_id)s

```

| publicurl    | https://[2001:db8::84]:13004/v1/%(tenant_id)s      |
| region       | regionOne                                |
| service_id   | 1b0b5ade28ec444286fcba8f0e9845be          |
| service_name | heat                                     |
| service_type | orchestration                           |
+-----+-----+

```

6.1.4.11

登录控制节点，查看数据库监听地址

```
ss -antp | grep LISTEN | grep mysql
```

登录控制节点，查看消息队列监听地址

```
ss -antp | grep LISTEN | grep beam
```

存储面地址所在网段

```
cat ~/templates/network-environment.yaml | grep ' StorageNetCidr'
```

登录控制节点和计算节点获得这个网段的 ip 地址，从计算节点 ping 控制节点这个网段的 ip 地址

环境网络配置

网络	IP地址及掩码	VLAN
IPMI	172.18.41.0/24	N/A
Provisioning	172.31.255.0/24	N/A
Internal API	fd00:fd00:fd00:1::/64	103
Tenant	172.31.4.0/24	106
Storage	fd00:fd00:fd00:2::/64	104
Storage Management	fd00:fd00:fd00:3::/64	105
External	2001:db8::/64	321

模版文件

按照常规方式生成模版并验证可完成ipv4部署后，需修改几个模版文件。

template name	说明
templates/network-environment.yaml	配置 ipv6 相关的Network, Ports, 所需网段，地址范围和其它相关参数

templates/common-environment.yaml	配置 ntp 指向 ipv6 ntp 服务器
templates/network/role_networks/Controller-v6.yaml	配置 ipv4 default route 在 ControlPlane 上, 配置 ipv6 default route 在 External 上
templates/network/role_networks/OvsCompute.yaml	配置计算节点可访问 External 网络

templates/network-environment.yaml

```

# Enable the creation of Neutron networks for isolated Overcloud
# traffic and configure each role to assign ports (related
# to that role) on these networks.
# Many networks are disabled by default because they are not used
# in a typical configuration. Override via parameter_defaults.

resource_registry:

    # Specify the relative/absolute path to the config files you want to use for override th
e default.
    # all networks per specific role is generated to network/role_networks dir
    # mistral will preprocess the jinja and create a reference to the generated file as net
config

    # First boot and Kernel Args

    # Create cbis-admin user with default password
    # OS::TripleO::NodeUserData: firstboot/cbis/cbis_all_nodes_pre_deploy.yaml

    OS::TripleO::Network::InternalApi: network/internal_api_v6.yaml
    OS::TripleO::Network::StorageMgmt: network/storage_mgmt_v6.yaml
    OS::TripleO::Network::Storage: network/storage_v6.yaml
    OS::TripleO::Network::Tenant: network/tenant.yaml
    # Management network is optional and disabled by default
    OS::TripleO::Network::Management: OS::Heat::None
    OS::TripleO::Network::Aux: OS::Heat::None

    # Port assignments for the VIPs
    OS::TripleO::Network::Ports::InternalApiVipPort: network/ports/internal_api_v6.yaml
    OS::TripleO::Network::Ports::StorageVipPort: network/ports/storage_v6.yaml
    OS::TripleO::Network::Ports::StorageMgmtVipPort: network/ports/storage_mgmt_v6.yaml
    OS::TripleO::Network::Ports::RedisVipPort: network/ports/vip_v6.yaml

    # Network Config for all roles
    OS::TripleO::Network::External: network/external_v6.yaml
    OS::TripleO::Network::Ports::ExternalVipPort: network/ports/external_v6.yaml

    OS::TripleO::Controller::Net::SoftwareConfig:      network/role_networks/Controller-v6.yam

```

```

OS::TripleO::Controller::Ports::ExternalPort:      network/ports/external_v6.yaml
OS::TripleO::Controller::Ports::InternalApiPort:  network/ports/internal_api_v6.yaml
OS::TripleO::Controller::Ports::StorageMgmtPort:  network/ports/storage_mgmt_v6.yaml
OS::TripleO::Controller::Ports::StoragePort:       network/ports/storage_v6.yaml
OS::TripleO::Controller::Ports::TenantPort:        network/ports/tenant.yaml

OS::TripleO::SriovPerformanceCompute::Net::SoftwareConfig:      network/role_networks/Sriov
vPerformanceCompute.yaml
OS::TripleO::SriovPerformanceCompute::Ports::ExternalPort:      network/ports/external_v6.
yaml
OS::TripleO::SriovPerformanceCompute::Ports::InternalApiPort:  network/ports/internal_api
_v6.yaml
OS::TripleO::SriovPerformanceCompute::Ports::StorageMgmtPort:  network/ports/storage_mgmt
_v6.yaml
OS::TripleO::SriovPerformanceCompute::Ports::StoragePort:       network/ports/storage_v6.y
aml
OS::TripleO::SriovPerformanceCompute::Ports::TenantPort:        network/ports/tenant.yaml

OS::TripleO::DpdkPerformanceCompute::Net::SoftwareConfig:      network/role_networks/DpdkP
erformanceCompute.yaml
OS::TripleO::DpdkPerformanceCompute::Ports::ExternalPort:      network/ports/external_v6.y
aml
OS::TripleO::DpdkPerformanceCompute::Ports::InternalApiPort:  network/ports/internal_api_
v6.yaml
OS::TripleO::DpdkPerformanceCompute::Ports::StorageMgmtPort:  network/ports/storage_mgmt_
v6.yaml
OS::TripleO::DpdkPerformanceCompute::Ports::StoragePort:       network/ports/storage_v6.ya
ml
OS::TripleO::DpdkPerformanceCompute::Ports::TenantPort:        network/ports/tenant.yaml

OS::TripleO::OvsCompute::Net::SoftwareConfig:      network/role_networks/OvsCompute.yaml
OS::TripleO::OvsCompute::Ports::ExternalPort:       network/ports/external_v6.yaml
OS::TripleO::OvsCompute::Ports::InternalApiPort:   network/ports/internal_api_v6.yaml
OS::TripleO::OvsCompute::Ports::StorageMgmtPort:  network/ports/storage_mgmt_v6.yaml
OS::TripleO::OvsCompute::Ports::StoragePort:        network/ports/storage_v6.yaml
OS::TripleO::OvsCompute::Ports::TenantPort:         network/ports/tenant.yaml

OS::TripleO::Storage::Net::SoftwareConfig:      network/role_networks/Storage.yaml
OS::TripleO::Storage::Ports::ExternalPort:       network/ports/external_v6.yaml
OS::TripleO::Storage::Ports::InternalApiPort:   network/ports/noop.yaml
OS::TripleO::Storage::Ports::StorageMgmtPort:  network/ports/storage_mgmt_v6.yaml
OS::TripleO::Storage::Ports::StoragePort:        network/ports/storage_v6.yaml
OS::TripleO::Storage::Ports::TenantPort:         network/ports/noop.yaml

# Port assignments for service virtual IPs for the controller role
OS::TripleO::Controller::Ports::RedisVipPort: network/ports/vip_v6.yaml

```

```

parameter_defaults:
    # Internal API used for private OpenStack Traffic
    InternalApiNetCidr: 'fd00:fd00:fd00:1::/64'
    InternalApiAllocationPools: [{"start": 'fd00:fd00:fd00:1::10', 'end': 'fd00:fd00:fd00:1::200"}]
    InternalApiNetworkVlanID: 103

    ControlPlaneSubnetCidr: '24'

    # Tenant Network Traffic - will be used for VXLAN over VLAN
    TenantNetCidr: 172.31.4.0/24
    TenantAllocationPools: [{"start": '172.31.4.10', 'end': '172.31.4.200"}]
    TenantNetworkVlanID: 106

    # Public Storage Access - e.g. Nova/Glance <--> Ceph
    StorageNetCidr: 'fd00:fd00:fd00:2::/64'
    StorageAllocationPools: [{"start": 'fd00:fd00:fd00:2::10', 'end': 'fd00:fd00:fd00:2::200'}]
    StorageNetworkVlanID: 104

    # Private Storage Access - i.e. Ceph background cluster/replication
    StorageMgmtNetCidr: 'fd00:fd00:fd00:3::/64'
    StorageMgmtAllocationPools: [{"start": 'fd00:fd00:fd00:3::10', 'end': 'fd00:fd00:fd00:3::200"}]
    StorageMgmtNetworkVlanID: 105

    # External Networking Access - Public API Access
    ExternalNetCidr: '2001:db8::/64'
    # Leave room for floating IPs in the External allocation pool (if required)
    PublicVirtualFixedIPs: [{"ip_address": '2001:db8::84'}]
    ExternalAllocationPools: [{"start": '2001:db8::84', 'end': '2001:db8::200'}]
    # Set to the router gateway on the external network
    ExternalInterfaceDefaultRoute: 2001:db8::83
    ExternalNetworkVlanID: 321

    #

    EC2MetadataIp: 172.31.255.1
    ControlPlaneDefaultRoute: 172.31.255.1
    NeutronExternalNetworkBridge: "''"
    DnsServers: [2001:db8::82]

    #BondInterfaceOvsOptions: "bond_mode=balance-tcp lacp=active other-config:lacp-fallback-ab=true"
    #BondInterfaceOvsOptions: "bond_mode=balance-slb lacp=off"
    BondInterfaceOvsOptions: "bond_mode=active-backup"

    #Enable Flat Networks by default on all physical networks
    NeutronFlatNetworks: '*'

```

```
NeutronEnableL2Pop: True

# MTU of the underlying physical network. Neutron uses this value to
# calculate MTU for all virtual network components. For flat and VLAN
# networks, neutron uses this value without modification. For overlay
# networks such as VXLAN, neutron automatically subtracts the overlay
# protocol overhead from this value. The default value of 1496 is
# currently in effect to compensate for some additional overhead when
# deploying with some network configurations (e.g. network isolation over
# single network interfaces)

NeutronGlobalPhysnetMtu: 8900

NeutronOVSFirewallDriver: iptables_hybrid

# To enable both Open vSwitch *and* SR/IOV
NeutronMechanismDrivers: openvswitch,sriovnicswitch,l2population

NovaComputeVncserverListen: '0.0.0.0'

# Enable metadata proxy
NeutronEnableIsolatedMetadata: True
NeutronEnableMetadataNetwork: True

# Enable neutron DHCP agent HA
NeutronDhcpAgentsPerNetwork: 3

OvercloudControllerFlavor: Controller

OvercloudSriovPerformanceComputeFlavor: SriovPerformanceCompute

OvercloudDpdkPerformanceComputeFlavor: DpdkPerformanceCompute

OvercloudOvsComputeFlavor: OvsCompute

OvercloudStorageFlavor: Storage

ServiceNetMap:
    KeystoneAdminApiNetwork: external

CloudName: osp.example.net

# Enable IPv6 for Ceph.
CephIPv6: True
# Enable IPv6 for Corosync. This is required when Corosync is using an IPv6 IP in the cluster.
CorosyncIPv6: True
# Enable IPv6 for MongoDB. This is required when MongoDB is using an IPv6 IP.
MongoDbIPv6: True
# Enable various IPv6 features in Nova.
```

```

NovaIPv6: True
# Enable IPv6 environment for RabbitMQ.
RabbitIPv6: true
# Enable IPv6 environment for Memcached.
MemcachedIPv6: true

```

templates/common-environment.yaml

```

parameter_defaults:
  CBISAdminPasswordSalt: ''
  Debug: 'false'
  TimeZone: 'Asia/Shanghai'
  NtpServer: ['2001:db8::82']
  #Nova parameters
  NovaSchedulerDefaultFilters: ['AggregateInstanceExtraSpecsFilter', 'RetryFilter', 'AvailabilityZoneFilter', 'NUMATopologyFilter', 'PciPassthroughFilter', 'RamFilter', 'ComputeFilter', 'ImagePropertiesFilter', 'CoreFilter', 'ServerGroupAffinityFilter', 'ServerGroupAntiAffinityFilter']
  NovaSchedulerAvailableFilters: ["nova.scheduler.filters.all_filters","nova.scheduler.filters.pci_passthrough_filter.PciPassthroughFilter"]
  #Glance parameters
  GlanceWorkers: '20'
  #Heat parameters
  HeatWorkers: '20'

```

templates/network/role_networks/Controller-v6.yaml

```

description: 'Software Config to drive os-net-config with 2 bonded nics on a bridge
with VLANs attached for the controller role.

'

heat_template_version: 2015-04-30
outputs:
  OS::stack_id:
    description: The OsNetConfigImpl resource.
    value:
      get_resource: OsNetConfigImpl
parameters:
  AuxIpSubnet:
    default: ''
    description: IP address/subnet on the new vlan network
    type: string
  BondInterfaceOvsOptions:
    constraints:
      - allowed_pattern: ^((?!balance.tcp).)*$
        description: 'The balance-tcp bond mode is known to cause packet loss and
should not be used in BondInterfaceOvsOptions.

```

```
'  
    default: bond_mode=active-backup  
    description: The ovs_options string for the bond interface. Set things like lacp=activ  
e  
        and/or bond_mode=balance-slb using this option.  
    type: string  
ControlPlaneDefaultRoute:  
    description: The default route of the control plane network.  
    type: string  
ControlPlaneIp:  
    default: ''  
    description: IP address/subnet on the ctlplane network  
    type: string  
ControlPlaneSubnetCidr:  
    default: '24'  
    description: The subnet CIDR of the control plane network.  
    type: string  
DnsServers:  
    default: []  
    description: A list of DNS servers (2 max for some implementations) that will  
        be added to resolv.conf.  
    type: comma_delimited_list  
EC2MetadataIp:  
    description: The IP address of the EC2 metadata server.  
    type: string  
ExternalInterfaceDefaultRoute:  
    default: 10.0.0.1  
    description: default route for the external network  
    type: string  
ExternalIpSubnet:  
    default: ''  
    description: IP address/subnet on the external network  
    type: string  
ExternalNetworkVlanID:  
    default: 10  
    description: Vlan ID for the external network traffic.  
    type: number  
InternalApiIpSubnet:  
    default: ''  
    description: IP address/subnet on the internal API network  
    type: string  
InternalApiNetworkVlanID:  
    default: 20  
    description: Vlan ID for the internal_api network traffic.  
    type: number  
ManagementInterfaceDefaultRoute:  
    default: unset  
    description: The default route of the management network.  
    type: string  
ManagementIpSubnet:  
    default: ''
```

```

description: IP address/subnet on the management network
type: string
ManagementNetworkVlanID:
  default: 60
  description: Vlan ID for the management network traffic.
  type: number
StorageIpSubnet:
  default: ''
  description: IP address/subnet on the storage network
  type: string
StorageMgmtIpSubnet:
  default: ''
  description: IP address/subnet on the storage mgmt network
  type: string
StorageMgmtNetworkVlanID:
  default: 40
  description: Vlan ID for the storage mgmt network traffic.
  type: number
StorageNetworkVlanID:
  default: 30
  description: Vlan ID for the storage network traffic.
  type: number
TenantIpSubnet:
  default: ''
  description: IP address/subnet on the tenant network
  type: string
TenantNetworkVlanID:
  default: 50
  description: Vlan ID for the tenant network traffic.
  type: number
resources:
  OsNetConfigImpl:
    properties:
      config:
        os_net_config:
          network_config:
            - addresses:
                - ip_netmask:
                    list_join:
                      - '/'
                      - {get_param: ControlPlaneIp}
                      - {get_param: ControlPlaneSubnetCidr}
            members:
              - members:
                  - ethtool_opts: --config-ntuple $DEVICE rx-flow-hash udp4 sdfn; -G $DEVICE
                    rx 2048 tx 2048
                  mtu: 9000
                  name: ens2f0
                  primary: 'true'
                  type: interface
                  use_dhcp: false

```

```
- ethtool_opts: --config-ntuple $DEVICE rx-flow-hash udp4 sdfn; -G $DEVICE
    rx 2048 tx 2048
    mtu: 9000
    name: ens2f1
    type: interface
    use_dhcp: false
    mtu: 9000
    name: infra-bond
    ovs_options: bond_mode=active-backup
    type: ovs_bond
- addresses:
  - ip_netmask: {get_param: InternalApiIpSubnet}
    device: infra-bond
    mtu: 9000
    type: vlan
    use_dhcp: false
    vlan_id: 103
- addresses:
  - ip_netmask: {get_param: StorageIpSubnet}
    device: infra-bond
    mtu: 9000
    type: vlan
    use_dhcp: false
    vlan_id: 104
- addresses:
  - ip_netmask: {get_param: StorageMgmtIpSubnet}
    device: infra-bond
    mtu: 9000
    type: vlan
    use_dhcp: false
    vlan_id: 105
- addresses:
  - ip_netmask: {get_param: ExternalIpSubnet}
    device: infra-bond
    mtu: 9000
    routes:
      - default: true
        next_hop: {get_param: ExternalInterfaceDefaultRoute}
      type: vlan
      use_dhcp: false
      vlan_id: 321
    mtu: 9000
    name: br-all
    routes:
      - ip_netmask: 169.254.169.254/32
        next_hop: {get_param: EC2MetadataIp}
      - default: true
        next_hop: {get_param: ControlPlaneDefaultRoute}
      type: ovs_bridge
      use_dhcp: false
- members:
```

```
- members:
  - ethtool_opts: --config-ntuple $DEVICE rx-flow-hash udp4 sdfn; -G $DEVICE
    rx 2048 tx 2048
    mtu: 9000
    name: ens3f0
    primary: 'true'
    type: interface
    use_dhcp: false
  - ethtool_opts: --config-ntuple $DEVICE rx-flow-hash udp4 sdfn; -G $DEVICE
    rx 2048 tx 2048
    mtu: 9000
    name: ens3f1
    type: interface
    use_dhcp: false
    mtu: 9000
    name: tenant-bond
    ovs_options: bond_mode=active-backup
    type: ovs_bond
- addresses:
  - ip_netmask: {get_param: TenantIpSubnet}
    device: tenant-bond
    mtu: 9000
    type: vlan
    use_dhcp: false
    vlan_id: 106
    mtu: 9000
    name: br-ex
    type: ovs_bridge
    use_dhcp: false
- name: br-phys-3
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet3-patch
  peer: physnet3-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-3
  name: physnet3-br-ex-patch
  peer: br-ex-physnet3-patch
  type: ovs_patch_port
- name: br-phys-2
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet2-patch
  peer: physnet2-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-2
  name: physnet2-br-ex-patch
  peer: br-ex-physnet2-patch
  type: ovs_patch_port
- name: br-phys-1
  type: ovs_bridge
```

```
- bridge_name: br-ex
  name: br-ex-physnet1-patch
  peer: physnet1-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-1
  name: physnet1-br-ex-patch
  peer: br-ex-physnet1-patch
  type: ovs_patch_port
- name: br-phys-0
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet0-patch
  peer: physnet0-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-0
  name: physnet0-br-ex-patch
  peer: br-ex-physnet0-patch
  type: ovs_patch_port
- name: br-phys-7
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet7-patch
  peer: physnet7-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-7
  name: physnet7-br-ex-patch
  peer: br-ex-physnet7-patch
  type: ovs_patch_port
- name: br-phys-6
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet6-patch
  peer: physnet6-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-6
  name: physnet6-br-ex-patch
  peer: br-ex-physnet6-patch
  type: ovs_patch_port
- name: br-phys-5
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet5-patch
  peer: physnet5-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-5
  name: physnet5-br-ex-patch
  peer: br-ex-physnet5-patch
  type: ovs_patch_port
- name: br-phys-4
  type: ovs_bridge
- bridge_name: br-ex
```

```

name: br-ex-physnet4-patch
peer: physnet4-br-ex-patch
type: ovs_patch_port
- bridge_name: br-phys-4
  name: physnet4-br-ex-patch
  peer: br-ex-physnet4-patch
  type: ovs_patch_port
- name: br-phys-8
  type: ovs_bridge
- bridge_name: br-ex
  name: br-ex-physnet8-patch
  peer: physnet8-br-ex-patch
  type: ovs_patch_port
- bridge_name: br-phys-8
  name: physnet8-br-ex-patch
  peer: br-ex-physnet8-patch
  type: ovs_patch_port
group: os-apply-config
type: OS::Heat::StructuredConfig

```

配置 undercloud IPv6 地址

```

# ip addr add 2001:db8::83/64 dev eth1

# cat /etc/sysconfig/network-scripts/ifcfg-eth1
TYPE=Ethernet
BOOTPROTO=static
DEVICE=eth1
ONBOOT=yes
IPADDR=192.168.136.83
PREFIX=27
GATEWAY=192.168.136.65
DNS1=192.168.136.82
IPV6INIT="yes"
IPV6ADDR="2001:db8::83/64"

```

配置IPv6 NTP服务

```

# ip addr add 2001:db8::82/64 dev eth0
# service ntpd restart

# cat /etc/sysconfig/network-scripts/ifcfg-eth0
DEVICE="eth0"
BOOTPROTO="static"
ONBOOT="yes"
TYPE="Ethernet"
USERCTL="yes"

```

```
PEERDNS="yes"
IPV6INIT="yes"
IPADDR=192.168.136.82
GATEWAY=192.168.136.65
NETMASK=255.255.255.224
IPV6ADDR=2001:db8::82/64
PERSISTENT_DHCLIENT="1"
```

配置 keystone admin api ipv6

```
ServiceNetMap:
  KeystoneAdminApiNetwork: external
```

模版

20180731 链接: <https://pan.baidu.com/s/1Kwmr-h-pWuWNpPBtc6wyTg> 密码:q3c2

20180725 链接: <https://pan.baidu.com/s/1nDdeNabutfCEqqfDuYDMYQ> 密码:p12g

20180718 链接: <https://pan.baidu.com/s/1SrPCqevPpy39TVv2Ed2nAA> 密码: byh6

CBIS 相关命令

定义 hosts_config 和 user_config

```
source ~/stackrc
cp /usr/share/cbis/cbis-hw/cbis_hw/hosts_config.yaml ~
```

扫描硬件，导入硬件，配置启动参数，收集硬件信息

```
openstack cbis hwscan --input-file ~/hosts_config.yaml --user-config ~/user_config.yaml
openstack baremetal import /home/stack/hosts.yaml
openstack baremetal configure boot
openstack baremetal introspection bulk start
```

创建证书，生成模版，部署 overcloud

```
/bin/bash /usr/share/cbis/undercloud/tools/tls-prepare-certs.sh
/bin/bash /usr/share/cbis/undercloud/tools/tls-prepare-barbican-certs.sh
openstack cbis template generate --platform hp-c7kg8 --destination /home/stack/templates -
--ssl-certificate server.crt.pem --ssl-key server.key.pem --ssl-root-certificate ca.crt.pem
--user-config /home/stack/user_config.yaml
openstack cbis overcloud deploy --templates ~/templates
```

如果禁用enable_tls，生成模版的命令为

```
openstack cbis template generate --platform hp-c7kg8 --destination /home/stack/templates -  
-user-config /home/stack/user_config.yaml
```

删除 overcloud

```
openstack stack delete overcloud --wait --yes && openstack overcloud plan delete overcloud  
&& rm overcloudrc overcloudrc.v3 overcloud-env.json && rm /tmp/*.lst && sudo rm -f /usr/s  
hare/cbis/installation_success
```

注意: Command openstack cbis overcloud deploy --templates ~/templates 翻译成 openstack
overcloud deploy 会是大概什么形式, 以hp-dl380g9为例

ChangeLog

- 20180731 OvsCompute => add external port
- 20180725 enable_tls => false, KeystoneAdminApiNetwork => external