Troubleshooting a Deleted DHCP Port

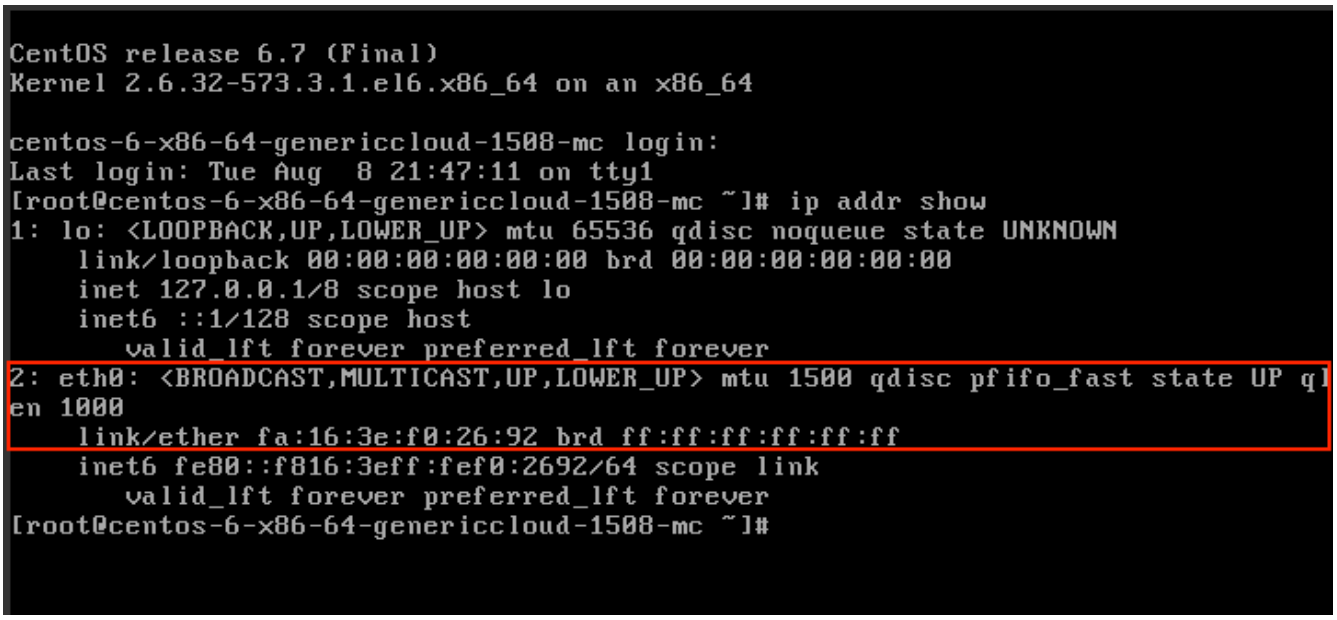
Marek Glinski
3 months ago · Updated

In this Solution:

The DHCP port is the access point in your virtual network to the DHCP service, which provides IP addresses for launched VMs. The service also gives an instance access to metadata and configuration information, such as its SSH public key, `cloud-init` script, and static routing information. When you create a subnet in Metacloud, DHCP is enabled by default.

Why You Should Not Delete the DHCP Port

In a network with DHCP enabled, deleting the DHCP port cuts off access to the DHCP service, which would disrupt connectivity for VMs. Any new VM would not be allocated an IP address and would fail to connect to the network. A new VM appears to have an IP address in the Dashboard, and it returns a value for `IP address` when you run the `openstack show` command in the CLI; however, running `ip addr show` in the VM console returns no IP address:



The log for the VM shows no IP address for `eth0`, which identifies the network interface, and it displays errors that indicate unavailability of the OpenStack metadata service:

```
ci-info: ++++++++++++++++++++++Net device info++++++++++++++++++++
ci-info: +--------+------+-----------+-----------+---------------
ci-info: | Device |  Up  |  Address  |    Mask   |     Hw-Address
ci-info: +--------+------+-----------+-----------+---------------
ci-info: |   lo   | True | 127.0.0.1 | 255.0.0.0 |         .
ci-info: |  eth0  | True |     .     |     .     | fa:16:3e:f0:26:
ci-info: +--------+------+-----------+-----------+---------------
ci-info: !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!Route info failed!!!!!!!!
2017-08-08 18:02:11,892 - url_helper.py[WARNING]: Calling 'http://
2017-08-08 18:02:12,896 - url_helper.py[WARNING]: Calling 'http://
```

Any existing VM with a DHCP lease requiring renewal would lose connectivity because the DHCP service could not provision leases.

Metacloud 4.0 (Liberty) and later versions prevent these disruptions by automatically creating a new DHCP port to replace a deleted port. This protection is not available in Icehouse or earlier versions.

If you accidentally delete a DHCP port in Icehouse, the port appears to be deleted, but the associated IP address remains "live," responding to ICMP pings. The port continues to exist as a network namespace on a Metacloud Control Plane (MCP) and still has a DHCP agent associated with it, but it no longer exists in a database.

Restoring DHCP

Correcting a DHCP service outage in Icehouse due to a deleted DHCP port involves removing and resetting the connection between the DHCP agent and the network. You must be a Metacloud Administrator to perform this action.

Note: Avoid launching new instances on the affected network until you complete this action.

Some of the following commands require OpenStack CLI version 3.11.0 or later. With earlier versions, you will need to use Neutron CLI equivalents for some commands. See Software and Versions FAQ.

Temporarily Removing the DHCP Agent from the Network

1. View the UUID of the affected network:

```
$ openstack network list
+------------------------------+------------------------------+-----
| ID                           | Name                         | Subn
+------------------------------+------------------------------+-----
| <network_uuid>               | PUBLIC EXTERNAL - DO NOT     | <sub
|                              | MODIFY                       |
| <affected_network_uuid>      | network_2                    | <sub
+------------------------------+------------------------------+-----
```

2. Verify that a DHCP agent is attached to the affected network and note the agent UUID:

```
$ openstack network agent list --network <network_uuid>
+--------------------------------------+------------+-------------
```

```
| ID                                   | Agent Type | Host
+--------------------------------------+------------+-------------
| <agent_uuid>                         | DHCP agent | <mcp_host_na
+--------------------------------------+------------+-------------
```

Tip: Typically, there is one agent per Availability Zone (AZ).

3. Remove the network from the DHCP agent:

```
$ openstack network agent remove network --dhcp <agent_uuid> <netw
```

4. Verify that the network has been detached from the agent:

```
$ openstack network agent list --network <network_uuid>
command returns no output
```

Re-attaching the network to the DHCP agent

1. Re-attach the network to the agent:

```
$ openstack network agent add network --dhcp <agent_uuid> <network
```

2. Verify that the network is attached to the agent:

```
$ openstack network agent list --network <network_uuid>
+--------------------------------------+------------+-------------
| ID                                   | Agent Type | Host
+--------------------------------------+------------+-------------
| <agent_uuid>                         | DHCP agent | <mcp_host_na
+--------------------------------------+------------+-------------
```

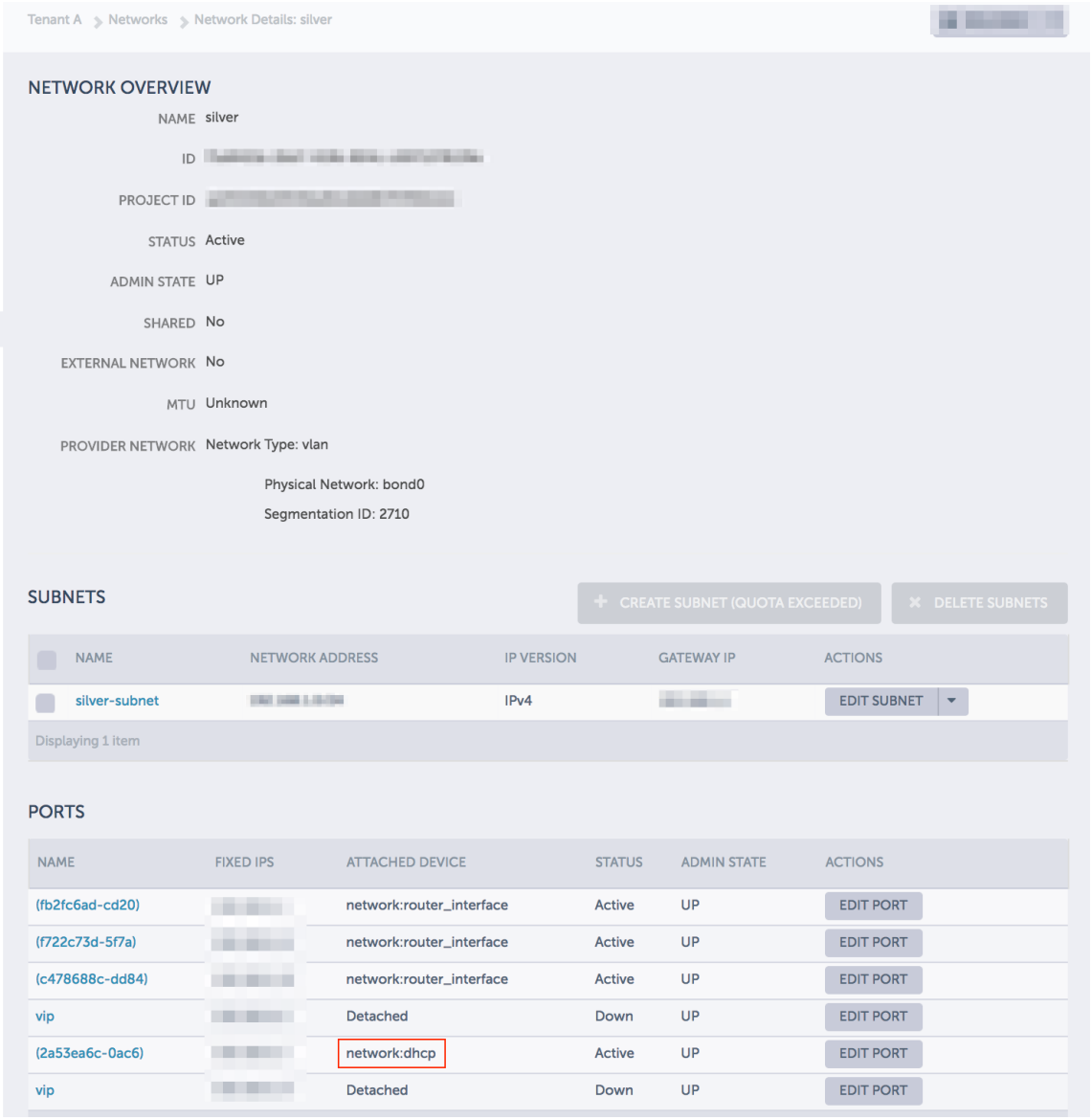
Verifying That DHCP is Available

To verify that DHCP is restored, check that the DHCP port is visible in the network it was deleted from.

In the Dashboard

1. Click **Networks** on the *Project* drop-down list.

2. Click the name of a network, and view the *Ports* table on the *Network Overview* page.
The DHCP port shows *network:dhcp* as the attached device.



In the CLI

1. Find the DHCP port for the affected network:

```
$ openstack port list --device-owner network:dhcp --network <affec
+--------------------------------------+------+-------------------
| ID                                   | Name | MAC Address
+--------------------------------------+------+-------------------
| <port_uuid>                          |      | fa:16:3e:43:14:6c
+--------------------------------------+------+-------------------
```

2. View the device owner and status of the DHCP port:

```
$ openstack port show <port_uuid>
+-----------------------+-----------------------------------------
| Field                 | Value
+-----------------------+-----------------------------------------
| admin_state_up        | UP
| allowed_address_pairs |
| binding_host_id       | <host_name>
| binding_profile       |
| binding_vif_details   | port_filter='True'
| binding_vif_type      | bridge
| binding_vnic_type     | normal
| created_at            | None
| data_plane_status     | None
| description           | None
| device_id             | dhcpd<dhcp_uuid>
| device_owner          | network:dhcp
| dns_assignment        | None
| dns_name              | None
| extra_dhcp_opts       |
| fixed_ips             | ip_address='<address>', subnet_id='<subn
| id                    | <port_uuid>
| ip_address            | None
| mac_address           | fa:16:3e:43:14:6c
| name                  |
| network_id            | <network_uuid>
```

```
| option_name           | None
| option_value          | None
| port_security_enabled | False
| project_id            | <project_uuid>
| qos_policy_id         | None
| revision_number       | None
| security_group_ids    |
| status                | ACTIVE
| subnet_id             | None
| tags                  | None
| trunk_details         | None
| updated_at            | None
+-----------------------+-----------------------------------------
```

Tip: You can also use these methods to identify a DHCP port and avoid deleting it.

Using the VM Console

If you launched any VMs after DHCP service was disrupted, you can check to see if they have IP addresses after you restore DHCP:

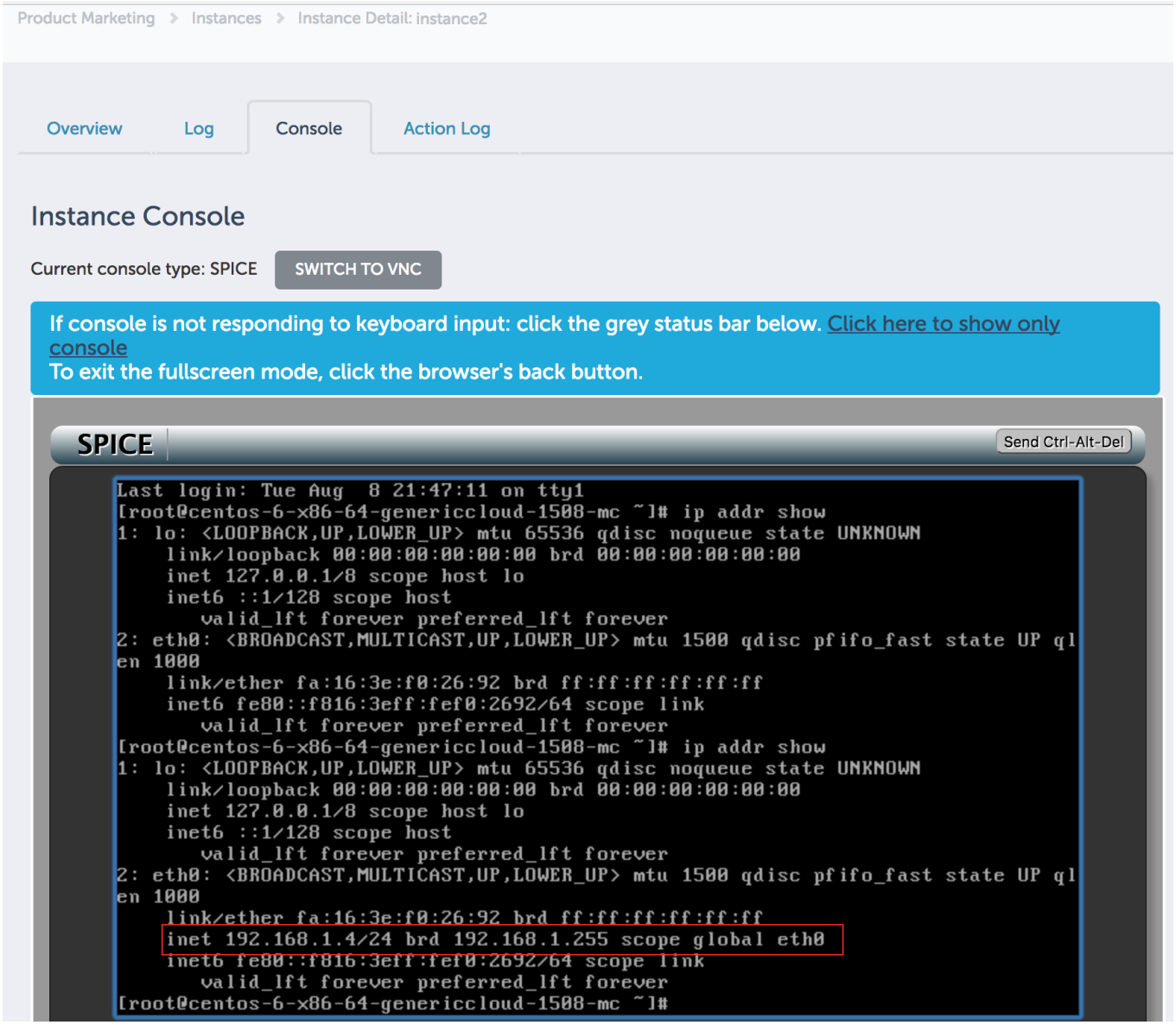
1. In the Dashboard click **Instances** on the *Project* drop-down list.

2. In the *Instances* table, click the name of the VM that you created after DHCP service was disrupted.

3. Click the **Console** tab.

4. When a login challenge appears in the console, enter your credentials for the VM.

5. At the command prompt, run `ip addr show` and view the results. An IP address appears in `eth0`, which identifies the network interface.



Was this article helpful?

✓ Yes ✕ No

0 out of 0 found this helpful

Have more questions? Submit a request

Return to top

Recently viewed articles

Tagging Instances with Metadata

Troubleshooting a "Missing" User When Using LDAP

Related articles

Migrating VMware instances to Metacloud

Software and Versions FAQ

Troubleshooting Connectivity for an External VLAN

Configuring a Virtual IP for High Availability

Detaching and Deleting Ports Attached to Network Resources