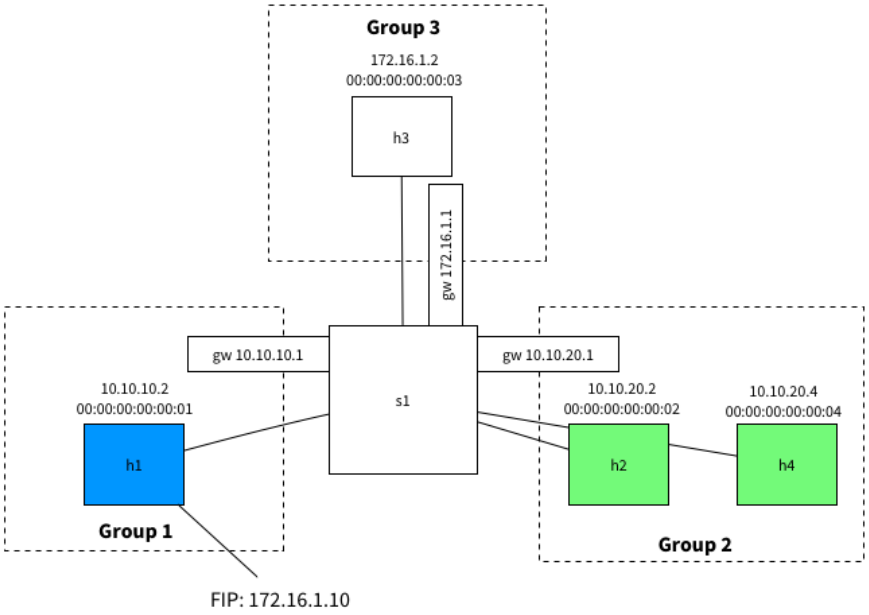
Building a router with Open vSwitch

Posted by Dave on 19 August 2014

As part of my work in OpenDaylight, we are looking at creating a router using Open vSwitch... Why? Well OpenStack requires some limited L3 capabilities and we think that we can handle those in a distributed router.

Test Topology

My test topology looks like this:



We have a host in an external network `172.16.1.0/24`, one host in an internal network `10.10.10.0/24` and two hosts in another internal network `10.10.20.0/24`.

As such, The hosts in the `10.x.x.x` range should be able to speak to each other, but should not be able to speak to external hosts.

The host `10.10.10.2` has a floating IP of `172.16.1.10` and should be reachable on this address from the external `172.16.1.0/24` network. To do this, we'll use DNAT for traffic from `172.16.1.2 -> 172.16.1.10` and SNAT for traffic back from `10.10.10.2 -> 172.16.1.2`

If you'd like to recreate this topology you can checkout the OpenDaylight OVSDB project source on GitHub and:

```
vagrant up mininet
vagrant ssh mininet
cd /vagrant/resources/mininet
sudo mn --custom tone.py --tone l3
```