

2025-11-20

# Space

building a CMS with OVN Concepts

# Why

## Currently:

- Openstack Neutron with OVN
- Custom Frontend API

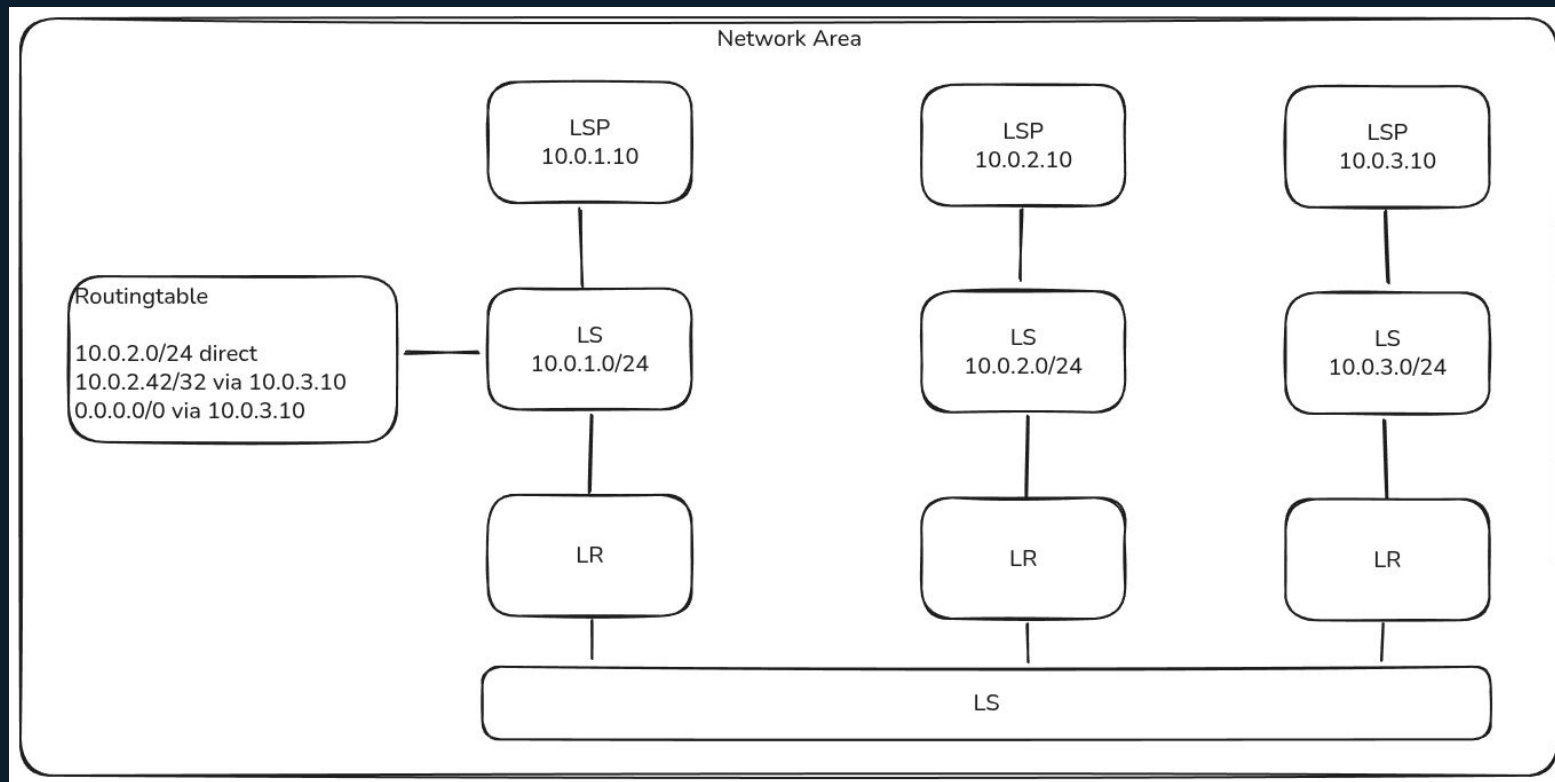
## Requirements:

- Policy based Routing
  - Combined with dynamic Routing
- Deny ACLs
- Per ACL logging

## Solution:

- Enhancing Neutron with a custom CMS
- Writing resources directly to Northbound
- In the future: replacing neutron with the custom CMS

# Policy based Routing



# How

- Golang: to keep consistent with our other components
- Stick to the OVN Concepts
- Custom ovssdb schema for our high level requirements: spacebound
- Custom translation layer: spaced
  - Daemon in golang
  - Using libovssdb of ovn-kubernetes
  - Processing engine similar to inc-proc-eng of OVN
- Resource Ownership: either neutron or spaced write to a northbound table

# OVN astronomical model



**Northbound**

**Northd**

**Southbound**

**ovn-controller**

**vswitchd**

# OVN astronomical model



**Spacebound**



**Spaced**

**Northbound**

**Northd**

**Southbound**

**ovn-controller**

**vswitchd**

# Challenges

- libovsdb
  - Event driven instead of regular consistent states
  - No automatic resolution of references to other tables for reads or writes
  - No change tracking other than events

# Further work

- Getting the C libopenvswitch ovsdb features into golang
- Use the ovsdb client in order to have change tracking
- Add incremental processing
- Migrate more things from Neutron



A Brand of Schwarz Digits