

Working with legacy applications in the clouds

Hi, I'm Maxime

- Cloud Consultant
- Public & Private cloud
 - OpenStack
 - Ceph
 - Kubernetes
 - DevOps

Slides

root314.com/presentations/osdfr2017



Agenda

1. What's a legacy app?
2. Migrate
3. Integrate
4. Questions

What's a legacy app?

- Monolithic
- Strong dependencies
- Scale up

Examples

- ERP / LOB
- HA VMs
- Physical appliance

Why?

- Consolidate (efficiency)
- API driven
- Self-service
- (A first step)

Migrate

Requirements

- 1:1 migration
- Test with snapshots
- Downtime
- Cinder, nova (KVM) and neutron (OVS)
- Enough capacity: 2*disk space
- Utility VM in OpenStack
 - qemu-utils: qemu-img
 - libguestfs-tools: guestfish, virt-v2v

Procedure

- Create bootable cinder volume
- Attach volume to utility VM
- Export VM disk to utility VM
- Convert to raw:
 - VM: `qemu-img convert -O raw in.vmdk /dev/vdx`
 - Metal: `dd if=/dev/sdx | ssh UtilityVM "dd of=/dev/vdx"`

Linux procedure

- `guestfish --rw --inspector --add /dev/vdx`
 - Edit network config
- `uname -r`
 - Built-in VirtIO drivers since 2.6.25 (2008)
 - Use IDE / SATA to install VirtIO drivers
 - Check libguestfs.org/virt-v2v.1.html

Windows procedure

- Edit network config
 - `guestfish --rw --inspector --add /dev/vdx`
 - Or `virt-customize --add /dev/vdx --firstboot script.bat`
- VirtIO drivers
 - Put `virtio-win.iso` into `/usr/share/virtio-win/`
 - `virt-v2v -i disk /dev/vdx -if raw --in-place`

Boot it up

- Detach volume
- Volume transfer (optional)
- Boot new instance from volume

Further

- cloud-init
- watchdog
- HA
- Automate

Integrate

Floating IP

- Easy!
- Security?
- Performance?

Provider networks

- Security!
- Performance!
- Setup?

Provider networks: What?

- L2 connectivity
- Specify interface & segment ID
- Created by admin, used by tenants

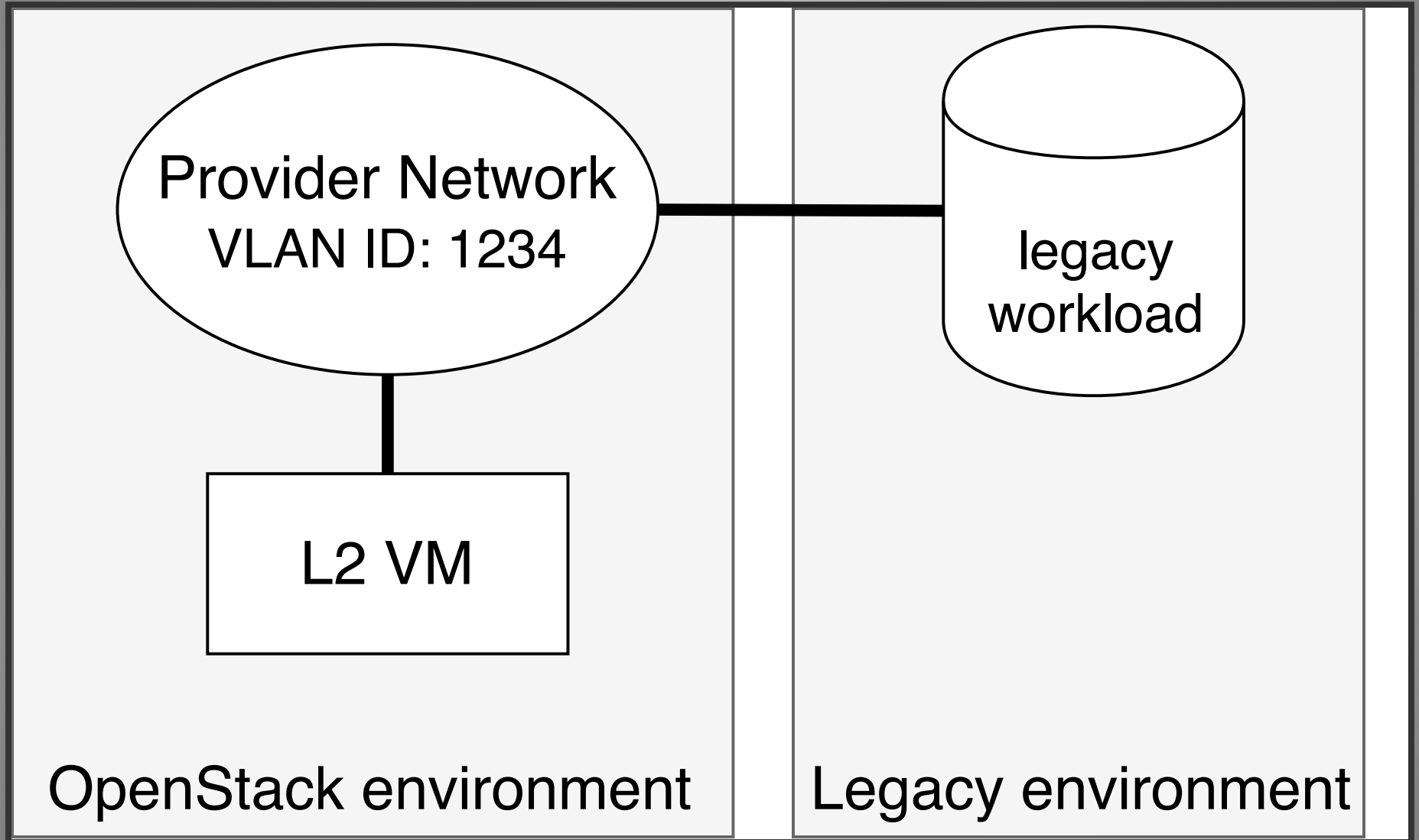
=> Use legacy VLAN in OpenStack

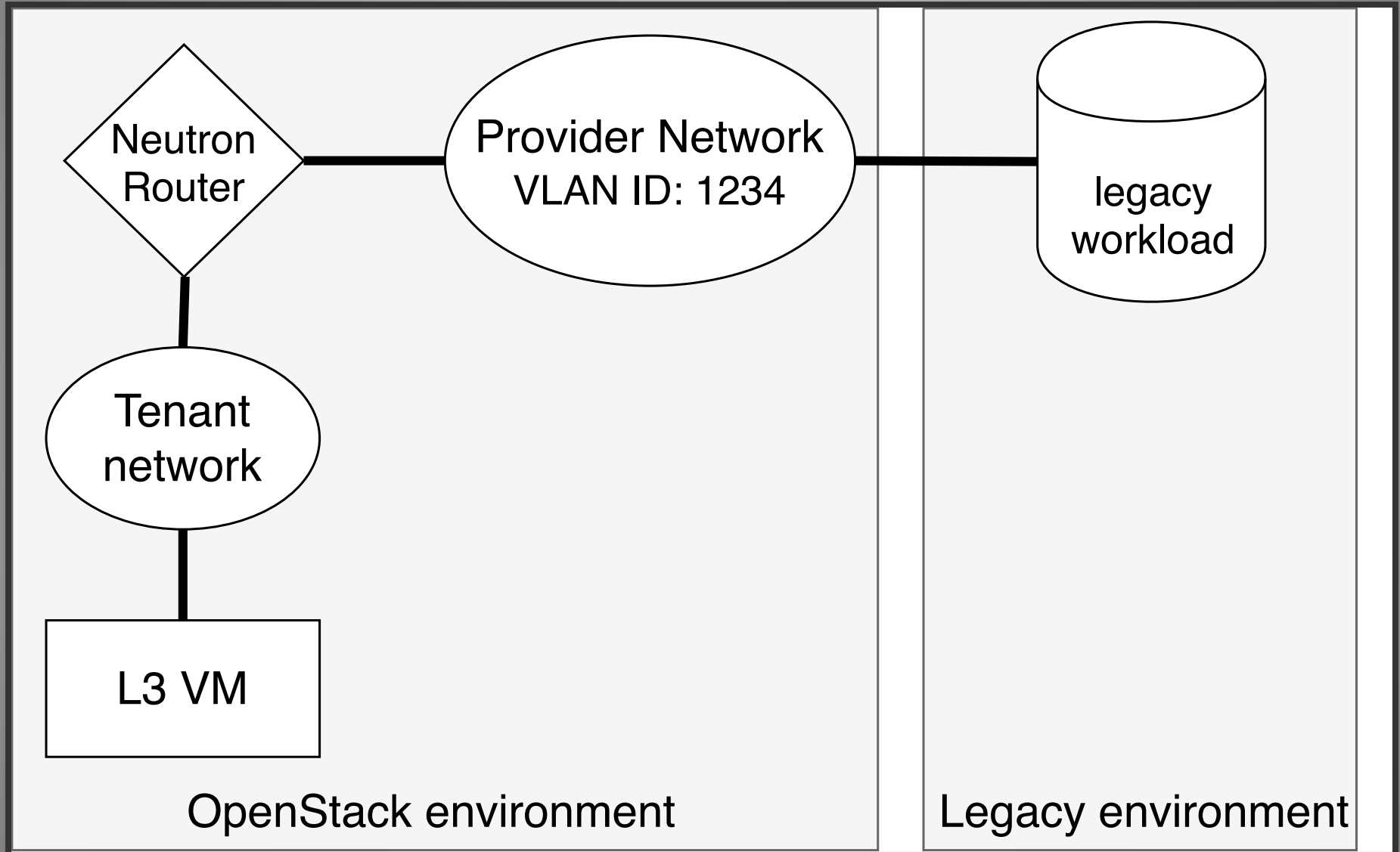
Provider networks: How?

```
# from /etc/neutron/plugins/ml2/ml2_conf.ini  
[ovs]  
bridge_mappings=physnet1:br0,physnet2:eth2
```

```
VLAN_ID=1234  
openstack network create vlan-$VLAN_ID \  
  --provider-physical-network physnet2 \  
  --provider-network-type vlan \  
  --provider-segment $VLAN_ID
```

L2





Migrate + Integrate L2

- Same IPs
- Security group
- API etc...

If external gateway:

- No floating IP
- No cloud-init

Thanks!

- root314.com/presentations/
- maxime@root314.com