Xen Networking

Virtualisation

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In our guest configuration files, we have been using the following line
to configure guest networking:

```
vif =['']
```

What does it mean?

DEFAULT NETWORK SETTINGS

It means to use the defaults. But what are those?

Default network settings are defined in /etc/xen/xl.conf. The relevant ones right now are

```
vif.default.script="vif-bridge"
vif.default.bridge="xenbr0"
vif.default.backend="0"
```
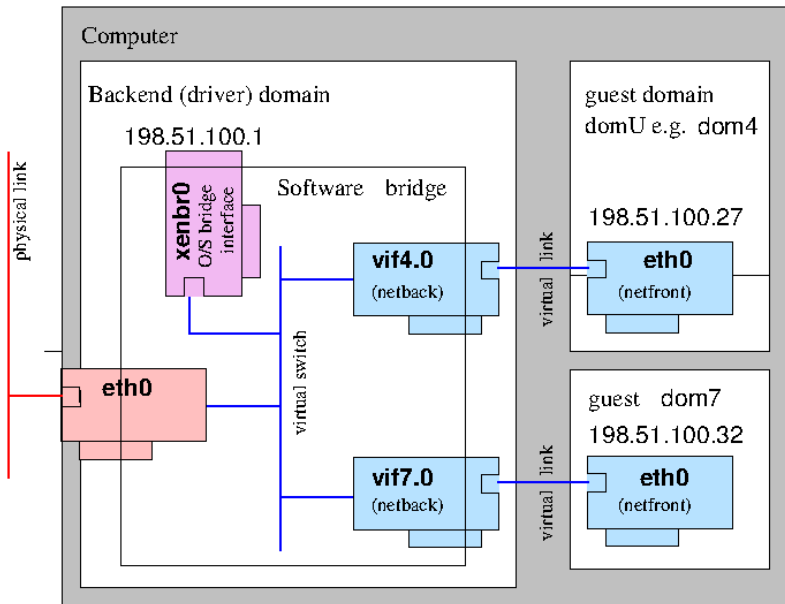
To see what these mean, we need a little background.

THREE NETWORKING OPTIONS

- ► Bridged networking
- ► Routing
- ► NAT

Bridged networking is the default.

Note than none of these networking schemes are provided by Xen.
They are provided through the underlying capabilities of the Dom0
operating system.

How did we set this up?

Recall that when we were installing Xen and setting up Dom0, we

- Installed bridge-utils;
- Configured the xenbr0 interface;
- Removed the DHCP configuration from the eth0 interface.

How did we set this up?

Then, every time we create a guest, the script specified by
`vif.default.script` is run. This

- ▶ Sets up the `vif.X.0` interface on Dom0;
- ▶ Configures the `eth0` interface on the guest;
- ▶ Adds any needed bridging configuration.
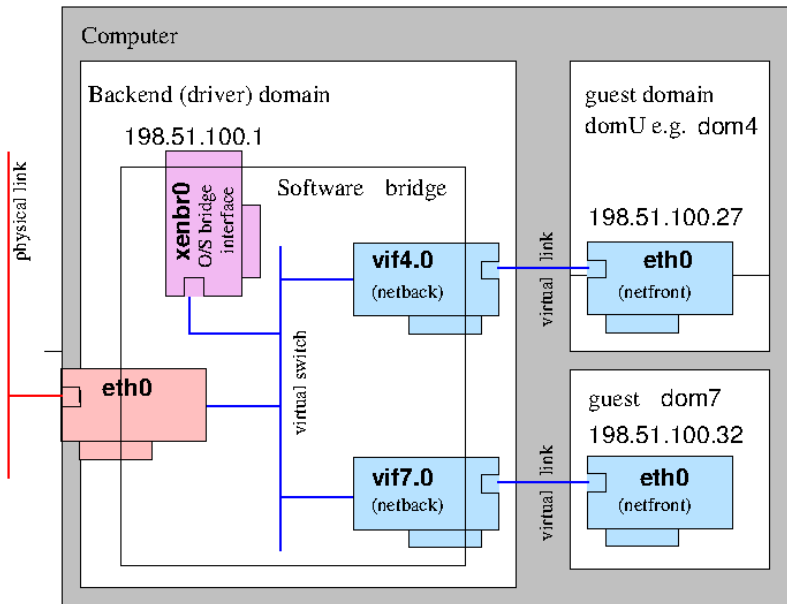
Another bridging option

Instead of `bridge-utils`, we can use Open vSwitch to manage bridging on Dom0. This provided some more advanced bridging configuration options.

How do we use routing or nat?

- Eliminate the bridged interface and reconfigure Dom0's ethernet interface;
- Configure routing/NAT using the capabilities of the Dom0 OS;
- Change `vif.default.script`;
- Possibly change the guest configuration.

About that guest config

```
vif = ['']
```

This is actually Python code. vif is a list of strings. Each one is a comma-separated set of key/value pairs. Examples are

```
''
'mac=00:16:3E:74:3d:76'
'script=custom-bridging,bridge=xenbridge2'
'ip=192.168.10.44'
```

See http://xenbits.xen.org/docs/4.2-testing/
misc/xl-network-configuration.html for more information