

eduPERT 2016 - Training internals

Network setup

DNS

We use a local DNS for resolving the pert.edu domain. The DNS is configured on pertCS01 in the file `/etc/dnsmasq.d/pert.edu`. When making a change to that file, the dnsmasq process must be restarted with a `service dnsmasq restart`. This in this file that we'll need to add the IP of the new VM.

All the VM must use `10.0.174.124` as DNS resolver in `/etc/resolv.conf`. This should be done automatically from the `dhclient-eth0.conf` file.

IPv4 and IPv6

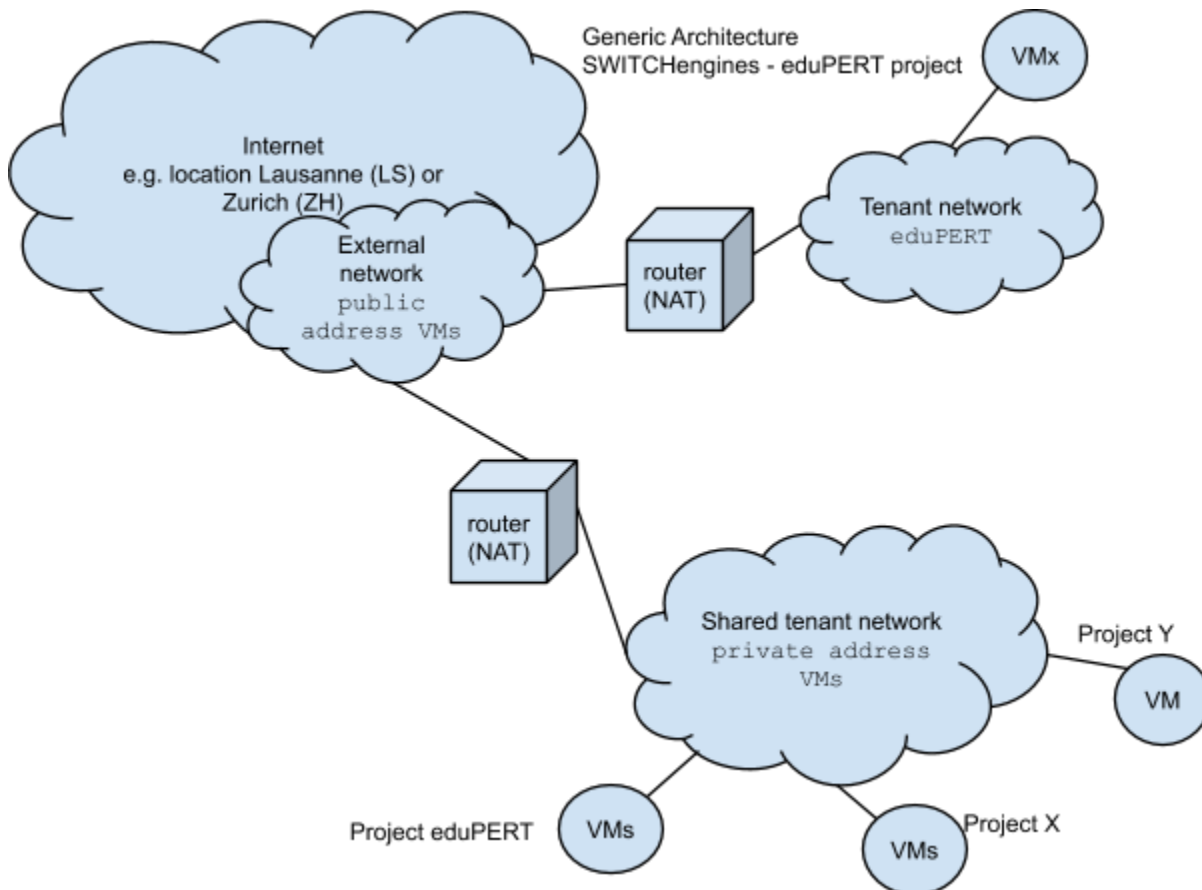
We prefer to use IPv4 during the training.

Architecture Schema: SWITCHengines

Virtual Machines

Architecture SWITCHengines

The SWITCHengines services is built using the OpenStack cloud middleware. OpenStack consists of multiple loosely-coupled components. OpenStack Compute ("Nova") manages virtual machine instances. In SWITCHengines, VMs are run under the KVM hypervisor. OpenStack Networking ("Neutron", formerly called "Quantum") manages virtual networks, routers and related functions. Neutron uses "plugins" that implement these virtual networks using various kinds of underlying equipment. SWITCHengines uses a configuration with the "ML2" (Modular Layer 2) plugin, Open vSwitch (OVS) as the internal forwarding mechanism, and VXLAN as an encapsulation mechanism to implement "tenant" networks isolated from each other.



Virtual Machines (VM)

We have the following machines available for the training, from SWITCH.

Name	DNS name	IPv4 internal	IPv6	IPv4 external	CPU	RAM	Disk	Role	perfSONAR Bundle
	MP_shared VMs								
pertMP01	pertmp01.switch.ch	10.0.184.167	2001:620:5ca1:2f0:f816:3eff:fedc:a3cf	86.119.24.121	4	4 GB	20 GB	Common MP	perfonar-testpoint
pertMP02	pertmp02.switch.ch	10.0.184.166	2001:620:5ca1:2f0:f816:3eff:fedc:e107	86.119.29.250	4	4 GB	20 GB	Common MP	perfonar-testpoint
pertMP03	pertmp03.switch.ch	10.0.185.118	2001:620:5ca1:2f0:f816:3eff:fe7d:25a5	86.119.24.82	4	4 GB	20 GB	Common MP	perfonar-testpoint
pertMP04	pertmp04.switch.ch	10.0.184.169	2001:620:5ca1:2f0:f816:3eff:feea:da69	86.119.29.252	4	4 GB	20 GB	Common MP	perfonar-testpoint
	CS server, Participant MP, test VMs								
pertCS01	pertCS01.switch.ch	10.0.174.124	2001:620:5ca1:2f0:f816:3eff:fe2a:568	86.119.24.92	4	4 GB	50 GB	Common CS	perfonar-centralmanagement
pertMP05	pertMP05.switch.ch	10.0.182.240	2001:620:5ca1:2f0:f816:3eff:fedb:fae	86.119.29.209	4	4 GB	20 GB	Participant MP (master)	perfonar-toolkit
test_test	n/a	10.0.184.195	2001:620:5ca1:2f0:f816:3eff:fefa:3819	86.119.30.33	4	4 GB	20 GB	empty	clean CentOS6
pertCS_test	n/a	10.0.183.240	2001:620:5ca1:2f0:f816:3eff:fe2:b161	86.119.29.38	4	4 GB	20 GB	Participant CS (master)	clean CentOS6 + Ivan's scripts
	MPx and CSx for addendees								
pertMP11	pertmp11.switch.ch	10.0.184.170	2001:620:5ca1:2f0:f816:3eff:feb0:f941	86.119.27.232	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS11	pertcs11.switch.ch	10.0.184.178	2001:620:5ca1:2f0:f816:3eff:fe43:ca2a	86.119.29.37	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP12	pertmp12.switch.ch	10.0.184.171	2001:620:5ca1:2f0:f816:3eff:fe9a:f87f	86.119.29.80	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS12	pertcs12.switch.ch	10.0.184.179	2001:620:5ca1:2f0:f816:3eff:fe9d:e866	86.119.29.83	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP13	pertmp13.switch.ch	10.0.184.172	2001:620:5ca1:2f0:f816:3eff:fe64:ed6a	86.119.30.232	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS13	pertcs13.switch.ch	10.0.184.180	2001:620:5ca1:2f0:f816:3eff:fe9:6c54	86.119.30.240	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP14	pertmp14.switch.ch	10.0.184.173	2001:620:5ca1:2f0:f816:3eff:fee2:17ac	86.119.30.233	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS14	pertcs14.switch.ch	10.0.184.181	2001:620:5ca1:2f0:f816:3eff:fe95:ee2f	86.119.24.214	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP15	pertmp15.switch.ch	10.0.184.174	2001:620:5ca1:2f0:f816:3eff:fec9:6ba5	86.119.29.81	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS15	pertcs15.switch.ch	10.0.184.182	2001:620:5ca1:2f0:f816:3eff:fe38:e4a1	86.119.30.242	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP16	pertmp16.switch.ch	10.0.184.175	2001:620:5ca1:2f0:f816:3eff:fe56:d69d	86.119.29.82	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS16	pertcs16.switch.ch	10.0.184.183	2001:620:5ca1:2f0:f816:3eff:fe05:b1ae	86.119.30.244	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP17	pertmp17.switch.ch	10.0.184.176	2001:620:5ca1:2f0:f816:3eff:fe29:a96e	86.119.30.236	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS17	pertcs17.switch.ch	10.0.184.184	2001:620:5ca1:2f0:f816:3eff:fe1e:d89b	86.119.29.84	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts
pertMP18	pertmp18.switch.ch	10.0.184.177	2001:620:5ca1:2f0:f816:3eff:fe3b:b497	86.119.30.238	4	4 GB	20 GB	Participant MP (from MP05)	perfonar-toolkit
pertCS18	pertcs18.switch.ch	10.0.184.185	2001:620:5ca1:2f0:f816:3eff:fe1a:b120	86.119.29.86	4	4 GB	20 GB	Participant CS (from CS_test)	clean CentOS6 + Ivan's scripts

perfSONAR Measurements Setup

