



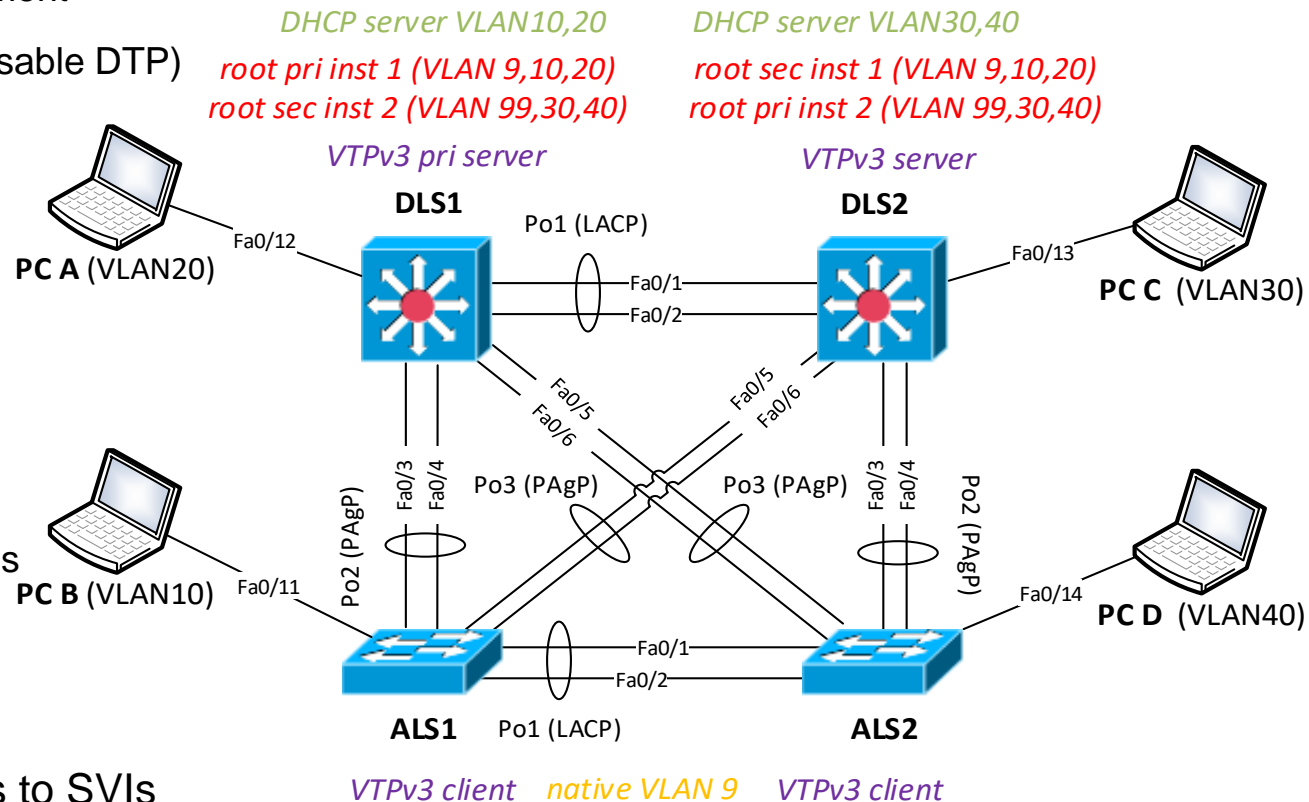
FHRP



SWITCH Module 5

Lab 5.0: Prepare Topology

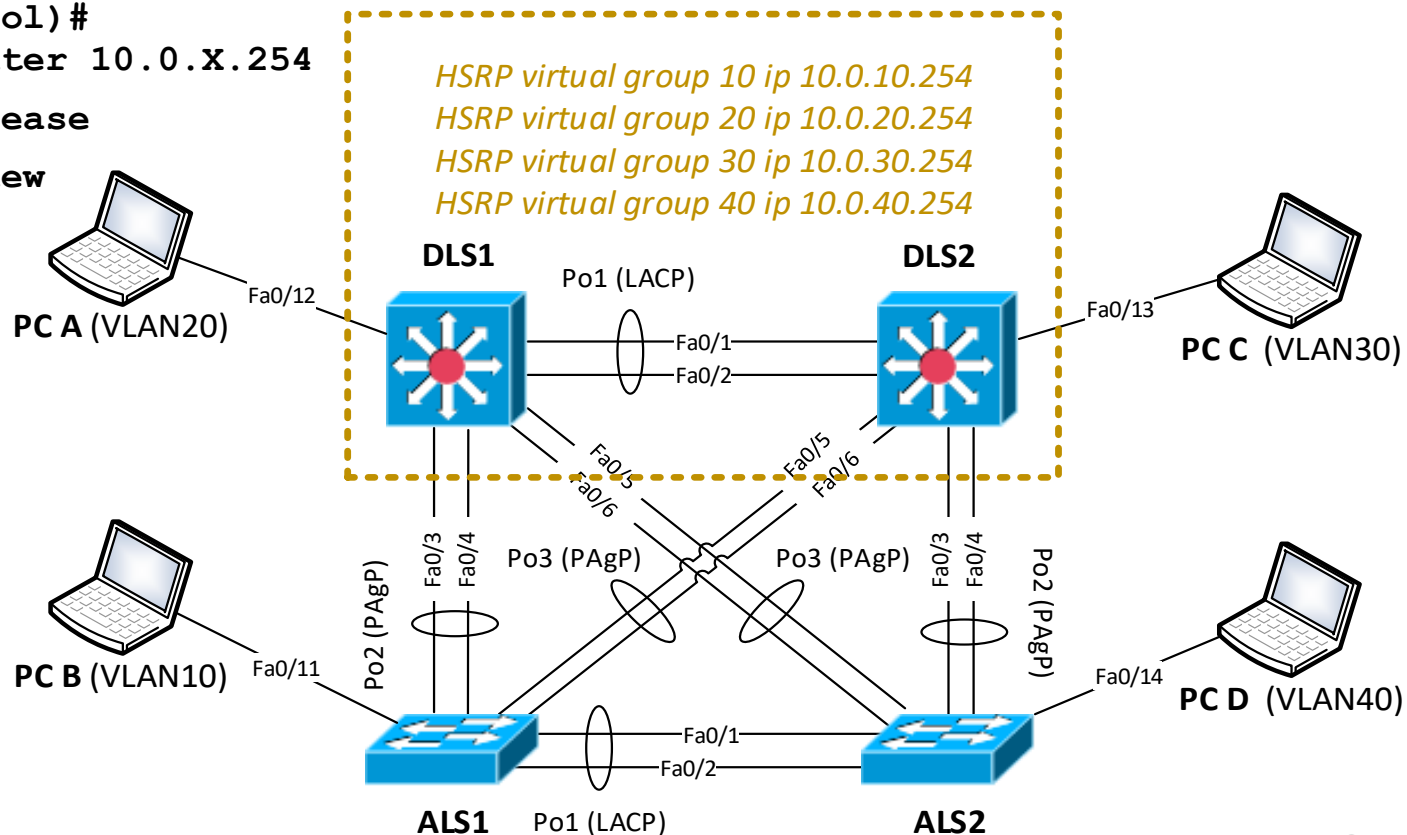
- Create VLANs
 - 10 – UIFS, 20 – UPSY, 30 – UPGM, 40 – UITS
 - 9 – Native, 99 – Management
- Establish trunks (Dot1Q, Disable DTP)
- VTPv3
- Create Etherchannels
- Employ MSTP
 - Instance 1
 - VLAN 9, 10, 20
 - Instance 2
 - VLAN 99, 30, 40
 - Instance 0 all other VLANs
 - setup root bridges
 - DLS1 for instance 1
 - DLS2 for instance 2
- Assign first four addresses to SVIs
 - VLAN10 – 10.0.10.X /24, VLAN20 – 10.0.20.X /24
 - VLAN30 – 10.0.30.X /24, VLAN40 – 10.0.40.X /24
- Use DHCP servers on DLS1 and DLS2 to assigning addresses to hosts



Lab 5.1: Basic HSRP Deployment

- Use the last usable address as HSRP virtual-gateway for hosts in VLANs 10,20,30,40
 - `(conf)# interface vlan [10,20,30,40]`
 - `(conf-if)# standby version 2`
 - `(conf-if)# standby X ip 10.0.X.254`
- Alter DHCP appropriately and renew leases

- `(conf-dhcp-pool) #`
`default-router 10.0.X.254`
- `ipconfig /release`
- `ipconfig /renew`

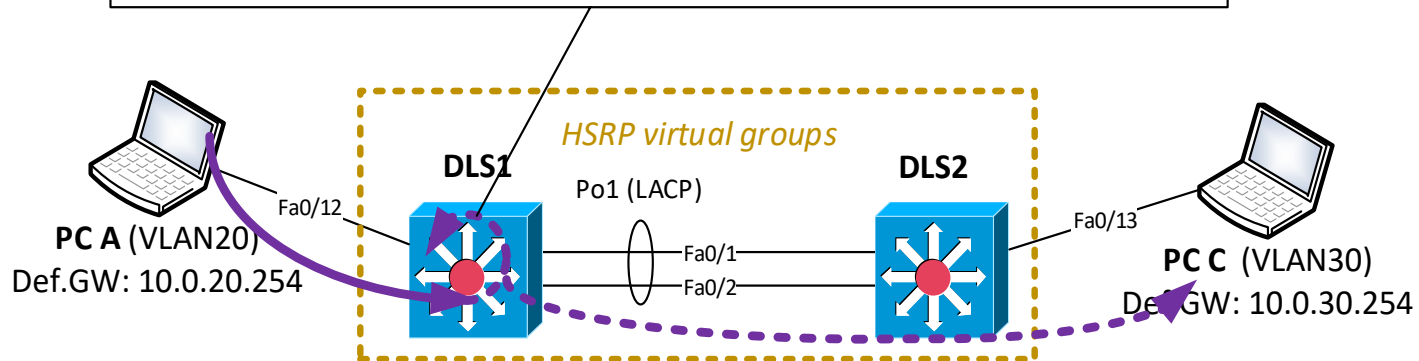


Lab 5: Why is Ping not working?

- *Beaware when pinging between PC_A and PC_B!*
 - *Some DLS always misses route for ICMP Echo Request/Reply*
 - *Ping only virtual-gateway*

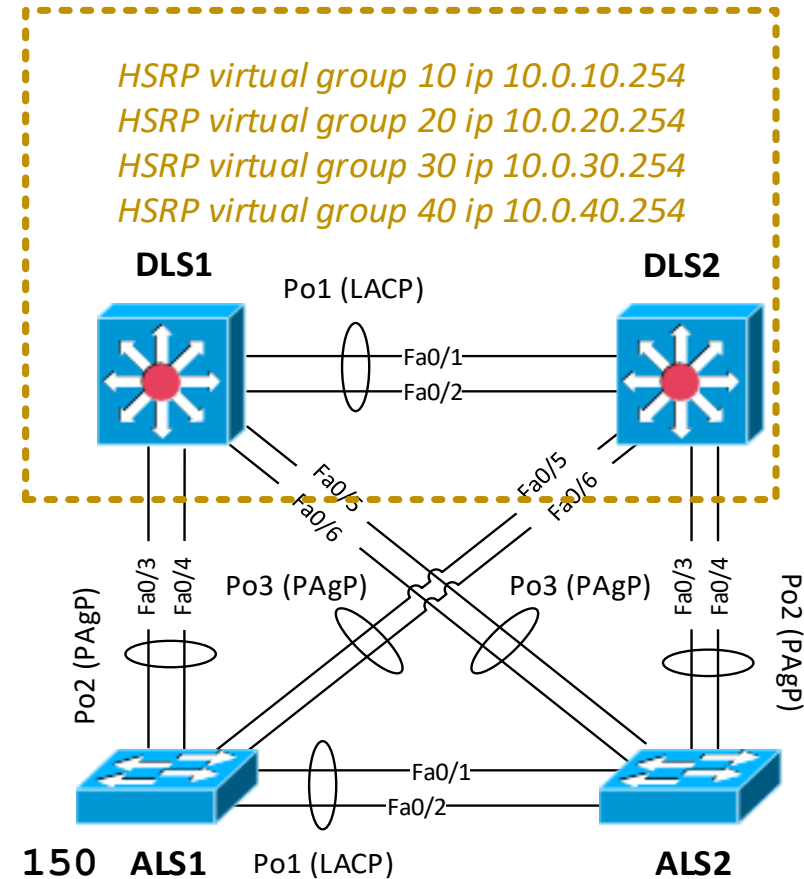
```
show ip int brief
Vlan20 up/up
Vlan30 admin down/down

show ip route
C 10.0.20.0/24 is directly connected, Vlan20
```



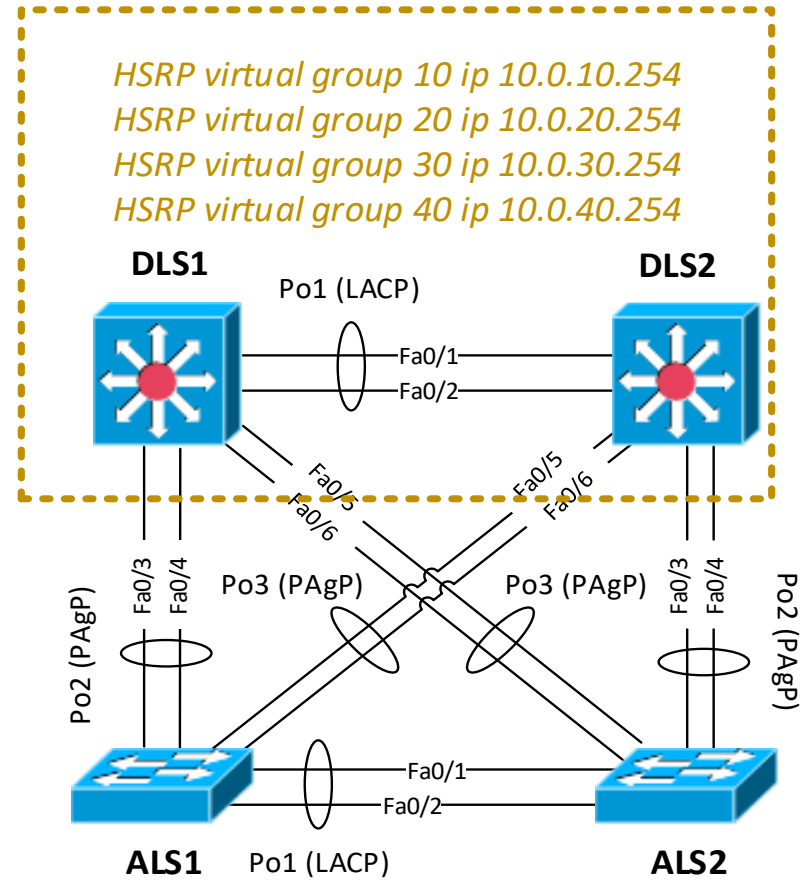
Lab 5.2: Prioritize Root Bridges

- *Who is active and standby router?*
 - `show standby brief`
- Increase/Decrease priority:
 - `DLS1(conf-if)# standby 10 priority 150`
 - `DLS1(conf-if)# standby 20 priority 150`
 - `DLS2(conf-if)# standby 30 priority 150`
 - `DLS2(conf-if)# standby 40 priority 150`



Lab 5.3: Understanding Preemption

- 1) Start debugging HSRP FSM
 - # debug standby events
- 2) Disable/Enable SVI10 on DLS1
 - (conf-if)# [no] shutdown
- 3) Configure preemption on DLS*
 - (conf-if)#
standby X preempt
- 4) Disable/Enable SVI10 on DLS1

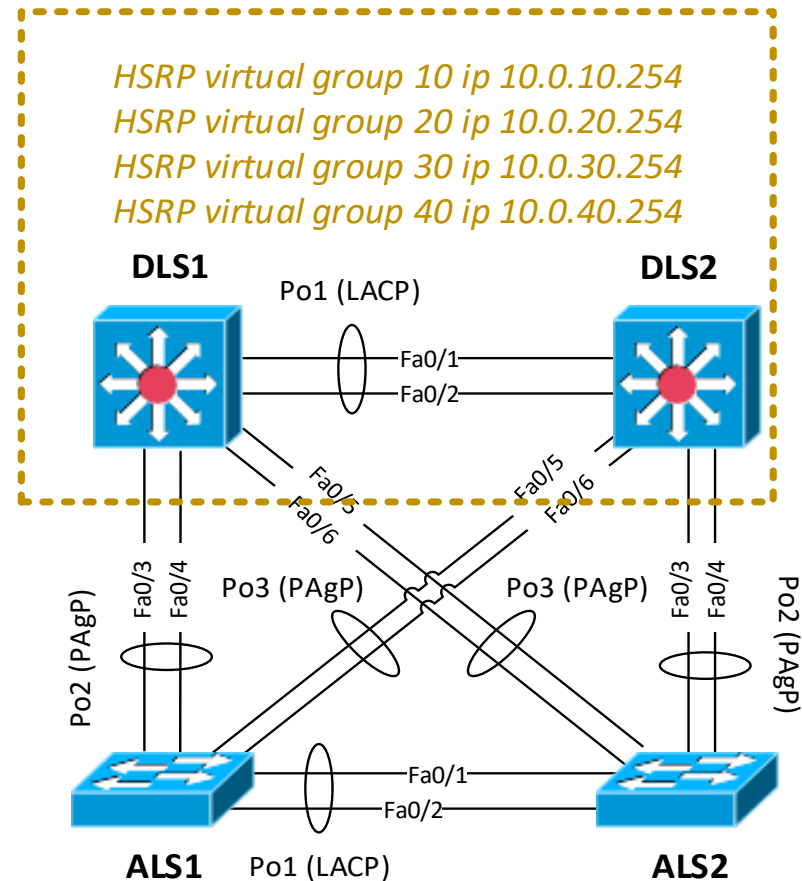


Lab 5.4: Subsecond HSRP Convergence

- 1) In case of HSRPv1 temporary remove HSRP config
- 2) Adjust timers
- 3) Disable SVI
- 4) Ping from any host machine default-gateway

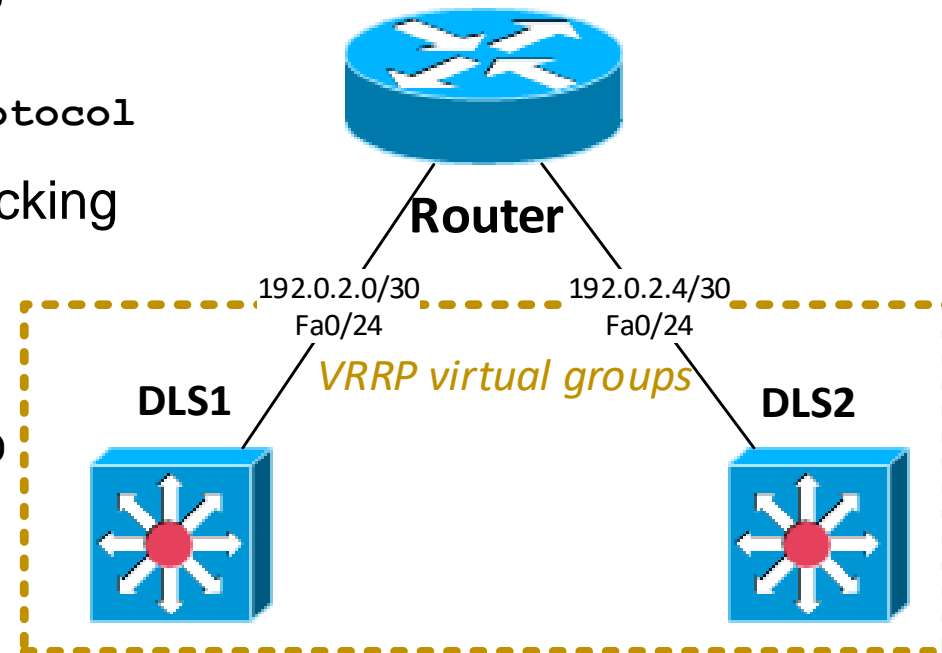
■ DLS*:

- `(conf-if) # standby version 2`
- `(conf-if) # standby X timers msec 300 msec 900`



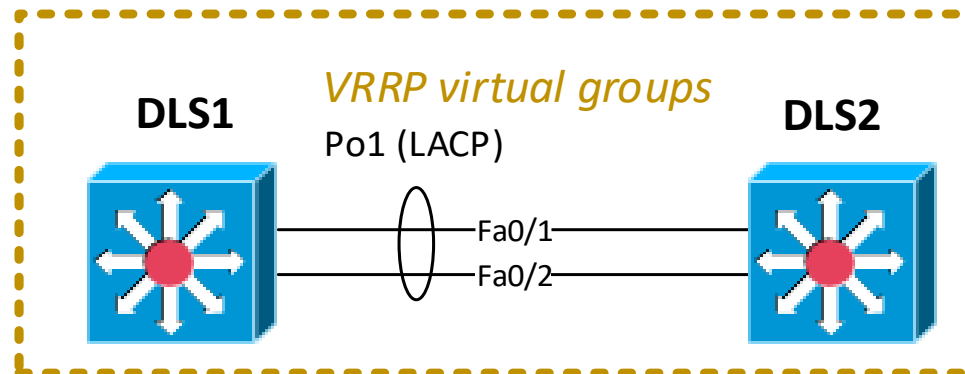
Lab 5.5: Object Tracking

- 1) Add Router and connect it with DLS* via Fa0/24 routed interface
 - `(conf)# interface fa0/24`
 - `(conf-if)# no switchport`
 - `(conf-if)# ip address 192.0.2.X/30`
- 2) Configure tracking object on DLS*
 - `(conf)#`
`track 1 interf Fa0/24 line-protocol`
- 3) Bond HSRP functionality with tracking object on DLS*
 - `(conf-if)# interface vlan X`
 - `(conf-if)#`
`standby X track 1 decrement 60`

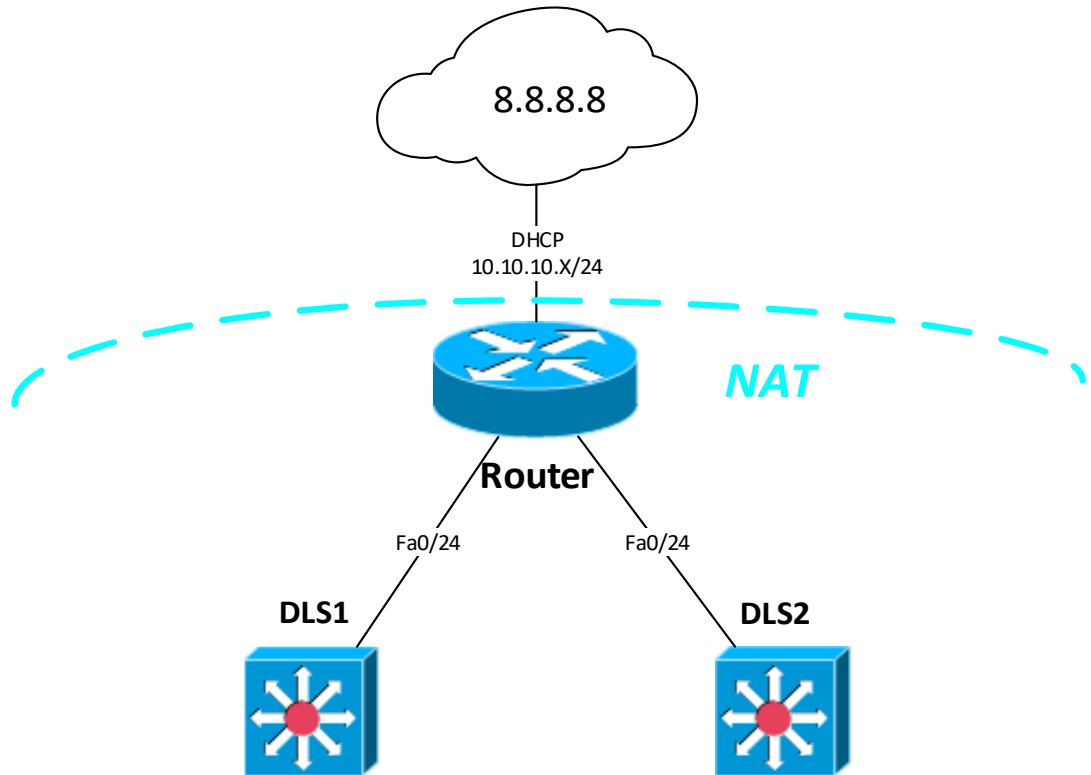


Lab 5.6: Migrate to VRRP

- 1) Remove all HSRP config
- 2) Configure VRRP with subsecond convergence tracking uplink to the Router
 - `(conf)# interface vlan X`
 - `(conf-if) vrrp X ip 10.0.X.254`
 - `(conf-if) vrrp X priority`
 - `(conf-if) vrrp X timers adv msec 300`
 - `(conf-if) vrrp X track 1 decr 60`

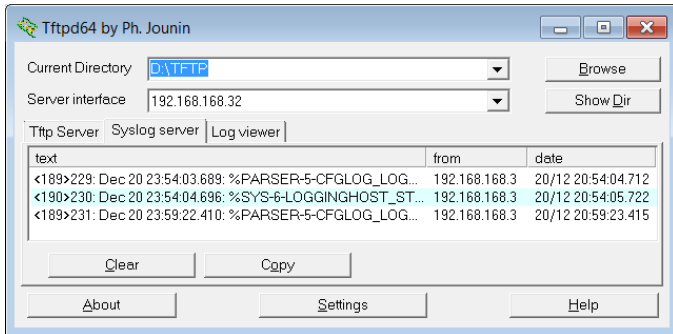


Lab 5.7: IP SLA

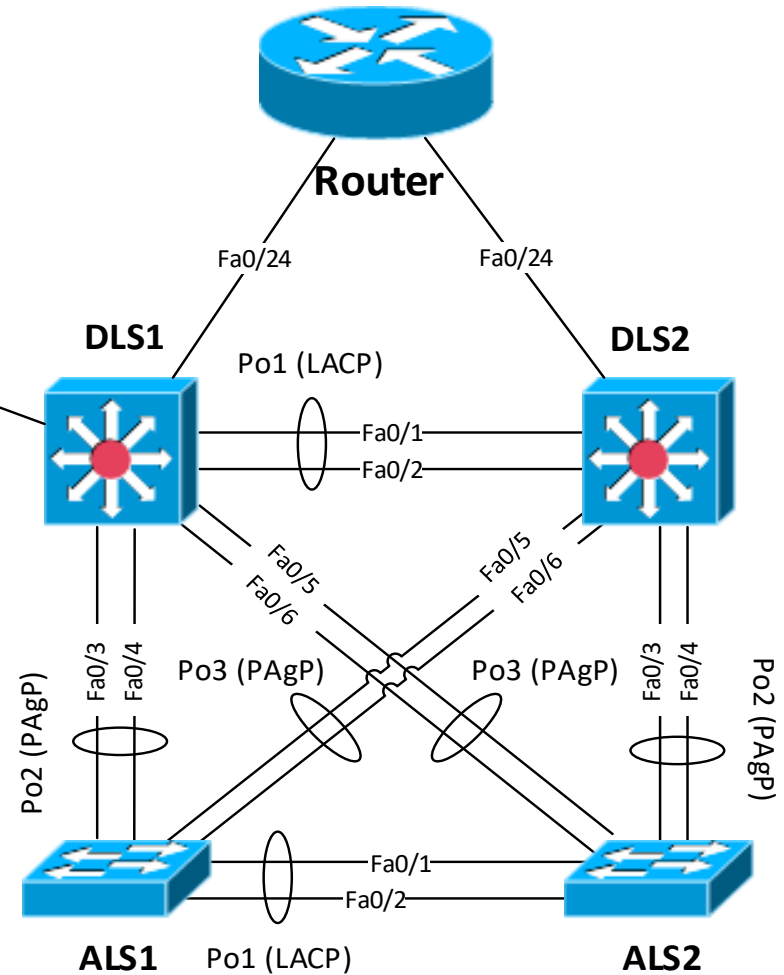


- Monitor reachability
 - `(conf)# ip sla 1`
 - `(conf-ip-sla)# icmp-echo 8.8.8.8`
 - `(conf-ip-sla-echo)# frequency 10`
 - `(conf)# ip sla schedule 1 life forever start-time now`
- Verify
 - `# show ip sla statistics`

Lab 5.8: Event Logging



- Run TFTP32 on PC_A
- Allow *LS* for syslog on PC_A:
 - (conf)# logging host *PC_Mgmt*
 - (conf)# logging trap debugging
 - (conf)# logging buffered 65536 6



Lab 5.8: SNMP



Labs created by [Vladimír Veselý](#) for C2P practice.

The last update: 2015-03-11