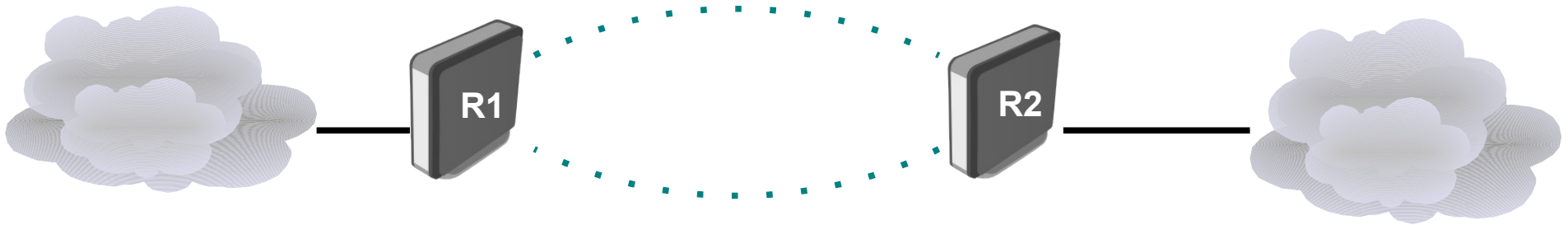


Link Aggregation with VPLS

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Workshop setup



- Two links that cannot be aggregated directly (wireless)
- Needs L2 connectivity between LANs behind router

Link aggregation with EoIP

- Pros:
 - Fairly easy to set up
- Cons:
 - Bigger overhead
 - Needs more CPU resources

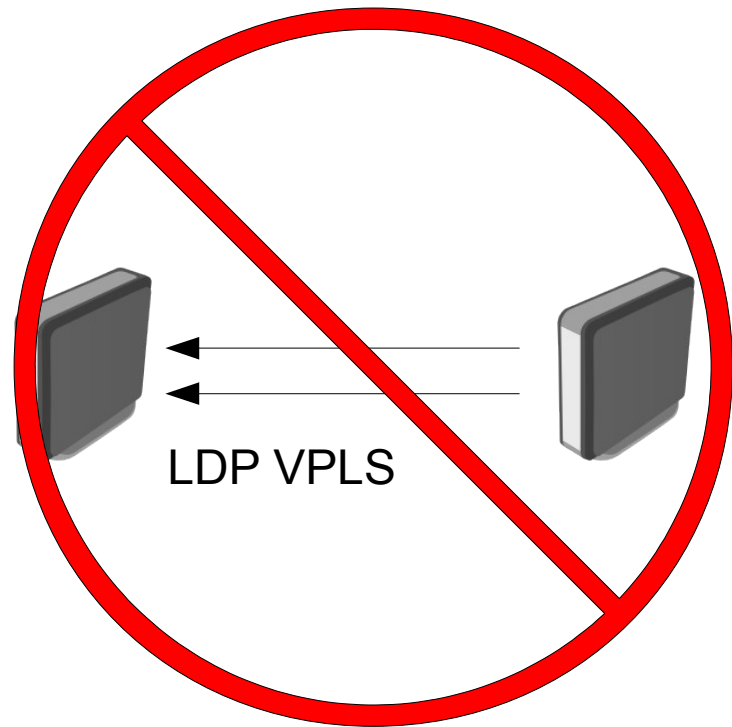
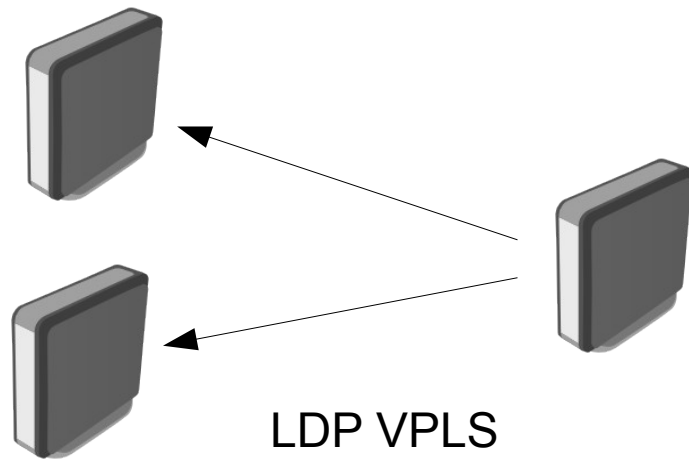
Link aggregation with VPLS

- Pros:
 - Very small overhead
 - Solves WDS limitations with 802.11n
 - Faster forwarding based on labels
- Cons:
 - Quite complex configuration process
 - MPLS/VPLS/BGP knowledge is needed

Setup steps

- IP connectivity
- OSPF, LDP
- BGP
- Routing Filters
- Bonding

Why we need BGP?



Step 1: LDP and OSPF

- Enable OSPF on both links and redistribute loopback address
- Enable LDP

Step2: BGP

Step3: Routing filters

Filtering result

Step4: Bonding

Problem!

BGP/VPLS interfaces are **dynamic**.

Solution?

Script

- Search for “unknown” entries in bonding slave configuration
- Create a list of existing VPLS tunnels
- Reconfigure bonding slaves
- Run the script from scheduler

```
:local bondID [/interface bonding find name="bonding1"];
:local slaves [/interface bonding get $bondID slaves];
:local vplsAid [/interface vpls find vpls="aa"];
:local vplsBid [/interface vpls find vpls="bb"];
:local newSlaves;

:if ( ([:pick $slaves 0] = "(unknown)") || ([:pick $slaves 1] =
"(unknown)") ) do={
    :if ( ($vplsAid = "") || ($vplsBid = "") ) do={
        :log info "at least one of vpls is down";
    } else={

        :set newSlaves "$[/interface vpls get $vplsAid name],$
[/interface vpls get $vplsBid name]";
        :log info $newSlaves;
        /interface bonding set $bondID slaves=$newSlaves;

    }
}
```

The End