

8. Small office configuration scenario with VLAN and internet access nr. 2

Small office network in our scenario separate hosts on 3 VLAN (1, 2 and 3). Because one part of network is really old we can here found shared segment with old L1 hub. Redundant link in switched topology introduced between S2 and S3 must be monitored with STP.

Scenario consist of:

- *PPP link with CHAP authentication between Office and ISP router*

Office part of config:

```
username ISP password 0 ciscochap
interface Serial0/0/0
ip address 198.160.131.13 255.255.255.252
encapsulation ppp
ppp authentication chap
```

ISP part of config:

```
username Office password 0 ciscochap

interface Serial0/0/0
ip address 198.160.131.14 255.255.255.252
encapsulation ppp
ppp authentication chap
clock rate 2000000
```

- *NAT with PAT on S0/0/0 for inside hosts internet access*
ip access-list standard NAT
permit 192.168.1.0 0.0.0.255
ip nat inside source list NAT interface Serial0/0/0
overload

- *static NAT for local server*

```
ip nat inside source static 192.168.1.130 200.0.0.1
```

- *DHCP for appropriate LAN clients*

```
DHCP excluded address
```

```
192.168.1.1, .129, .130, .193,
```

```
ip dhcp excluded-address 192.168.1.1
```

```
ip dhcp excluded-address 192.168.1.129
```

```
ip dhcp excluded-address 192.168.1.130
```

```
ip dhcp excluded-address 192.168.1.193
```

```
ip dhcp excluded-address 192.168.1.131
```

```
ip dhcp excluded-address 192.168.1.132
```

```
ip dhcp excluded-address 192.168.1.133
```

```
!
```

```
ip dhcp pool VLAN3
```

```
network 192.168.1.128 255.255.255.192
```

```
default-router 192.168.1.129
```

```
dns-server 192.168.1.130
```

```
ip dhcp pool VLAN2
```

```
network 192.168.1.0 255.255.255.128
```

```
default-router 192.168.1.1
```

```
dns-server 192.168.1.130
```

```
ip dhcp pool VLAN1
```

```
network 192.168.1.192 255.255.255.224
```

```
default-router 192.168.1.193
```

```
dns-server 192.168.1.130
```

- *router on a stick inter VLAN communication on Office router*

```
interface FastEthernet0/0
```

```
no ip address
```

```
duplex auto
```

```
speed auto
```

```
!
```

```
interface FastEthernet0/0.1
```

```
encapsulation dot1Q 1
```

```
ip address 192.168.1.193 255.255.255.224
```

```
ip nat inside
```

```

!
interface FastEthernet0/0.2
  encapsulation dot1Q 2
  ip address 192.168.1.1 255.255.255.128
  ip nat inside
!
interface FastEthernet0/0.3
  encapsulation dot1Q 3 native
  ip address 192.168.1.129 255.255.255.192
  ip nat inside

```

- *S3 rootBridge selection for STP*
spanning-tree vlan 1-3 priority 4096

- *VTP configuration with S1 acting as VTP Server propagating VLAN configuration to entire network*
VTP domain: office
VTP pass: cisco123
VTP-server – S1, VTP-Client S2, S3

- *subnetting with VLSM*
192.168.1.129/26 VLAN 3 Admin&Native
192.168.1.1/25 VLAN 2 Staff
192.168.1.193/27 VLAN 1 Guest – default cant be renamed

Preconfigured scenario can be obtained from here (PKT 5.2 or above you need). Topology diagram for scenario is

Small business office with vlan and internet access 2 - shared segment using old L1 hub

