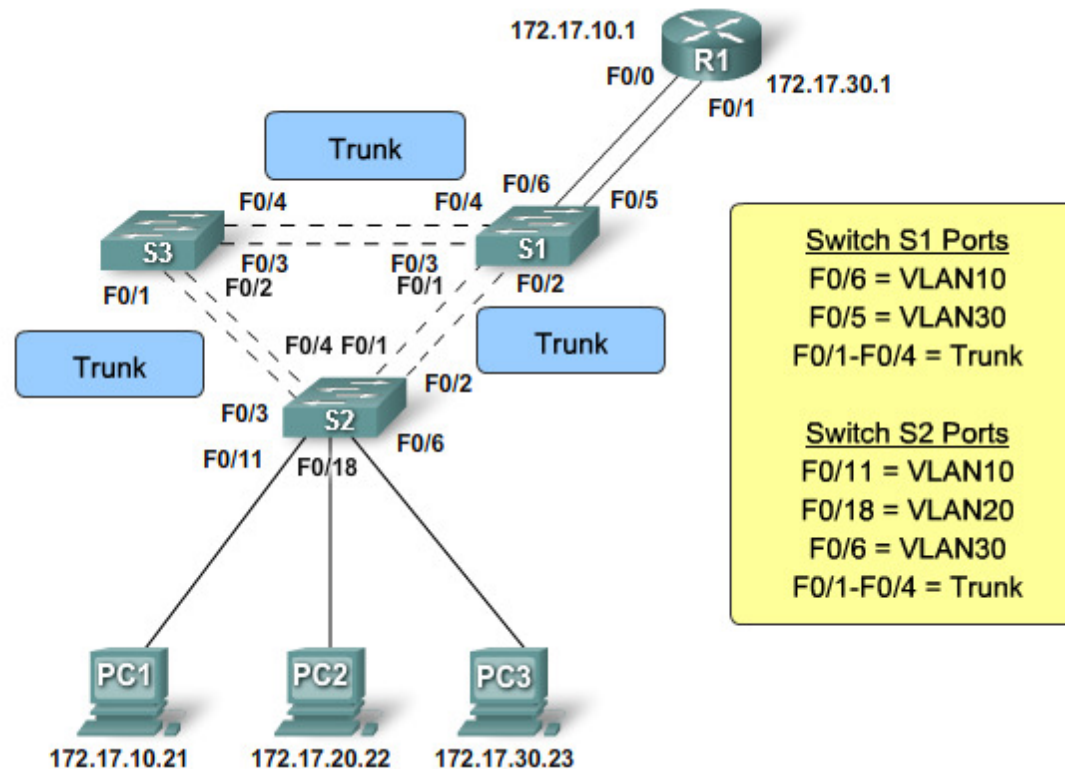# Inter-VLAN routing

Chapter 6

- Communication between VLANs
- Requires a layer 3 device
- Default gateway for clients on a VLAN

Traditionel

- One physical interface pr. VLAN
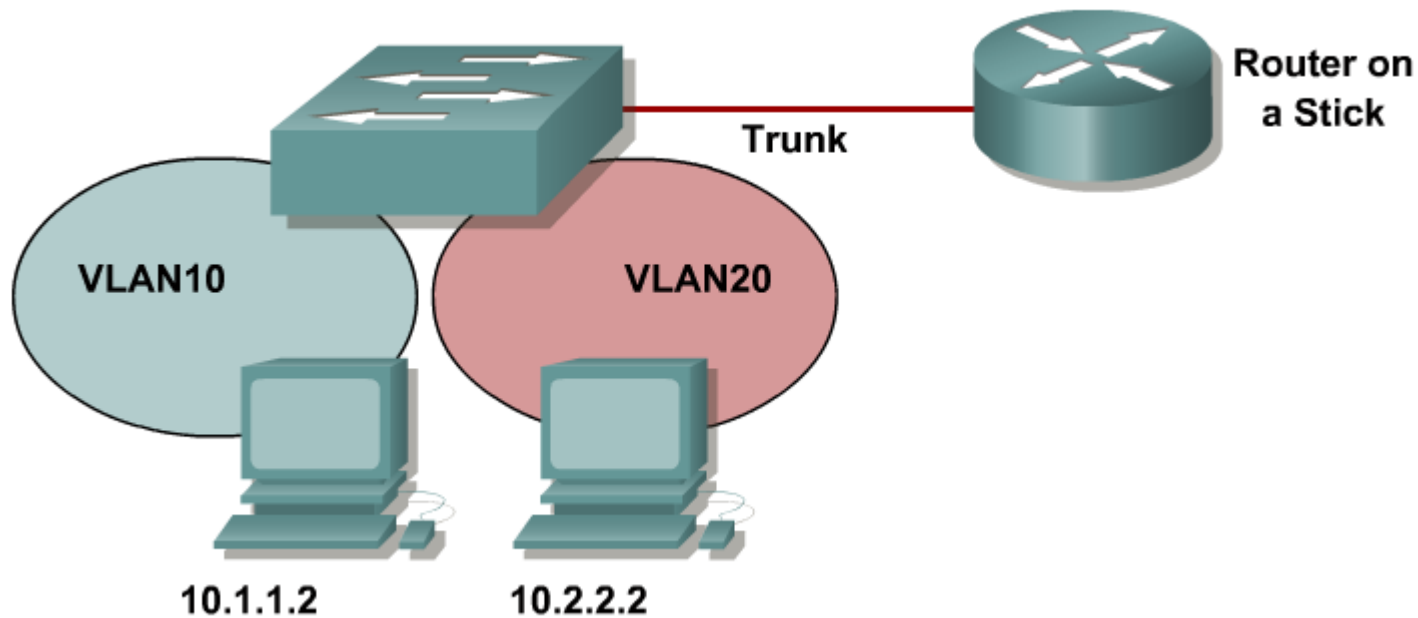- Switch ports are access ports

Configuration

- One physical interface pr. VLAN

```
Router(config)# interface FastEthernet0/0
Router(config-if)# ip address x.x.x.x y.y.y.y
```

Router-on-a-stick (trunk)

- An external router is used

- One logical interface pr. VLAN
- Switch port configures as a trunk

- One subinterface pr. VLAN

```
Router(config)# interface FastEthernet0/0.10
Router(config-subif)# encapsulation dot1q 10
Router(config-subif)# ip address x.x.x.x y.y.y.y
```

Note: A router does not suport DTP

Layer 3 switch

- Routes between VLANs
- VLAN interfaces
- Models: 3550, 3560, 3750

```
Switch(config)# ip routing
Switch(config)# interface vlan x
Switch(config-if)# ip address x.x.x.x y.y.y.y
```

Comparison

Physical Interface	Subinterface
One physical interface per VLAN	One physical interface for many VLANs
No bandwidth contention	Bandwidth contention
Connected to access mode switch port	Connected to trunk mode switch port
More expensive	Less expensive
Less complex connection configuration	More complex connection configuration