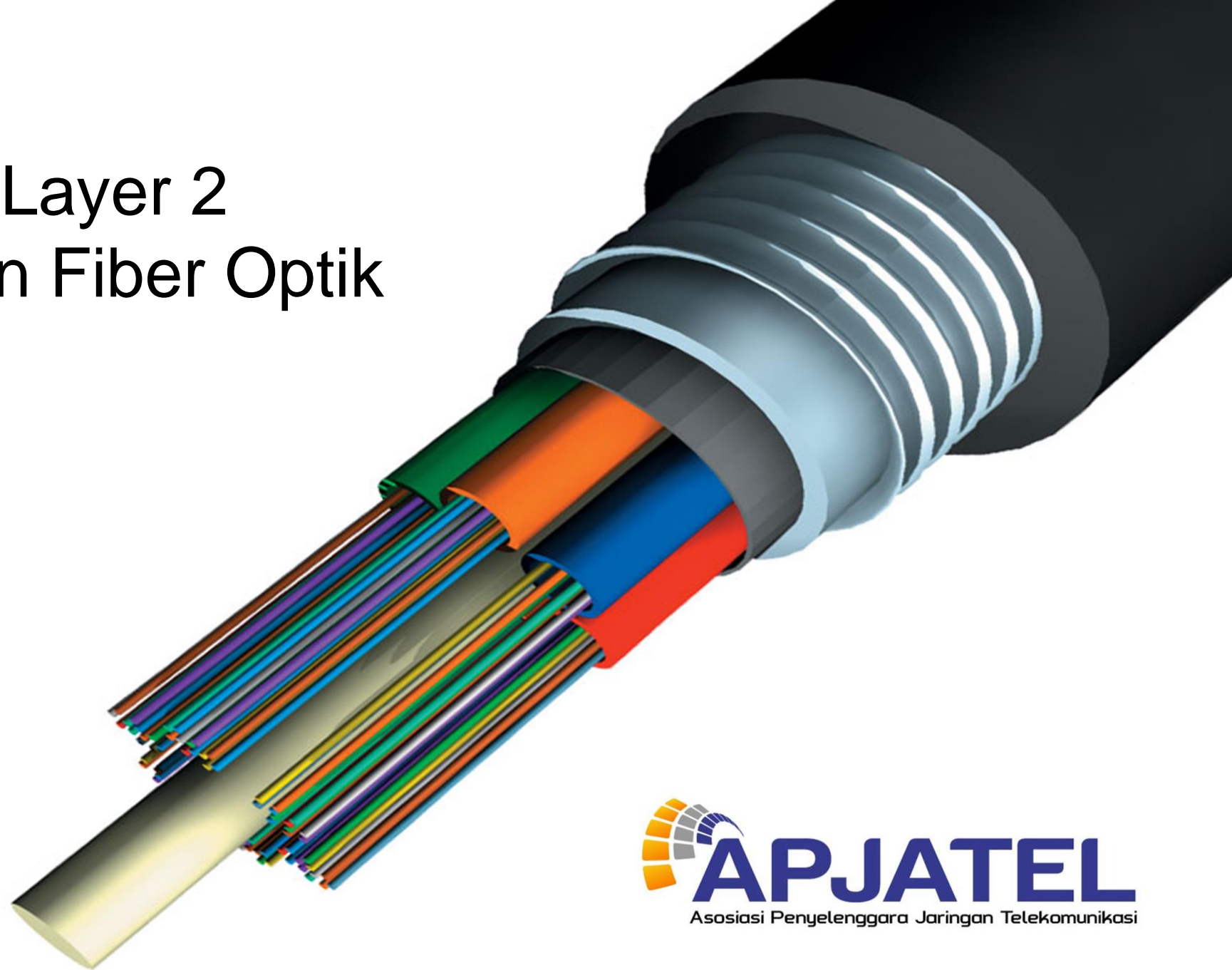


Switching Layer 2 Dalam Jaringan Fiber Optik



Pokok Bahasan

1. Perangkat Layer 2 Fiber Optik
2. Topologi Layer 2 Fiber Optik
3. Konfigurasi Switch
4. Konfigurasi OLT/ONU

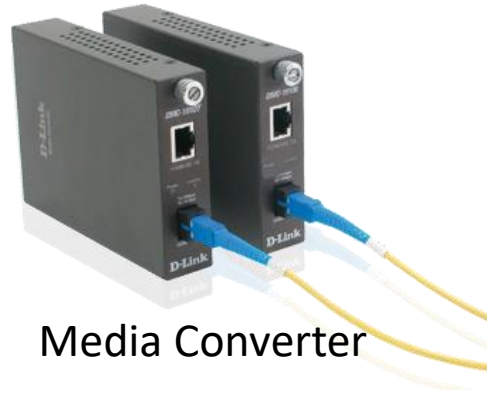
1. Perangkat Aktif Dalam Jaringan Fiber Optik

1. Switch
2. Media Converter
3. OLT (Optical Line Terminal)
4. ONU / ONT (Optical Network Unit)
5. SFP (Small Form-Factor Pluggable)

Perangkat Aktif Dalam Jaringan Fiber Optik



Switch



Media Converter



OLT



ONU



SFP

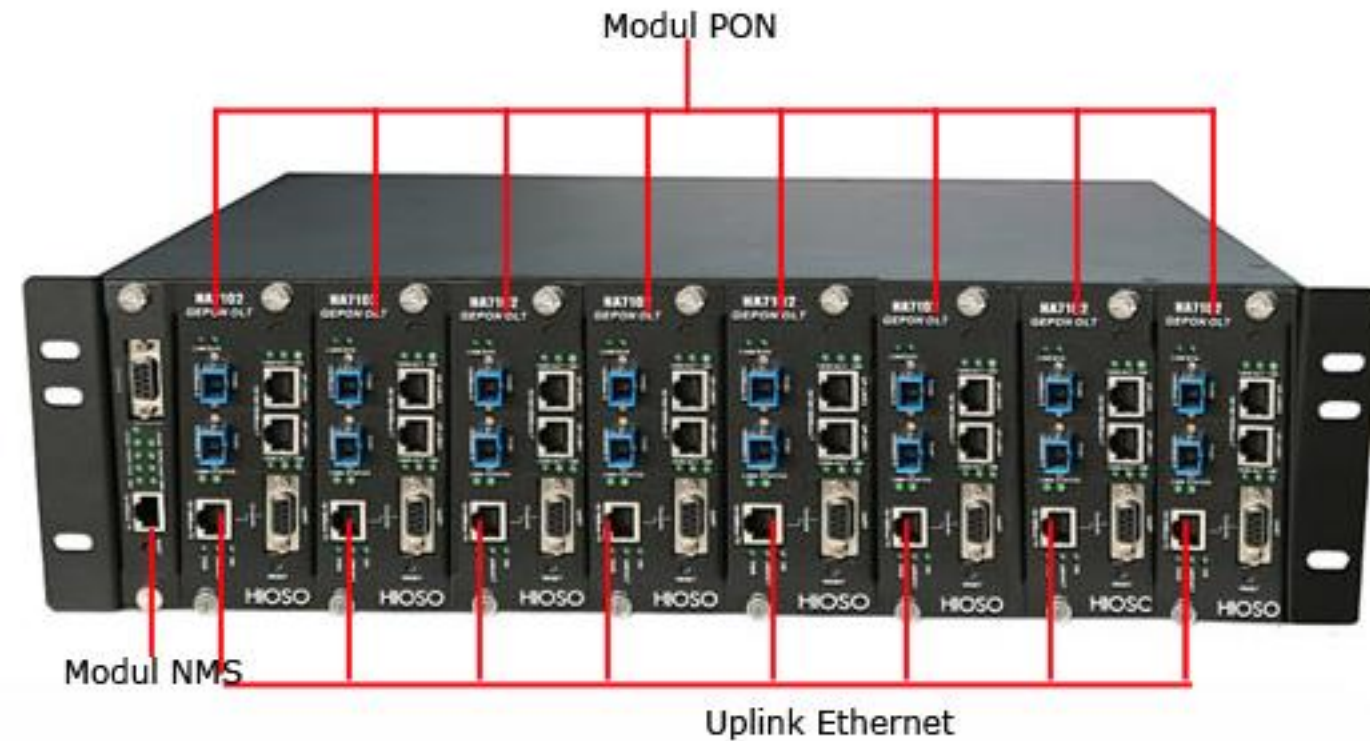
Switch

1. Bekerja pada Layer 2 OSI
2. VLAN (Virtual Local Area Network)
3. Mode Trunk
4. Mode Access
5. Beberapa sudah support Layer 3

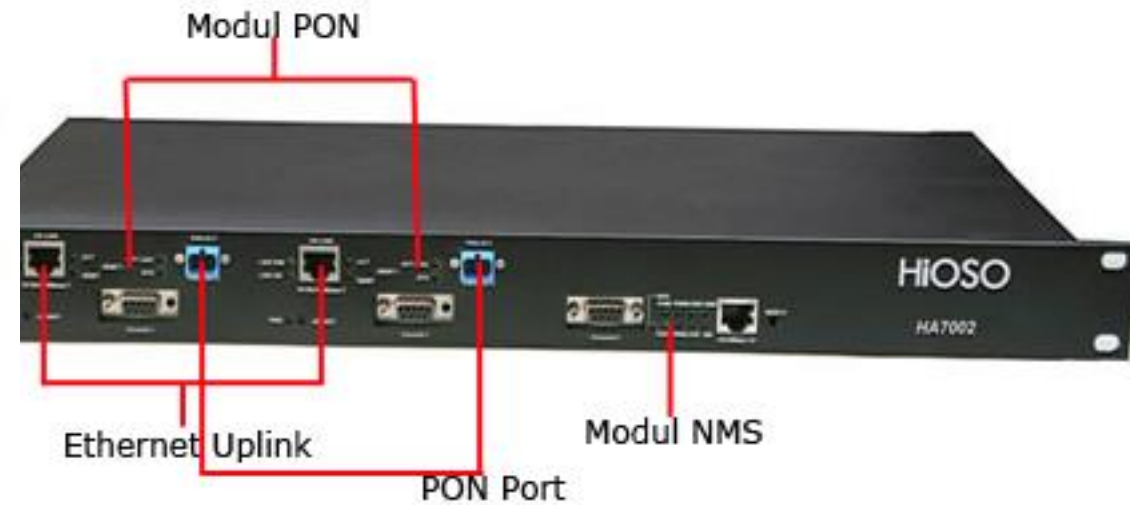
OLT (Optical Line Terminal) dan ONU (Optical Network Unit)

1. Bekerja pada Layer 2 OSI
2. OLT Sebagai Multiplexer & Mengubah Elektrik menjadi Optik. Menyediakan Interface antara sistem PON dan Service Provider (data/video/voice)
3. ONU adalah CPE dari sistem PON
4. OLT Terdiri dari Modul PON dan Modul NMS (Network Management System)
5. Modul PON Terdiri dari PON dan Ethernet/SFP

OLT (Optical Line Terminal) dan ONU (Optical Network Unit)

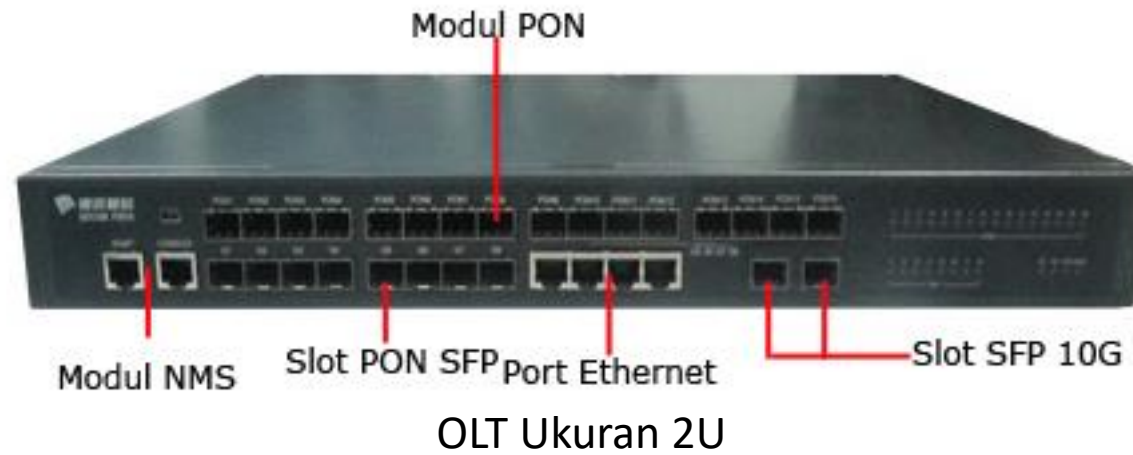


OLT Ukuran 3U

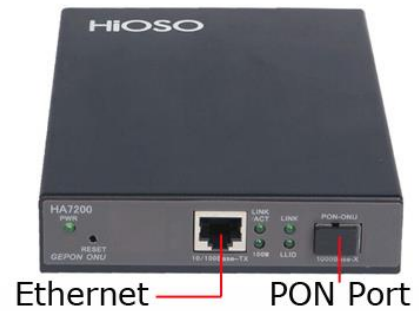


OLT Ukuran 1U

OLT (Optical Line Terminal) dan ONU (Optical Network Unit)



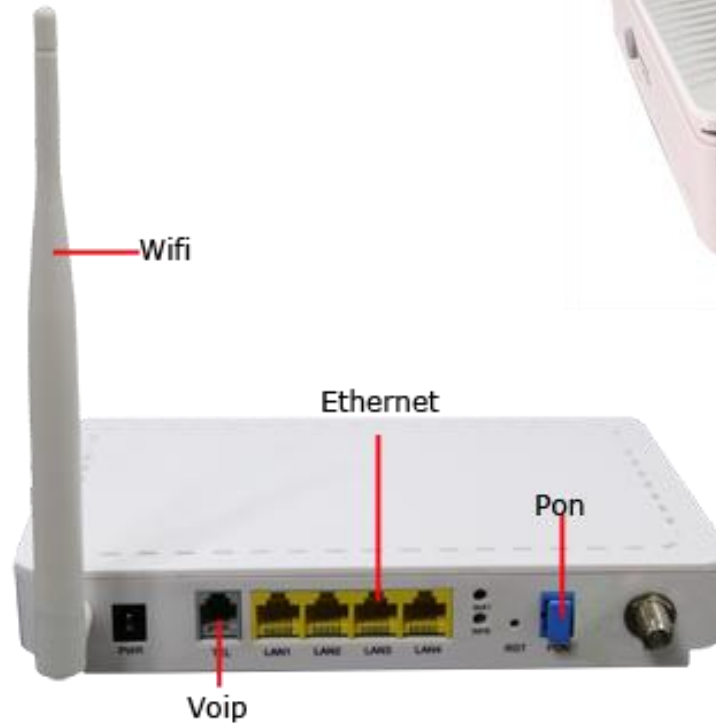
OLT (Optical Line Terminal) dan ONU (Optical Network Unit)



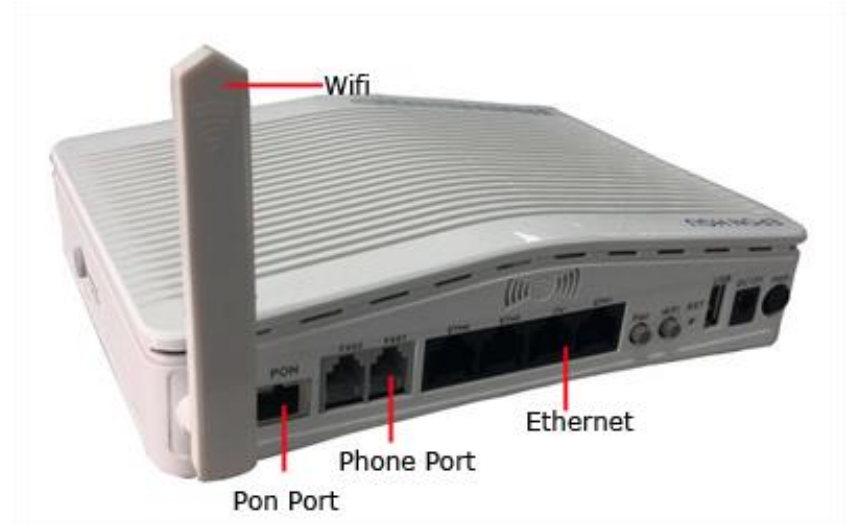
ONU 1 Port



ONU 4 Port



ONU 4 Port + Wifi + Voip + CATV



ONU 4 Port + Wifi + Voip

SFP (Small Form-Factor Pluggable) & Media Converter

1. Type Berdasarkan Core (Single / multi)
2. Tergantung Jarak (10km, 20km, 40km, 60km, 80km)
3. SFP ada Type Copper dan Optik
4. Bandwidth start from 1G – 10G

SFP (Small Form-Factor Pluggable) & Media Converter



SFP 2 core multimode SFP 1 core sin



Media Converter multimode



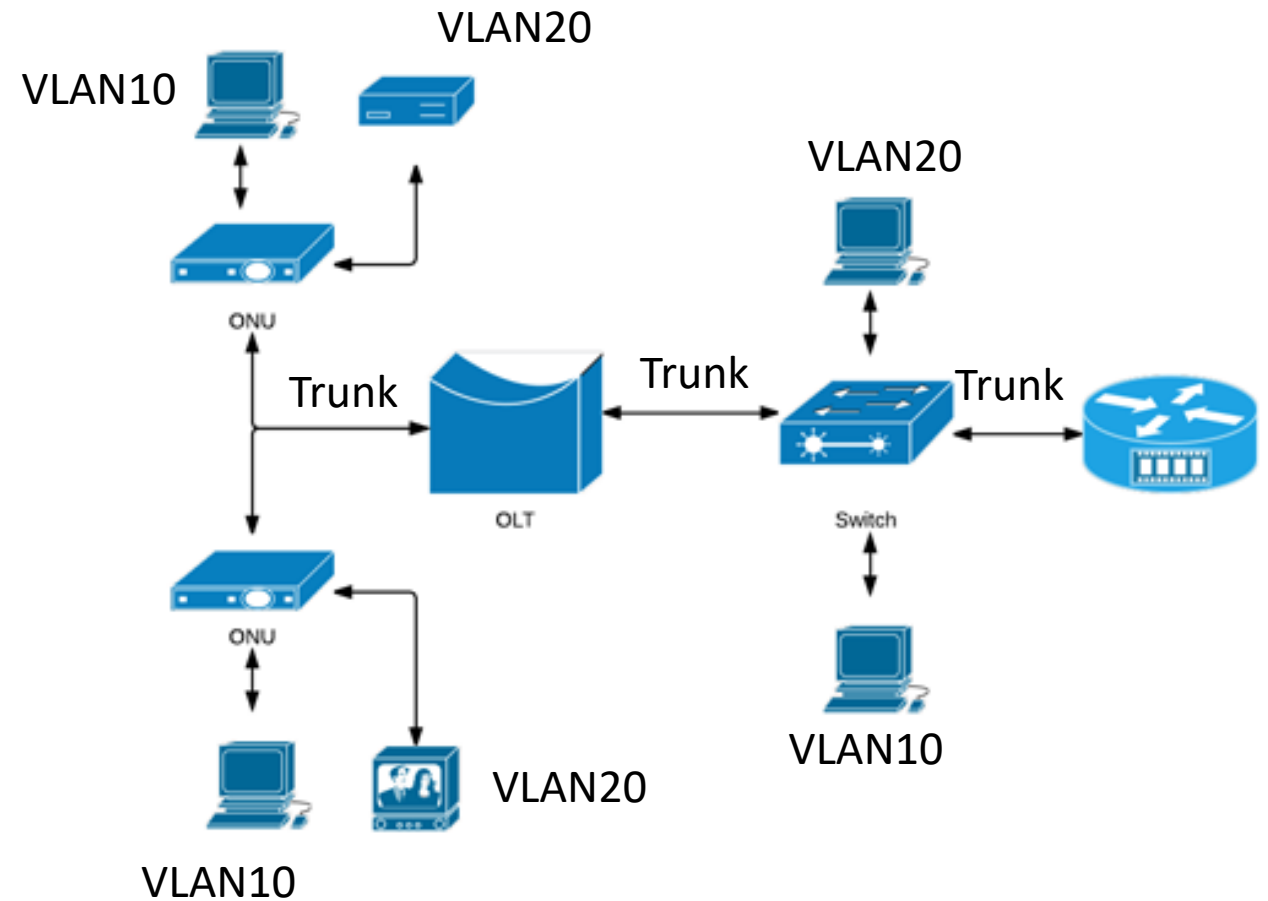
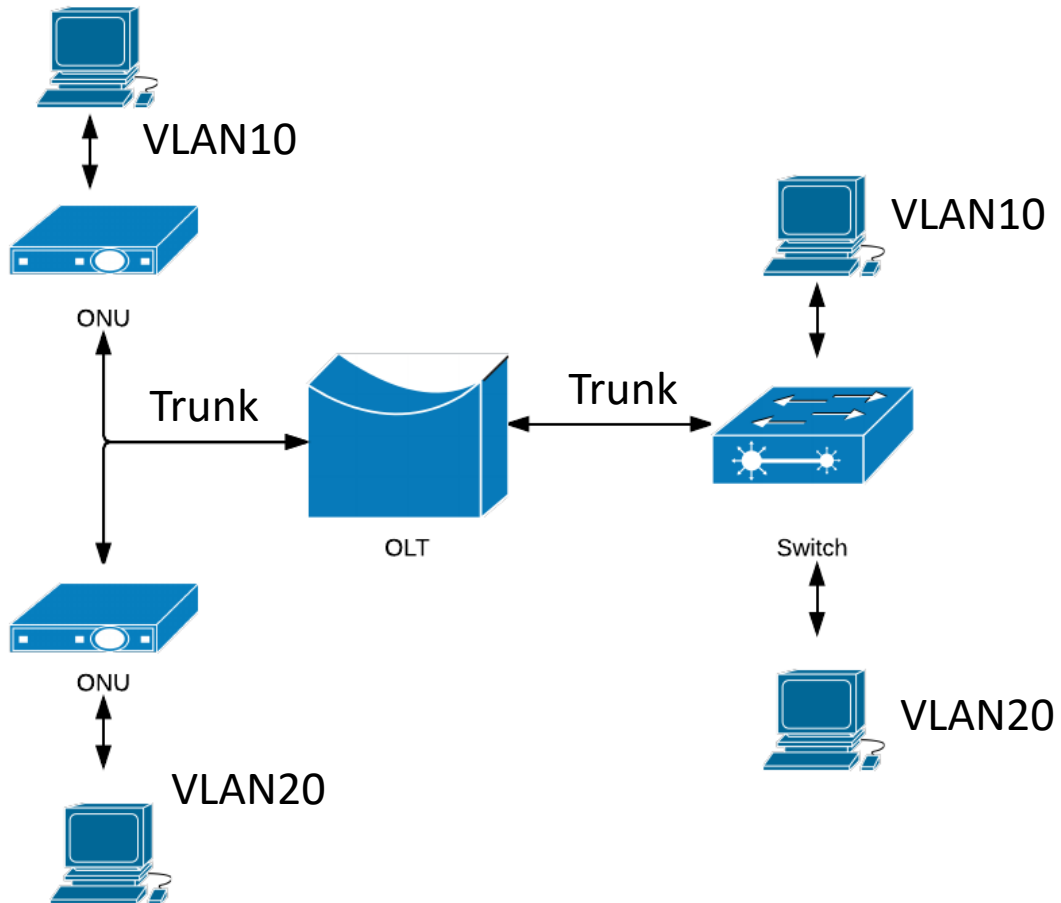
Media Converter Singlemode



Media Converter SFP Modul

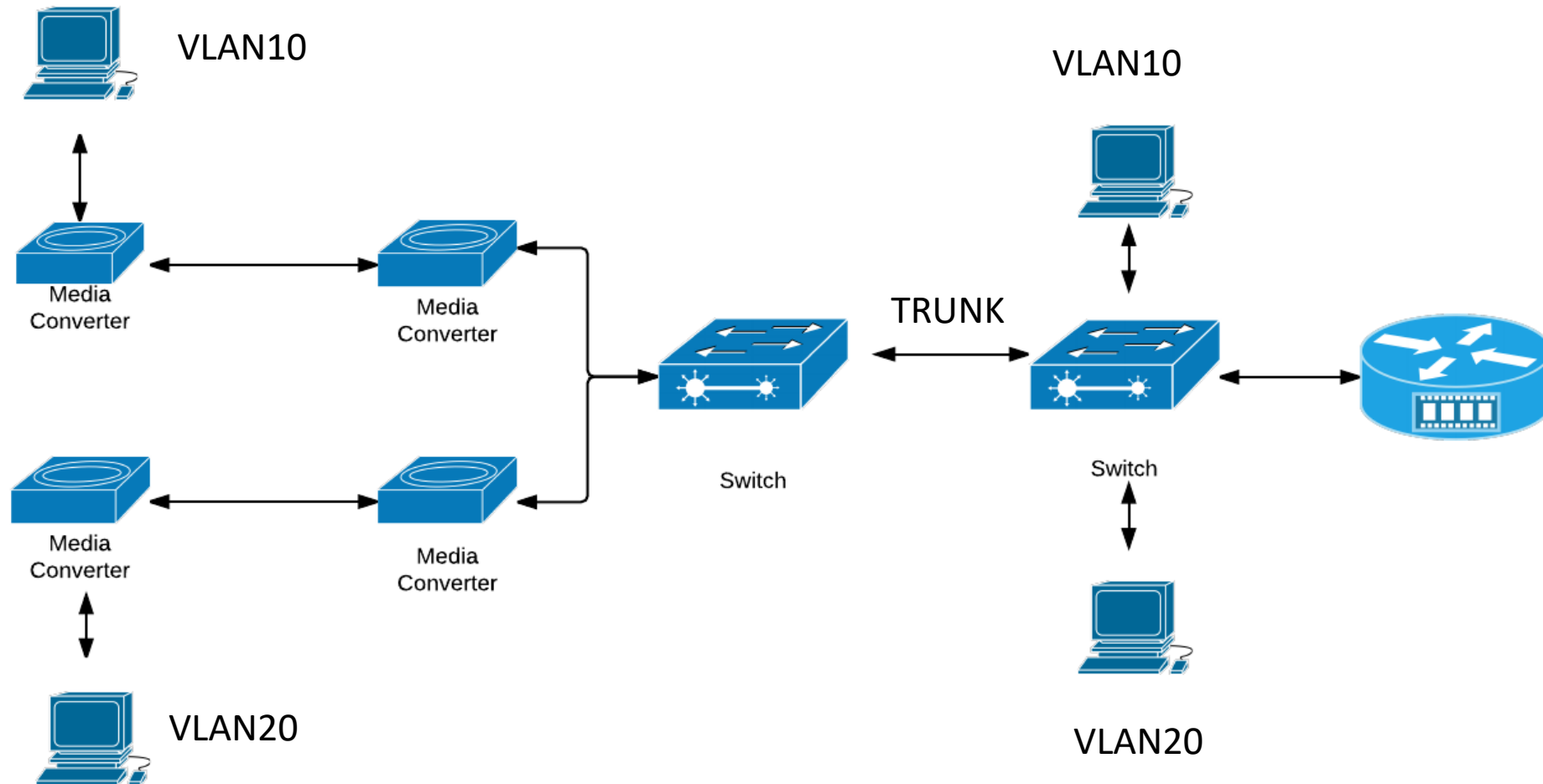
Topologi Layer 2 Fiber Optik

Topologi Akses OLT & Switch



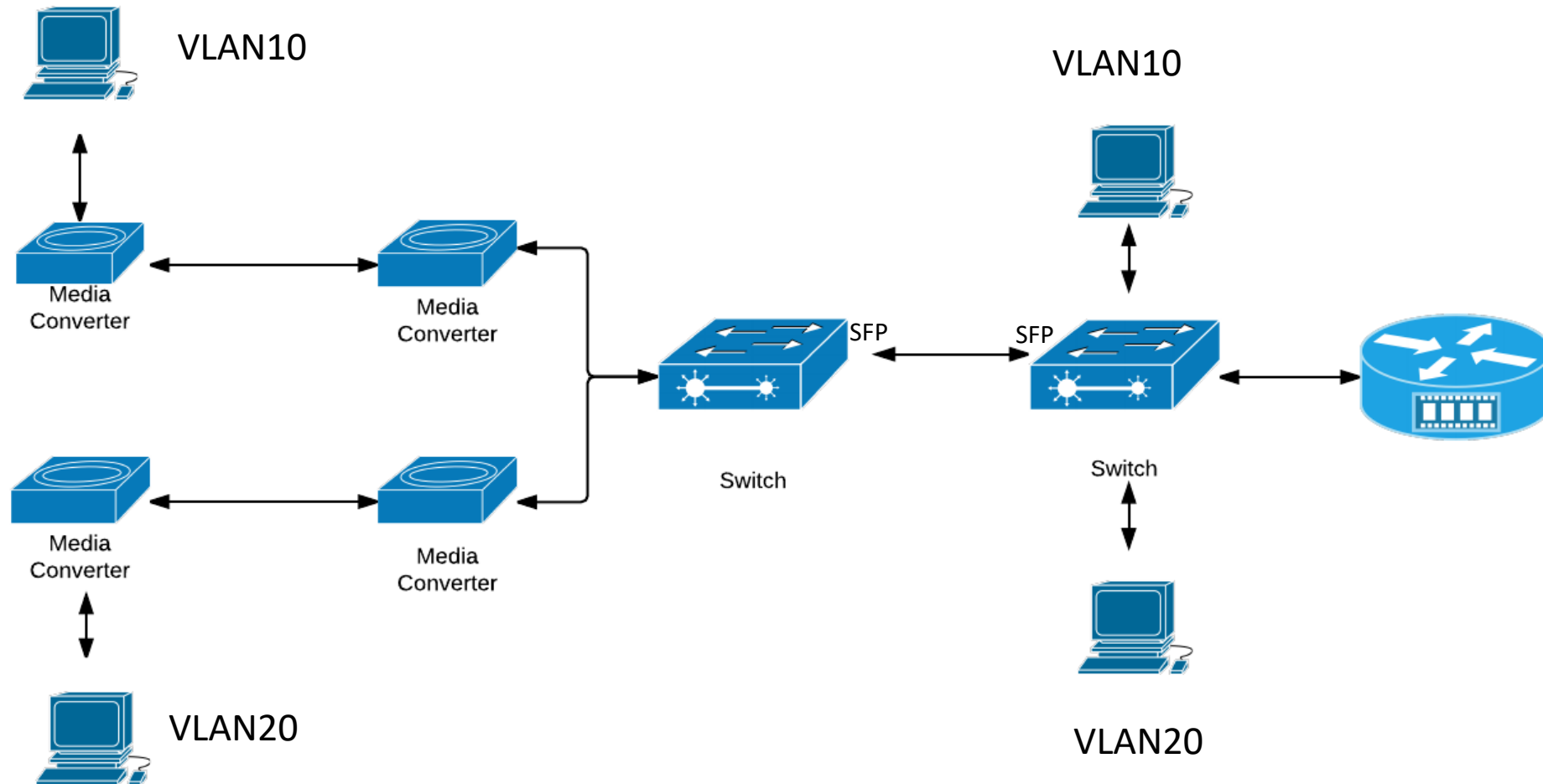
Topologi Layer 2 Fiber Optik

Topologi Akses Media Converter & Switch



Topologi Layer 2 Fiber Optik

Topologi Akses Media Converter & Switch



Konfigurasi Switch

Konfigurasi Switch BDCOM

Urutan Kerja

1. Masuk mode config
2. Masuk interface
3. Setting Mode
4. Setting Vlan
5. Set Deskripsi

Konfigurasi Trunk

1. Config
2. Int G0/1
3. Switchport mode trunk
4. Switchport trunk vlan-allowed add 10
5. description Test-Trunk

Konfigurasi Access

1. Config
2. Int G0/2
3. Switchport pvid 10
4. description Test-access

Konfigurasi Switch

Konfigurasi Switch TPLINK

Urutan Kerja

1. Masuk Menu Vlan
2. Masuk Port Config
3. Ganti Mode Port Access/Trunk
4. Masuk Vlan Config
5. Create/Edit Vlan

Konfigurasi OLT

Konfigurasi OLT BDCOM

1. Autentifikasi ONU By Mac Address
2. Setiap ONU Teregister akan di berikan id interface
3. Setiap Port Ethernet ONU dapat di berikan vlan yang berbeda-beda

Konfigurasi OLT

Konfigurasi OLT BDCOM

Urutan Kerja

1. Masuk mode config
2. Masuk interface PON (tergantung id dari mac address tsb)
3. Setting Mode vlan
4. Setting Deskripsi
5. Masuk interface switch uplink
6. Setting Mode vlan
7. Setting Deskripsi

Konfigurasi OLT

Konfigurasi OLT BDCOM

Setting PON ONU interface access mode

1. Config
2. Interface EPON0/1:4
3. epon onu port 1 ctc vlan mode translation 51
4. Description TEST-ONU1

Setting Uplink PON & Ethernet

1. Config
2. Interface EPON0/1
3. switchport mode trunk
4. switchport trunk vlan-allowed add 10
5. Description UPLINK PON
6. Interface GigaEthernet0/3
7. switchport mode trunk
8. switchport trunk vlan-allowed add 10
9. Description UPLINK SWITCH
- 11.

That's all, thanks

