

# Network

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# iWay

Recently we where connected by [swl](#) to the fiber network and I switched from [upc](#), finally getting rid of the enforced router, finally the aera of synchronous connectivity started.

## SG300-10



The setup is refreshingly simple, I added an SFP modul (FLEXOPTIX S.B1312.10.XDL) to the Cisco SG300-10 switch I used before, that was all. With my new provider [iWay](#) it was not even necessary to configure a specific VLAN.

On there [website](#) they say you need a Simplex TX 1310nm/RX 1490nm BiBi SFP Module.

The SFP module is connected to port 9 on the switch, port 10 goes to my [OPNsense](#) router. Ports 9 and 10 are on the same VLAN, just via access ports to separate the traffic.

Port VLAN Membership Table					
Filter: <i>Interface Type</i> equals to <span>Port</span> <span>Go</span>					
	Interface	Mode	Administrative VLANs	Operational VLANs	LAC
<input type="radio"/>	GE1	Access	55UP	55UP	
<input type="radio"/>	GE2	Access	55UP	55UP	
<input type="radio"/>	GE3	Access	55UP	55UP	
<input type="radio"/>	GE4	Trunk	1T, 40T, 50T, 51UP, 55T, 60T, 110T, 120T, 130T, 1000T...	1T, 40T, 50T, 51UP, 55T, 60T, 110T, 120T, 130T, 1000T...	
<input type="radio"/>	GE5	Access	55UP	55UP	
<input type="radio"/>	GE6	Access	55UP	55UP	
<input type="radio"/>	GE7	Access	55UP	55UP	

Port 8 gets internet from the router and distributes it to port 4, my office switch.

# OPNsense WAN

This is the WAN configuration I use [WAN](#) Page not found or type unknown

# t-online

This is about connecting the Draytec Vigor 165 as simple Modem to a VDSL2 t-online connection in Germany

t-online

# setup



I am using the following hardware for this setup

- 1 DrayTek Vigor 165 as VDSL2 Modem (250/40 Connection)
- 1 apu3c4 (black) as OPNsense router (VLAN WIFI LAN)
- 1 apu3c4 (red) as docker host (LAN) with a 1TB SATA SSD inside
- 1 Cisco SG 200-8

# DrayTek Vigor 165

I did configure the DrayTek Vigor 165 as a Modem with t-online.

I use the following settings

The screenshot shows the DrayTek Vigor 165 web interface. The left sidebar contains navigation links: Wizards, Online Status, Internet Access (selected), General Setup (selected), PPPoE / PPPoA, MPoA / Static or dynamic IP, IPv6, Multi-PVC/VLAN, LAN, Routing, NAT, Firewall, Objects Setting, CSM, Applications, System Maintenance, and Diagnostics. The main content area is titled "Internet Access >> General Setup". It shows the WAN 1 configuration. The Display Name is "Telekom". The Physical Mode is "VDSL2". The DSL Mode is "Auto". The DSL Modem Code is "Default". Below this is a table for VLAN Tag insertion. The table has three columns: VLAN Tag insertion, Customer, and Service. The first row is for ADSL, with a "Disable" button, Tag value "0", and Priority "0". The second row is for VDSL2, with an "Enable" button, Tag value "7", and Priority "0". A note at the bottom states: "Note: In DSL auto mode, the router will reboot automatically while switching between VDSL2 and ADSL lines."

VLAN Tag insertion	Customer	Service
ADSL	Disable Tag value: 0 Priority: 0	
VDSL2	Enable Tag value: 7 Priority: 0	Disable Tag value: 0 Priority: 0

The screenshot shows the DrayTek Vigor 165 web interface. The left sidebar contains navigation links: Wizards, Online Status, Internet Access (selected), General Setup, PPPoE / PPPoA (selected), MPoA / Static or dynamic IP, IPv6, Multi-PVC/VLAN, LAN, Routing, NAT, Firewall, Objects Setting, CSM, Applications, System Maintenance, and Diagnostics. The main content area is titled "Internet Access >> PPPoE / PPPoA". It shows the PPPoE / PPPoA Client Mode configuration. The PPPoE/PPPoA Client is set to "Disable". The DSL Modem Settings (for ADSL mode only) are: Multi-PVC channel "Channel 1", VPI "8", VCI "35", Encapsulating Type "VC MUX", Protocol "PPPoA", and Modulation "Multimode". The PPPoE Pass-through is checked for "For Wired LAN2". The WAN Connection Detection Mode is set to "ARP Detect".

PPPoE/PPPoA Client	Enable	Disable
DSL Modem Settings (for ADSL mode only)		
Multi-PVC channel	Channel 1	
VPI	8	
VCI	35	
Encapsulating Type	VC MUX	
Protocol	PPPoA	
Modulation	Multimode	
PPPoE Pass-through	For Wired LAN2	
WAN Connection Detection	ARP Detect	



Auto Logout ▾

IPv6

Wizards  
Online Status

Internet Access

General Setup

PPPoE / PPPoA

MPoA / Static or dynamic IP

IPv6

Multi-PVC/VLAN

LAN

Routing

NAT

Firewall

Objects Setting

CSM

Applications

System Maintenance

Diagnostics

Support Area

Product Registration

All Rights Reserved.

Status: Ready

## MPoA / Static or dynamic IP

MPoA (RFC1483/2684) ☒ Enable ☐ Disable

## DSL Modem Settings (for ADSL mode only)

Multi-PVC channel Channel 2 ▾

Encapsulation  
1483 Bridged IP LLC ▾

VPI 1

VCI 32

Modulation Multimode ▾

## WAN Connection Detection

Mode ARP Detect ▾

MTU 1500  
(Max:1500)

## RIP Protocol

☐ Enable RIP

## Bridge Mode

☒ Enable Full Bridge Mode☐ Enable Bridge Mode

## WAN IP Network Settings

☐ Obtain an IP address automatically

Router Name router01 \*

Domain Name home \*

☐ DHCP Client Identifier \*

Username

Password

☒ Specify an IP address WAN IP Alias

IP Address 0.0.0.0

Subnet Mask 0.0.0.0

Gateway IP Address 0.0.0.0

☒ Default MAC Address☐ Specify a MAC Address

MAC Address: 01 · 11 · A · 9 · 3 · 1

## DNS Server IP Address

Primary IP Address 1.1.1.1

Secondary IP Address 8.8.8.8

Auto Logout ▾

IPv6

Wizards  
Online Status

Internet Access

General Setup

PPPoE / PPPoA

MPoA / Static or dynamic IP

IPv6

Multi-PVC/VLAN

LAN

Routing

NAT

Firewall

Objects Setting

CSM

Applications

System Maintenance

Diagnostics

Support Area

Product Registration

## Internet Access &gt;&gt; Multi-PVC/VLAN

## Multi-PVC/VLAN

General Advanced

Channel	Enable	WAN Type	VPI/VCI	VLAN Tag
1	<input checked="" type="checkbox"/>	VDSL		7
3. WAN3	<input type="checkbox"/>	VDSL		None
4. WAN4	<input type="checkbox"/>	VDSL		None
5. WAN5	<input type="checkbox"/>	VDSL		None
6.	<input type="checkbox"/>	VDSL		None

## Note:

Channel 2 is reserved.

OK

Cancel

Auto Logout ▾

IPv6

Wizards  
Online Status

Internet Access

LAN

General Setup

Bind IP to MAC

Routing

NAT

Firewall

Objects Setting

CSM

Applications

System Maintenance

Diagnostics

Support Area

Product Registration

## LAN &gt;&gt; General Setup

## Ethernet TCP / IP and DHCP Setup

## LAN IP Network Configuration

For NAT Usage

1st IP Address 10.51.0.1

1st Subnet Mask 255.255.255.0 / 24 ▾

For IP Routing Usage ☐ Enable ☒ Disable

2nd IP Address 192.168.2.1

2nd Subnet Mask 255.255.255.0

2nd Subnet DHCP Server

RIP Protocol Control Disable ▾

## LAN 1 IPv6 Setup

## DHCP Server Configuration

☒ Disable ☐ Enable ServerRelay Agent: ☐ 1st Subnet ☒ 2nd Subnet

## DNS Server IP Address

Primary IP Address

Secondary IP Address

☐ Force router to use address for DNS

OK





t-online

# docker

To be able to reach the DrayTec Vigor 165 admin page from other vlans I added a route to traefik.

This is my `/etc/environment` file

```
PATH="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games"
PUID=1001
PGID=1001
TZ="Europe/Zurich"
DOMAINNAME="apu07.home"
DNS=10.51.0.254
```

This is my `docker-compose.yml` file

```
version: '3.7'

services:
  traefik:
    container_name: traefik
    domainname: ${DOMAINNAME}
    image: traefik
    restart: unless-stopped
    command:
      - --api.insecure=true
      - --providers.docker
      - --providers.docker.exposedbydefault=false
      - --entrypoints.web.address=:80
      - --providers.file.directory=/rules
      - --providers.file.watch=true
      #- --providers.docker.defaultRule="Host(`${DOMAINNAME}`)"
    ports:
      - "80:80"
      - "443:443"
      - "8080:8080"
    volumes:
```

```
- /var/run/docker.sock: /var/run/docker.sock
- ./traefik/rules: /rules

networks:
- default
- discovery

dns:
- ${DNS}
```

```
networks:
discovery:
```

And I have traefik rules in a `traefik/rules/vigor.toml` file for the DrayTec Vigor 165

```
[http.routers]
[http.routers.vigor-rtr]
  entryPoints = ["web"]
  rule = "Host(`vigor.apu07.home`)"
  service = "vigor-svc"

[http.services]
[http.services.vigor-svc]
[http.services.vigor-svc.loadBalancer]
  passHostHeader = true
[[http.services.vigor-svc.loadBalancer.servers]]
  url = "http://10.51.0.1:80"
```