



# ISPadmin

## **GPON Module**

Manual



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## Introduction

This module is intended for Internet and IPTV service management using the GPON technology. Currently, only Huawei OLT devices are supported (development based on the Huawei MA5608T). End devices are not limited to a particular manufacturer. You can use any ONT.

ISPadmin communicates with an OLT via the SNMP protocol. All management for a specific activity is based on OID templates. As part of the management, backup copies of the current configuration are created. They are created after every change in function of the OLT (The communication protocol used for creation of valid configurations is Telnet).

## 1. General

- ISPadmin introduces a new type of Internet service management -> "GPON". All services with this type of management will be linked with a specified service port on a particular OLT and will continue to be automatically managed by ISPadmin (add to OLT, remove, change service parameters - DBA, SRV, LINE, TRAFFIC profiles, define and edit ONTs, specify native ports on ONTs, move ONTs to other ports on a given OLT or on a different OLT, automatically retrieve new ONTs in the system - so-called AutoFind, etc.).

|                |               |               |                  |           |           |           |            |          |
|----------------|---------------|---------------|------------------|-----------|-----------|-----------|------------|----------|
| Settings       | Statistics    | Scheduling    | Invoicing        | Other     | Inventory | Helpdesk  | FlowPro    |          |
| Syst. settings | Info page     | Code lists    | Active services  | Contracts | Switches  | Other     | Alerts     | IP pools |
| GDPR           | Router groups | Clients       | Locations        | IP ranges | Nagios    | Inventory | CATV lines | Labels   |
| Service types  | Client groups | Client status | Services - stats |           |           |           |            |          |

  

### Service types

[+ Add type](#)

|     | Name         | Control type    | Service type | Count | Statistics |  |
|-----|--------------|-----------------|--------------|-------|------------|--|
| 1.  | CMTS         | CMTS            | Standard     | 0     | WIFI       |  |
| 2.  | WIFI         | Wireless/Wired  | Standard     | 24    | WIFI       |  |
| 3.  | L2TP         | Wireless/Wired  | L2TP         | 0     | WIFI       |  |
| 4.  | Radius       | Wireless/Wired  | Radius       | 3     | WIFI       |  |
| 5.  | PPPoE        | Wireless/Wired  | PPPoE        | 2     | WIFI       |  |
| 6.  | Optika       | Wireless/Wired  | Standard     | 1     | FTTH       |  |
| 7.  | Andrej Babiš | Wireless/Wired  | Standard     | 1     |            |  |
| 8.  | test         | Wireless/Wired  | Standard     | 0     | FTTB       |  |
| 9.  | test2        | Wireless/Wired  | Standard     | 0     | WIFI       |  |
| 10. | test blah    | Without control | Standard     | 0     |            |  |
| 11. | jirka        | Wireless/Wired  | PPPoE        | 1     |            |  |
| 12. | jirka cmts   | CMTS            | Standard     | 0     |            |  |
| 13. | FTTH         | Without control | Standard     | 0     |            |  |
| 14. | GPON         | GPON            | Standard     | 0     |            |  |

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- This new type of management is interlinked with a new definition of tariffs. You can specify a tariff and then choose all types of services for which this tariff can be used (for example: CMTS, Wifi, Radius, GPON, customType, etc.).

- With GPON comes a new term: Connections. You can define them on ONTs. You can link individual services (Internet, IPTV) with a particular connection, but always only one service type.
- Created GPON services are handled similarly to, for instance, existing WiFi services. They are linked with a particular router which can perform shaping (see below), firewall, NAT, etc. All important service parameters (IP, MAC, NAT, installation address, invoicing, etc.) are entered into a similar form. The form, however, includes an additional section in which you can specify a connection and its properties.

### Edit Internet service

|                                 |  |                                       |   |
|---------------------------------|--|---------------------------------------|---|
| Service name:                   | <input type="text" value="test"/>                  | Location:                             | <input type="text" value="-"/>                      |
| Connected from date:            | <input type="text" value="31.10.2016"/>            | Service type:                         | <input type="text" value="GPON"/>                   |
| Invoice from date:              | <input type="text" value="01.12.2019"/>            | Router:                               | <input type="text" value="Netservice Mikrotik"/>    |
| Invoicing period:               | <input type="text" value="Monthly"/>               | Router IP:                            | <input type="text" value="95.173.194.62"/>          |
| Invoicing date:                 | <input type="text" value="1"/>                     | Number of clients assigned to router: | <input type="text" value="8"/>                      |
| Invoice separately:             | <input type="checkbox"/>                           | Connection:                           | <input type="text" value="-"/>                      |
| Labels:                         | <input type="text"/>                               | Connection name:                      | <input type="text"/>                                |
| Contract number:                | <input type="text"/>                               | OLT:                                  | <input type="text" value="-"/>                      |
| Contract type:                  | <input type="text" value="Time limited contract"/> | ONT:                                  | <input type="text" value="-"/>                      |
| Min. contract period:           | <input type="text" value="0"/> Months              | Port:                                 | <input type="text" value="Select an option"/>       |
| Contract period until:          | <input type="text" value="13.04.2018"/>            | VLAN:                                 | <input type="text" value="vlan100-internet (100)"/> |
| Contract renewal:               | <input type="text" value="0"/> Months              | Line profile:                         | <input type="text" value="Select an option"/>       |
| Notice period:                  | <input type="text" value="30"/> Months             | Service profile:                      | <input type="text" value="Select an option"/>       |
| Different installation address: | <input checked="" type="checkbox"/>                | VLAN is native on ports:              | <input type="text" value="Select some options"/>    |
|                                 |  | Tariff:                               | <input type="text" value="rad"/>                    |
|                                 |  | Speed:                                | <input type="text" value="10 / 10 kbit/s"/>         |
|                                 |  | Aggregation:                          | <input type="text" value="1:0"/>                    |

- An overview of defined connections can be found in **Client card / Connections**.

| Connection name                      | OLT       | Port  | ONT                   | Line profile     | Service profile | Number of services | Number of unassigned services | Action  |
|--------------------------------------|-----------|-------|-----------------------|------------------|-----------------|--------------------|-------------------------------|---|
| 1008272, Rachel Green, Jesenická 111 | Gpon-Test | 0/1/0 | (SN:485754439d710a7b) | line-profile_222 | Switch-Uplink   | 1                  | 0                             |   |

(Items: 1 - 1 of 1)

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- ISPadmin approaches the existing OLT configuration very adaptively. The integration process of existing OLTs and services set on those OLTs takes into account and adapts the defined services and creates an environment for integration of existing services into ISPadmin. This process will be described below.
- ISPadmin requires that the basic and very specific OLT configuration is defined before the start of the integration process. Mainly the following items:
  - Define VLANs on ports and slots
  - Define traffic-tables
  - Define access rights (SNMP, Telnet)
  - Define srv profiles, line profiles, dba profiles to be used
  - Enable the "autofind" method on ports (necessary for the automatic allocation of services to work correctly)
  - Enable and configure multicast for IPTV
  - Configure the network part (ip, routing, etc.)
  - Configure slots on OLTs



## 2. Preparations for GPON implementation into ISPadmin

### 2.1 Define tariffs

GPON service speed management is performed based on the OLT configuration - Item "Locally, On the router, Locally + On the router".

|         |          |            |             |            |            |           |       |         |           |
|---------|----------|------------|-------------|------------|------------|-----------|-------|---------|-----------|
| Clients | Hardware | Monitoring | Settings    | Statistics | Scheduling | Invoicing | Other | NetFlow | Inventory |
| Routers | GPON     | CMTS       | Switches    | POPs       | Outages    | Settings  |       |         |           |
| OLT     | ONT      | Settings   | Connections |            |            |           |       |         |           |

  

### Edit GPON OLT

Name:

IP address:

Type:

Login name:

User password:

Configuration password (enable):

SNMP community:

SNMP version:

SNMP port:

Router:

QoS done:

Superior de

Router:

Device:

Report outag

Nagios:

**Locally** - Shaping is performed on the OLT only. The prerequisite is a GPON tariff and a corresponding traffic\_table created on the OLT by an administrator. (It is necessary to carry out the initial data retrieval from the OLT first so that the traffic\_table from the OLT can be offered.)

Internet service tariffs

+ Add item

Service type:  CMTS  WIFI  nope  L2TP  Radius  PPPoE  WIFI 2,4GHz  Mira  CMTS2  Special tarif  GPON PPPoE  Real GPON

| Tariff name         | Abbreviation | Speed        | Type | Data limit    | Aggregation | Number of clients | Price per month | Price per month excl. VAT | Download | Upload   | Location | Service type | Active |
|---------------------|--------------|--------------|------|---------------|-------------|-------------------|-----------------|---------------------------|----------|----------|----------|--------------|--------|
| 1. WIFI tarif 009   | 15n          | 1 / 0        | FD   | without limit | 1:1         | 0                 | 100             | 82.64                     | 0        | 0        |          | 0            | ✓      |
| 2. WIFI tarif 0015  | 2n           | 2048 / 2048  | HD   | without limit | 1:10        | 0                 | 33.19           | 27.43                     | 0        | 0        |          | 0            | ✓      |
| 3. WIFI tarif 007   | Agent 007    | 1000 / 1000  | FD   | without limit | 1:1         | 2                 | 250             | 206.61                    | 2        | 2        |          | 0            | ✓      |
| 4. Test Gpon + CMTS |              | 10000 / 1000 | HD   | without limit | 1:1         | 0                 | 500             | 413.22                    | 0        | 0        |          | 0            | ✓      |
| <b>Total</b>        |              |              |      |               |             | <b>2</b>          | <b>883.19</b>   |                           | <b>2</b> | <b>2</b> |          |              |        |

Price excl. VAT:  Kč/month

kbit/s (Download (for contracts))

kbit/s (Upload (for contracts))

Excess data charge:

### GPON

| OLT                | Download       | Upload |
|--------------------|----------------|--------|
| TestOlt            | -              | -      |
| <b>Gpon-Test</b>   | <b>750Mbps</b> | -      |
| test               | -              | -      |
| yyy                | -              | -      |
| xxx                | -              | -      |
| Sprintel - zalozni | -              | -      |

**Mikrotik**

Aggregation: 1:

Tariff type:  Half Duplex  Full duplex

By assigning the retrieved traffic-tables to the download and upload directions on the OLT, you specify which speed profile is to be used for a given GPON service tariff when a service port on the OLT is created. If no tariff is specified, no traffic-table will be assigned to the service port defined (no speed specification).

**On the router** - Shaping is performed only on the router (or on its parent router) to which the OLT is assigned (specified in the OLT configuration). Service ports created on the OLT will be without traffic-tables.

**Locally + On the router** - A combination of the above-mentioned options. Shaping is performed on the OLT as well as on the router (queue tree).

## 2.2 Define VLANs

Each service (Internet, IPTV) sent via GPON to a client must be defined by its unique VLAN, which is why ISPadmin allows you to define VLANs for GPON service management. During initial retrieval (see below), a table of valid VLANs on a given OLT is created. This list can be modified based on your needs. Each VLAN defined on the OLT must then be assigned to a particular service type (Internet, IPTV). This assignment will enable ISPadmin to process individual VLANs and services. If no service type is specified for retrieved VLANs, then ISPadmin will not process them (linked with existing services).

| Clients      | Hardware    | Monitoring      | Settings    | Statistics       | Scheduling   | Invoicing | Other | NetFlow | Inventory | Password cha... | Helpdesk | FlowPro |
|--------------|-------------|-----------------|-------------|------------------|--------------|-----------|-------|---------|-----------|-----------------|----------|---------|
| Routers      | GPON        | CMTS            | Switches    | PCPs             | Outages      | Settings  |       |         |           |                 |          |         |
| OLT          | ONT         | Settings        | Connections |                  |              |           |       |         |           |                 |          |         |
| Line profile | DBA profile | Service profile | VLAN        | Manufacturer ... | GPON traffic |           |       |         |           |                 |          |         |

  

### VLAN

| VLAN         |         |                 |                                |              |                    |                                  |                                  |  |  |  |  |         |
|--------------|---------|-----------------|--------------------------------|--------------|--------------------|----------------------------------|----------------------------------|--|--|--|--|---------|
| OLT          |         |                 |                                |              |                    |                                  |                                  |  |  |  |  |         |
| .            |         |                 |                                |              |                    |                                  |                                  |  |  |  |  | Default |
| OLT          | VLAN ID | Name            | Description                    | Service type | Number of services | Default Line profile             | Default SRV profile              |  |  |  |  |         |
| 1. Gpon-Test | 502     | iptv            | Automatic assign vlan from OLT | IPTV         | 0                  | obecna_ONT                       | Ispadmin_Transparent_Default_100 |  |  |  |  |         |
| 2. Gpon-Test | 1215    | internet iptv   | Internet import                | Internet     | 0                  | 500M                             | gpon-vllapark                    |  |  |  |  |         |
| 3. Gpon-Test | 633     | internet        | Internet bez IPTV              | Internet     | 0                  | Ispadmin_Transparent_Default_100 | data+IPTV                        |  |  |  |  |         |
| 4. Gpon-Test | 1000    | iptv pro switch | IPTV                           | IPTV         | 0                  | Ispadmin_Transparent_Default_100 | data+IPTV                        |  |  |  |  |         |
| 5.           | 502     | 502 iptv        | IPTV                           | IPTV         | 0                  | Switche-Uplink                   | gpon-vllapark                    |  |  |  |  |         |

Each VLAN is assigned to a particular default line profile and srv profile. You can specify them in the configuration of a corresponding VLAN. These default profiles are used to make it easier for the user to create a GPON service. You can change them when creating as well as editing services. VLAN definitions are specific to each OLT and take into account the already created model and structure of VLANs in the network.

## 2.3 Define OLTs

In **Hardware / GPON / OLT**, you can create new OLTs. Currently, there is only one type of OLT on offer - Huawei MA5600. Enter a name and password for telnet (enable mode), a community for SNMP version 1 or 2c and a SNMP port. Choose the router which performs shaping and on which individual services are defined. If the QoS is set to be performed on the parent router, the QoS management is delegated to this parent router. The same applies to the firewall. The QoS management mode is specified in the **QoS doing on** field - see above. Standardly, you can specify the Nagios settings and the location on the map.

## 2.4 Initial data retrieval from OLT

When a new OLT is created, it is necessary to retrieve all the settings and existing services to ISPadmin. This process is absolutely essential. It makes it possible for an

existing OLT to be fully integrated into ISPadmin. Check the login credentials using the **Test OLT connection** button or the corresponding icon.

The screenshot shows the ISPadmin interface for OLT configuration. The 'Action' menu is open, and the 'Test connection to OLT' option is highlighted with a red circle. Below the menu, there's a table with the following data:

| VLAN ID | Service type  | Default Line profile             | Default SRV profile              |
|---------|---------------|----------------------------------|----------------------------------|
| 501     | IPTV          | obecna_ONT                       | Ispadmin_Transparent_Default_100 |
| 640     | Internet      |                                  |                                  |
| 1       | Internet      |                                  |                                  |
| 633     | Internet      | Ispadmin_Transparent_Default_100 | data+IPTV                        |
| 1000    | IPTV          | Ispadmin_Transparent_Default_100 | data+IPTV                        |
| 399     | Internet      |                                  |                                  |
| 1215    | Internet iptv | 500M                             | gpon-wilapark                    |

1. Choose the **Perform initial data retrieval from OLT** option from the **Action** menu. All the settings and data from the OLT are retrieved and displayed in **Hardware / GPON / OLT**. The page contains an overview of retrieved VLANs, profiles (link), slots, ports, etc. When you click, for example, on Line Profile, you will be taken to the **Hardware / GPON / Settings / Line profile** tab, where you can check whether the OLT settings are correct and also add your own description. The **Data retrieval** icon appears in all the rows and allows you to retrieve additional custom settings (Similar options are available across the GPON module). You can filter the displayed items using the available filter.
2. When you have checked all the profiles, you can proceed to the next option: **Retrieve existing connections**. When you click on it, the system will retrieve all the existing service ports and ONTs connected to the OLT and try to assign them to existing clients based on the ONT descriptions. For the assignment to be successful, it is necessary for an ONT description to be in the following format: **Client\_number Surname First\_name, Installation address** (for example: 123456 Doe John, Main Street 25). Since ONT naming conventions differ from provider to provider, it will be necessary to contact our technical support to adjust the automatic matching method used. Manual assignment to clients is possible, but it would mean a great deal of work if there were a lot of connections. In the **Hardware / GPON / ONT** tab, you can find a list of retrieved ONTs and their detailed parameters. Retrieved and possibly matched connections can be found in the **Hardware / GPON / Connections** tab. The **List** page contains information about connections created by ISPadmin. Each connection is matched to a particular ONT and service port. If there is no client in the relevant column, the connection created has not been matched to a particular client. That may be caused by one of the following: ineffective automatic matching method, wrongly specified VLAN and wrong assignment of it to a particular service type. The already matched and configured connections can be edited (line and srv profile, native VLANs, etc.).

|         |            |            |             |            |            |           |       |         |           |                 |          |         |
|---------|------------|------------|-------------|------------|------------|-----------|-------|---------|-----------|-----------------|----------|---------|
| Clients | Hardware   | Monitoring | Settings    | Statistics | Scheduling | Invoicing | Other | NetFlow | Inventory | Password cha... | Helpdesk | FlowPro |
| Routers | GPON       | CMTS       | Switches    | POPs       | Outages    | Settings  |       |         |           |                 |          |         |
| OLT     | ONT        | Settings   | Connections |            |            |           |       |         |           |                 |          |         |
| List    | Assignment | Transfer   |             |            |            |           |       |         |           |                 |          |         |

## GPON - connections

special OLT Port ONT Full-text

Search Default

| Client number | Client                              | Connection name                                     | OLT                | Port  | ONT  | Line profile     | Service profile | Number of services | Action |
|---------------|-------------------------------------|---|--------------------|-------|--|------------------|-----------------|--------------------|--------|
| 561876        | Sobotik Petr                        | Ispadmin_561876, Sobotik Petr, Karla Mareše 1373/16 | Gpon-Test          | 0/1/1 | 561876 Sobotik Petr, Karla Mareše 1373/16 (SN:48575443571fa677)          | 500M             | gpon-vilapark   | 0                  |        |
| 7777          | Thomas A. Anderson                  | Ispadmin_AutoCreated_3                              | Gpon-Test          | 0/1/0 | Ispadmin_503362, Dudek Ondrej Norska 206/14 (SN:485754439d710a7b)        | 500M             | gpon-vilapark   | 3                  |        |
| 230359        | Jožka Ťulákovič                     | Ispadmin_AutoCreated_4                              | Gpon-Test          | 0/1/3 | 561485 Sperkova Romana, Karla Mareše 1373/14 (SN:485754435e50a077)       | obecna_ONT       | Switch-Uplink   | 2                  |        |
| 50000000111   | Butcher's workshop informatika Kft. | xxx   | Sprintel - zalozni | 0/1/3 | 561485 Sperkova Romana, Karla Mareše 1373/14 (SN:485754435e50a077)       | Switch-Uplink    | data+IPTV       | 0                  |        |
| 230359        | Jožka Ťulákovič                     | Doma - 123  | Gpon-Test          | 0/1/0 | Ispadmin_503362, Dudek Ondrej Norska 206/14 (SN:485754435a72ac77)        | 500M             | gpon-vilapark   | 0                  |        |
| 3657          | Břetislav Štěpán                    | 3657, Břetislav Štěpán, Žabomyšl ulička 45          | Sprintel - zalozni | 0/1/2 | 561299 Vila Park Tabulovy Vrch Olomouc s.r.o. - ka (SN:48575443812e9f77) | 500M             | gpon-vilapark   | 0                  |        |
| 1008272       | Rachel Green                        | 1008272, Rachel Green, Jesenícká 111                | Gpon-Test          | 0/1/0 | (SN:485754439d710a7b)  | line-profile_222 | Switch-Uplink   | 1                  |        |
| 1001          | Čsôke György                        | 1001, Csôke György, Zrínyi Miklós utca 11           | Gpon-Test          | 0/1/0 | Ispadmin_503362, Dudek Ondrej Norska 206/14 (SN:485754435a72ac77)        | line-profile_222 | Switch-Uplink   | 1                  |        |

( Items: 1 - 8 of 8 )

- On the **Assignment** page, you can bulk assign a service to connections with clients. The service in question has to exist in the Client card and has to be of the Internet or IPTV type (if an IPTV VLAN is found). For the assignment to be possible, it is necessary that one and only one Internet or IPTV service exists in the given Client card. Otherwise, it would not be possible for the system to automatically select a particular service and assign it to a service found on the OLT. If the condition is met, you can bulk assign all (or most) services defined on the OLT to existing WiFi services and convert those WiFi services to GPON services defined on a particular connection. This way, the entire GPON integration process will become much easier and faster.

|         |            |            |             |            |            |           |       |         |           |                 |          |         |
|---------|------------|------------|-------------|------------|------------|-----------|-------|---------|-----------|-----------------|----------|---------|
| Clients | Hardware   | Monitoring | Settings    | Statistics | Scheduling | Invoicing | Other | NetFlow | Inventory | Password cha... | Helpdesk | FlowPro |
| Routers | GPON       | CMTS       | Switches    | POPs       | Outages    | Settings  |       |         |           |                 |          |         |
| OLT     | ONT        | Settings   | Connections |            |            |           |       |         |           |                 |          |         |
| List    | Assignment | Transfer   |             |            |            |           |       |         |           |                 |          |         |

## GPON - Connection assignment

OLT Port ONT Full-text

Search Default

Bulk action: Internet service assignment **Confirm** 1/2

| Client number                       | Client       | Connection name                                     | OLT       | Port  | ONT   | Line profile | Service profile | Number of services | Number of unassigned services | Service  | VLAN | Action |
|-------------------------------------|--------------|---|-----------|-------|---|--------------|-----------------|--------------------|-------------------------------|----------|------|--------|
| <input checked="" type="checkbox"/> | Sobotik Petr | Ispadmin_561876, Sobotik Petr, Karla Mareše 1373/16 | Gpon-Test | 0/1/1 | 561876 Sobotik Petr, Karla Mareše 1373/16 (SN:48575443571fa677) | 500M         | gpon-vilapark   | 0                  | 2                             | Internet | 1215 |        |
| <input type="checkbox"/>            | Sobotik Petr | Ispadmin_561876, Sobotik Petr, Karla Mareše 1373/16 | Gpon-Test | 0/1/1 | 561876 Sobotik Petr, Karla Mareše 1373/16 (SN:48575443571fa677) | 500M         | gpon-vilapark   | 0                  | 2                             | IPTV     | 41   |        |

( Items: 1 - 2 of 2 )

- When you specify a service type and save the form, all the selected GPON services will be assigned to the Internet service.

|         |            |            |             |            |            |           |       |         |           |                 |          |         |
|---------|------------|------------|-------------|------------|------------|-----------|-------|---------|-----------|-----------------|----------|---------|
| Clients | Hardware   | Monitoring | Settings    | Statistics | Scheduling | Invoicing | Other | NetFlow | Inventory | Password cha... | Helpdesk | FlowPro |
| Routers | GPON       | CMTS       | Switches    | POPs       | Outages    | Settings  |       |         |           |                 |          |         |
| OLT     | ONT        | Settings   | Connections |            |            |           |       |         |           |                 |          |         |
| List    | Assignment | Transfer   |             |            |            |           |       |         |           |                 |          |         |

## GPON - connections

Assigns the connection to the Internet service and change its type to a new one! If the client has only one service of this type!

| Client number | Client       | Service  | Service name | Connection name                                    | OLT       | Port  | ONT   | Line profile | Service profile | Action |
|---------------|--------------|----------|--------------|--|-----------|-------|---|--------------|-----------------|--------|
| 561876        | Sobotik Petr | Internet |              | Ispadmin_561876, Sobotik Petr,Karla Mareše 1373/16 | Gpon-Test | 0/1/1 | 561876 Sobotik Petr, Karla Mareše 1373/16 (SN:48575443571fa677) | 500M         | gpon-vilapark   |        |

(Items: 1 - 1 of 1)

Add service type:

- Individual services can be assigned manually as well. If you click on the icon  in the **Action** column, you will be taken to a form where you can select a particular client, choose the original client service and specify the type of the transformed service.

|         |            |            |             |            |            |           |       |         |           |                 |          |         |
|---------|------------|------------|-------------|------------|------------|-----------|-------|---------|-----------|-----------------|----------|---------|
| Clients | Hardware   | Monitoring | Settings    | Statistics | Scheduling | Invoicing | Other | NetFlow | Inventory | Password cha... | Helpdesk | FlowPro |
| Routers | GPON       | CMTS       | Switches    | POPs       | Outages    | Settings  |       |         |           |                 |          |         |
| OLT     | ONT        | Settings   | Connections |            |            |           |       |         |           |                 |          |         |
| List    | Assignment | Transfer   |             |            |            |           |       |         |           |                 |          |         |

## GPON - connections:

Assign service

|                  |   |                   |              |
|------------------|---|-------------------|--------------|
| Connection:      | Ispadmin_561876, Sobotik Petr,Karla Mareše 1373/16              | Client:           | Sobotik Petr |
| OLT:             | Gpon-Test   | Service:          | (1018354)    |
| ONT:             | 561876 Sobotik Petr, Karla Mareše 1373/16 (SN:48575443571fa677) | Add service type: | Real GPON    |
| Port:            | 0/1/1   |                   |              |
| Line profile:    | 500M  |                   |              |
| Service profile: | gpon-vilapark   |                   |              |

## 3. GPON service management

### 3.1 Add Internet service

The process of adding an Internet or IPTV service is almost the same as in the case of a standard service (for example, WiFi). The form contains an additional section in which a connection can be specified (if the specification has already been created, an existing connection can be chosen). Once the service type GPON and the router managing the service are selected, you can move on to the specification of the connection:

- You can choose an existing connection.
- Or you can specify a new one. You can enter its name into the **Connection name** field. Or you can leave the field blank. If you do that, the system will create a name based on client name and address.
- Then, you select a particular OLT and ONT.
- Or you can use the autofind feature on the selected OLT and choose the ONT found.
- If the system already found an ONT using the autofind feature and you choose it, the other options are determined by this ONT.

- If you want to select an ONT from the list of manually added ONTs, you have to specify Frame/Slot/Port (F/S/P) on the given OLT.
- VLAN is determined automatically based on the selected port and service type (Internet, IPTV).  
*Note: You can specify the default VLAN for a particular port (FSP) in the Slots and Ports section of the OLT overview.*
- By choosing a line profile and a srv profile, you specify the basic features of the connection.  
*Note: You can specify the default profiles in the VLAN settings.*
- You can also specify for which ports the selected VLAN will be native. The system accepts the previous settings of the native VLANs for services that are specified on the existing connection.  
*Note: Again, it is possible to use default settings: default native ports for the VLAN.*
- You can then choose a tariff. By selecting one, you assign a traffic-table to both traffic directions (download and upload).  
*Note: If no tariff is chosen, the service speed will not be managed on the OLT. The **QoS done** setting in the OLT configuration is taken into account. The setting specifies where speed management will take place (see above).*
- All the other settings are identical to the Internet/IPTV service settings.

| Clients | Hardware      | Monitoring | Settings | Statistics | Scheduling | Invoicing | Other           | NetFlow | Inventory | Password cha... | Helpdesk |
|---------|---------------|------------|----------|------------|------------|-----------|-----------------|---------|-----------|-----------------|----------|
| Home    | Message board | Contacts   | Internet | CATV       | DVBC       | VoIP      | General service | IPTV    | Mobile    | Requests        |          |

  

### Edit Internet service

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Information

Internet statistics

**Active services** 18

Connections

DVB-C set-top boxes

Cancellations 0

Contracts 55

Tasks 32

GDPR

Helpdesk 2

Photo gallery 11

Messages

Inventory items 61

Documents 10

Invoicing

History

Client communication 1

Delete client

|  |   |
|--|---|
| Service name: <input type="text" value="test"/>                      | Location: <input type="text" value="Andalusia-1"/>                              |
| Connected from date: <input type="text" value="03.06.2019"/>         | Service type: <input type="text" value="Real GPON"/>                            |
| Invoice from date: <input type="text" value="23.09.2019"/>           | Router: <input type="text" value="Manazeris R1"/>                               |
| Invoicing period: <input type="text" value="Monthly"/>               | Router IP: <input type="text" value="10.0.0.1"/>                                |
| Invoicing date: <input type="text" value="30"/>                      | Number of clients assigned to router: <input type="text" value="7"/>            |
| Invoice separately: <input type="checkbox"/>                         | QoS on router: <input type="text" value="2 test X X"/>                          |
| Reverse charge: <input type="checkbox"/>                             | Connection: <input type="text" value="Ispadmin_AutoCreated_3"/>                 |
| Labels: <input type="text"/>   | OLT: <input type="text" value="Gpon-Test"/>                                     |
| Contract number: <input type="text"/>                                | ONT: <input type="text" value="Ispadmin_503362, Dudek Ondrej Norska 206/1..."/> |
| Contract type: <input type="text" value="No time limited contract"/> | Port: <input type="text" value="0/1/0"/>  |
| Min. contract period: <input type="text" value="0"/> Months          | VLAN: <input type="text" value="internet iptv (1215)"/>                         |
| Min. fixed time of contract: <input type="text"/>                    | Line profile: <input type="text" value="500M"/>                                 |
| Contract renewal: <input type="text" value="0"/> Months              | Service profile: <input type="text" value="gpon-vilapark"/>                     |
| Notice period: <input type="text" value="0"/> Months                 | VLAN is native on ports: <input type="text" value="1 X 3 X 4 X"/>               |
|  | Tariff: <input type="text" value="WIFI tarif 007"/>                             |
|  | Speed: <input type="text" value="1000 / 1000 kbit/s"/>                          |
|  | Aggregation: <input type="text" value="1:1"/>                                   |

## 3.2 Edit service

Almost the same rules apply to the process of editing a service. There is a difference, though. ISPadmin checks and offers only such combinations of VLANs, line profiles and srv profiles that are valid for a given OLT and connection. It may happen that a particular ONT and srv and line profiles have been specified for an existing connection and that these settings allow you to choose only one VLAN or VLAN combination. You have to use these VLANs or you have to choose a different srv and line profile which includes an already specified service and the corresponding VLAN, though. Or you can create a new profile (which better suits your needs) manually on the OLT.

*Note: ISPadmin does not manage the properties and settings of the dba, srv, line and traffic profiles. It only retrieves the properties and uses them to set up new and existing services! Any changes to the profiles must be performed by an administrator directly on the OLT and must be part of the default state of the OLT.*

## 3.3 Connections

In **Client card / Connections**, you can view and edit the parameters of individual connections. You can also delete the existing connections if there are no services assigned to them. This way, you delete them completely from the OLT (the specified ONT is deleted from the OLT) and make them available for further use in ISPadmin (the ONT remains in the list with the existing SN). The deleted ONT (connected physically to the OLT) is moved to the list of so-called autofind ONTs that can be used directly for assignment of a service to a particular OLT port.

In the edit mode, you can change the specification of the srv and line profile, of the VLAN and native ports for a particular service.

*Note: If you want to change the ONT for a given connection, choose one of the manually added ONTs or use the autofind feature to find one.*

## 3.4 Autofind

The autofind feature is a very effective tool for working with GPON connections. When an ONT is added to the GPON network, the OLT detects a new device in the system. This device is then uniquely defined by its optical fiber connection (which OLT port and slot the device is connected to). This way, it is much easier for the user to assign a connection to the OLT and create a service.

Another benefit of the feature is that if you transfer a connection to another port or OLT, the system will automatically find out that the ONT has been moved to another port. As a result, if there is a connection and a service assigned to the ONT, they will be transferred automatically within the same OLT. This way, the system will automatically move services if the user, for example, tries to reconnect all the connections to a different fiber, to a different port or slot of the existing OLT.

When you want to transfer a connection to a different OLT, it is necessary to confirm the move. For that purpose, you can use the form in **Hardware / GPON / Connections / Transfer**, where you select the corresponding assigned profiles on the new OLT and finish the transfer.

## 3.5 ONT

You can add to the system all the ONTs that are used for the specification of a connection on an OLT as well as those that are not used yet. You can find the overview in **Hardware / GPON / ONT**. For active ONTs, the system displays the essential technical details relating to the quality of the optical fiber connection, the online start time, the offline start time and the reason for disconnection from the network. Apart from the important serial number (SN), you can find here details about port assignment (FSP), OLT ID and client assignment. The Status column shows the current status of the connection with ISPadmin.

- **Assigned** - The ONT is managed by the system and is assigned to a particular connection and service.
- **Autofind** - The ONT is connected to the OLT, but it is not integrated into it (Waiting).
- **Added manually** - The ONT is in the system, but it is not used yet.
- **Unassigned** - The ONT is integrated into the OLT, but it is not assigned to any client and service.
- **Deleted** - The ONT has been deleted from the OLT. When you edit it, you can use it again.
- **Transfer to another port in progress** - This status means that the system is waiting for the completion of the transfer. It is waiting for the user to finish the process in **Hardware / GPON / Connections / Transfer** or for ISPadmin to update the OLT in the background.
- To make the input of serial numbers easier when adding new ONTs, a manufacturer code list has been integrated into the system: **Hardware / GPON / Settings / Manufacturer code list**. You can create your own list based on your needs.

## 3.6 GPON Traffic-table

The **Hardware / GPON / Settings / GPON traffic** page gives you an overview of traffic-table speed profiles specified on the individual OLTs. It contains basic information about speeds as well as an overview of traffic usage for the individual tariffs. You can also edit and assign traffic\_tables to tariffs (it is necessary for a given tariff to be usable by the GPON module).

|              |             |                 |             |                  |              |           |       |         |           |                 |          |         |
|--------------|-------------|-----------------|-------------|------------------|--------------|-----------|-------|---------|-----------|-----------------|----------|---------|
| Clients      | Hardware    | Monitoring      | Settings    | Statistics       | Scheduling   | Invoicing | Other | NetFlow | Inventory | Password cha... | Helpdesk | FlowPro |
| Routers      | GPON        | CMTS            | Switches    | POPs             | Outages      | Settings  |       |         |           |                 |          |         |
| OLT          | ONT         | Settings        | Connections |                  |              |           |       |         |           |                 |          |         |
| Line profile | DBA profile | Service profile | VLAN        | Manufacturer ... | GPON traffic |           |       |         |           |                 |          |         |

**Assign tariffs to 150Mbps** (cir: 9,98 Mbit/s, cbs: 321,49 KB, pir: 152,90 Mbit/s, pbs: 7,00 MB)

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**Tariff: WIFI tarif 009**  
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**Tariff: Test Gpon + CMTS**  
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**Tariff: 0\_import**  
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**Tariff: BASIC**  
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### 3.7 Backend

Service updates and the add, delete and edit processes run in the background. You can force the update process to start from the web interface by clicking on the well-known update icon . Afterwards, you can watch the progress of the update process in the

modal window displayed. The second icon from the trio   allows you to initiate the

immediate retrieval of all data from a given OLT. This icon  is used in other sections of the GPON module as well. It allows you to retrieve a particular piece of information (depending on where it is used).