NETSIA

SEBA Combo PON Support

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Agenda

- What is COMBO PON
- Key Design Decisions
- Integration with VOLTHA
- Combo PON Support in BBSIM
Combo PON

Single physical PON Interface
Multiple Access Technologies
Design Decisions

**VOLTHA** interfaces should be modified as little as possible.

**NB interface** should be independent of the PON technology.

**Fasten** the development cycle by little vendor support

**Enhance** Alarm & PM with extra information.

**Prevent** complexity by eliminating GPON/XGS distinction in technology profiles.

**Preserve** configuration changes in OLT
ONU Model concept
- TECHNOLOGY MISMATCH alarm if inappropriate ONU device is provisioned
Dynamic SFP Technology Operation

Requires **vendor** intervention

Developed an easy to use script for operation.
OLT Configuration

OLT packaged with initial configuration
Technology is always ANY PON
Further changes should be made per SFP
Logical PON IDs

PHYSICAL PON PORT MAPPING

<table>
<thead>
<tr>
<th>PHY 1</th>
<th>PHY 2</th>
<th>PHY 3</th>
<th>PHY 4</th>
<th>PHY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>XGS</td>
<td>GPON</td>
<td>COMBO</td>
<td>COMBO</td>
<td>GPON</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>4-5</td>
<td>6-7</td>
<td>8</td>
</tr>
</tbody>
</table>

COMBO SFP
- 2n - 2 -> XGS
- 2n - 1 -> GPON

ONLY SFP
- 2n - 2 -> XGS/GPON
Affected Components

- **RW-CORE**
  - Logical/Physical ID Abstraction
- **OPENOLT-ADAPTER**
  - PON Manipulation based on intfOperIndication

**SFP Switch Operation**

1. Physical operation
2. Run the script (No need to OLT Reboot)

*SFP Switch Operation from XGS to GPON on 1st Physical Pon Port*
Combo PON in BBSIM

Supports different SFP technologies
● ./bbsim -pon 10 -xgs 4 -gpon 3 -combo 3 -any true

Supports SFP switching between different technologies
● ./bbsimctl pon changeSFP 1 GPON

Supports hardcoded GPON ONU model for BBSIM
Thank you! Questions?