A YANG model to manage the optical interface parameters for an external transponder in a WDM network

draft-dharini-ccamp-dwdm-if-param-yang-01
Document History

IETF 90: First Draft presented to netmod WG
IETF 91: Align yang model with SNMP draft
IETF 92: incorporate Yang doctor’s suggestions
IETF 93: Alignment with discussions at IETF 92
IETF 94: replaced draft-dharini-netmod-g-698-2-yang-04 by
draft-dharini-netmod-g-698-2-yang for a more generic approach
IETF 95: switched to draft-dharini-netmod-dwdm-if-yang, reducing dependency from progress in non-IETF standard bodies
IETF 96: deciding to go for experimental, given the lack of standards
IETF 96: presented draft-galimbe-ccamp-iv-yang, for Optical Parameters
IETF 97: Experimental draft in conjunction with a problem statement
IETF 98: Introducing mode parameters
External Transponder Model

```
+-----------------+        +-----------------+        +-----------------+
| Ss              |        | DWDM Network Elements |        | Rs              |
| +----+           |        | +-----------------+     |        | +----+           |
|   Tx L1--|->|       |        | +-----------------+     |        |   ---|->Rx L1       |
|   +----+           |        |     +-----------------+     |        |   +----+           |
|   Tx L2--|->| OM |        |        |     +-----------------+     |        |   +----+           |
|   +----+           |        |     +-----------------+     |        |   +----+           |
|   Tx L3--|->|       |        |     +-----------------+     |        |   +----+           |
|   +----+           |        |     +-----------------+     |        |       | Link |-------|----+ Link |-------|----+ Rs |
|   +----+           |        |     +-----------------+     |        |       |       |     +-----------------+        |        | Ss |
|   | RxLx |        |        |     +-----------------+     |        |       |       |     +-----------------+        |        |   |       |
|   +----+           |        |     +-----------------+     |        |       |       |     +-----------------+        |        |   +----+ |
| Ss = reference point at the DWDM network element tributary output |
| Rs = reference point at the DWDM network element tributary input |
| Lx = Lambda x |
| OM = Optical Mux |
| OD = Optical Demux |
| OADM = Optical Add Drop Mux |
```
Motivation & Problem statement

Problem:
• Coherent transceivers not covered by standards today
• Supporting several combinations of parameters with interdependency between each other
• Current YANG models do not support the planning aspect allowing to select the best parameter combination
• Yang models definition according to existing draft like: draft-ietf-ccamp-wson-iv-info, draft-martinelli-ccamp-wson-iv-encode and RFC6566

Motivation:
• Provide a consistent way to pan and operate wavelength Interfaces with netconf/yang
• More about the motivayion can be found in: draft-many-coherent-dwdm-if-control-01
Status

- Yang Module draft-dharini-ccamp-dwdm-if-param-yang-01.txt defined as an extension to ietf interfaces.
- Yang module https://tools.ietf.org/html/draft-galimbe-ccamp-iv-yang-02 removed some parameters already present in the if-param-yang draft, cosmetic and typo modification
- Dropped intention to align with G.698.1. Details see draft-many-coherent-dwdm-if-control-01
- Changes since IETF97
  - Introduced the notion of potential and actual mode supported by transceivers
  - Introduced boundary conditions for proper functioning of the module
  - Adding threshold crossing notifications
  - Fixed typos
Next Steps

• Keep alignment with related effort in CCAMP
• Focus on operational aspects