A YANG Data Model for Layer 0 Types

draft-ietf-ccamp-rfc9093-bis-04

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Updates Since IETF 115

YANG model update:

- Added “supported-modes” presence container (issue #126 in Optical Impairment Closed)
  - to allow profile in optical impairment draft there is no ambiguity here for empty list since a transceiver will support at least one mode. Two options here:
    - 1) leave as it is clarifying in the description that the list is empty when the server does not report the supported-modes (profile case)
    - 2) make the supported-modes a presence container and add a min-element 1 to the supported-mode list → chosen for alignment with the adopted profile solutions in all the model

- Closed Issue #66 on RX power penalty
  - to extend the operative region of the receiver. The “extended operative region" would allow to use the transponders/transceivers in network where the deployed HW forces the power level to be less than minimum of operative region.
    - changed the definition of min-OSNR, using rx-ref-channel-power.
    - defined new data node rx-ref-channel-power: the channel power used as reference for defining penalties and min-OSNR
    - introduced the new list for power-penalty
leaf rx-channel-power-penalty {
    config false;
    description
    "Optional penalty associated with a received power
    lower than rx-ref-channel-power.
    This list of pair power and penalty can be used to
    sample the function penalty = f(rx-channel-power).";
    leaf rx-channel-power {
        type union {
            type dbm-t;
            type empty;
        }
        units "dBm";
        config false;
        mandatory true;
        description "Received Power";
    }
    uses penalty-value;
} // grouping transceiver-capabilities

leaf min-OSNR {
    type snr;
    units "dBm";
    config false;
    description
    "min OSNR measured over 0.1 nm resolution bandwidth:
    if received OSNR at Rx-power reference point
    (rx-ref-channel-power) is lower than MIN-OSNR,
    an increased
    level of bit-errors post-FEC needs to be expected";
} leaf rx-ref-channel-power {
    type dbm-t;
    config false;
    description
    "The channel power used as reference
    for defining penalties and min-OSNR";
} // grouping transceiver-capabilities

list supported-modes {
    presence
    "When present, it indicates that the modes supported by a
    transceiver are reported."
    description
    "The top level container for the list supported
    transceiver's modes.";
    list supported-mode {
        key "mode-id";
        config false;
        min-elements 1;
        description "The list of supported transceiver's modes.";
        leaf mode-id {
            type string {
                length "1..255";
            }
            description "ID for the supported transceiver's mode.";
        }
    } // list supported-modes
} // container supported-modes

Open issues

• Tracking Open Issues, discussions and resolutions linked to YANG model https://github.com/ietf-ccamp-wg/ietf-ccamp-layer0-types-ext-RFC9093-bis/issues
• 1 issue closed since IETF-115
• Still 21 open issues: need to review the list and solve first the issues that create dependency for stable draft almost closed to LC (e.g. optical impairments)
• https://github.com/ietf-ccamp-wg

Administrative:

• We have weekly call associated with Optical Impairments aware Topology model on Tuesday 2pm CET
Next Steps

• Complete the Appendix A with the changes from RFC 9093 (issue #40)
• Prioritizing and Fixing the remaining issues https://github.com/ietf-ccamp-wg/ietf-ccamp-layer0-types-ext/issues
backup