A YANG Data Model for Layer 0 Types

draft-ietf-ccamp-rfc9093-bis-00

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Status of the new document

• This document obsoletes RFC9093, encompassing the content of RFC9093 with the content of draft-ietf-ccamp-layer0-types-ext-01

• Github https://github.com/ietf-ccamp-wg/ietf-ccamp-layer0-types-ext

• Addressing the comments received at IETF 112 (see minute)

• Last PR#36 to restructure the document draft-ietf-ccamp-layer0-types-ext to become RFC9093-bis

• Added L0 technology-specific constraints Issue #35
  • added gsnr-margin : from gsnr-margin and OSNR-min from transceiver spec it is possible to estimate a receiving OSNR
  • Added estimated-gsnr as as output of path computation to report the computed gsnr of the path
Added L0 technology specific constraints

```text
grouping l0-path-constraints {
    description "Common attribute for Layer 0 path constraints to be used by Layer 0 computation.";
    leaf gsnr-margin {
        type snr {
            range 0..max;
        }
        default 0;
        description "An additional margin to be added to the OSNR-min of the transceiver when checking the estimated received Generalized SNR (GSNR).";
    }
}

grouping l0-path-properties {
    description "Common attribute for reporting the Layer 0 computed path properties.";
    leaf estimated-gsnr {
        type snr;
        config false;
        description "The estimate received GSNR for the computed path.";
    }
}
```
Added more line-coding identities

- Added more line-coding identities issue #32 linked to https://github.com/ietf-ccamp-wg/draft-ietf-ccamp-optical-impairment-topology-yang/issues/100

- Added new leaf “bitrate” in grouping common-explicit-mode to indicate the “gross bitrate e.g. 100G, 200G, 300G etc. of optical tributary signal

- Still exploiting to “line-coding-bitrate” leaf, standard reference, when more that line rate (e.g. modulation) format is required

```yaml
grouping common-explicit-mode {
  description "Attributes capabilities related to explicit mode of an optical transceiver";
  leaf line-coding-bitrate {
    type identityref {
      base line-coding;
    }
    config false;
    description "Bit rate/line coding of the optical tributary signal.";
    reference "ITU-T G.698.2 section 7.1.2";
  }
  leaf bitrate {
    type uint16;
    units "Gbit/sec";
    config false;
    description "The gross bitrate (e.g., 100, 200) of the optical tributary signal.";
  }
}```
Support resolution of issue #99 of optical impairments

- Added the following typedef:
  - snr-or-null
  - decimal-2-digits
  - decimal-2-digits-or-null
  - power-in-db
  - power-in-db-or-null
  - power-in-dbm
  - power-in-dbm-or-null
- Updated types with union with type empty when applicable
Next Steps

• Reconcile in the introduction the introduction coming form RFC9093 with the one from layer0-types-ext
• Complete the Appendix A with the changes from RFC 9093
• Fixing the remaining issues
backup