IEEE P802.3.1/P802.3.2 Ethernet MIBs & YANG Data Models: Changes against D1.2

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Background

- Getting into YANG having not paid attention for a couple of years.
- Very familiar with SNMP
- Still learning YANG, so look out for beginner mistakes.
- Main areas of interest are:
  - General
  - BASE-T and BASE-T1
  - PoE (multipair and single pair)

Big items

- We don’t have equivalents to IEEE8023-MAU-MIB and IANA-MAU-MIB.
- Clause 30 problems, e.g., aMAUType descriptions.
- Clause 30/79/145 inconsistencies
  - Looks like a lot to cover in maintenance, do we need a separate project to address this?
- I think we need to develop a “Best Practices” document.
  - RFC 8407 is a good start, but I don’t think it’s specific enough.
  - For example:
    - Don’t use the optional “value” statement for bit and enum definitions.
    - Don’t just copy descriptive text from clause 30.
    - Using "if-feature“ or “when”.
    - Only 64 bit counters.
    - Obsolete vs deprecate vs change/move existing objects.

ieee802-ethernet-phy-type.yang

- Derived from IANA-MAU-MIB.
- Added “phy” type and mapped “mau” -> “pmd”
- Drop out no longer maintained clauses (e.g., 10BASE5)
  - We should look for other clauses to do this to (e.g., 10GBASE-W)
- Some aMAUType descriptions are broken.

ieee802-ethernet-phy.yang

- Derived from IEEE8023-MAU-MIB.
- Dropped out repeater management.
- I haven't done notifications yet
- Moved ifMauEntry (multiple rows per interface) into phy-table (one row per interface).

ieee802-ethernet-interface-half-duplex.yang

- Moved the 10GBASE-W/WIS dynamic-rate-control objects into ieee802-ethernet-interface.yang as they are not related to half-duplex (WIS is only full duplex).
- Change module description as half-duplex is back with 10BASE-T1S and 10BASE-T1M (802.3da).

ieee802-ethernet-interface.yang

- I moved the 10GBASE-W/WIS dynamic-rate-control objects here from ieee802-ethernet-interface-half-duplex.yang as they are not related to half-duplex (WIS is only full duplex).
- Import ieee802-ethernet-phy-type.yang.
- Removed mau-type & mau-type-list leaves and added phy-type & pmd-type leaves.
- Simplified descriptions for pause-fc-direction-type.
- Removed eth-if-speed-type and speed leaf, not required when augmenting if:interface which already contains interface speed.
- Removed the “container pfc” container and added pfc-enable-status to pause-> control-and-status.
- Moved some “Discontinuities in the values of counters” paragraphs further up the hierarchy.
- Clean up LPI definitions.

ieee802-ethernet-lldp.yang

- Import ieee802-ethernet-phy-type.yang.
- Obsolete auto-negotiation-cap and operational-mau-type. Replace with auto-negotiation-cap-bits and operational-pmd-type using definitions from ieee802-ethernet-phy-type.yang.
- Obsolete Link Aggregation objects which have not been part of 802.3 for a long time.
- There are lots of consistency errors between PoE definitions in 30.9 (PoE), 30.12 (LLDP), 79.3.2 (PoE TLV) and 79.3.8 (PoE measurement TLV). Need to get these clauses reviewed against clause 145 and each other

ieee802-ethernet-mac-merge.yang

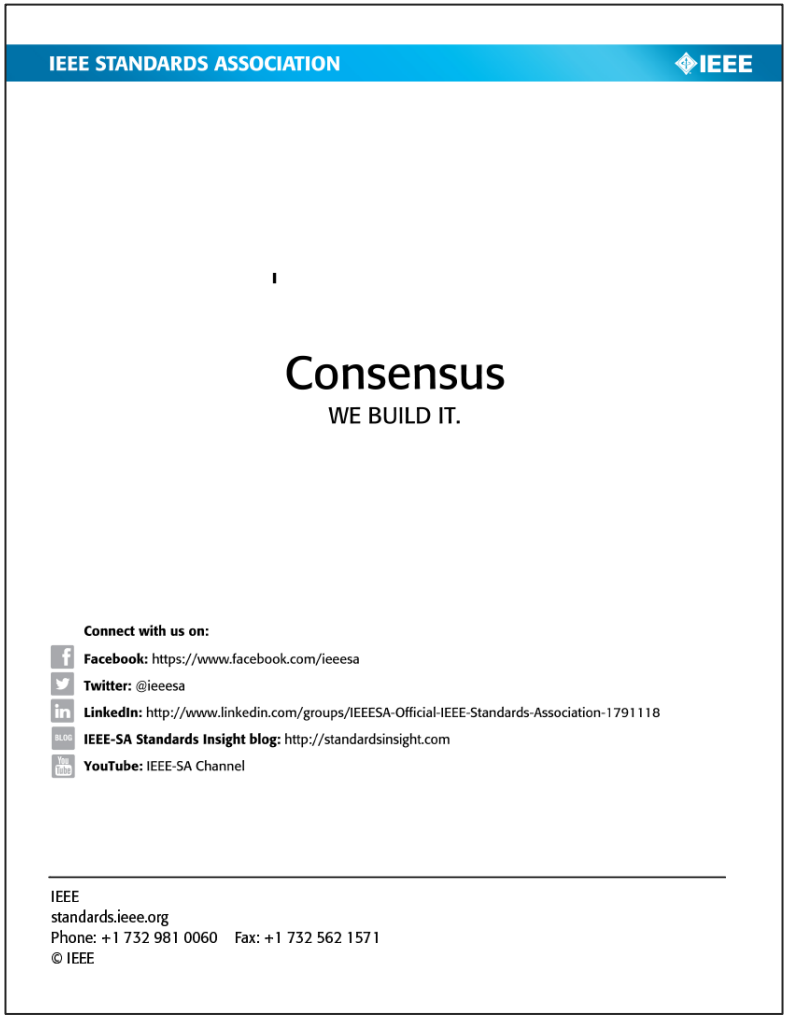
- Simplify descriptions.
- Define “enable-disable” as common type for reuse.

ieee802-ethernet-pse.yang

- Significant changes to separate multi-pair (aka PoE) definitions from single-pair (aka PoDL).
- Moved some definitions from “in leaf” to typedefs.
- Update multi-pair to include Clause 145 support, e.g. add classes 5-8.
- Simplify/clarify descriptions.
- Change some leaves from identityref to enum (e.g., powering-pairs, pse-type).
- Remove optional "value" statements from emums.
- Change actual-power from “type decimal64 - fraction-digits 4” to uint32 in units of milliwatts.

Conclusion

- I have a lot of changes, and I'm not done yet.
- I think we should get this into the draft sooner rather than later.
- I'd like to do a "code review" with anyone who is interested before I submit comments against the next draft.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