#11   Type: ER   TF: TF4   Clause: 0   Page: 0   Line: 0   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: Satisfied   Category: -

Multiple references to "profile" in the document hanging around, yet no more profiles are supported in this specificaton

Specific changes on page/line: - 26/9: remove "profile-specific" - 26/39: remove "profile-specific" - 82/1: remove "for this profile" - 82/12: remove "in this profile" - 92/1: remove "for this profile" - 92/15: remove "complying with this profile" - 92/28: remove "complying with this profile" - 92/46: remove "in this profile" - 172/4: remove "scheme specific for the given profile" - 463/1: PICS U-PSL2, change "Profile-specific loopback" to "Loopback function"

-

#1   Type: TR   TF: TF4   Clause: 1.2   Page: 25   Line: 15   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: Satisfied   Category: -

Purpose statement contains references to 1G-EPON and 10G-EPON.

Replace content of subclause 1.2 with the Purpose statement from PAR, i.e., "This standard builds upon the IEEE Std 802.3ca (25G-EPON and 50G-EPON) Physical Layer and Data Link Layer standards and creates a system-level and network-level standard, thus allowing full "plug-and-play" interoperability of the transport, service, and control planes in a multi-vendor environment."

-

#7   Type: E   TF: TF4   Clause: 1.4   Page: 26   Line: 3   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: None   Category: -

Wrong reference to 1904.1

Change 1904.1 with 1904.4; the same applies to line 11

-

#8   Type: E   TF: TF4   Clause: 1.4   Page: 26   Line: 35   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: None   Category: -

Clause 12 is still described in terms of scope / coverage but we do not have it anymore.

Remove any reference to Clause 12 from this list. Update descriotion of Clause 13 to read: "Clause 13 introduces definitions of the control protocol, data units, and management functions."

Delete the bullet item for C12. Use the following text for C13: Clause 13 defines extended OAM requirements and specifies eOAMPDU structure, device discovery and capability discovery processes, and the software upgrade mechanism.

#2   Type: TR   TF: TF4   Clause: 3.1   Page: 31   Line: 22   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: Satisfied   Category: -

Defnition of OLT_MDI lists only 1G-EPON and 10G-EPON, while reference to Nx25G-EPON is missing

Change "in IEEE Std 802.3, Clause 60 for 1 Gb/s Ethernet Passive Optical Network (1G-EPON) and Clause 75 for 10 Gb/s Ethernet Passive Optical Network (10G-EPON)." to "in IEEE Std 802.3, Clause 60 for 1 Gb/s Ethernet Passive Optical Network (1G-EPON), Clause 75 for 10 Gb/s Ethernet Passive Optical Network (10G-EPON), and Clause 141 for Nx25G-EPON Passive Optical Network (Nx25G-EPON)."

As suggested, plus apply similar change to ONU-MDI definition.

#3   Type: TR   TF: TF4   Clause: 3.1   Page: 32   Line: 4   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: Satisfied   Category: -

Queue Set does not exist in Nx25G-EPON and it is not used in out specifition right now at all.

Remove definition of Queue Set.

-

#4   Type: E   TF: TF4   Clause: 3.1   Page: 32   Line: 25   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: None   Category: -

Terms SFU and SBU are used only once in the text under Table 9-3 and per rules, do not need really a definition and entry in list of acronyms

Remove SFU and SBU definitions from 3.1 and their entries in 3.2 as well

As above and also remove acronyms in text on p. 159

#13   Type: ER   TF: TF4   Clause: 7   Page: 60   Line: 1   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: Satisfied   Category: -

The majority of Clause 7 has no changes relative to 1904.1 right now and it still occupies a lot of pages. See tf4_2401_hajduczenia_1_clause_7_changes.pdf for tracked changes between 1904.1-2017 and our draft

Remove editorial note on page 60, line 20 Replace content of subclause 7.2 with the following text: "See IEEE Std 1904.1, 7.2 for definitions. Note that in this standard, the configuration TLVs are defined in 0xDB tree rather than in 0xD7 tree." Replace content of subclause 7.3 with the following text: "See IEEE Std 1904.1, 7.3 for definitions. Note that in this standard, the configuration TLVs are defined in 0xDB tree rather than in 0xD7 tree." Update references to subclauses 7.2.x and 7.3.x for U-UVM/T-UVM PICS with "IEEE Std 1904.1", leaving numeric values intact. No changes to PICS for 7.4.x subclauses

Replace sections 7.2 and 7.3 with the material in tf4_2404_kramer_clause7_2.pdf

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#14   Type: TR   TF: TF4   Clause: 8.3.4   Page: 126   Line: 5   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: Satisfied   Category: -

Content for subclause 8.3.4 is still missing

-

Delete sub-clause 8.3.4 and the note

#15   Type: E   TF: TF4   Clause: 8.4.4.2   Page: 139   Line: 10   Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: None   Category: -

reference missing

Replace<TBD> with 10.3.2 and make the link live

-

#20	Type: TR	TF: TF4	Clause: 9.1.4	Page: 148	Line: 9	Commenter: Glen Kramer / Broadcom

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: Satisfied   Category: -

The entire sub-clause 9.1.4 Was lifted from a wrong SIEPON.1 profile. These messages do not exist in 1904.4. Instead, DPoE and 1904.4 have a resettable attribute for each of these parameters.

1) Delete sub-clause 9.1.4 2) Add sentence at the end of 9.1.3.1: "The optical transceiver temperature value is queried using the resettable *aPonOptMonitTemp* attribute (see 14.4.3.24)" 3) Add sentence at the end of 9.1.3.2: "The optical transceiver supply voltage value is queried using the resettable *aPonOptMonitVcc* attribute (see 14.4.3.25)" 4) Add sentence at the end of 9.1.3.3: "The optical transmitter bias current value is queried using the resettable *aPonOptMonitBias* attribute (see 14.4.3.26)" 5) Add sentence at the end of 9.1.3.4: "The optical transmitter output power value is queried using the resettable *aPonOptMonitTxPower* attribute (see 14.4.3.27)" 6) Add sentence at the end of 9.1.3.5: "The optical receiver input power value is queried using the resettable *aPonOptMonitRxPower* attribute (see 14.4.3.28)"

-

#16	Type: ER	TF: TF4	Clause: 9.1.4	Page: 148	Line: 11	Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: Satisfied   Category: -

Multiple dead links in Clause 9

Review cross references in Clause 9 and make sure they are live. Most cross references to clause 13 and 14 are now dead.

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#12	Type: E	TF: TF4	Clause: 9.1.5	Page: 148	Line: 27	Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: None   Category: -

Wrong figure reference: is 9-2, should be 9-1

Per comment, lines 27 and 32

-

#23	Type: TR	TF: TF4	Clause: 11.1.1	Page: 194	Line: 32	Commenter: Craig Pratt / CableLabs

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: Satisfied   Category: -

A significant threat model is missing from the "risks and vulnerabilities" list in 11.1.1. Propose adding "Data Capture and Offline Decrypt" to this list with the description provided.

Data Capture and Offline Decrypt: In PONs, a malicious user who successfully captures network packets transmitted on the PON could store and attempt to decrypt them at a later time if/when the private key(s) of the peers is cracked or compromised – gaining access to any encryption keys derived from the public key exchange. This attack could compromise tremendous amounts of data retroactively – even if/when compromised public/private key pairs are taken out of service.

-

#24	Type: TR	TF: TF4	Clause: 11.3	Page: 200	Line: 36	Commenter: Craig Pratt / CableLabs

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: Satisfied   Category: -

11.3 is a new section titled "Authentication of the ONU". The text proposed for the section is in the document "tf4_2404_pratt_ONU_auth_1e.pdf". The existing section 11.3 ("Initial Key exchange") should become section 11.4

See new text for 1.3 contained in "tf4_2404_pratt_ONU_auth_1e.pdf"

Delete existing sub-clause 11.4 Import text of 11.3 contained in "tf4_2404_pratt_ONU_auth_1e.pdf" and insert ahead of existing 11.3, renumbering all subsequent subclauses accordingly. Make sure all cross references are updated.   Postpone PICS implementation until D2.1

#25	Type: TR	TF: TF4	Clause: 11.4	Page: 204	Line: 4	Commenter: Craig Pratt / CableLabs

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: Satisfied   Category: -

Section 11.4 should be renamed "Initial key establishment" and replaced with the text contained in "tf4_2404_pratt_initial_key_2c.pdf" (also included here)

11.4 Initial key establishment Once the ONU and OLT have completed the authentication exchange, the initial AES-128 encryption key shall be established by both parties from the least-significant 128 bits (16 octets) of the MSK, which is derived from the TLS 1.3 ephemeral session key as described in RFC-9190 section 2.3. The initial key is used by the OLT to encrypt the MLID channel for distribution of a new session key to the ONU. See section 11.5 for details on the session key distribution protocol.

Per comment, implement after comment #24 Delete the following attributes: aInitialKeyCapability -- 14.4.5.1 aInitialKeyMethod -- 14.4.5.2 aInitialKeySharedElement -- 14.4.5.3

#18	Type: E	TF: TF4	Clause: 11.9.2	Page: 229	Line: 10	Commenter: Glen Kramer / Broadcom

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: None   Category: -

Same reference 11.3 points to to different clauses

The former reference shall be 11.4 The correct sentence should be this: "To re-enable the encryption, the OLT shall initiate the ONU authentication process (see 11.4) and the initial key exchange (see 11.3)." Note that another comment may propose changing the order of the above two sub-clauses.

Modify the content to "To re-enable the encryption, the OLT shall initiate the ONU authentication process (see 11.3) and the initial key establishment (see 11.4)." Implement after comment #25

#22	Type: TR	TF: TF4	Clause: 13.4.6	Page: 252	Line: 1	Commenter: Glen Kramer / Broadcom

Comment Status: Resolved   Response Status: AIP   Commenter Satisfaction: Satisfied   Category: -

The authentication procedure allows the operator to install its own certificate (Network Authentication Credential - NAC) into an ONU. This requires defining a set of new messages to install and retrieve the certificate, as well as to retrieve a manufacturer-installed certificate (Device Authentication Credential - DAC)

Add a new section 13.4.6.7 as shown in tf4_2404_kramer_cert_oampdu_1.pdf. Also apply changes to Table 13-1 as shown.

Changes per comment + update PICS

#9	Type: E	TF: TF4	Clause: 13.4.6.6	Page: 254	Line: 15	Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved   Response Status: Accept   Commenter Satisfaction: None   Category: -

Reference to 12.3.3 that does not exist in our draft

Change reference to 13.5

-

#10	Type: E	TF: TF4	Clause: 13.5.2	Page: 263	Line: 16	Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved	Response Status: Accept	Commenter Satisfaction: None	Category: -

Reference to 12.3.3.2.5 that does not exist in our draft

Change reference to 13.5.2.5

-

#19	Type: T	TF: TF4	Clause: 14.4.1.10	Page: 308	Line: 24	Commenter: Glen Kramer / Broadcom

Comment Status: Resolved	Response Status: Accept	Commenter Satisfaction: None	Category: -

Caption of table 14-65 is inaccurate. This TLV re[presents the forwarding state of a single logival link (ULID), not the entire ONU.

1) In caption of table 14-65, replace L-ONU with ULID 2) Delete "Onu" in "OnuLlidForwardState" field name 3) In the first paragraph of this sub-clause, replace "The forwarding state of the given ONU is changed..." with "The forwarding state of the entire ONU is controlled..."

-

#17	Type: TR	TF: TF4	Clause: 14.4.1.13	Page: 311	Line: 1	Commenter: Glen Kramer / Broadcom

Comment Status: Resolved	Response Status: Accept	Commenter Satisfaction: Satisfied	Category: -

The following statement is incorect: "Value of sCvsStart sub-attribute, represented in the BCD format of YYMMDDhhmmssZ, with no null terminator." The CVC and CVS Validity periods are prepresented as ASCII strings, not in binary-coded decimal format.

In Table 14-68, replace BCD with ASCII in two places.

-

#21	Type: T	TF: TF4	Clause: 14.7.1	Page: 430	Line: 8	Commenter: Glen Kramer / Broadcom

Comment Status: Resolved	Response Status: Accept	Commenter Satisfaction: None	Category: -

The description of a general-purpose counter applies to every such counter, not just counter #0.

Replace "This attribute indicates the current value of a general-purpose counter number 0." with "This attribute indicates the current value of a general-purpose counter number N, where N corresponds to the numerical value of the attribute's leaf."

-

#5	Type: TR	TF: TF4	Clause: 4A.3.16	Page: 498	Line: 1	Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved	Response Status: Accept	Commenter Satisfaction: Satisfied	Category: -

T-MCC1a PICS item still references 1G-EPON and 10G-EPON and points to a non-existing subclause 7.4.1.1.2

Multicast PICS seem to be broken right now and not have been updated when multicast sections were re-written. This does not affect technical completeness of the draft, though, so a future contribution for multicast PICS ought to be sought from the original contributors of multicast for Nx25G-EPON. Insrt an editorial note to that effect and eliminate all PICS fro multicast outside of reference to Table 5-1.

-

#6	Type: TR	TF: TF4	Clause: 9A	Page: 502	Line: 1	Commenter: Marek Hajduczenia / Charter

Comment Status: Resolved	Response Status: Reject	Commenter Satisfaction: Satisfied	Category: -

Nothing in Annex 9A is new or specific to Nx25G-EPON.

Remove Annex 9A and replace all remaining references to Annex 9A, with "IEEE Std 1904.1, Annex 9A" - there are just 2 of them in Clause 9

Annex 9A may need updates because the MPCP time synchronization mechanism in Nx25G-EPON is different from that in previous generations. In Nx25G-EPON, the GATE timestamps are RTT-precompensated, while in 10G-EPON, the grant StartTime values were RTT-pre-compensated. Postpone the implementation of this comment until it is verified that the existing description is applicable as is.