P802.3dj Draft 0.1 Chief Editor's Report (updated)

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IEEE P802.3dj Task Force
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Introduction

- Introduce IEEE 802.3dj expanded editorial team
- Introduce draft structure
  - based on set of adopted objectives
  - final depends on what baselines get adopted
  - official clause numbers starting with 174
- Indicates where baselines are complete or needed

Note: Some slides were updated to reflect progress made at the January 2024 Interim Meeting.

Editorial Team, <u>so far</u>

Editor	Duties
Matt Brown	Chief Editor, clause editor FM, 1, 69, 116, 169, 174
Gary Nicholl	Logic lead editor; clause editor 118, 170, 171
Adee Ran	Electrical lead editor; clause editor 120F, 120G (1.6TAUI-16)
Tom Issenhuth	Optical lead editor
Arthur Marris	Clause editor 4, 4A, 30, 31B, 45, 73, 73A, 90, 9A
Eugene Opsasnick	Clause editor 175 (1.6TBASE-R PCS)
Kapil Shrikhande	Clause editor 176 (symbol-mux PMA)
Xiang He	Clause editor 177 (IMDD inner FEC)
Leon Bruckman	Clause editor 184 (coherent inner FEC)
Peter Stassar	Clause editor 180 (DR PMDs), 182 (DR-2 PMDs)
Roberto Rodes	Clause editor 183 (FR4/LR4 PMDs)

Legacy clauses to amend (part 1)

Clause #	Clause title	Baseline status	Notes
FM	Front matter	N/A	new front matter
1	Definitions, abbreviations,etc.	N/A	new defs., abbrs., etc.
4	MAC	Complete	Add 1.6T
4A	Simplified full duplex media access control	Complete	Add 1.6T
30	Management Objects	N/A	New content for 200G, 400G, 800G, and 1.6T
31B	MAC Control PAUSE operation	Complete	new content for 1.6T
45	MDIO	N/A	New content for 200G, 400G, 800G, and 1.6T
69	Backplane	Complete	New content for 200G, 400G, 800G, and 1.6T
73	AN	Complete	New content for 200G, 400G, 800G, and 1.6T
73A	AN message codes	Complete	New content for 200G, 400G, 800G, and 1.6T
90	Ethernet time synchronization	Complete	New content for 1.6T
90A	Ethernet time synchronization timestamp accuracy	Complete	New content for 1.6T

Legacy clauses to amend (part 2)

Clause #	Clause title	Baseline status	Notes
93A	Spec. methods for Electrical Channels (e.g., COM)	Partial	New content for 200 Gb/s electrical interfaces (CR, KR, C2C, C2M) Considering new annex for new features.
116	400GE/200GE introduction	N/A	add new 200G and 400G PHY types and sublayers
118	200G/400G extender, XS	Complete	add new 200GAUI-1, 400GAUI-2, symbol-mux PMA
119	200G/400G PCS	Complete	add stateless encoder/decoder for 200 Gb/s PHYs
120F	100GAUI-1, 200GAUI-2, 400GAUI-4, 800GAUI-8 C2C	Complete	add 1.6TAUI-16
120G	100GAUI-1, 200GAUI-2, 400GAUI-4, 800GAUI-8 C2M	Complete	add 1.6TAUI-16
169	Introduction to 800GE	N/A	add new 800G PHY types and sublayers
170	800G RS, MII	Complete	add 1.6T RS and 1.6TMII
171	800G MII extender, XS	Complete	add 1.6T extender and XS, 800GAUI-4, 1.6TAUI-16/8

New clauses (part 1)

Clause #	Clause title	Baseline status	Notes
174	Introduction to 1.6TE	N/A	
175	1.6TBASE-R PCS	Complete	
176	200G, 400G, 800G, 1.6T symbol-mux PMA	Complete	
176A	200G, 400G, 800G, 1.6T symbol-mux PMA examples	Incomplete	
176B	200GAUI-1, 400GAUI-2, 800GAUI-4, 1.6TAUI-8 C2C	Partial	
176C	200GAUI-1, 400GAUI-2, 800GAUI-4, 1.6TAUI-8 C2M	Partial	
177	200G, 400G, 800G, and 1.6T inner FEC + PMA (IMDD)	Complete	
178	200GBASE-KR1, 400GBASE-KR2, 800GBASE-KR4, 1.6TBASE-KR8 PMDs	Partial	
179	200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, 1.6TBASE-CR8	Partial	
179A	200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, 1.6TBASE-CR8 test points, budget, etc.	Partial	
179B	200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, 1.6TBASE-CR8 test fixtures	Partial	
179C	200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, 1.6TBASE-CR8 MDIs	Incomplete	
179D	200GBASE-CR1, 400GBASE-CR2, 800GBASE-CR4, 1.6TBASE-CR8 form factors	Incomplete	

New clauses (part 2)

Clause #	Clause title	Baseline status	Notes
180	200GBASE-DR1, 400GBASE-DR2, 800GBASE-DR4, 1.6TBASE-DR8 PMDs	Complete	
181	800GBASE-FR4-500m PMD	Complete	
182	200GBASE-FR1, 400GBASE-DR2-2, 800GBASE-DR4-2, 1.6TBASE-DR8-2	Complete	
183	800GBASE-FR4/LR4 PMDs	Complete	
184	800GBASE-LR1 Inner FEC (BCH)	Complete	~~possibly include ER1 if common FEC~~
184A	800GBASE-LR1 Inner FEC test vectors	Incomplete	
185	800GBASE-LR1 PMD (coherent)	Complete	~~possibly include ER1 if common FEC~~
186	800GBASE-ER1 PCS/PMA (oFEC)	Complete	~~necessary if FEC is different than for LR1~~
186A	800GBASE-ER1 PCS/PMA test vectors	Incomplete	
187	800GBASE-ER1 PMD (coherent)	Complete	~~possibly merge with LR1 if comment FEC~~

New clauses (part 3)

Clause #	Clause title	Baseline status	Notes
annex	New COM methodology	Partial	consider for FFE, MLSD, etc.
annex	New electrical test methodology, common to CR, KR, C2M, C2C	Incomplete	consider for common test methodologies
annex	BER/FLR considerations	Incomplete	consider for provided system guidance
annex	optical link training (if adopted)	Incomplete	common annex for multiple optical PMDs
annex	optical auto-negotiation (if adopted)	Incomplete	common annex for multiple optical PMDs
annex	link training for C2C and C2M (if adopted)	Partial	common annex for C2C and/or C2M maybe for KR/CR as well

Baseline deficit

Note: This slide was updated to reflect progress made at January Interim

- To address the adopted objectives, we need baselines for the following:
  - KR/CR PMDs (partial baselines adopted)
  - All 200 Gb/s per lane AUIs (partial baselines adopted)
  - Link training for KR, CR, and AUIs (partial baselines adopted)
  - ~~500 m duplex SMF PMDs (new objective)~~
  - ~~800GBASE-LR1/ER1 PMDs~~
  - ~~FEC/PCS/PMA for 800GBASE-ER1~~
  - Vectors for PCS, PMA, ~~IMDD Inner FEC~~, Coherent Inner FEC
  - COM updates (may be part of electrical PMD and AUI baselines) (partial baselines adopted)
- Other baselines being discussed
  - Optical link training and auto-negotiation

Draft 0.1 Overview

- Members of the editorial team contributed Draft 0.1 as a prelude to Draft 1.0 based on the baselines adopted thus far.
- The draft is a work in progress.
- A separate presentation is provided to discuss some of the architecture considerations made by the editorial team.

Summary

- Editorial team (so far) was introduced.
- Structure and content for 802.3dj Draft 0.1 is summarized.
- Some items will be excluded if no baseline is adopted.
- Still many areas where an adopted baseline is required.
- Draft 0.1 was provided by the editorial team as a contribution.

Thanks!