COM Reference Update v4.8 – March 2025

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IEEE 802.3 COM Ad Hoc Chair

Rich Mellitz, Samtec

Overview for COM v4.8

- Commit requests:

Commit Request #	Submitter	Description	Proposed Disposition
4p7_1	Hossein Shakiba	• Quantization Noise Feature aligned to deferred commit request 4p6_5	Accept
4p7_2	Richard Mellitz	Align ICN with Clause 92	Accept
4p7_3	Hossein Shakiba	fixed typo's and updated from shakiba_3dj_COM_02_241001 to shakiba_3dj_COM_01_241029	Accept
4p7_4	Hossein Shakiba	A Follow-up to Quantization Noise Feature in COM MatlabCode	Accept
4p7_5	Hossein Shakiba	DER_DFE Equation in the “MLSE_U1_c_178A” function of the COM MatlabCode	Accept
4p7_6	Hossein Shakiba	Re-evaluation of DER_MLSE in COM	Accept
4p7_7	Rich Mellitz	Name change for main program from com_ieee8023_93a_*version* to com_ieee8023_*version*	Accept

New Keywords for COM v4.8

- **N_qn** : number of bits. If 0 do not apply quantization.
  - Default=0
  - Notes earlier version used the keyword ENOB
- **N_qc** : adc clipping probability
  - Default = 2 * DER0

New Outputs for Quantization Noise Feature

- sgm_Q - adc_lsb/sqrt(12);
- sigma_before_clip- noise variance before clipping is applied
- peak_clip – adc clip voltage
- p2ptopsigma_clip – peak to peak clip voltage in terms of sigma

Summary

- Participants are asked to use COM v4.8 code going forward
  - **With these changes [4p7_1 : 4p7_7], COM v4.8beta3 = COM 4.8**

- No configuration spreadsheets are included in the COM 4.8 distribution
  - Item for future work and contributions
- Send bug reports or functional issues to Kent and Rich
  - Or bring them to the COM ad hoc

BACKUP

Change Management Guidelines

Proposed *Short-term* COM Code Change Management Guidelines (WIP)

- Managed at the Task Force level via COM ad hoc for the short-term

- Steps
  1. Requests for changes to the COM code are sent to Kent and Rich as a "Commit Request"
     - Brief title, submitter, description of desired change, suggested remedy
  2. Commit Requests are assigned a number associated with the COM version
     - For tracking purposes
  3. Commit Requests are introduced in the COM ad hoc
     - Details are discussed, if time allows
     - Specific code changes are provided to participants by website or reflector (TBD)
  4. Participants review the Commit Request(s) offline between the COM ad hoc meetings
     - Use of the 3dj electrical track reflector is encouraged for discussion and debate on Commit Requests
  5. A straw poll on a Commit Request is taken at a future COM ad hoc meeting to gauge support
     - If there was support, then a Commit Request becomes part of the next formal COM code release

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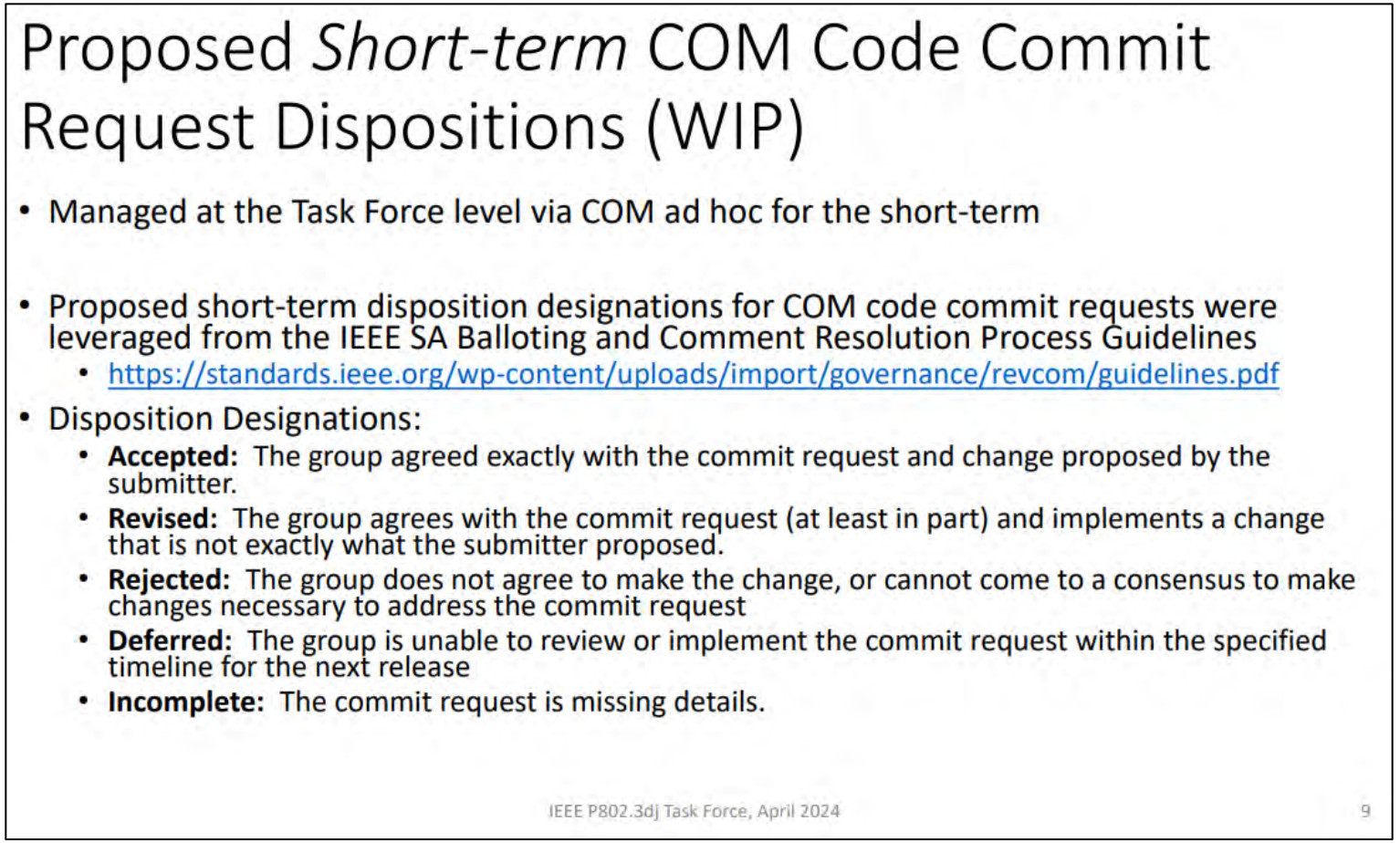
https://www.ieee802.org/3/dj/public/24_05/lusted_3dj_03_2405.pdf

Request Dispositions



Proposed *Short-term* COM Code Commit Request Dispositions (WIP)

- Managed at the Task Force level via COM ad hoc for the short-term
- Proposed short-term disposition designations for COM code commit requests were leveraged from the IEEE SA Balloting and Comment Resolution Process Guidelines
  - https://standards.ieee.org/wp-content/uploads/import/governance/revcom/guidelines.pdf
- Disposition Designations:
  - **Accepted:** The group agreed exactly with the commit request and change proposed by the submitter.
  - **Revised:** The group agrees with the commit request (at least in part) and implements a change that is not exactly what the submitter proposed.
  - **Rejected:** The group does not agree to make the change, or cannot come to a consensus to make changes necessary to address the commit request
  - **Deferred:** The group is unable to review or implement the commit request within the specified timeline for the next release
  - **Incomplete:** The commit request is missing details.

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