

# Channel Operating Margin (COM) Code as Open Source – September Update

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# Background

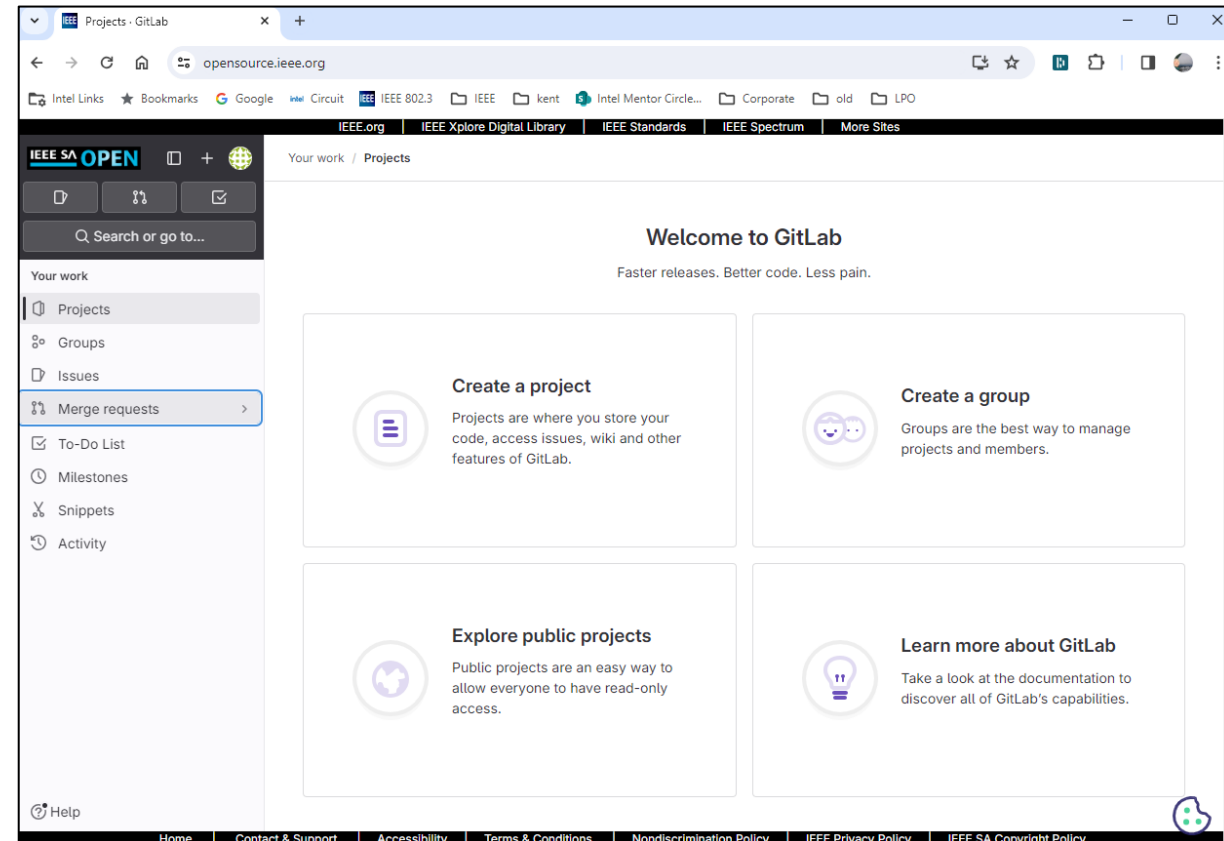
- IEEE Std. 802.3 and amendments normatively specify Channel Operating Margin (COM) via equations and methods in Annex 93A and 178A
  - This proposal would not impact the continued normative specification of COM through equations and methods in Annex 93A and 178A
- There have been and continue to be contributions of software code implementations of these equations and methods for participants to use
- The contributed COM software code implementation is being widely used by industry participants
- It is increasingly important to ensure that the “reference” code implementation is revision controlled, peer reviewed, cross checked, and bug free and maintained over time

# A Path via IEEE SA Open Source

- Propose to use the IEEE SA BOG Open Source Committee (IEEE OSCom) framework for the COM code
  - [https://standards.ieee.org/wp-content/uploads/import/documents/other/OSCOM\\_Operations\\_Manual.pdf](https://standards.ieee.org/wp-content/uploads/import/documents/other/OSCOM_Operations_Manual.pdf)
  - The IEEE Open Source Platform consists of the code and document repositories, license repositories, communication forums, Project management systems, and related administrative and end-user tools maintained by IEEE for the purpose of hosting Open Source Projects together with the associated governance mechanisms, support mechanisms, and other services offered to participants, users, and consumers of Open Source Projects.

# IEEE SA Open Source Repo Option

- Hosted by GitLab
  - <https://opensource.ieee.org/>
- Free IEEE web account to access
- Full suite of tools available to manage:
  - Access and responsibilities
  - Commit or merge requests
  - Forking, branching and merging
  - Issues and problems
  - Security



# IEEE OSCom Project Tiers

There are five tiers of IEEE Open Source Projects:

**Tier 1** — Individual Projects, which are maintained and managed by an individual who may accept contributions from others.

**Tier 2** — Group Projects—Projects maintained and managed by a group of individuals or organizations. Such Projects will typically have multiple maintainer(s), committers, etc.

**Tier 3** — Open Source Projects reviewed and approved for use of the IEEE Open Source Platform by OSCom to create IEEE Open Source Releases or products.

**Tier 4** — IEEE Open Source Projects incorporated into IEEE standards—IEEE Open Source Projects operating in conjunction with an SASB authorized standards Project.

**Tier 5** — Joint IEEE Open Source Projects—IEEE Open Source Projects that are operating in conjunction with another IEEE Board or Organizational Unit and are also subject to the policies and procedures of that Board or Organizational Unit.

[https://standards.ieee.org/wp-content/uploads/import/documents/other/OSCOM\\_Operations\\_Manual.pdf](https://standards.ieee.org/wp-content/uploads/import/documents/other/OSCOM_Operations_Manual.pdf)

Per IEEE SA OSCom Operations Manual Clause 2, “Open Source is **incorporated** into an IEEE standard if it is normatively or informatively included as part of the text of the standard or cited in the standard.”

# IEEE SA OSCom Tier 4

- IEEE Volunteer roles:
  - IEEE Open Source Project Lead
    - Responsible for the vitality, organization, development, evaluation, operation, security, and maintenance of an IEEE Open Source Project.
    - Shall be an Officer of the Standards Committee or Working Group responsible for the Project
  - Contributor(s)
    - Any person who submits any material to an IEEE Open Source Project
    - Every Contributor is required to obtain an IEEE account that requires agreeing to the IEEE Code of Ethics and the IEEE Code of Conduct
    - IEEE membership is not required to be a Contributor
  - Maintainer(s)
    - Authority to commit (save changes) to the IEEE code and document repository
    - Shall also be IEEE members of any grade and a member of IEEE SA

# Future Consideration Items for IEEE 802.3 WG

- IEEE SA OSCom Open Source Project request (Tier 4) responses
- Updates to IEEE 802.3 WG PnPs to support Open Source projects
- Governance for the COM Open Source Project including:
  - who is the Project lead
  - who may contribute to the Project
  - how merge requests are handled
  - how the Maintainers, Committers, and IEEE Open Source Project peer reviewers are admitted to the Project and authorized
  - how and when releases are evaluated, reviewed, and agreed

# Summary

- The normative COM specification remains the equations and methods in Annex 93A and 178A
  - This proposal would not impact the continued normative specification of COM through equations and methods in Annex 93A and 178A
- Use IEEE SA Open Source, Tier 4
- IEEE 802.3 WG would govern the release of new COM code versions (main trunk)
  - Details are WIP
- Complete proposal in November 2024



Thanks!

# COM Code Work Flows

- There are three predominant workflows of COM that need to be considered in the solution
  - Development - Fast and flexible
    - New features and new capabilities for IEEE 802.3 TF/SG use
    - Align with changes to draft specification, as the spec changes
  - Maintenance - Structured
    - Corrections to existing functions or code related to IEEE 802.3 Std.
    - Stable and “proven” releases
  - Adjacencies
    - Requests for features and capabilities beyond the IEEE 802.3 Std. (e.g. OIF, etc.)
    - Workflow for this is TBD
- Developing proposed workflows. Detailed proposal expected in November 2024