

802.3 draft development process

- ❑ IEEE 802.3 Q&A
- ❑ Life of IEEE 802.3 project draft
 - Initial draft version (unofficial Task Force draft)
 - Task Force Review (D1.x)
 - Working Group Ballot (D2.x)
 - Sponsor Ballot (D3.x)
 - Final Approvals & Publication
- ❑ Baseline Proposals
- ❑ Tasks & Responsibilities of Project Editors

IEEE 802.3 Q&A

Background Information

- ❑ IEEE 802.3 Working Group (WG) has now two base standards: IEEE Std 802.3-2015, and IEEE Std 802.3.1-2012, collecting in a series of **clauses** all necessary requirements, definitions, MIBs, etc. to build fully-functional interoperable Ethernet PHYs.
- ❑ Almost all new projects under 802.3 WG add new requirements into **base standard**(s) by amending the base standard in question.
- ❑ Periodically, **amendments** to the base standard are combined with the base standard in the process referred to as **revision**.
- ❑ More details on the following slides

What is a clause?

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- ❑ A **clause** represents one of chapters in the base standard, containing requirements for the given layer, sublayer, interface, functional block, etc.
- ❑ For some PHYs containing multiple sublayers, interfaces, and functional blocks, a complete PHY description features multiple clauses.
- ❑ For example, to understand the operation of a 1G-EPON link, one needs to be read Clause 60 for PMD, Clause 65 for PCS, Clause 64 for MPCP, Clause 57 for OAM, and selected subclauses in Clause 30 (management) and Clause 45 (MDIO registers).

- ❑ IEEE Std 802.3 uses a number of keywords with specific reserved meaning:
 - The word **shall** indicates **mandatory requirements** strictly to be followed in order to conform to the standard and from which no deviation is permitted (**shall equals is required to**).
 - The word **should** indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required (**should equals is recommended that**).

- ❑ IEEE Std 802.3 uses a number of keywords with specific reserved meaning:
 - The word **may** is used to indicate a course of action permissible within the limits of the standard (**may** equals **is permitted to**).
 - The word **can** is used for statements of possibility and capability, whether material, physical, or causal (**can** equals **is able to**).
 - The use of the word **must** is deprecated and shall not be used when stating mandatory requirements; **must** is used only to describe **unavoidable situations**.
 - The use of the word **will** is deprecated and shall not be used when stating mandatory requirements; **will** is only used **in statements of fact**.

Normative / Informative

- ❑ Normative text is information that is **required** to implement the standard and is therefore officially part of the standard:
 - The main clauses of the documents including figures and tables
 - Footnotes to tables
 - Footnotes to figures
 - Annexes marked as “(normative)”
- ❑ Informative text is provided for **information only** and is therefore not officially part of the standard:
 - Frontmatter
 - Notes to text, tables, and figures
 - Footnotes within text
 - Annexes marked as “(informative)”, (e.g., Bibliography)

- ❑ Protocol implementation conformance statement (PICS) provides a list (in the form of a series of subclauses and tables) of mandatory and optional requirements listed in the given clause.
- ❑ The supplier of a protocol implementation that is claimed to conform to the specific Clause shall complete the PICS proforma for the given Clause listed in the specific subclause(s).

- ❑ FrameMaker is the software tool used by 802.3 WG (and larger IEEE as well) for the development of draft amendments and base standards.
- ❑ 802.3 WG is currently using FrameMaker 2015

What is a base standard?

- ❑ A **base standard** is the latest published version of the given standard (here, specifically IEEE Std 802.3) with any published corrigenda and errata.
- ❑ This base standard represents the latest status of IEEE Std 802.3 at the time when the given project is started.
- ❑ At this time, the base standard for all 802.3 WG projects is IEEE Std 802.3-2015 + all published corrigenda and errata

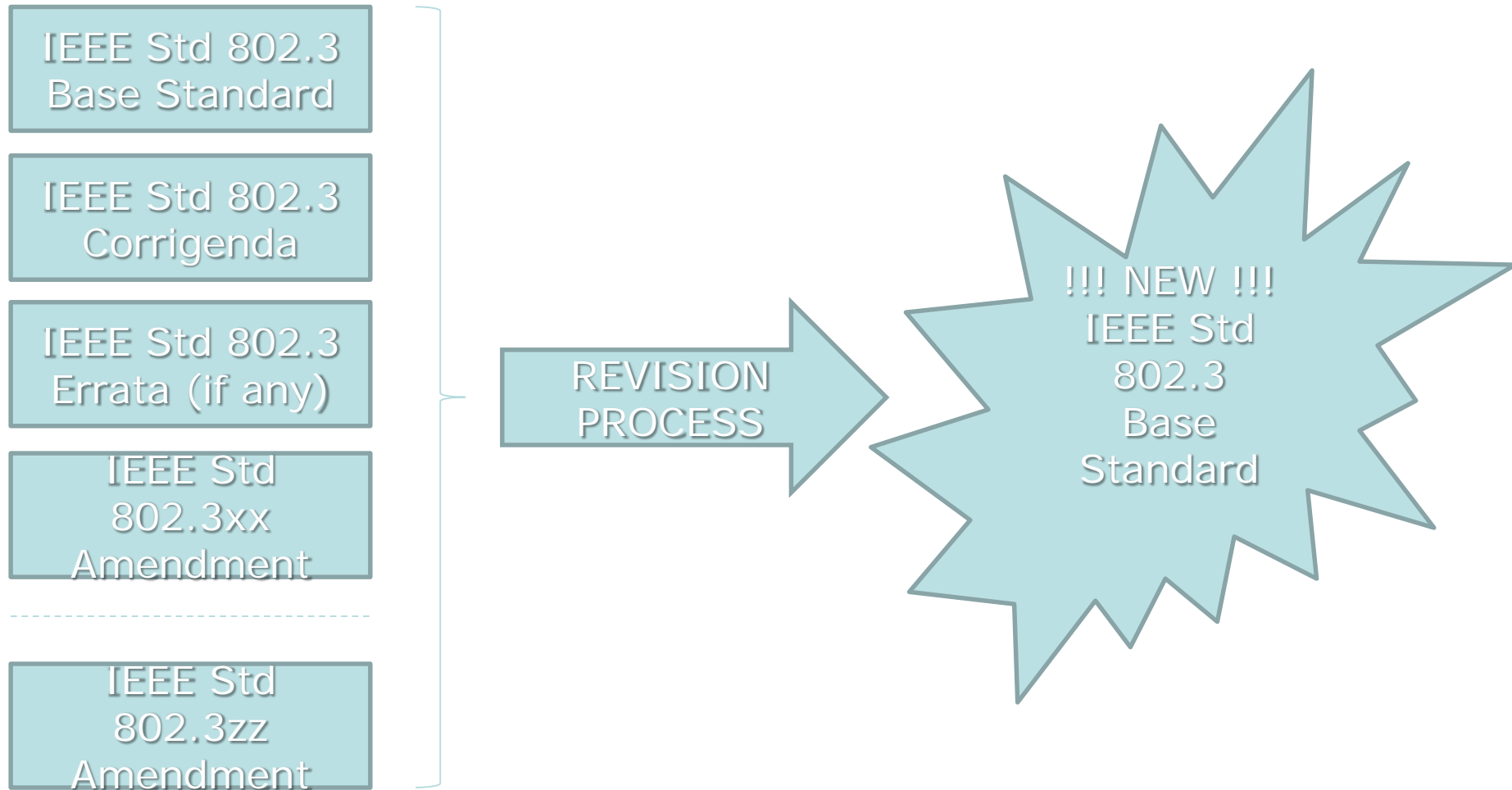
What is an amendment?

- ❑ An **amendment** to the base standard shows all the changes to the base standard required to accommodate the specific set of requirements in the given project.
- ❑ An amendment may:
 - Change existing content, by adding new text (shown in underline) or removing existing text (shown in strikethrough)
 - Add completely new clauses, subclauses, figures, tables, etc., all marked with proper editorial instructions.
- ❑ An amendment must be read together with the base standard it modifies and never as a stand-alone document.

What is a revision? (I)

- ❑ A **revision** is a process of merging all published amendments, errata, corrigenda, and approved **maintenance requests** into the latest base standard; opening the resulting draft for 802.3 WG Ballot followed by Sponsor Ballot; and once approved – publishing the new version as the next version of base standard.
- ❑ For example, one of latest revision processes (P802.3bh) took IEEE Std 802.3-2008, and merged corrigenda (IEEE Std 802.3-2008/Cor 1), as well as published amendments (IEEE Std 802.3bc-2009, IEEE Std 802.3at-2009, IEEE Std 802.3av-2009, IEEE Std 802.3az-2010, IEEE Std 802.3ba-2010, IEEE Std 802.3bd-2011, IEEE Std 802.3bf-2011, IEEE Std 802.3bg-2011), producing IEEE Std 802.3-2012.

What is a revision? (II)



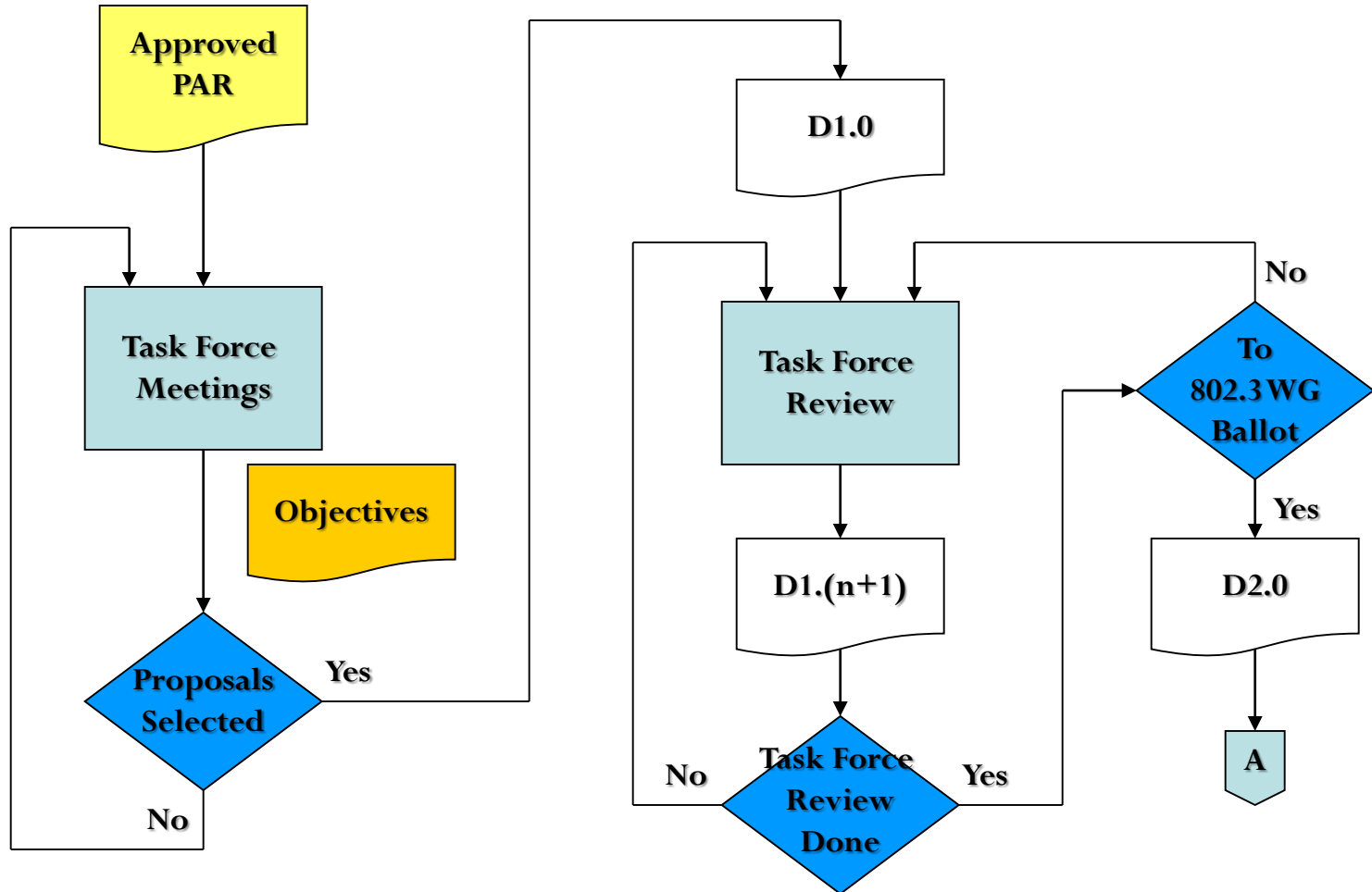
What is a maintenance request?

- ❑ A **maintenance request (MR)** is a comment submitted against the base standard, or any published amendment, identifying a technical or editorial issue with that document.
- ❑ All MR in 802.3 are submitted to the standing Maintenance Task Force and then discussed at the following meeting.
- ❑ Once approved, each MR is published online and then merged into the base standard during the next revision process.
- ❑ MRs serve the purpose of fixing issues identified in the published documents, and NOT introducing new features, requirements, etc. – that is what projects are for.

Life of IEEE 802.3 project draft

Task Force Review

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Pre-Task Force Review Draft (I)

- ❑ Before the Task Force (TF) review is started on D1.0, Project Editors typically prepare initial, unofficial version of the draft
- ❑ Such pre-TF review drafts have D0.x version numbers and:
 - Contain primary outline information to stimulate technical discussion and contributions
 - May contain material from other existing clauses with similar scope and coverage, to give a starting point for development of project-specific text
 - Are technically incomplete (and sometimes – technically incorrect) and represent collection of existing materials from other clauses, and editorial notes indicating the development directions for future draft versions

Pre-TF Review Draft (II)

- ❑ D0.x draft versions are not balloted within the TF and are deposited in the private area for preview only
- ❑ Editors typically keep track of adopted baseline proposals and update the draft to make sure that the latest unofficial D0.x draft reflects the current status of TF consensus
- ❑ At some point of time, when TF believes the draft reaches the appropriate level of technical and editorial maturity, official TF draft D1.0 is created and TF review is started.

- ❑ Draft D1.0 represents the first, official TF draft ready for TF ballot.
- ❑ It is the first milestone in any 802.3 project, opening the process of official TF balloting, comment resolution, and progressing TF towards the Working Group ballot
- ❑ Draft D1.0 may be still technically incomplete, contain TBDs, editorial notes on missing text, etc., but these will be resolved through comments before D2.0 can be generated

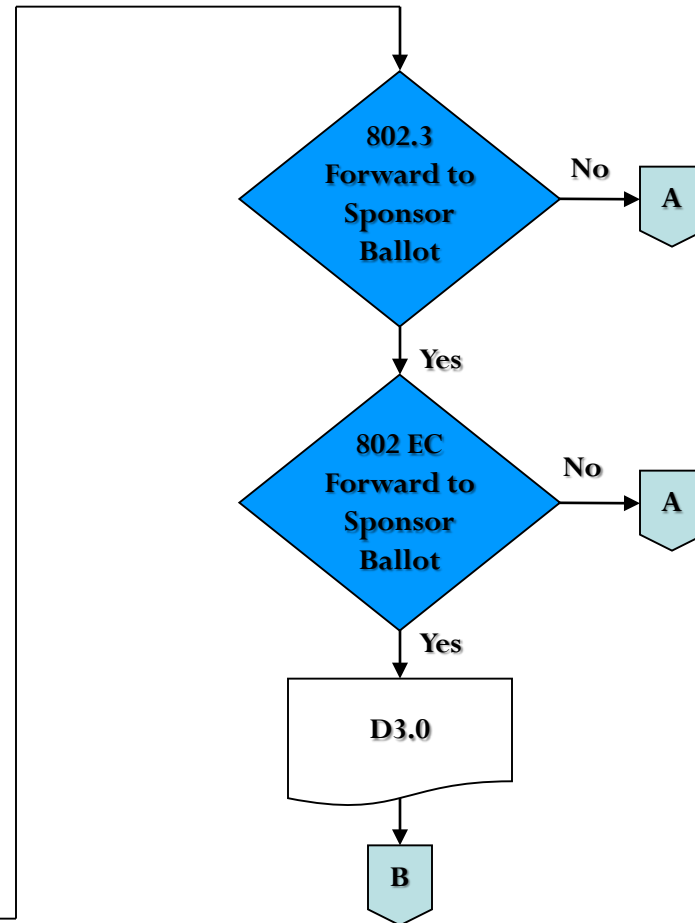
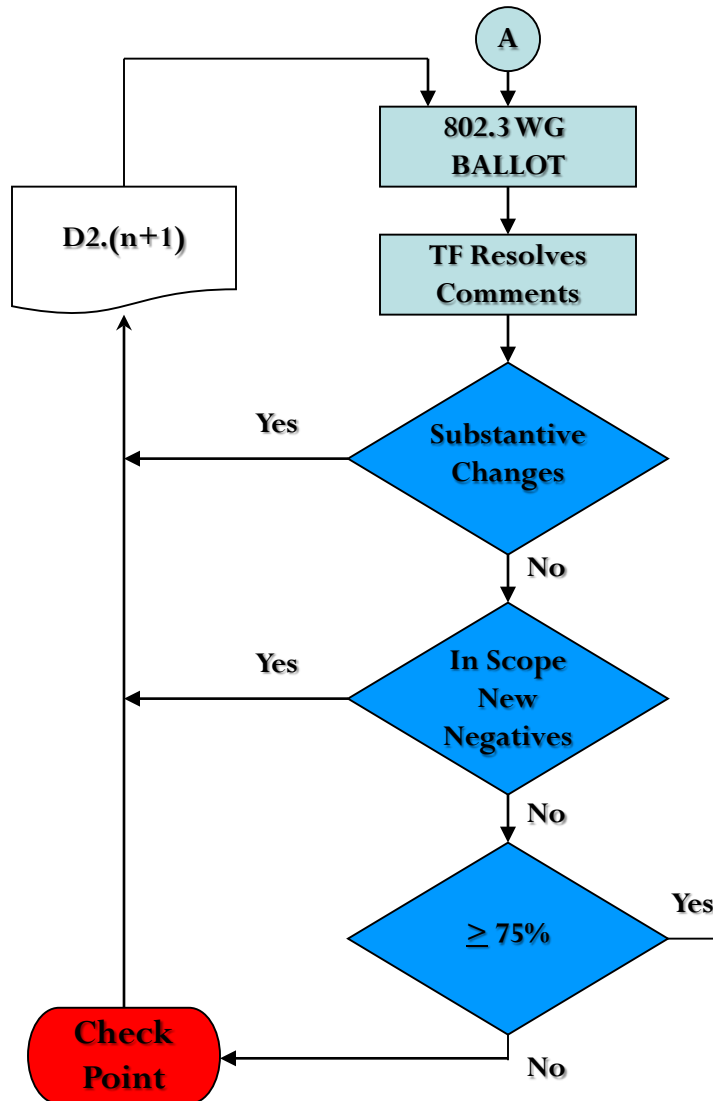
- ❑ During the TF review process, comments and proposals are submitted against draft D1.x
- ❑ All received comments (including comments from the floor) are considered at the next TF meeting and discussed.
- ❑ Project Editor(s) take in approved comment responses, together with any accompanying materials, and generate draft D1.(x+1), using draft D1.x as baseline material for development
- ❑ Draft D1.(x+1) is then opened to another round of Task Force review

- ❑ The scope of review on D1.(x+1) may be limited to only changes between D1.x and D1.(x+1) to speed up convergence. The decision to do so is at the discretion of the TF Chair and TF membership.
- ❑ Who can participate in a TF Review process?
 - Any active participant of the TF may submit comments against the draft
 - It is best if the commenter is present at the meeting when their comments are debated – very often, additional discussion and clarification is needed
 - There is no formal voting taken during TF Review

When is TF Review done?

- ❑ The Task Force review process is complete when Task Force decides that draft D1.y is technically complete and editorially sound.
- ❑ At this time, no technical details should be missing, no TBDs are typically allowed, and the draft ought to have all technical features required to build a fully functional PHY.
- ❑ By completing TF Review, TF is affirming that its primary development work is done, and that the draft may be exposed to a larger community of experts (802.3 Working Group) for review and commenting.

Working Group Review



Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.4 and listed references for complete description

WG Ballot on Draft D2.x (I)

- ❑ Development of draft D2.0 typically marks the start of the Working Group (WG) ballot.
- ❑ The process and tools are similar to those used during the TF Review, but one has to be a WG voting member to participate in any WG ballot.
- ❑ The process is more formalized now:
 - Each balloter casts a vote (approve with / without comments, disapprove, abstain)
 - Technical / editorial required comments may be submitted if severe technical / editorial issues are identified in the draft

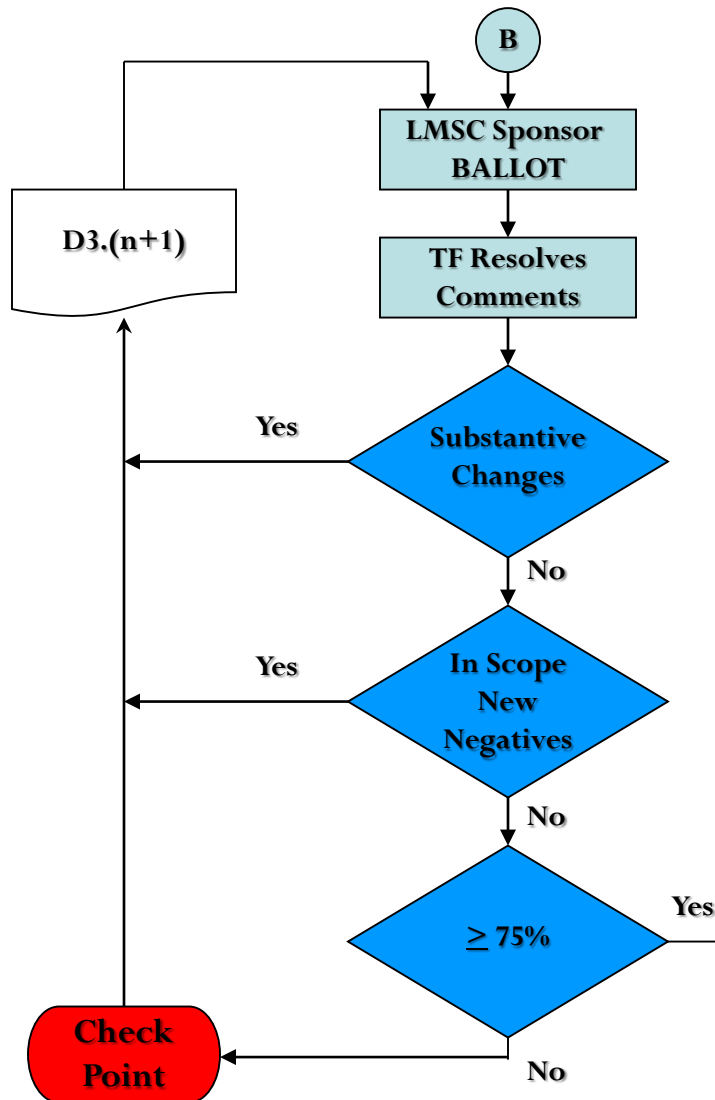
WG Ballot on Draft D2.x (II)

- ❑ For Project Editor(s), the WG Ballot is pretty much the same as TF Review, in that:
 - Comments are received and need to be processed in a timely fashion, with proposed responses ready before the next TF meeting
 - Draft is updated only based on comment responses and associated supplemental materials approved by the TF (now called officially Comment Resolution Committee)
 - Technical / Editorial Required comments need special treatment by the project Editor-in-Chief / Chair:
 - public confirmation of commenter satisfaction with the response if commenter present in the room
 - electronic / paper sign off on the response is needed otherwise

When is WG Ballot done?

- ❑ The end of WG ballot is well defined, with a number of condition that must be met to progress to Sponsor Ballot:
 - No substantive (technical) changes in the last recirculation
 - No new negative comments (TR/ER/T) associated with a Disapprove ballot in the last recirculation
 - $\geq 75\%$ approval (Approve / Approve with comments)
 - $\geq 50\%$ response ratio (number of returned ballots)

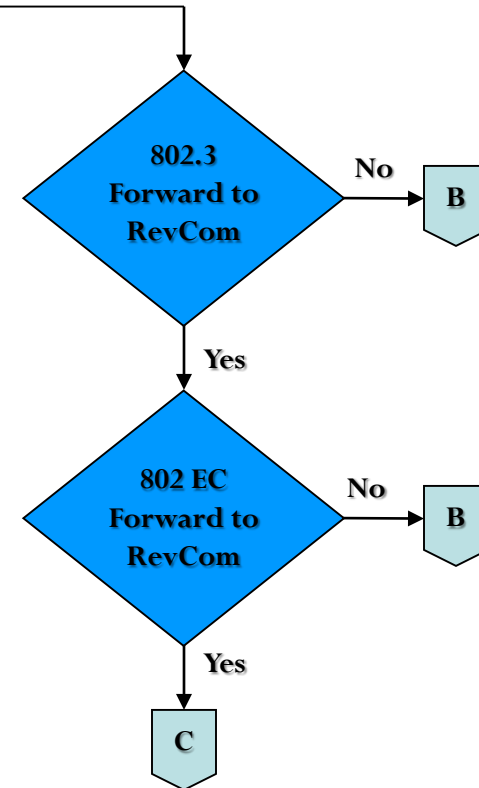
Sponsor Ballot Review



Notes:

At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.5 and listed references for complete description



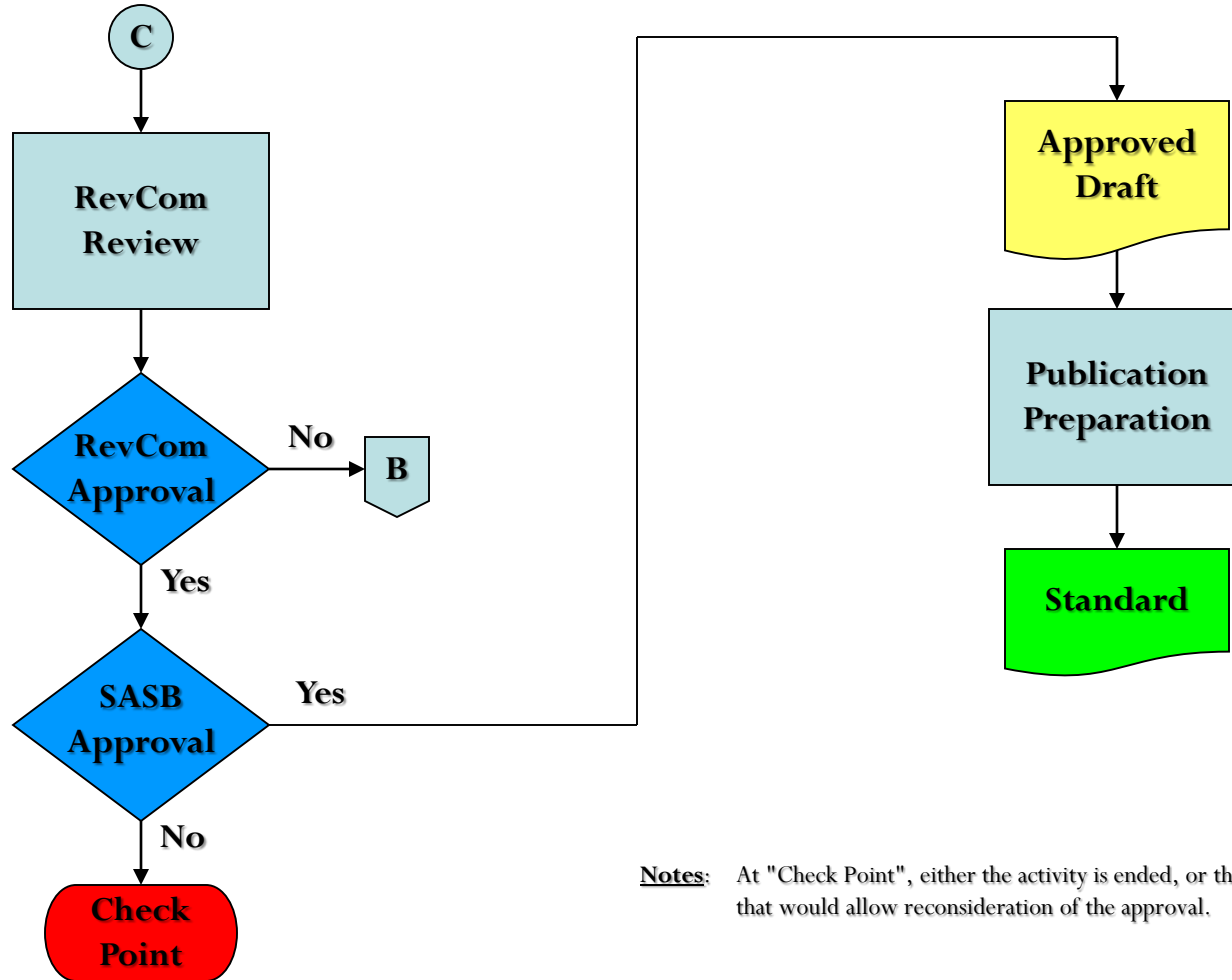
Sponsor Ballot on Draft D3.x (I)

- ❑ Development of draft D3.0 typically marks the start of the Sponsor ballot.
- ❑ The process and tools are very similar to those used during the WG Ballot, but one has to be part of the Sponsor Ballot pool to participate in any Sponsor ballot.
 - Sponsor Ballot pool is open to anybody with IEEE-SA membership or willing to pay per-ballot fee. Anybody in the world with interest in the given draft can join and cast ballot on the draft.
- ❑ The process has the same level of formalism as the WG Ballot, with ballots, required comments, etc.

When is Sponsor Ballot done?

- ❑ The end of Sponsor ballot is well defined, with a number of condition that must be met to complete the project:
 - No substantive (technical) changes in the last recirculation
 - No new negative comments (TR/ER/T) associated with a Disapprove ballot in the last recirculation
 - $\geq 75\%$ approval (Approve / Approve with comments)
 - $\geq 50\%$ response ratio (number of returned ballots)

Final Approvals & Publication



Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

And then ... ?

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- ❑ Once the Sponsor Ballot is complete, the final version of the draft is subject to IEEE RevCom review & approval, IEEE SASB approval and then pre-publication activities.
- ❑ At this time, the TF (Comment Resolution Committee) is typically disbanded (technical work is complete)
- ❑ Project Editor(s) and TF Chair cooperate with IEEE-SA Staff Editors on preparation of the draft for publication.

Baseline Proposals

What is baseline ? 100G-EPON

- ❑ Baseline Proposal is not baseline just because you used “baseline” in the title slide or in the motion
- ❑ Baseline means that the given proposal is widely accepted (has many supporters) and it is technically complete (enough) to be included in the draft
- ❑ A baseline proposal must contain sufficient detail so that an editor can draft text without having to invent significant technical details
 - baseline proposals must be complete and definitive
 - options, choices, items that are “too be defined” are undesirable and allowed for initial draft versions (we need to start somewhere)

Working towards baselines (I)

- ❑ During its initial technical work, the TF reviews and evaluates concrete technical proposals for specific features to meet the project objectives
- ❑ Technical proposals are usually presented in the form of a slide deck / white paper
- ❑ Proposals evolve and be refined over the course of a few meetings
 - Details are “fleshed out”, bugs and issues are resolved
- ❑ Competing proposals are welcome!
 - Only one will eventually prevail and be included in the draft. Options are typically **not** welcome !

Working towards baselines (II)

- ❑ TF members must study all of the proposals
 - Everyone will need to understand specific proposals in order to vote on them in an educated manner
 - Make your proposals clean and seek consensus / support ahead of time
 - Some proposals will die for lack of support – you're the only one responsible for making sure the proposal is successful, so seek consensus ahead of the meeting time
- ❑ The best proposals gain support over time and become baseline proposals for the given feature

How many baselines are needed?

- ❑ In a major project (such as P802.3av), multiple baseline proposals must be developed to address all objectives
 - see <http://www.ieee802.org/3/av/public/baseline.html>
- ❑ Baseline development requires coordination
 - For example, PMDs must work with PMAs, and vice versa
- ❑ A coherent set of baseline proposals can be pulled together in to what is referred to as a “blue book”
 - In the good ol’ days, we actually bound the printed proposals into a book
 - Now, we try to pull separate smaller baselines into one larger, more complete contribution with wider support

Selecting baselines

- ❑ Typically, various proposals are submitted for the given feature (e.g., FEC code selection)
- ❑ To select the one and only proposal that gets to be called a baseline,
 - In a series of votes, baseline proposals are voted up, or down. $\geq 75\%$ votes is required for adoption
 - Once approved, $\geq 75\%$ votes is required to change baseline
 - Once draft is created, changes to technical details are done through comments (and still require $\geq 75\%$ votes in case of controversial changes)

- ❑ Once a coherent and set of baseline proposals has been adopted, the editorial team goes to work, preparing the first official TF draft
 - Number of baselines required for the first version of the draft differs from project to project.
 - As an example, P802.3av collected more than 30 [baseline proposals](#) before the work on the draft was actually started. P802.3bf needed only one [baseline proposal](#) to get the draft development started.
 - The quality of baseline proposals should go always before the quantity. Getting fewer but more complete proposals is always better than separating them into small pieces and taking many motions.

Tasks & Responsibilities of Project Editors

- ❑ The editorial team consists of volunteers from the TF with proper skills (technical and editorial)
 - Usually appointed by the TF chair, and confirmed by the TF
 - “Editor-in-Chief” supervises and coordinates the work of the editorial team (Associate Editors), working on individual tasks
- ❑ Each editor gets at least one clause to work on, depending on experience, skills, time
- ❑ Initial versions of the draft require substantial quantity of time and attention to detail
 - Later on in the process, more time is spent handling comments

Project Editors' Duties

- ❑ Consolidate all approved baselines into draft
- ❑ Ensure style and format of the draft is consistent with the official IEEE Style Manual (current version: 2012)
- ❑ Make sure text is grammatically correct
- ❑ Editors DO NOT:
 - Create text of draft based on bullets from PowerPoint presentations (we also have paying jobs to do)
 - Fill in missing technical details from baselines (any TBDs from baselines will be included in the draft as well)
 - Get into your head to figure out what you want to say. We will not rewrite text for you – make your proposal clear from the get go.

Keeping Your Editors Happy

- ❑ Editors spend a lot of time between meetings working on draft, incorporating baselines and received comments
- ❑ Keeping Editors happy is simple:
 - Provide us with complete baseline materials (editable files in Word / FrameMaker / plain text, including all the necessary text, figures, drawings, code, etc.)
 - Do not expect us to come up with descriptive text – if it is not included in the approved baseline, it will not be included in the draft.
 - Editors in 802.3 perform **editing** – they do not write the spec from scratch on their own, produce missing technical features, or resolve technical conflicts between baselines

Preferred File Formats

❑ For text:

- Word (.doc(x)), FrameMaker (.fm), plain text (.txt)
- Excel (.xml(x)) works fine for table data
- PDF files are acceptable for text ONLY !!!

❑ For drawings / figures

- Editable formats are welcome: FrameMaker (.fm), Visio (.vsd) for simple content copying
- Reproducing drawings from non-editable formats (jpg, bmp etc.) takes time and we do not guarantee high fidelity

❑ PPT(X) contributions take very long time to convert into draft and usually end up being incomplete

- please avoid them for anything more complex than a simple text contribution

Commenting

- ❑ Comment entry tool assists the reviewer and editors in commenting on the draft
- ❑ Tool allows for a commenter to generate specific comments against the current draft
 - Includes fields to identify the text in question including location, clause, subclause, etc.
 - Provides a field for a suggested remedy
 - Provides fields to classify the type of comment
- ❑ Tool allows for the editorial team to consolidate, parse and propose responses to all the comments
 - Includes a field for a response
 - Allows for the comments to be imported into a database
- ❑ Provides the committee with a convenient way to review the comments
 - Database with a GUI based interface
 - Comment status can be updated based on committee review

Start Screen

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The screenshot shows a web application window titled "Comment_Tool_Generic Solution - [Comment_Tool_Generic.USR]". The window has a menu bar (File, Edit, View, Insert, Format, Records, Scripts, Window, Help) and a toolbar with various icons. On the left, there is a sidebar with a "Front Pa..." dropdown, a tree view showing a single record, and a status section indicating "Records: 4" and "Unsorted". The main content area is titled "802.3 Draft Ballot Comment Tool" and contains a welcome message for a "Working Group participant". It includes a form for personal information with fields for Last Name, First Name, Company, Email, Phone, and Cell Phone. Below the form, there is a note about finding comment instructions on the help page. At the bottom, there are three buttons: "Enter Comment" (green), "Finish" (cyan), and "Clear Comments..." (red). The status bar at the bottom shows "100%", a "Browse" button, and a "NUM" field.

Comment_Tool_Generic Solution - [Comment_Tool_Generic.USR]

File Edit View Insert Format Records Scripts Window Help

Front Pa... 1

Records: 4

Unsorted

802.3 Draft Ballot Comment Tool

Dear Working Group participant:

Welcome to the generic version of the IEEE 802 Comment Tool. This tool is a database that will allow you to enter your comments in a systematic fashion & allow us to collate and manage comments easily.

First, please fill in your personal information below (* required information):

Last Name: Diab
First Name: Wael
Company: Broadcom
Email: wdiab@broadcom.com
Phone: 4154468066
Cell Phone:

Comment instructions can be found on the help page accessible from the comment input page.

Enter Comment Finish Clear Comments...

100% Browse NUM

For Help, press F1

- ❑ Provide your contact information
 - It helps to know who the comment is from
 - It helps to know how to contact you if the editorial staff needs to or has questions
- ❑ Tool allows you to enter comments over multiple sessions
 - Click enter comment to continue
- ❑ You can always enter comments in multiple batches
 - Click Finish to create the output file
 - Restart the tool to enter more comments when you are done. It is helpful to send comments early. Batches can help you do that.

A Soon to-be Familiar Interface

The screenshot shows a software window titled "Comment_Tool_Generic Solution - [Comment_Tool_Generic.USR]". The window contains a form titled "802.3 Draft Comment Form". On the left side of the form, there is a vertical sidebar with a "Comment" dropdown menu, a tree view showing "File 1" and "Unsorted", and a "Comment Number" input field set to "1". Four red arrows point from the left towards the form:

- The first arrow points to the "Comment" dropdown menu in the sidebar, labeled "Location of comment".
- The second arrow points to the large text area for the comment, labeled "Put comment here".
- The third arrow points to the "Comment Type" section, which includes radio buttons for "E", "ER", "T", and "TR", with sub-labels "E(ditorial)", "E(ditorial) R(equired)", "T(echnical)", and "T(echnical) R(equired)". This is labeled "Select comment type".
- The fourth arrow points to the "Suggested Remedy" text area, labeled "Put remedy here".

At the bottom of the form, there are three buttons: "Enter Another Comment" (green), "Help Page (?)" (yellow), and "FINISH" (blue). The status bar at the bottom left shows "100" and "Browse", and a note "For Help, press F1".

Identifying the Comment

- ❑ Very simple, but easy to overlook
 - The editors don't know what text you are talking about otherwise
- ❑ Make sure that you provide
 - Clause, Subclause, Page, Line
 - The tool will generate the comment number
- ❑ Make sure you comment on the draft that is open for comment
 - Often the Task Force will provide additional material to assist you in your review. E.g. Comp documents
- ❑ 00 Comments apply to the entire document
- ❑ FM Comments apply to the Front Matter

❑ Try to be specific

- Provide enough text to fully describe why you feel the draft is wrong
- This is especially important if you will not be at the meeting when the comment is discussed and you want other people to understand your concerns.

❑ Try to stay within 1 issue per comment

❑ If you submit a presentation for a complex comment, please identify that in the comment

Substance of remedy

❑ Again, try to be specific

- Whenever possible, provide the exact textual changes that you would like to be made to the draft as if you were providing editing instructions
- This will both speed up the process of creating a final resolution and will also be much appreciated by the editors

❑ Options

- If you feel there are several ways to remedy a comment, list the options.

❑ Missing text

- If you identify an area lacking text, provide some! Task Force will appreciate the work

- ❑ The tool provides for 4 classification types
 - E
 - ER
 - T
 - TR
- ❑ The commenter determines the type
 - Comment may be upgraded from editorial to technical by the Task Force
- ❑ E designates Editorial and T Technical

- ❑ Commenter is suggesting an editorial change to the draft.
 - Spelling, punctuation, grammar, and style
 - Rewording without altering technical content
 - No change to technical content can occur
- ❑ Bad Examples of editorial comments
 - Change wavelength from 1574 nm to 1490 nm.
 - Change Rx sensitivity from -16 dBm to -24 dBm.
- ❑ Good examples of editorial comments
 - Change spelling of “waveInlth” to “wavelength”
 - The value of Rmax shall be 1.5 k +/- 5%
 - “omega” symbol was missing in this sentence

- ❑ Comment remedy would result in a technical change to the draft
 - Affect the technical requirements identified in the document (i.e., sentences with the word "shall" in them).
 - Changes to parameters, values, tables, or figures that alter their meaning or substance
- ❑ Examples of technical comments
 - Changes to values in PMD tables.
 - Changes to functions or variables in state machines.
 - The value of Rmax shall be 1.5 k +/- 5%
 - a different value for Rmax, say 2 k ohms

R Designation

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- ❑ Stands for “Required”
- ❑ During a Ballot
 - Associated with a negative vote
 - Commenter feels that his/her editorial/technical comment with this designation must be satisfied in order to flip their vote from a DISAPPROVE to an APPROVE
- ❑ During a Task Force Review
 - Indication that the commenter feels more strongly about comments with such a designation than those without
 - Can be helpful to the Task Force in prioritizing the comments

Possible resolutions

❑ Accept

- Task Force agrees with comment and suggested remedy is accepted with no changes.
- Usually associated with a specific remedy that the editor can use to implement the change

❑ Accept in principle

- Task Force agrees with comment but a different / amended / expanded remedy is adopted

❑ Reject

- Task Force disagrees with comment and no change is made to draft

❑ Withdraw

- Commenter withdraws comment and no change is made to draft

Commenter Satisfaction!

- ❑ Within the context of a specific comment
- ❑ During ballot comment resolution, R comments display a pop-up window asking if the commenter is satisfied with the final resolution
 - BRC has adopted a resolution to the comment
 - Commenter may be satisfied or unsatisfied with resolution
- ❑ If a commenter is not available at the moment the comment is resolved, the tool allows for a state that flags the comment for follow-up by the editorial team
- ❑ Unsatisfied comments are circulated with the draft at the next re-circulation ballot
- ❑ In a Task Force review, it gives an indication that the commenter was not happy with the resolution

What to do when done

❑ Generate Comment File

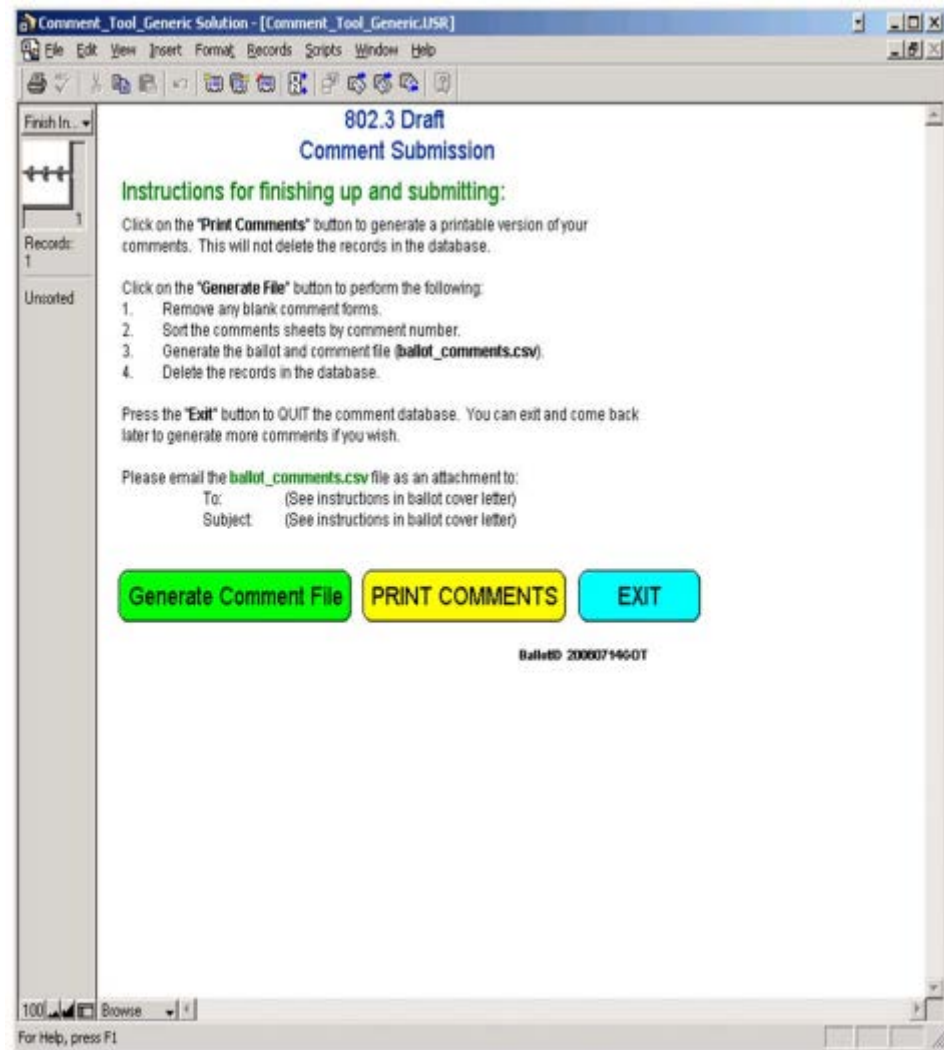
- Creates file to mail to the editorial staff
- TF Chair and EIC in TF Review
- Ballot reflector in ballots
- Removes comments from database

❑ Print Comments

- Prints comments
- Does not remove comments from database

❑ Exit

- Quit comment database
- Nothing is removed or deleted



Alternative commenting tool

- ❑ Excel-based

- Located at: http://www.ieee802.org/3/WG_tools/index.html

- ❑ All previous rules on comment input apply

- ❑ When done

- submit *saved* Excel file with your ballot

	A	B	C	D	E	F	G
1	Task Force Review and Working Group Ballot comment input form						
2	First name			Surname		Affiliation	Phone
3							
4	Click on column headers for help						
5	Category	Page	Sub-clause	Line #	Comment	Proposed Change	Must Be Satisfied
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							

Comment resolution process

- ❑ Each comment is considered individually
 - Duplicate and similar comments are sometimes grouped together and dealt with at the same time
 - Identical comments may be resolved by a single comment with a pointer to that resolution
- ❑ Comment database
 - The Task Force will often publish the comment database at various points within each cycle:
 - All comments received
 - All comments received with proposed responses
 - All comments received with final resolutions
 - Unsatisfied comments