IEEE 802.11™
Wireless Local Area Networks (WLANs)

Operations Manual

www.ieee802.org/11

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IEEE Project 802 Wireless LAN Working Group 802.11

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Revision History:

|  |  |  |  |
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| Item | Document | Revision Date | Notes |
| 1 | 11-09/0002r0 | 17 January 2010 | Opman created from removing redundant info from the old P&P that is now covered in the New 802 WG P&P based on AudCom Baseline requirements 2009. |
| 2 | 11-09/0002r1 | 15 March 2010 | Suggested Edits from Jan-Mar |
| 3 | 11-09/0002r2 | 21 May 2010 | Final version adopted. All changes accepted clean copy. |
| 4 | 11-0/0002r3 | 11 July 2010 | Updates for Proposed change to support improved WG LB process near end of the ballot |
| 5 | 11-09/0002r4 | 14 July 2010 | Modified 3.8 so that notification period under CRC Accelerated Process rules is 72 Hours (from 24 hours) as per motion in WG mid-session plenary.Accepted changes. |
| 6 | 11-09/0002r5 | 14 October 2010 | Modified rules in 8.4 for access to private area (see 11-10/1088r2) |
| 7 | 11-09/0002r6 | Sept 2011 | Added section on MDR (Mandatory Draft Review) andtypes of vote/ballot per group |
| 8 | 11-09/0002r7 | Sept 2011 | Redlined Update after CAC review |
| 9 | 11-09/0002r8 | Sept 2011 | Accepted changes for adoption motion Sept 23 |
| 10 | 11-09/0002r9 | March 2012 | Updated link to SASB P&P – Added Clause 12 |
| 11 | 11-09/0002r10 | March 2012 | Clean Version for Approval March 2012 |
| 12 | 11-09/0002r11 | July 2012 | New section 9.1.6 to support requests from the regulatory SC to the ANA |
| 13 | 11-09/0002r12 | July 20, 2012 | Clean Version for Approval July 2012 |
| 14 | 11-13/0001r0 | January 2013 | Change to new document number doc 11-13/0001Clarification of Qualifying Interimscorrect/update some broken linksRedline version for discussion. |
| 15 | 11-13-0001r1 | 18 January 2013 | The proposed Clause 7.5 Qualifying Interims was removed for further discussionClean Version for Approval January 2013 |
| 16 | 11-13-0001r2 | 18 March 2013 | Added section on AgendasAdded section on Topic Interest Groups |
| 17 | 11-13-0001r3 | 16 March 2014 | Added “Former-Voter” categorization and allowed to join reflectors and upload documents.Modified membership rules so that previous attendances contribute towards regaining Voter status after loss of Voter status due to non-attendance. |
| 18 | 11-13-0001r4 |  | Clean version Approved March 2014 |
| 19 | 11-14-0629r0 | 16 May 2014 | Review comments |
| 20 | 11-14-0629r1 | 12 July 2014 | Edits to 3.7.1(document types), reference updates, liaison responsibility updates, letter ballot response rate aligned with 802 WG P&P, external ANA request brought to WG for confirmation |
| 21 | 11-14-629r2 | 18 July 2014 | Clean WG approved copy (r1 with changes accepted) |
| 22 | 11-14-629r3 | 25 September 2014 | Corrected Adrian’s email, deleted IEEE standards companion reference and changed section 7.1.5 email list reference to refer to WG rather than TG email lists |
| 23 | 11-14-629r4 | 01 November 2014 | Addition to 7.1.5 for mentor document posting, to be consistent with 8.3 text |
| 24 | 11-14-629r5 | 06 November 2014 | Renamed [other1] reference link |
| 25 | 11-14-629r6 | 07 November 2014 | Clean WG approved copy (r5 with changes accepted) |
| 26 | 11-14-629r7 | 08 November 2014 | Added ANA element ID allocation (section 9) |
| 27 | 11-14-629r8 | 08 January 2015 | Removed requirement for LOCAL server draft access |
| 28 | 11-14-629r9 | 08 March 2015 | Change Regulatory SC teleconference notice from 10 to 5 days, section 4.6.3 |
| 29 | 11-14-629r10 | 13 March 2015 | Clean WG approved copy (r9 with changes accepted) |
| 30 | 11-14-629r11 | 11 July 2015 | Figure D.1 updated; Aspirant has member area access; addition of former voter |
| 31 | 11-14-629r12 | 17 July 2015 | Clean WG approved copy (r11 with changes accepted) |
| 32 | 11-14-0629r13 | 13 Sept 2015 | Consolidate and update secretary guidelines; attendance for subgroup meetings within WG session not required  |
| 33 | 11-14-0629r14 | 11 Jan 2016 | Clean WG approved (13 Nov 2015) copy (r13 with changes accepted) |
| 34 | 11-14-0629r15 | 29 Jul 2016 | Changes to 7.1.4 ballot return rules as approved, 2016-07-29; updated references and grammatical edits |
| 35 | 11-14-0629r16 | 29 Jul 2016 | Clean WG approved (29 July 2016) copy (r15 with changes accepted) |
| 36 | 11-14-0629r17 | 12 Mar 2017 | Align Appendix C chart with previously approved changes. Remove references to Regulatory Standing Committee. Remove obsolete reference, 3.7.4 OM number reservation |
| 37 | 11-14-0629r18 | 15 Mar 2017 | Added 3.7.4 deletion to change track table item above |
| 38 | 11-14-0629r19 | 17 Mar 2017 | Clean WG approved copy with changes approved |
| 39 | 11-14-0629r20 | 5 Nov 2017 | New 3.7.6 for final minutes approval, 7.1.2 and Appendix C  |
| 40 | 11-14-0629r21 | 10 Nov 2017 | Clean WG approved (10 Nov 2017) copy (r20 with changes accepted) |
| 41 | 11-14-0629r22 | 13 July 2018 | Updated frontmatter to show new leadership |
| 42 | 11-14-0629r23 | 10 July 2022 | Updated 7.1.4 (required response to WG ballot series)Update links in 1. Update subclause reference in 2. Change “sponsor ballot” to “SA ballot”. Update teleconference rules. |
| 43 | 11-14-0629r24 | 30 August 2022 | All links updated. Added reference to 802 WG P&P in 7.1.4. Reference US Eastern Time in 8.2 without reference to other timezones. |
| 44 | 11-14-0629r25 | 14 September 2022 | Updated headers. Added “should” statement for no more than 2 telecons per week. |
| 45 | 11-14-0629r26 | 14 September 2022 | Fix grammar in should statement. |
| 46 | 11-22-1638r0 | 15 September 2022 | Clean version (no markup) |
| 47 | 11-22-1638r1 | 16 April 2024 | Updated frontmatter to show new leadership.Update links in reference.Update 802.11 document referencesAdd definition of a subgroup, to replace “TG, SG, SC or Ad-hoc Group”. This corrects some ambiguities regarding agendas and minutes. |
| 48 | 11-22-1638r2 | 11 June 2024 | Update links to IEEE-SA and IEEE 802 P&P references.Mention electronic voting tools in addition to the use of voting tools. |
| 49 | 11-22-1638r3 | 17 July 2024 | Correction of typos and other links to external references.Added a link for every referenced 802.11 document. |

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Policies and Procedures

1. IEEE Standards Board Bylaws
 <https://standards.ieee.org/guides/bylaws/>
2. IEEE SA® Standards Board Operations Manual
 <https://standards.ieee.org/guides/opman/>
3. IEEE 802 Policies and Prodedures
<https://ieee.app.box.com/v/PandP-LMSC>
4. IEEE 802 Operations Manual
[https://www.ieee802.org/devdocs.shtml](http://www.ieee802.org/devdocs.shtml)
5. IEEE 802 Working Group Policies and Procedures
<https://www.ieee802.org/devdocs.shtml>
6. Robert's Rules of Order Newly Revised (Latest Published Edition), by [Henry M. Robert III](http://www.amazon.com/exec/obidos/Author%3DRobert%2C%20Henry%20M./103-9605712-7510225) (Editor), Sarah Corbin Robert, and William J. Evans (Editor), Perseus Publishing

Other References

1. IEEE Standards Development Lifecycle
<https://standards.ieee.org/develop/>
2. Adobe Acrobat Reader for viewing PDF files

<https://www.adobe.com/downloads.html>

1. ISO/IEC JTC1: International Standards Organization / International Engineering Consortium Joint Technical Committee 1
<https://www.iso.org/committee/45020.html>
2. IEEE Standards Style Manual

<https://mentor.ieee.org/myproject/Public/mytools/draft/styleman.pdf>

Acronyms

802 EC 802 LMSC executive committee

802 LMSC Project 802, LAN/MAN standards committee

ANA Assigned Numbers Authority

CAC chair advisory committee

IEC International Engineering Consortium

IEEE Institute of Electrical and Electronics Engineers

IEEE SA IEEE Standards Association

IPR intellectual property rights

ISO International Standards Organization

LAN local area network

PAR project authorization request

PDF portable document format (Adobe Acrobat file format)

SC standing committee

SG PAR study group

TAG technical advisory group

TIG topic interest group

WG working group

WLAN wireless local area network

### **Definitions**

**802.11 plenary meeting**: one of three 2-hour meeting slots during which the 802.11 WG meets together as a whole.

**802.11 session:** the meetings as described in the 802.11 agenda for a particular event, usually running from Sunday to Friday of a week.

**Active 802.11 participant**: a participant with status Aspirant, Potential-Voter, Voter or a Former-Voter who is a member of an active 802.11 WG balloting pool.

**Former-Voter**: a member who was a Voter at any time in the past and has since lost voting rights and become a Non-Voter. NOTE – a Former-Voter may still be a voter in a ballot pool for Working Group Letter Ballot (see section 3.9.1 of this document).

**Subgroup**: a TG, SG, SC, TIG, or Ad-hoc Group

# Hierarchy

The following documents take precedence over the procedures described in this document in the following order (highest precedence shown first, in case of revisions, the latest approved revision applies):

[New York State Not-for-Profit Corporation Law](https://law.justia.com/codes/new-york/2006/not-for-profit-corporation)

[IEEE Certificate of Incorporation](https://www.ieee.org/about/corporate/governance/index.html)

[IEEE Constitution](https://www.ieee.org/about/corporate/governance/constitution.html)

[IEEE Bylaws](https://www.ieee.org/about/corporate/governance/index.html)

[IEEE Policies](https://www.ieee.org/about/corporate/governance/index.html)

[IEEE Board of Directors Resolutions](https://www.ieee.org/about/corporate/action.html)

[IEEE Standards Association (IEEE SA) Operations Manual](https://standards.ieee.org/about/policies/sa-opman/index.html)

[IEEE SA Board of Governors Resolutions](https://standards.ieee.org/about/bog/resolutions.html)

[IEEE SA Standards Board Bylaws](https://standards.ieee.org/about/policies/bylaws/index.html)

[IEEE SA Standards Board Operations Manual](https://standards.ieee.org/about/policies/opman/index.html)

[IEEE SA Standards Board Resolutions](http://standards.ieee.org/about/sasb/resolutions.html)

[IEEE Computer Society (CS) Constitution](https://www.computer.org/volunteering/boards-and-committees/resources/constitution%22%20%5Co%20%22IEEE%20CS%20Constitution%20and%20Bylaws)

[IEEE CS Bylaws](https://www.computer.org/volunteering/boards-and-committees/resources/bylaws%22%20%5Co%20%22IEEE%20CS%20Constitution%20and%20Bylaws)

[IEEE CS Policies & Procedures Manual and Operations Handbook, section 10](https://www.computer.org/volunteering/boards-and-committees/resources/policies-procedures-manual/section10%22%20%5Ct%20%22_blank%22%20%5Co%20%22IEEE%20CS%20P%26P%2C%20Section%2010)

[IEEE CS Board of Governors Resolutions](http://standards.ieee.org/about/bog/resolutions.html)

[IEEE 802 Policies and Procedures (LMSC P&P)](https://ieee.box.com/v/PandP-LMSC)

[IEEE 802 Operations Manual (LMSC OM)](https://mentor.ieee.org/802-ec/dcn/17/ec-17-0090-26-0PNP-ieee-802-lmsc-operations-manual.pdf)

[IEEE 802 Working Group (WG) Policies and Procedures (WG P&P)](https://mentor.ieee.org/802-ec/dcn/21/ec-21-0207-25-0PNP-ieee-802-lmsc-working-group-policies-and-procedures.pdf)

*Robert’s Rules of Order Newly Revised* (latest edition)is the recommended guide on questions of parliamentary procedure not addressed in these procedures.

# Maintenance of Operations Manual

The Operations Manual is adopted as stated in section 7.1.2 of the 802 WG P&P ([[rules5]](#rules5)). It is maintained as directed by the WG Chair.

# 802.11 Working Group

## Overview

The 802.11™ Working Group (WG) is responsible for developing Wireless Local Area Network (WLAN) standards under the authority of the IEEE® Project 802 LAN/MAN Standards Committee (802 LMSC). The 802.11 WG is one of several WGs that comprise the Project 802 LAN/MAN Standards Committee.

The 802 LMSC is directed by the 802 Executive Committee (802 EC). The 802 EC is the sponsor for both SA ballot groups and standards development groups. The 802 LMSC includes WGs, Technical Advisory Groups (TAGs) and Executive Committee PAR Study Groups (ESG) to standardize technologies applicable to local and metropolitan area networks as shown in Figure 3.1.



Figure 3.1 – Project 802 Organizational Structure

Reference  [[other1]](#other1) contains background information on the IEEE standards development process.

## Function

The 802.11 WG charter is to develop Physical layer and MAC layer specifications for wireless Local Area Networks (LANs) carried out under Project Authorization Requests (PAR) approved by the IEEE Standards Board and assigned to the 802.11 WG. Since the scope of standards work which comprises 802.11 WG activity is widely dispersed in time, technology and structure, individual standards activities within 802.11 WG are, at the discretion of the 802.11 WG, carried out by Task Groups (TGs) operating under, and reporting to the 802.11 WG.

The 802.11 WG is chartered to:

* Maintain and revise the 802.11 standard, amendments and recommended practices.
* Develop new standards in a reasonable time frame within the scope of the 802 LMSC.
* Forward these standards to International Standards Organization / International Engineering Consortium (ISO/IEC) JTC1 [[other4]](#other4).
* Maintain liaisons with other groups within 802 LMSC, and other relevant standards setting bodies and radio spectrum regulatory bodies.

802.11 WG activities are administered by the WG Chair who is assisted in this task by members of the WG Chair Advisory Committee (CAC; see section 3.5 of this document).

The organizational structure of 802.11 WG is illustrated in Figure 3.2.1.

Figure 3.2.1 – 802.11 WG Organizational Structure

## Working Group Officers’ Responsibilities

### Working Group Chair

As stated in the 802 WG Policies and Procedures [[rules5]](#rules5), the Chair of the WG is responsible for presiding over WG Plenary sessions.

Responsibilities of the chair include:

Before session tasks:

* Submit agenda items for the opening Executive Committee meeting (a week before the meeting).
* Attend the opening Executive Committee meeting.
* Report the status of the WG to the plenary 802 meeting.

During session tasks:

* Conduct full WG meetings.
* Keep Executive Committee members informed as early as possible about 802.11 matters requiring approval at the closing 802 EC meeting.
* Attend the closing 802 EC meeting; representing and leading 802.11 items of business.
* Maintain a roll call voters list.

After session tasks:

* Prepare a WG status report to the 802 EC Recording Secretary within one week after the conclusion of the closing 802 EC meeting. This status report shall include a description of the progress made during the week, as well as plans for further work and future meetings.
* Maintain an accurate 802.11 member list and post that list on the 802.11 website.
* Prepare the agenda and venue for the next meeting; publish the agenda and meeting venue information on web site, and email notice of same to the 802.11 WG Email list.
* Manage the preparation of the meeting place as well as the venue for the next interim meeting.
* Prepare SA ballot documentation on the IEEE SA website (the “MyBallot” system), interface with IEEE SA staff as necessary to conduct ballots, prepare and publish consolidated results. Ensure theSA ballot documentation is accurate, complete and self-explanatory.
* Work with IEEE staff to publish 802.11 Drafts, as directed by the WG.
* Respond to inquiries regarding the 802.11 WG.
* Work with TG Chairs to prepare meeting agendas and room requirements for next session(s).

### Working Group Vice-Chair(s)

Responsibilities of the Vice-Chair(s) are assigned by the Chair and may include the following.

Before session tasks, including but not limited to, preparation of:

* Voters list.
* Updated Electronic Records of participant status as required by the meeting planner and the IEEE SA systems according to the required schedule.
* Populate the Electronic Attendance system with plan of meetings.
	+ Update any changes during the session.
* Arbitrate any attendee record discrepancies.
* PAR reviews.

During session tasks, including but not limited to:

* Be prepared to take over the duties of the Chair in the event of temporary or permanent absence.
* Be prepared to assume or assign secretary duties when required.
* Between meetings, be prepared to respond to inquiries regarding the WG and keep the Chair informed.
* Oversee the document process.
* Attend to any business that might otherwise prevent the Chair from orderly conduct of the meetings, such as attending to emergency messages, and inquiries from the meeting planner or hotel staff.
* Assist the Chair in obtaining accurate and fair vote counts.
* Assist the Chair during IEEE 802 Executive Committee meetings held on initial and final days.

After session tasks, but not limited to:

* Assist chair to update participant status based on attendance, and inform participants of any change in status and ensure that a list of Active and Former-Voter participants is posted on the 802.11 website.
* Prepare WG ballot documentation on the 802.11 website, interface with IEEE SA staff as necessary to conduct ballots, collect ballot return forms, and prepare consolidated ballot results.
* Update web site: meeting arrangements, ballot status.
* Update 802.11 Draft documents on the 802.11 members-only website.
* Update 802.11 email list servers.

### Working Group Secretary

See section 10 of this document, Guidelines for 802.11 Secretaries for details on content and form of minutes.

### Working Group Technical Editor

The WG Technical Editor is responsible for:

* Organizing and conducting regular Editor meetings.
* Oversee the Draft publication process:
	+ Coordinate between the IEEE SA publication editor and TG Technical Editor.
	+ Proofread and coordinate document changes edited by IEEE staff.
	+ Advise WG Chair when a Standards Board Approved draft is ready for publication.

### Working Group Treasurer

The WG Treasurer is responsible for the financial operations of the WG and the WG treasury. Specific responsibilities are listed in section 14 of the 802 WG P&P ([[rules5]](#rules5)).

### WG Publicity Chair

The Chair may appoint a WG Publicity Chair to assist with public relations and marketing communications.

### Liaison Officials

Liaison relationships are established with other groups within 802 LMSC, other relevant standards setting bodies, industry promotional bodies, Special Interest Groups (SIGs), and radio spectrum regulatory bodies (liaison groups). Liaison relationships can be established via liaison statements, officials or facilitators see [http://ieee-sa.centraldesktop.com/802liaisondb/&num\_165948=0](http://ieee-sa.centraldesktop.com/802liaisondb/%26num_165948%3D0).

Liaison officials shall be recommended by the WG Chair and confirmed by the vote of the WG. Liaison officials shall be reconfirmed each year at the July 802.11 session. Liaison officials will seek to be granted voting rights in their respective liaison groups.

Liaison Official Roles and Responsibilities are listed below:

* Liaison officials are responsible for providing updates and status reports to the WG at plenary and interim sessions. If a liaison official does not provide this in two consecutive sessions, then the WG Chair may withdraw the liaison responsibility from the concerned individual. The WG Chair recommends a replacement as necessary.
* Liaison officials cannot pass on responsibilities, nor have other individuals represent their post without having WG or WG Chair approval.
* A liaison official shall be an 802.11 Voter. Liaison officials are given 802.11 WG attendance credit for attending liaison group meetings that are concurrent with 802.11 WG sessions. NOTE – a liaison official shall be an 802.11 voter in order to be appointed as a liaison official, and a liaison official ceases to be a liaison official if the person loses 802.11 voting rights.
* Liaison officials shall be empowered to report status of the WG developments to their respective liaison groups, and shall report back to the WG the status of the liaison group at interim and plenary sessions.

## Working Group Officer Election Process

The election of the IEEE 802.11 WG Officers (Chair and Vice-Chairs) is held in March of each even-numbered year. The nominations for the election shall be made at the WG Opening Plenary meeting. The WG Chair shall designate one of the WG Vice-Chairs as an Acting Chair Pro Tem if the WG Chair is running for re-election. If not running for re-election, the WG Chair shall conduct the election process. This election process shall be used for each WG officer election.

1. The Acting Chair shall open the floor for nominations.
2. The Acting Chair shall close nominations after the nominations have been made.
3. Each candidate shall be given a short time (nominally, 5-10 minutes) for an introductory statement of acceptance that should nominally contain the candidate’s:
	1. Summary of qualifications
	2. Commitment to participate and accept duties and responsibilities
	3. Vision for the WG.
4. The floor shall be opened for discussion (nominally for five-ten minutes total).
	1. The Acting Chair should limit the duration of comments and promote open participation, both pros and cons. If only one candidate is nominated, the Acting Chair may choose to sharply limit the debate.
5. The discussion shall be repeated, with the WG Chair leading the process for the nomination(s) of the WG Vice-Chair(s).
6. At the Mid-Plenary meeting, the WG Officers shall conduct the election, count the votes, and notify the WG of the results.
	1. A vote shall be taken using an anonymous voting method.
	2. In order to be elected, any candidate must receive a simple majority (over 50%) of the votes cast in the election for the respective position.
	3. Should no candidate receive a majority in the election, a runoff election shall be held. The process shall be similar to the initial election, except that:
		1. New nominations shall not be permitted.
		2. In the runoff election, the nominated candidate having received the fewest votes in the previous election round shall not be an eligible candidate (in case a tie prevents this possibility, all the nominated candidates shall remain eligible).
	4. If the process is inconclusive, another runoff shall be held, as in the point above.

## Working Group Chair Advisory Committee

The 802.11 WG Chair Advisory Committee (CAC) functions as the coordinating body supporting the WG Chair in formulations of WG policy and the performance of WG chair duties. The 802.11 CAC has no voting procedures, or policies. The intent is to have the 802.11 CAC operate in a consultative manner. The 802.11 CAC may meet during 802.11 interim and plenary sessions and by teleconference between sessions as determined by the WG Chair.

### CAC Function

The function of the CAC is to assist the WG Chair in performing the following tasks:

* Provide procedural and, if necessary, technical guidance to subgroups as it relates to their charters.
* Oversee subgroup operation to see that it is within the scope of 802.11 WG.
* Review TG draft standards proposed for submission to WG letter ballot and offer recommendations, if any, to the WG.
* Consider complaints of subgroup members and their resolution at the Plenary, WG and subgroup meetings.
* Call meetings, including teleconferences, and issue meeting minutes.
* Prepare the WG agenda and materials for the WG plenary meetings.
* Determine room allocation requests to the meeting planners for the next session.
* Manage any other 802.11 WG logistics.

### CAC Membership

The Membership of the CAC is appointed at the discretion of the WG Chair. Membership of the CAC is composed of the following 802.11 WG officers:

* WG Chair
* WG Vice-Chair(s)
* WG Secretary
* WG Technical Editor(s)
* WG Treasurer
* WG Publicity Chair
* WG ANA Lead
* Subgroup Chairs and Vice-Chair(s)

The chair or chair’s representative of each subgroup that is active at a session should be available at the CAC meetings during that session.

## Working Group Sessions

### Plenary Sessions

802.11 WG plenary sessions are conducted three times a year as part of the 802 LMSC plenary sessions. Typically, the 802.11 WG Opening and Closing plenary meetings are held at each 802 LMSC plenary session (see Figure 3.6.1.1). Occasionally there are subgroup meetings during the 802 EC meeting on Monday morning and/or the weekend preceding the plenary session. (NOTE – meetings held before the opening 802 plenary meeting are treated as ad-hoc meetings.)



Figure 3.6.1.1 – Typical 802.11 WG meetings during 802 Plenary Session

### Interim Sessions

Interim sessions of the WG and/or subgroups are scheduled by the respective groups no later than the end of the prior plenary session. A WG interim session is held between 802 plenary sessions. Additional sessions may be scheduled as needed to conduct business of the WG and/or subgroups. The date, time, and place of the session(s) must be approved by the WG and announced at the WG Closing Plenary meeting and entered in the minutes of the WG meeting.



Figure 3.6.2.1 – Typical 802.11 WG Meetings during Interim session

### Session Meeting Schedule

802.11 Interim and Plenary sessions start with an opening plenary meeting followed by scheduled subgroup meetings. Midway through the week a mid session plenary meeting is held followed by scheduled subgroup meetings. The CAC meets typically Sunday evening and Thursday evening.

A final closing plenary meeting is held to close the session. Start times and end times are published at least 30 days in advance. Active 802.11 WG session hours are defined from 8:00 am until 9:30 pm from the beginning of the 802.11 WG Opening Plenary through the end of the 802.11 WG Closing Plenary.

### Session Attendance

Attendance at WG and/or subgroup meetings is recorded electronically. If electronic recording is not possible, manual written documentation will be used. Each attendee is responsible for recording attendance. The mechanism for recording attendance is described in the opening reports of the WG Opening Plenary. Each attendee is expected to only sign in for the meeting designation that they are attending in that time slot. Time slots are defined as WG meeting hours as defined in the approved Agenda graphic for the interim or plenary session in progress. It is expected that attendees have participated in at least 75% of the designated meeting they have signed in for. Failure to sign in may impact voting rights (see section 7 of this document). Inability to sign in should be reported to the WG Vice-Chair responsible for attendance recording.

Occasionally an attendee may wish to record their participation at a meeting (as required by IEEE SA rules), but does not want (or is not entitled) to claim attendance credit. For example, the attendee may have been present for less than 75% of the slot. Such an attendee should send an email once per session to the WG Vice-Chair responsible for attendance to record the attendee’s presence.

### Session Meeting Etiquette

During any WG and/or subgroup meetings cell phones must be shut off or in the vibrate mode of operation, in order not to interrupt the meeting. Electronic communication (e.g. email, instant messaging, and social networking) with the Officers conducting official meetings shall be deferred until after the meeting; with the following exceptions:

* Officers may access the 802.11 website and documentation server as necessary to conduct business
* The secretary may receive electronic communication/transmissions of presented material for inclusion in the minutes
* Officers conducting a meeting are permitted to record their attendance.

The use of audio and/or video recording of any 802.11 meeting is specifically prohibited. Still photography is only permitted by a public request and permission of the meeting attendees via the WG Chair, and is not for commercial purposes.

Meetings are run in an orderly fashion, and outbursts or other disruptions during a meeting are not tolerated. Conversations whether on cell phones or with other individuals in a meeting should be moved outside the meeting room.

Comments should be directed to the Chair of the meeting in accordance with Robert’s Rules of Order and personal comments directed to individuals should be avoided.

## Documentation

All 802.11 documents are disseminated in electronic format only, other than exceptional cases. Documents are only accepted if they adhere to the policies and procedures described below.

An 802.11 document shall be one of the following types:

* Agenda
* Minutes
* Report (from the WG, a subgroup, a liaison meeting or a ballot), including financial reports
* Submission (Presentations, Motions, Simulation Results, etc.)
* Liaison

### Format

Documents with the exception of draft standards and amendments shall be in the current template as specified by the WG Chair. The templates are located on the IEEE 802.11 WG website at: <http://ieee802.org/11/Documents/format-rules.html>.

Draft standards and amendments shall be submitted to IEEE SA in a format acceptable by the IEEE SA. Draft standards and amendments shall be made available to the WG in Adobe Acrobat format.

If a submitter is not able to submit in Microsoft Office application format, the document shall be submitted in Adobe Acrobat format, but only as the last resort and agreed upon by the documentation controller, normally one of the WG Vice-Chair(s).

### Layout

The layout of draft standards and amendments shall be according to the IEEE SA Style Guide ([[other5]](#other5)). All other documents shall be based on the current template for Microsoft Word (portrait and landscape; which is available on the 802.11 website) including the correct document number and revision number.

Documents based on other than Word or PowerPoint applications shall have the following layout:

* Paper size: letter (8.5”x11”)
* Margins: top = 0.6”, bottom = 0.5”, inside and outside = 0.75”, gutter of 0.5 and mirror image, headers 0.3” from edge.
* The header is as follows:
* Times (New) Roman, 14 point, bold, line below
* Left: the month and year of issue
* Right: the text "doc: IEEE 802.11-yy/nnnnrm", where yy are the last two digits of the year; nnnn are the digits of the document number and the revision number is indicated by the digit(s) m, starting at zero.
* The footer is as follows:
* Times (New) Roman, 12 point, line above
* Left: the text type and status of the document
* Center: "page n", where n is the page number
* Right: Primary Submitter name and company name as point of contact.

### Submissions

Technical presentations and proposed motions should be posted to the document server and announced on the appropriate email reflector to allow adequate time for membership review of the presentation prior to the presentation.

### File naming conventions

The file name shall be as shown in the table below. An example of a good filename that conforms to the naming convention is 11-06-0652-00-0000-Motion-to-form-a-study-group.ppt.

The electronic documentation system automatically generates the prefix part of the filename (i.e. the “**gg-yy-ssss-rr-GGGG”** below) from data entered by a document author, and requires that any uploaded file exactly match this prefix.

Table 3.7.5 – File Naming Convention

|  |
| --- |
| **gg-yy-ssss-rr-GGGG-HumanName.ext****where** |
| “gg” | is the 802 group 11 |
| "yy" | is the last 2 digits of the year the document number is obtained |
| "ssss" | is the sequence number of the document |
| “rr” | is the revision number |
| "GGGG" | is the group code identifying the WG or subgroup to which the document is assigned or presented.Examples of group codes:0000 – WG000z – TGzTvws – TVWS SG The electronic documentation system provides a mapping of well-known terms (e.g. TGz) to group code (e.g. 000z). |
| “HumanName” | The human name should be as short as possible (please use either a dash or underscore for the coupling letter). Try to avoid adding the WG or subgroup in the name. |
| ext | Is the commonly used 3 or 4 letter file extensions: .doc/.docx for Word, .ppt/.pptx for PowerPoint, .pdf for Adobe Acrobat compatible files. |

### Agendas

There are two types of agendas: WG or subgroups.

For a subgroup meeting during a WG session, there are two options:

1. Maintain a separate document, which should be shown as an “Agenda” on the bottom left of the printed page. This is a submission on the document server using document, presentation or spreadsheet formats and using appropriate 802.11 submission templates for this purpose.
2. Include the agenda as a Tab in the WG agenda document by emailing it to the WG chair.

The WG agenda is a spreadsheet that includes the following:

1. A graphic showing overall use of time during the session.
2. One or more tabs for the WG plenary meeting agendas.
3. A list of a document references for agendas posted on the document server corresponding to subgroup option 1 above.
4. One or more tabs supplied by subgroups containing their agendas corresponding to subgroup option 2 above.

NOTE – there are timing requirements on the posting of agendas prior to meetings (see sections 4.6.2, 4.6.3, and 4.7.4 in this document). The choice of format by a subgroup does not affect these requirements.

### Approval of final subgroup minutes

If the minutes of the final meeting of a subgroup were not approved in the subgroup, the minutes shall be approved in the next WG meeting.

## Motions Modifying Drafts

Motions modifying drafts may be made at appropriate times during meetings.

Complex technical changes to a draft shall be in a submission that has been accepted by document control according to document formats specified in section 3.7 of this document and has been made available electronically for a period of not less than four active 802.11 WG session hours. The TG chair determines if a technical change is sufficiently complex to require a submission.

When a CRC is following the “Accelerated process” for completion of a WG letter ballot, and is not meeting during an 802.11 WG session, any submission containing changes to the draft shall be on the server and announced to the appropriate TG reflector no less than 72 hours before any motion is made related to that submission.

NOTE – when a CRC is meeting coincident with an 802.11 session, it is subject to the four hour rule described in the previous paragraph.

## Draft WG Balloting

A draft must successfully pass a WG letter ballot before it can be forwarded to the 802 EC for approval for Sponsor Group voting (see section 7.2 in [[rules3]](#rules3)). All letter ballots shall be conducted by electronic balloting. The policies and procedures governing WG letter ballots, comment resolution and confirmation letter ballots are contained in the 802 LMSC Policies and Procedures (see section 7.0 in [[rules3]](#rules3)).

Draft standards and amendments are posted to the IEEE 802.11 WG website in the [members’ area](http://www.ieee802.org/11/private/index.shtml).

The following additional requirements are imposed within 802.11 WG.

### Draft Standard Balloting Group

The 802.11 WG ballot pool consists of all 802.11 Voters as of the close of day the ballot distribution was completed, as determined by the WG Chair.

### Draft Standard Balloting Requirements

A draft standard (or amendment) is sent to WG ballot using the procedure below.

There is a two-step approval process before a draft can be balloted:

* Approval in a TG
* Approval in the WG

It is the responsibility of the TG to ensure that the draft is ready for balloting, i.e. that it is complete (e.g. no place holders or notes for future action, editing, or clarifications) and of sufficient quality. TGs are encouraged to perform an internal review / comment resolution cycle before bringing a draft to the working group for ballot. Failure to prepare adequately will result in a large number of comments, and will probably result in a failed ballot. It also antagonizes working group voters. The progress of a draft is accelerated by taking a more cautious route to initial ballot, resulting in a shorter overall period of comment resolution.

Before a draft is submitted to 802.11 WG letter ballot, it shall meet all the following requirements:

In the Task Group:

1. Either the draft to be balloted, or the precursor draft to be edited, as appropriate, must be available on the 802.11 website in the members area, and announced on the 802.11 WG reflector
2. If any changes need to be made to this draft before it can be balloted by the WG, these changes, whether technical or editorial, shall be described in one or more submissions approved by vote in the TG.

For initial and recirculation (once a ballot has passed with at least 75% approval) ballots, the TG approves submittal to the WG for WG letter ballot. Motion templates are provided in the latest version of document [11-22-1967](https://mentor.ieee.org/802.11/documents?is_dcn=1967&is_year=2022) on the mentor server.

In the Working Group:

1. The availability of the draft (or precursor draft) must be announced on the 802.11 WG email reflector during or prior to the meeting slot in which approval of any WG ballot on the draft is considered.
2. Approval of the WG is required to start an 802.11 WG letter ballot, either by motion in a WG meeting or by a fifteen-day electronic ballot. The wording of the approval motion mirrors the wording of the approval motion made in the TG.

A recirculation ballot shall be accompanied by a spreadsheet showing how comments have been resolved from the previous ballot, and a red-line version of the draft standard showing the changes of the previous draft. Comments shall be made referenced to the clean version, but the redline version is provided to demonstrate the scope of the recirculation ballot.

For an 802.11 WG letter ballot to be considered valid, the abstention rate must be less than 30%. The ballot shall close at 23:59 USA Eastern Time (ET) on the date specified on the ballot. If the ballot has not achieved a greater than 50% return rate by the specified closing date (see section 9.6 in [[rules5]](#rules5)), the ballot may be extended to close when a 50% return of the balloting group is received. This extension for receipt of a 50% return shall not be longer than 60 days.

The TG shall respond to comments that are received during the ballot, regardless of whether the comment is associated with a vote, or from a member of the voting pool. Comments received after the close of balloting will be provided to the TG. The TG shall acknowledge the receipt of these comments to the initiator and take such action the TG deems appropriate.

### Formatting Requirements for Draft Standard and Amendments

The draft must be provided in the current IEEE electronic format (see [[rules2](#rules2)], [[other5]](#other5)). At a minimum this shall be completed prior to SA ballot. However, it is preferable that the draft be maintained in the IEEE electronic format throughout its development.

### Accelerated process for completion of WG Letter Ballot

Towards the end of WG letter ballot, an accelerated process is defined to permit rapid ballot/resolution cycles.

Once a project has been given conditional approval to proceed to SA ballot by the 802 EC (see section 12 in [[rules4]](#rules4)), the following process applies:

1. The WG chair delegates resolution of any comments received in subsequent WG letter ballots on the project’s draft to a comment resolution committee (CRC). [[1]](#footnote-2)
	1. The project’s TG chair is also chair of this CRC.
	2. The CRC is subject to IEEE SA anti-trust and patent policies.
	3. The CRC will publish minutes of its meetings as 802.11 submissions.
	4. The CRC meets together (either in person, or in teleconferences, subject to the LMSC WG P&P rules about notification of such meetings) in order to resolve comments.
	5. The CRC may vote to approve comment resolutions (75% approval required).
	6. Any 802.11 voting member may vote at any CRC meeting.
	7. Only voting members of 802.11 may vote in the CRC.
2. Once comment resolution is complete (as determined by the CRC chair) and any modified draft is available, the WG chair will start any necessary WG recirculation ballots.

##  Mandatory Draft Review (MDR)

The MDR is a review process that all 802.11 drafts shall complete prior to entering SA ballot.

The goal of the MDR is to improve the editorial quality of drafts before they are sent to SA ballot, addressing specific areas that have caused problems in past project. The MDR process is described in the latest version [11-11/0615](https://mentor.ieee.org/802.11/documents?is_dcn=615&is_year=2011), which is definitive.

The MDR process requires the consensus of the technical editors to make it work. As one goal of this process is to learn from problems experienced in projects, and also from performing the MDR itself, it is expected that the MDR process document will be updated relatively frequently. Any such changes will be brought to the Editors’ Meeting for review and approval.

Note that a draft will also need to be submitted to the IEEE-SA project editor for their Mandatory Editorial Check (MEC) prior to SA ballot. This is also described in [11-11/0615](https://mentor.ieee.org/802.11/documents?is_dcn=615&is_year=2011).

## Summary of Types of Balloting / Voting used in 802.11

The following types of balloting / voting are used in 802.11:

|  |  |  |
| --- | --- | --- |
| **Type** | **Description** | **Who can vote?** |
| Working Group (WG) Motion | A motion made during an 802.11 plenary meeting. Motions External (ME) affect or approve output documents that are sent to the EC or otherwise communicated outside 802.11. Such a motion requires a mover and a seconder, even if the motion is made “on behalf of TG<x>”.Motions Internal (MI) are all other motions. MI may be made in the WG “on behalf of TG<x>” provided that the same motion passed in the TG. In this case, it is brought by an officer of the TG, and no second is required. | 802.11 voters present at the meeting |
| WG Letter Ballot | An electronic ballot used to make decisions outside an 802.11 plenary meeting. Normally these are used for ballots on drafts of the form “Should P802.11<x> Draft <y> be forwarded to SA Ballot>”. Exceptionally ballots on other topics are conducted as determined by the WG chair. | 802.11 voters (for a new ballot) or those in the ballot pool (for a recirculation ballot).The ballot pool for a draft is frozen at the voting membership of 802.11 when the draft first reaches 75% approval. |
| Task Group (TG) Motion | A motion made during a TG meeting during an 802.11 session.A passing TG motion is required before a motion can be brought before the WG “on behalf of TG<x>”. Such motions typically include approving going to ballot and any output documents, such as a report to the EC.NOTE—this requirement does not stop an individual from bringing a motion in the WG (e.g. if the TG ran out of time, or the need for the motion was not understood before the TG adjourned), but the normal, orderly conduct of business requires this to be an exception, not the rule. | 802.11 voters present at the meeting. |
| Standing Committee (SC) Motion | A motion made during an SC meeting during an 802.11 session. | Any person present at the meeting. |
| PAR Study Group (SG) Motion | A motion made during an SG meeting during an 802.11 session. | Any person present at the meeting |
| Straw Poll | Straw polls are used to determine the opinion of those present at a meeting.They are typically used to select between alternatives before spending (potentially lengthy) time crafting a motion that has a better chance of success. Straw polls have no formal effect; their outcome is not binding on the operation of any group.When a TG breaks into “ad-hocs”, it is formally recessed. When in TG ad-hocs, no motions are in order. Because straw polls have no formal effect, they can be used in TG ad-hocs to determine the opinion of members – for example, to determine if there is sufficient support to make it worthwhile to bring a motion in a subsequent TG meeting.A TG ad-hoc can distinguish between different types of straw poll if it so wishes. This is just a matter of labeling and has no effect on the meaning of the result. Regardless of what the TG ad-hoc calls the straw poll, it should make clear to its members that it is a straw poll, and that it has no formal effect. | Any person present at the meeting |

# Task Groups

## Function

The function of a Task Group (TG) is to produce a draft standard, recommended practice, guideline, supplement, or portion of a draft standard. These shall be within the scope of the IEEE LMSC, the charter of the WG and under an approved PAR as established by the 802 EC and approved by the IEEE Standards Board. After the publication by the IEEE of the standard, recommended practice or guideline, the function of the TG is complete and its charter expires (see section 4.8 of this document). The 802.11 WG maintains published 802.11 standards (see section 5.0 item f in [[rules5]](#rules5)). All business brought to the floor of the WG that deals with a topic assigned to a TG shall be automatically referred to the TG by the WG Chair, without discussion on the floor of the WG.

## Task Group Chair

The TG Chair shall be appointed by the WG Chair and confirmed by a WG majority approval. The TG Chair is re-affirmed by the WG every 2 years (May of even years): one session after the WG Chair is elected.

The TG Chair is required to confirm that the function of secretary is performed for each TG meeting. TG meetings are not allowed to function without a secretary.

## Task Group Vice-Chair

TG Vice-Chair is elected by a TG majority approval and confirmed by a WG majority approval. The TG Vice-Chair is reconfirmed by the TG and reaffirmed by the WG every 2 years (May of even years); one session after the WG Chair is elected.

## Task Group Secretary

The TG Secretary shall be appointed by the TG Chair and confirmed by a TG motion that is approved with a minimum 50% majority. The TG Secretary is re-affirmed every 2 years (May of even years); one session after the WG Chair is elected.

The minutes of meetings taken by the TG Secretary (or designee) are to be provided to the TG Chair in time to be available to the WG Chair for publication 30- days after close of the session.

The minutes of the meeting are to include documents produced by the voting process and document list. See section 10 of this document ([802.11 Guidelines for Secretaries](#_Guidelines_for_secretaries)) for details on content and form of minutes.

## Task Group Technical Editor

The TG Technical Editor shall be appointed by the TG Chair and confirmed by a TG majority approval.

The TG Technical Editor is responsible for:

* Organizing, maintaining the draft standards for the TG in the format used by the IEEE standards department.
* Preparing technical drafts following the editor’s guidelines in section 11 of this document.
* Preparing an update of the draft standard as soon after a session as possible, as directed by the TG.
* Proof reading and coordinating changes of documents edited by IEEE staff.
* Sending the TG Chair the following:
* The Adobe Acrobat PDF file of the standard ([[other3]](#other3)).
* A word processing document file in a format that is acceptable by the IEEE standards department.

## Task Group Membership

Participants in the 802.11 WG make up the TG membership. The TG shall follow the operating policies defined for TGs in the 802.11 WG.

### Rights

The rights of a TG participant that is an Active member of 802.11 include the following:

* To join the TG email reflector.
* To present prepared technical submissions
* To vote at meetings if present providing the participant is qualified under the WG voting policies and procedures.
* To examine all working draft documents.
* To lodge complaints about TG operation with the WG Chair.

### Meetings and Participation

All TG meetings are open to participants of any status. Attention is drawn to the registration requirements for those attending 802 Plenary and Interim Sessions where TG meetings also occur. WG Voter members have the right to participate in decisions of the WG. The TG Chair may grant participants who are not 802.11 WG Voters the privilege of participating in discussions.

A TG will normally meet during the week of the 802.11 WG Session. The WG Chair determines, taking into account the TG status, if a TG meeting is required and assigns time slots for meeting during the session. Depending on the workload, TG meetings can be held between the 802.11 WG Sessions as often as required and as recommended by the TG membership with approval by the WG Chair. A meeting notice and agenda must be distributed on the TG email reflector at least 30 days prior to any meeting. This notice will include as a minimum the date, time, location, host, hotel details, travel details if necessary and a stated purpose. TG meetings that are not part of an 802.11 WG Session do not count towards 802.11 WG voting rights.

### Teleconferences

A TG may meet on a teleconference provided that the teleconference date, time, agenda, and arrangements are announced on the WG email reflector at least 10 calendar days prior to the teleconference date. Minutes (agenda, list of attendees, and proceedings) are kept and posted to Mentor within 7 days of the teleconference. A TG should not schedule more than two teleconferences per week.

## Operation of the Task Group

The TG's primary responsibility is to produce a draft standard, recommended practice, or guideline in a reasonable amount of time for review and approval by the WG.

The operation of the TG is governed by this operations manual and the procedural documents described in section 1 of this document.

### Task Group Chair Functions

The TG Chair may decide non-technical issues or may put them to a vote of the TG.[[2]](#footnote-3) The TG participants and the Chair decide technical issues by vote. The TG Chair decides what is non-technical and what is technical.

The TG Chair is responsible for presiding over TG sessions.

The TG Chair shall operate the TG in an unbiased fashion. To maintain impartiality, the TG Chair shall refrain from taking sides in debate on technical motions.

It is the responsibility of the TG Chair to lead the TG in producing a quality draft standard in a timely fashion as specified by the relevant PAR.

###  Task Group Vice-Chair Functions

The TG Vice-Chair assists the TG Chair in carrying out the TG Chair Functions. The TG Chair may delegate the control of the meeting to the Vice-Chair, who is responsible to lead the TG when, for example, the TG Chair wants to participate in the TG debate.

### Voting

WG Voters are entitled to make motions on the matters before the TG and all participants may participate in straw polls.

The TG Chair defines motions to be either technical or non-technical. On a technical motion, a vote is carried by a minimum 75% approval of the sum of those voting "Approve" or "Do Not Approve". All procedural motions described in [[rules6]](#rules6) require the approval levels described in [[rules6]](#rules6). On other motions, a vote is carried by a greater than 50% approval of the sum of those voting "Approve" or "Do Not Approve".

The decision to define a motion as technical or non-technical rests with the TG Chair. Generally a technical motion is defined as a motion that will materially affect the content of a draft. This is because a draft itself will ultimately be subject to a 75% majority vote at both WG and SA ballot.

The vote by the TG to request the WG to submit a draft standard or a revised standard to the WG ballot group is considered to be a technical vote.

### Task Group Chair's Responsibilities

The main responsibility of the TG Chair is to ensure the production, and to guide through the approval and publication process, a draft standard, recommended practice or guideline, or revision to an existing document as defined by the relevant PAR. The responsibilities include:

* Issue a notice and agenda for each approved meeting at least 30 days prior to start.
* Issue a notice and agenda of approved teleconferences by issuing a notice and agenda for each, at least 10 days prior to start.
* Ensure that there is a Recording Secretary for each meeting.
* Issue meeting minutes and important requested documents to all members. The meeting minutes are to include:
* next meeting schedule and objectives
* agenda as revised at the start of the meeting
* voting record including resolution, mover and seconder, and numeric results
* Maintain liaison with other organizations at the direction of the WG Chair. All liaison and liaison statements shall be approved by the WG or the WG chair.
* Work with the WG Chair and Technical Editor to complete the publication process for the draft standard, recommended practice or guideline.

Sufficient detail shall be presented in the meeting minutes to allow a person knowledgeable of the activity, but not present at the discussion, to understand what was agreed to and some of the discussion (see section 10 of this document). Minutes shall be distributed within 30 days of the meeting to the attendees of the meeting, all TG participants and all liaison groups.

At each session in which the TG has meetings the TG Chair shall report as follows:

* A status (PowerPoint) report (achievements, teleconference schedule, goals for next meeting) for the closing plenary, to be made available before or during the Thursday night CAC meeting.
* A summary (html) report to be posted to the 802.11 web site no later than one week after the close of the session.

### Task Group Chair's Authority

To carry out the responsibilities cited in section 4.7.4 of this document, the TG Chair has authority to:

* Decide which issues are technical and which are non-technical.
* Assign and unassign subtasks and task leaders or executors, e.g. secretary, subgroup leader, etc.
* Speak for the TG to the WG.
* Determine if an organization or consortium is dominating the TG, and, if so, raise the issue to the WG Chair.
* Be representative of the TG during coordination and interaction with IEEE staff.

## Deactivation of a Task Group

The 802.11 WG may deactivate a TG it has formed. After the objective of the TG is complete, its charter expires and the TG is deactivated by the WG. If the TG has not completed its work within its allotted period of time, the TG can request to be disbanded by the 802.11 WG or request an extension of time. The TG may request the WG to deactivate the TG prior to the expiration of the PAR. A motion to deactivate a TG requires 75% approval.

# PAR Study Groups

## Function

The function of a PAR Study Group (SG) is to complete a defined task with specific output and in a specific time frame. Once this task is complete, the function of the SG is complete, and its charter expires.

The normal function of a SG is to draft complete PAR and Criteria for Standards Development (CSD) documents (see [[rules5](#rules5)]) and to gain approval for them from the 802.11 WG.

## Formation

A SG is formed when sufficient interest has been identified for a particular area of study within the scope of 802.11 WG. Sufficient interest is determined by a motion in the WG. An 802.11 SG is initiated by 50% approval of the 802.11 WG and is subject to approval by the 802 EC. During this approval process the 802 EC decides whether a SG is within the scope of 802.11 WG, should be moved to another WG or should be set up as an 802 Executive Committee PAR Study Group.

Mechanisms that are available for building interest in a SG include presentations at the Wireless Next Generation (WNG) Standing Committee and a call for interest. A call for interest may be made by any attendee at an 802.11 WG opening plenary.

## Continuation

A SG is authorized from plenary session to plenary session. If the SG has not completed its work within that time, a request must be made to the WG for an extension for up to additional 6 months. A request for SG extension is voted upon at an 802.11WG closing plenary meeting.

## PAR Study Group Operation

SGs follow the operating procedures for TGs specified above in section 4.7, with the exception of voting as detailed below.

### PAR Study Group Meetings

SG meetings held as part of an 802.11 WG Plenary or Interim sessions count towards 802.11 WG voting rights.

### Voting at PAR Study Group Meetings

Any participant attending a SG meeting may participate in SG discussions, make motions and vote on all motions (including recommending approval of a PAR and CSD). A vote is carried by 75% of those present voting “Approve” or “Disapprove.”

NOTE—the 802 LMSC WG P&P [[rules5]](#rules5) sets a threshold of 75% for all votes in an SG, regardless of the type of that vote. This takes precedence over the usual Robert’s Rules of Order thresholds for procedural votes.

### Reporting PAR Study Group Status

Progress of the SG is presented at the closing 802 EC meeting of each IEEE 802 plenary session by the WG Chair.

# 802.11 Standing Committee(s)

## Function

The function of the 802.11 Standing Committee (SC) is to perform a specific function as defined by the WG Chair.

## Membership

Participants from the 802 .11 WG make up the SC membership.

## Formation

The Chair of the WG has the power to appoint SCs when enough interest has been identified for a particular area of study within the scope of 802.11 WG. To determine that sufficient interest has been identified, the formation of the SC shall be ratified by a simple majority of the WG.

## Continuation

SCs are constituted to perform a specific function and remain in existence until the specific function is no longer required at the WG Chair’s discretion.

## Standing Committee Operation

SCs follow the operating procedures for SGs specified section 5 of this document.

### Standing Committee Meetings

Attendance at SC meetings held as part of an 802.11 WG session counts towards 802.11 WG voting rights.

### Voting at Standing Committee Meetings

Any person attending a SC meeting may participate in SC discussions, make motions and vote on all motions. A vote is carried by 75% of those present voting “Approve” or “Disapprove.”

## Standing Committee Chair

The Standing Committee Chair is appointed by the WG Chair and is re-affirmed by the WG majority approval. The Standing Committee Chair is re-affirmed every 2 years; one session after the WG Chair is elected.

## Topic Interest Groups

A “topic interest group” (TIG) is a temporary standing committee of the 802.11 working group that is formed to progress a specific topic.

A TIG might be used prior to a formal PAR study group (SG) to raise awareness and understanding of a potential SG.

A TIG follows all the rules for a WG11 standing committee.

A TIG is formed by WG motion and dissolved as determined by the WG chair.

A TIG group is formed after discussion during a WG plenary meeting, during which the goals of the TIG are identified, and a motion to form the TIG achieves a simple majority.

Typically, a TIG will exist for no more than 6 months.

## Ad-hoc Group(s)

An ad-hoc group may be created to progress work on specific topics by either the WG or a TG.

There are no formal rules for the operation of an ad-hoc group, although it may well define its own informal operating process. An ad-hoc group cannot make any decisions (i.e., no motion is in order at an ad-hoc group meeting), although it can test the will of its members using straw polls, which have no formal effect.

The 802.11 agenda may reserve meeting time for ad-hoc groups, in which case attendance at such ad-hoc group meetings counts towards the session attendance.

# Voting Rights

Voting rights and membership are described in section 7 of [[rules5]](#rules5).

A participant belongs to one of five levels of membership: Non-Voter, Aspirant, Potential Voter, Voter, and Former-Voter, as described in section 7.1 below.

All participants can vote in SG and SC meetings. Only Voters have the right to make motions, 2nd motions and vote during WG and TG meetings. However, WG and TG Chairs may permit all participants to participate in straw polls, discussions and debates.

It is the responsibility of all participants to make the WG Chair and the WG Vice-Chair responsible for membership, aware of any changes to their contact information for the purpose of maintaining the IEEE 802.11 voting membership database.

## Earning and Losing Voting Rights

A participant earns voting rights by properly attending 802.11 WG interim and plenary sessions.

A “properly attended session” is an 802.11 WG interim or plenary session at which the participant has

* Recorded their contact details and affiliation.
* Recorded attendance for 75% of the “in session hours” (i.e. morning and afternoon) meeting slots (these are indicated as such on the session graphic in the WG agenda). Evening meetings may be substituted for any of the “in session hours” meetings.
* Registered for the session and paid any required meeting fee.

As a courtesy, after a session the WG officer responsible for maintaining membership will send an email to an individual whose membership status has changed informing them of the change. The email will include instructions on any new entitlements or obligations and any newly acquired membership number or credentials.

It is the participant’s individual responsibility to ensure that they follow the obligations described below.

### Non-Voter

A Non-Voter is a participant who is described by one or more of the following:

* Is attending a session for the first time
* Never gained any other participant status (i.e. attends some meeting slots, but never enough to “properly attend” a session)
* Gained some other status, but lost it due to failing to properly attend 1 of 4 consecutive plenaries (one of which may be substituted by an interim)
* Gained voting status, and failed to return the required mandatory WG letter ballots

A Non-Voter who properly attends a session becomes an Aspirant member at the end of that session.

A Non-Voter can only gain voting status by following the transition: Aspirant->Potential Voter->Voter. Any previous attendances do not count towards this.

### Aspirant

An Aspirant becomes a Potential Voter at the close of the second properly attended plenary session (a single interim session may be substituted for a plenary).

Failure to properly attend 1 of 4 consecutive plenary sessions (a single interim session may be substituted for a plenary) results in the Aspirant becoming a non-voter.

### Potential Voter

A Potential Voter becomes a Voter at the start of the next attended plenary session provided that they have:

* Recorded their contact details and affiliation.
* Recorded attendance for at least one 802.11 meeting slot.
* Registered for the session and paid any required meeting fee.

A Potential Voter’s badge will contain an 802.11 voting token at the start of a plenary session.

(NOTE—a potential voter’s badge will not contain an 802.11 voting token at the start of an interim session, because voting status is only gained at the start of plenary sessions.)

Failure to properly attend 2 of 4 consecutive plenary sessions (a single interim session may be substituted for a plenary) results in the Potential Voter becoming an Aspirant.

NOTE – one common cause for complaint (“where’s my voting token, I had one at the last meeting”) is a potential voter who attends a plenary session (i.e., having a voting token on their badge), but who records attendance only for non-802.11 meetings. Such a person fails to meet the 802.11 requirements to become a voter, and will not have a voting token on their badge at the subsequent interim session.

### Voter

A Voter’s badge will contain an 802.11 voting token.

A Voter remains as such provided:

* The Voter continues to properly attend 2 of 4 consecutive plenary sessions (a single interim session may be substituted for a plenary).
* The Voter responds to 2 of the last 3 WG letter ballot series for which they are eligible, where a WG letter ballot series is the initial WG letter ballot plus its recirculation ballots.
* NOTE – A voter’s status is evaluated at completion of a WG letter ballot series.

If a Voter fails to properly attend 2 of 4 consecutive plenary sessions (a single interim session may be substituted for a plenary), the voter will become an Aspirant if they then have properly attended 1 of 4 consecutive plenary sessions or will become a Non-Voter if they have properly attended 0 of 4 consecutive plenary sessions.

NOTE – The transition to Non-Voter will occur if the meetings supporting their Voter status were a plenary and the following interim such that the plenary is now 5 plenaries ago.

See 4.2.1 (Requirements to Maintain Voting Membership) in the IEEE 802 WG P&P [[rules5]](#rules5)

### Former-Voter

A former voter member of 802.11 continues to retain the following rights:

* To join the WG maintained email reflectors
* To post documents on the 802.11 document server

NOTE – A Former-Voter might need to prove their status if the records maintained by the WG leadership do not include this information.

## Voting Tokens

Voting Tokens are printed on the participant’s name badge and are used to vote on motions during WG and TG meetings, unless a roll call vote is requested by a WG voter or directed by the WG Chair. Voting tokens are only added for Potential Voters at plenary sessions. Voting tokens are valid for the duration of the session in progress. If a Voter loses their voting token (name badge) during the session, they must report it to the WG Chair or WG vice-Chair to obtain a replacement from the meeting organizers.

# Access to: Email lists, Teleconferences, Document server and the 802.11 Drafts

## Email lists

The WG maintains an email list on which all meetings and ballots are announced, and which is used for discussion of matters relevant to all 802.11 participants (STDS-802-11@LISTSERV.IEEE.ORG). In addition a separate list is provided for each active TG and/or SC.

Any Active 802.11 participant or Former-Voter is entitled to be a member of any of these Email lists. The 802.11 website provides links to allow an Active 802.11 participant or Former-Voter to manage this access. An Active 802.11 participant or Former-Voter that desires access to the 802.11 WG email reflector(s) may submit a request for such access using the web-based 802.11 reflector request <http://www.ieee802.org/11/Reflector.html>.

Postings to any of these lists are restricted to list members, i.e., only a member of a list (identified by email address) can post to that list.

The WG also maintains a read-only reflector, to which all emails to the main WG list are copied. Anyone can join this list. Members of this list cannot post to the list.

## Teleconferences

WG (and subgroup) Teleconferences operate under the rules described in this 802.11 OM.

The agenda shall include a summary review of the relevant antitrust and patent P&P and shall include a call for essential patents, when a WG and/or subgroup is responsible for producing or potentially responsible for producing a standard, amendment or recommended practice. Minutes shall be recorded and posted on the 802.11 document server.

WG, TG, SG and SC motions may be held during teleconference meetings with the following conditions:

* The meeting that will consider motions shall be approved by the WG Chair.
* The meeting shall be announced with at least 10 days notice as a meeting where motions will be considered to the WG email reflector.
* Motions on the teleconference are by roll call (recorded) vote unless approved by unanimous consent.
* By default, WG, TG/SG/SC teleconferences during which motions are held will be scheduled at or near 9 am US Eastern Time. The goal being that teleconferences in which motions are held are not 11pm – 6am for the majority of members.

A TG operating under the accelerated process follows the rules in section 3.9.4 of this document which permit voting on formal motions on teleconferences.

SA ballot CRC teleconferences, albeit announced in the WG and consisting of WG participants, operate under the authority of the sponsor, and are therefore permitted to vote on formal motions.

Teleconferences are generally approved during the closing 802.11 plenary meeting, and cover the period from 10 days after that plenary to 10 days after the next closing 802.11 plenary meeting. Any changes to the teleconference schedule after the closing plenary shall be made by announcement to both the WG and relevant group’s reflector at least 10 days in advance.

Details of 802.11 teleconferences are posted on the 802.11 website. It is the responsibility of the relevant chair to provide bridge details in advance to the WG vice chair responsible for publishing these details.

Anyone may attend an 802.11 teleconference.

## Public Document Server

The 802.11 public documents are kept on the IEEE mentor system <https://mentor.ieee.org/802.11/documents>. Anyone may read these documents.

Only an Active 802.11 participant or Former-Voter may post documents on the 802.11 document server.

## Private Members-only Document Server

Access to drafts and related documentation is provided on the private area of the 802.11 website <http://www.ieee802.org/11/private/index.shtml>. Active 802.11 participants are entitled to access the private area.

Credentials will be emailed to new active 802.11 participants after the session in which they become an active 802.11 participant. These credentials are updated once a year.

Access to drafts is provided to all attendees at an 802.11 plenary or interim session.

## Responsibilities of an 802.11 SA Ballot CRC

An 802.11 SA Ballot CRC shall make available on the 802.11 member’s area any drafts it sends to SA ballot.

An 802.11 SA Ballot CRC shall make available on the 802.11 document server all SA ballot comments received and any comment resolutions that it approves.

All submissions presented to and all minutes of an 802.11 SA Ballot CRC shall be posted to the 802.11 document server.

# IEEE 802.11 WG Assigned Numbers Authority

The objective of the Assigned Numbers Authority (ANA) is to conserve and allocate identifier values in the IEEE 802.11 standards and approved amendments.

### WG ANA Lead

The WG ANA Lead shall be appointed by the WG Chair and re-affirmed by a WG majority approval. The WG ANA Lead shall be responsible for approving and maintaining a central repository of identifier values in a document as defined in section 9.1.2 of this document.

### ANA Document

A document containing the identifier values shall be made available on the server during interim and plenary sessions and posted on the 802.11 WG website. Any updates shall be posted on the 802.11 WG website within 15 days following the close of the 802.11 WG interim or plenary session.

### ANA Request Procedure

A request for an assigned number for new identifier values shall be made by using the following procedure:

1. A draft amendment or standard that has been approved by the WG or a TG and that requires allocation of numbers from the ANA shall contain placeholders for such numbers using the sequence <ANA> and should not presume any particular value will be assigned.
2. The TG chair or technical editor shall prepare requests for each such <ANA> flag using the forms provided by the ANA and documented in the ANA database document.
3. The ANA shall circulate the requests and tentative assignments to the 802.11 editor's reflector and ask TG editors to check for any conflict. Typically, the requests are generated following a session.  The ANA should respond to the request within 1 week.  The ANA shall reject any request that is not properly formed, i.e., does not supply all information required by the ANA form.  The last item of any resource will never be assigned and will always automatically be designated as “escape bit/number”.
4. After a period of 1 week has elapsed and no conflict has been reported, the assignments are confirmed, and the ANA shall upload an updated database document and notify the WG reflector.
5. An ANA request from an entity external to the 802.11 WG shall be brought to the 802.11 WG for confirmation.
6. An ANA request for a legacy Element ID shall be approved by WG motion. Legacy Element IDs are intended for elements in Beacon and Probe Request/Response frames, and current and future “beacon-like” frames. By default, requests for Element IDs are allocated from the Element ID Extension space.
7. An ANA request for reuse of a previously reserved Element ID shall be approved by WG motion.

### ANA Revocation Procedure

The TG that has previously requested an assigned number may request revocation of that assigned number. The request must be approved by a motion in the TG or WG.

### ANA Appeals Procedure

An appeal of an assignment of an identifier value may be made by a Voter by following the appeal procedure described in the Policies and Procedures of IEEE Project 802 (see section 9 in [[rules3]](#rules3)).

# Requirements and Guidelines for 802.11 Secretaries

Prepare the minutes taking into account the following:

* 1. Use the template for documents.
	2. Make sure the Chair of the group can deliver the minutes to the 802.11 WG chair within 30-days after closure of the session.
	3. Use the following in the left side footer: “Minutes”.
	4. Make the style of motions such that they are easily identifiable.
	5. Numbering the motions is recommended.

Minutes should be short, don’t include every detail of the meeting.

Minutes include the following items:

1. Name of Group
2. Date and location of meeting
3. Officer presiding, including the name of the secretary who wrote the minutes
4. Attendance – The WG Secretary reports the attendance (name, affiliation, met attendance requirement) in the full working group minutes as a report published from the electronic attendance system. Subgroup secretaries shall include attendance records for any meeting held outside a WG Session (e.g. teleconference meeting). The attendance list shall include only the name and affiliation of each meeting attendee.
5. Call to order, chair’s remarks
6. Approval of minutes of previous meetings.
7. Approval of agenda
8. Review of Policies and Procedures of IEEE
9. Motions, including mover, seconder and results
10. Straw polls, including name of requestor, if applicable
11. Discussions:
12. Brief summary of discussion, pros and cons, and conclusions (optional, recommended)
13. Include name of primary document author
14. Do not include names of discussion participants
15. Action items, including assignee and date
16. References to submissions (optionally include links)
17. Subgroup reports (optionally within the WG minutes)
18. Next meeting—date and location

#  Guidelines for 802.11 WG and Task Group technical editors

The 802.11 WG and TG Technical Editors shall use the following documents (latest revision) as guidelines for developing and maintaining technical drafts for IEEE 802.11 standards and amendments.

1. [11-06/0786](https://mentor.ieee.org/802.11/documents?is_dcn=786&is_year=2006) - 802 11 Editors Guidelines
2. [11-09/1034](https://mentor.ieee.org/802.11/documents?is_dcn=1034&is_year=2009) - 802.11 Editorial Style Guide

# Guidelines for comment resolution

Document [11-11/1625](https://mentor.ieee.org/802.11/documents?is_dcn=1625&is_year=2011), “WG11 Comment Resolution Guide“, contains guidelines to assist TGs and CRCs during the process of comment resolution, to properly responding to letter and SA ballots. There is also an additional tutorial document [11-13/230](https://mentor.ieee.org/802.11/documents?is_dcn=230&is_year=2013) “Comment Resolution Tutorial”.

# Appendix A: MDR Process Summary

This section summarizes the MDR process (see section 3.10 in this document), for information.

* The MDR should be performed when WG letter ballot is “almost done” – i.e., the last draft in which changes are anticipated to be made during WG letter ballot.
* There are three roles involved in the review: TG editor. WG editor and a TG nominee (usually another editor).
* Process
	+ WG editor and nominee review the draft for compliance with the review items.
	+ WG editor prepares a draft report that identifies any changes that are necessary to satisfy the MDR.
	+ The report is iterated with the TG editor to clarify the findings and achieve consensus on resolution of any required changes.
	+ TG editor brings recommended changes before TG for approval.
* Review Items
	+ Numbering of clauses, subclauses, figures, tables and equations.
	+ [11-11/1149](https://mentor.ieee.org/802.11/documents?is_dcn=1149&is_year=2011) - Draft Number Alignment Tool
	+ [11-11/0270](https://mentor.ieee.org/802.11/documents?is_dcn=270&is_year=2011) - ANA Database
	+ [11-09/1034](https://mentor.ieee.org/802.11/documents?is_dcn=1034&is_year=2009)  - 802.11 Editorial Style Guide, for compliance to IEEE SA style and WG style and for the description of MIB variable styles.
	+ MIB rolled-in to as much of the base document(s) MIB as possible and any compilation errors fixed.

# Appendix B: Number of Sessions required to become a Voter

Figures B.1 and B.2 illustrate the timeline to become a voter. A new participant must attend two (2) out of four (4) consecutive plenary sessions to achieve voting rights, and on the third plenary session the participant will become a voter. An interim session may be substituted for a plenary session. Only one interim may be substituted for a plenary.

For example, if a new participant attends for the first time at a plenary session and attends only plenary sessions, voting privileges are granted at the third plenary as illustrated in Figure B.1.

Figure B.1 – New participant starting at a plenary session, attending plenary sessions

**2006**

**2006**

**2006**

**March**

**July**

**November**

**Plenary**

**Plenary**

**Plenary**

**B-**

**Non-Voter**

**B-**

**Aspirant**

**B-**

**Voter**

**E-**

**Aspirant**

**E-**

**Potential Voter**

**B – Beginning of Session E- End of Session**

When a new participant attends for the first time at an interim session, that interim session is substituted for a plenary session. Voting rights are granted at the next plenary session as illustrated in Figure B.2.

Figure B.2 – New participant starting at an interim session

**2006**

**2006**

**2006**

**Jan**

**March**

**May**

**July**

**Interim**

**Plenary**

**Interim**

**Plenary**

**B-**

**Non Voter**

**B-**

**Aspirant**

**B/E**

**B-**

**Voter**

**E-**

**Aspirant**

**E-**

**Potential Voter**

**Potential Voter**

**B – Beginning of Session E- End of Session**

A participant that attends both a March plenary session and the following May interim session (not the January interim) will be a Voter at the beginning of the July plenary session.

# Appendix C: Membership Flow-Diagram



Note: “attended n of m sessions” indicates attendance at n of m consecutive plenary sessions one of which may be substituted by an interim session

Figure C.1 – Membership Flow Diagram

**End.**

1. The WG chair can announce this delegation at the meeting at which the request for conditional approval is approved by the 802.11 WG: “Once the request for conditional approval to proceed to SA ballot is granted to 802.11<x>, it is operating under the Accelerated process described in our OM. I delegate the responsibility of resolving comments to a CRC chaired by <name>, conditional on the EC granting this approval.” [↑](#footnote-ref-2)
2. The chair is advised not to make decisions that are potentially controversial, because doing so is likely to lead to an appeal. The meeting then gets mired in procedure. [↑](#footnote-ref-3)