SPEC Embedded Group (EG) Policy 1.00

Table of Contents

1. Embedded Group (EG)

Development of industry-standard benchmarks for the hardware and software used in embedded systems.

1.1. EG Membership

1.1.1. Sustaining Memberships

Sustaining members are dues paying members and accrue all the rights, privileges and responsibilities that full membership entails. Sustaining memberships are available to computing-related commercial and non-commercial entities as specified in the Bylaws. Universities and non-profit institutions are eligible to become sustaining members, but at their option may prefer to join as non-profit Associates, as described in section 1.1.2.

Sustaining members may become active participants in any committee of the EG and review and comment on all initiatives by the EG.

Sustaining members are EG Steering Committee members, are eligible to nominate candidates for offices, and to champion proposed initiatives.

1.1.2. Associates

To encourage participation from universities and other non-profit institutions interested in EG's work, SPEC maintains a SPEC Associate category that enables non-profit organizations to share in the SPEC process, but not to participate in general member voting.

Non-profit Associates can review and comment on all initiatives by the EG Members.

1.1.3. Supporting Contributor

The role of a Supporting Contributor is available by invitation to an individual. A committee may issue an invitation to an interested party to apply for this role. The application must be approved by the Embedded Group Steering Committee and the Board. Supporting contributors may participate in any committee they are invited to, have no voting rights, and pay no dues.

1.2. Embedded Group Steering Committee (EGSC)

The EGSC manages and supervises all initiatives of the EG Committees.

a. Exceptions to policy: For due cause, the EGSC may vote to approve exceptions to this policy or may adopt resolutions that may conflict with policies expressed in this document; in such cases an amendment to this document will be brought forth within a reasonable time period afterwards.
b. Conflict with Bylaws or Board: In the event of disagreement between EGSC resolutions vs. SPEC's Articles of Incorporation and Bylaws or decisions by the SPEC Board of Directors, the EGSC shall yield.
c. The number of EGSC members is equal to the number of SPEC EG sustaining members.
d. EGSC members should agree to the following conditions and obligations:
   - Attending all EGSC meetings, including EGSC face-to-face meetings.
   - Have the engineering resources to be able to technically review and help direct all EG initiatives.
   - Devote engineer resources to SPEC EG activities.
   - Under the direction of the EGSC Chair, help to promote EG cross-pollination and/or serving as primary steering committee liaison to assigned Committee(s).
e. Voting representative: Each EGSC member institution shall designate a voting representative. If the designated voting representative is absent from an EGSC meeting, another person employed by the member institution (or

its affiliates) may temporarily represent the member. In the event of a lack of clarity as to who has the vote, the EGSC Chair may refuse to accept a vote until the designated voting representative appoints a substitute in writing.

f. Proxies: The EGSC does not allow use of proxy voting (that is, the authorization of an individual who is not an employee of a member institution to vote on behalf of that member), because EGSC members are expected to participate, to be actively involved in discussion, and to evaluate the evidence that may be presented. In rare cases, the Chair may accommodate legitimate scheduling difficulties (e.g. a Special Meeting scheduled at a particularly user-hostile hour for a directly interested participant), by requiring use of the Voting Tool rather than taking a vote during the meeting.

g. Officer elections: The EGSC elects a Chair, Vice-Chair, and Secretary. The election is held at the EGSC meeting occurring close to the SPEC annual meeting. EGSC Officer positions are held by individuals. It is not a requirement that the individuals be employed by an EGSC member company.

h. Election procedures are the same as for Committees, with these exceptions: notice of the election shall be sent to all EG members; nominations are made via the steering committee mailing list, or at the meeting where the election is to be held; in the event of a tie, even after repeated attempts to break the tie, then the presiding officer shall use a randomized method to determine the winner.

i. Vacancy: An election will be held to fill a vacancy if an officer steps down, except for the case where the Chair steps down and a Vice-Chair has already been elected; in this case, the Vice-Chair shall become the Chair for the duration of the term, and an election for a new Vice-Chair must be held to fill the vacancy.

j. EGSC Quorum: In order to have quorum, the EGSC must have greater than 2/3 of its members present. (To calculate this, the table for the "SPEC Consensus Voting Rule" may be referenced in section 2.1.3. Votes may be taken only if there is a quorum of the current voting members present.

k. Voting / passage of motions: To pass a proposal at the EGSC, the EGSC uses the "SPEC Consensus Voting Rule", which is defined in section 2.1.3.

l. All EGSC votes shall be open votes, except election of officers, which is by secret ballot. Exceptions to the secret ballot may be made if there is only one candidate per office.

m. Voting Tool: The SPEC private server offers a "SPEC EGSC Proposal/Voting Tool" which may be used to act on proposals separately from meetings. When this tool is used, it automatically enforces the SPEC Consensus Voting Rule.

n. Advisers: The EGSC can, after notification in writing to the Board of Directors, enlist the aid of advisers and consultants from the industry, government agency, and academe.

o. Coordination with Board: Certain organizational activities require board participation and approval. For example, the board must approve press releases, setting prices for benchmark licenses, and any major resource reallocations of SPEC administrative staff and Public Relations to assist with the non-technical aspects of releasing a new benchmark suite. Proposals may be brought directly to the board by the Steering Committee Chair.

1.2.1. EGSC Meetings

a. Parliamentary procedure: EGSC meetings are conducted in accordance with general parliamentary procedures under the direction of the chair. The chair shall use fairness as the primary criterion, and simplicity of process as a secondary criterion. The chair may be over-ruled by the EGSC using its usual voting rules.

b. Regular and special meetings: EGSC meetings are of two types: regularly scheduled, or special. Special meetings may be called by the Chair, the Vice-Chair, or any 3 members, to handle urgent issues.

c. Notice of meeting: At least two full business days' notice is required prior to EGSC meetings, unless every voting member agrees to shorter notice.

d. Venue: Meetings may be face-to-face or online.

e. Face-to-face meetings: Face-to-face meetings take place about 2 times per year. Regular face-to-face meetings are considered essential because the steering committee often:
    - Drives for consensus on controversial issues.
    - Functions as a court of appeal for issues elevated from Committees.
    - Seeks solutions to complex issues

- Engages in negotiations that require substantial time, effort, and understanding of other participants' concerns.
- Remote call-in access to face-to-face meetings is typically not provided, as that would defeat much of the purpose of face-to-face meetings. Candidates for EGSC are strongly encouraged to take account of the face-to-face meeting requirements prior to running for office.

f. Meeting protocol: For regularly scheduled meetings, the EGSC has adopted the following meeting protocol:
- Written proposals submitted in advance of the meeting will be given priority on the agenda.
- A written form of the proposal must accompany all non-trivial proposals.
- Guest presentations may be scheduled for no more than one hour in total for all guests in any one meeting.
- Meetings include:
  - A short session to adjust the agenda
  - Status reports from each active Committee
  - Old business
  - Action item follow-up
  - New business
  - Notice of the time and place of the next meeting
  - Announcements
  - If time permits, the agenda may also include a section for informal discussions to allow the group to begin discussion on relevant topics that are likely to require action at future meetings. During informal discussions, no EGSC votes will be taken.

1.2.2. EGSC Web Pages and Email Subscription

Steering Committee web pages (including EGSC Wiki pages) may be read by all members of the Embedded Group. Any EG member may subscribe to the email list for the EGSC.

2. EG Committees

2.1. Formation

The EGSC will form from time to time a committee with the responsibility to research and produce relevant initiatives. A minimum of three active members is required for the formation of a committee. The EGSC appoints the Initial Chair for the new Committee, approves it initial charter and subsequently changes to it. The voting method for a committee is the SPEC Consensus Voting Rule and its quorum requirement is 2/3 of the committee members.

Membership in any EG committee is open to any EG sustaining member or EG Associate.

2.1.1. Committee Voting Rights

To join a committee as a voting member, the joining party must:

- Be an EG sustaining member or EG associate.
- Agree in principle with the goals of the committee as outlined in its charter.
- Identify a main contact.
- During their initial four weeks, take responsibility for bootstrapping themselves in the past efforts of the committee. This includes reviewing meeting minutes and the group's email archive and obtaining assistance offline from the meetings to ensure they are up to speed on the issues.
- Attend two consecutive meetings.

In order to maintain voting rights in a committee, a member must:

- Contribute resources towards the actual contribution to the initiative. The recommended minimum contribution is 24 person-hours per month. This consists of approximately 20 hours for technical work on the benchmark plus 4 hours for meeting and conference calls. Contributions may be divided among one or more individual contributors. The committee may adjust these requirements, based on the committee schedules, the effort required to meet them, and the number of members participating.

The tasks that an active committee member may contribute to include:

- developing and maintaining benchmark tools
- porting and testing the benchmarks and tools on distinct architectures or operating systems
- writing, editing, and testing documentation
- developing, editing, and staging webpages
- editing the run and reporting rules
- answering technical support questions
- performing the duties of organizational roles, such as Chair, Vice-Chair, Secretary, or Release Manager

Status as a voting member may change:

If a member misses two consecutive duly noticed meetings, including face-to-face meetings and conference calls, the member's voting rights will be suspended. Missing a multi-day face-to-face meeting counts as missing a single meeting. It is understood that sometimes at face-to-face meetings, members may have to "timeshare" themselves between multiple committees. This can be done with approval of the affected committee Chairs.

The suspension of voting rights will take place at the beginning of the next scheduled meeting. Voting rights are reinstated at the beginning of the second of two consecutive meetings that the member attends.

Additionally, the voting rights of a committee member will be suspended at the beginning of a meeting if the committee member withdraws its resources. Voting rights will be reinstated after 4 weeks of the member contributing resources (e.g. 24 hours) or after having caught up with the assigned tasks.

When a member wishes to regain voting rights, that member will send an email message to the Chair stating the work that they have done, and a commitment to continue providing the minimum contribution level.

2.1.2. Committee Organization and Voting

After 3 to 6 months of its formation, preferably at a face-to-face meeting, the committee will elect its own officers, chair, vice-chair, secretary. Thereafter, committee elections will take place at the SPEC annual face-to-face meeting.

Committees must hold an election to fill a vacancy when an officer steps down, except for the case where the Chair steps down and a Vice-Chair has already been elected; in this case, the Vice-Chair shall become the Chair for the duration of the term, and an election for a new Vice-Chair must be held to fill the vacancy. The election to fill the vacancy should be held quickly as practical; the requirement to announce elections 4 weeks in advance may be waived by unanimous consent of the regular voting members of the committee.

A list of the elected committee officers must be readily available to any SPEC member, either on, or directly linked from, the top-level page for the committee on the SPEC private server.

A committee should drive for consensus among its participants whenever possible. However to ensure progress, formal member votes will need to taken. An active member may vote 'yes', 'no', 'abstain', or 'pass' when the vote is first called. If the member votes 'pass', the chair will return to that member to finalize their vote as either 'yes', no', or 'abstain' after the remaining members have voted. Votes of 'abstain' count only toward establishing quorum. The chair should see to it that members' reasons for voting 'no' or 'abstain' are recorded in the minutes. Such recording

can help with the drive for consensus, as it allows others to respond to the specific concerns of those who do not vote 'yes'.

Passage of motions: The committee selects whether passage of motions requires >2/3 of the people voting 'yes' or 'no', known as the "SPEC Consensus Voting Rule". The table that follows details the number of votes required to pass a motion if the SPEC Consensus Voting Rule is in effect.

2.1.3. SPEC Consensus Voting Rule

Voting (yes or no)	3	4	5	6	7	8	9	10	11	12	13	14	15
Votes required	3	3	4	5	5	6	7	7	8	9	9	10	11

2.1.4. Committee Election Procedures

Elections shall be announced at least 4 weeks in advance, with date and time expressed using US Pacific Time (PDT or PST, according to the season). As mentioned above, elections take place at the annual face-to-face meeting and at certain other occasions as may be required. For such other occasions, face-to-face is preferred, but a teleconference may also be used.

- Nominations may be made via email to the committee mailing list.
- A candidate may nominate himself or herself, or may second his or her own nomination.
- In order to be considered, a nomination must be seconded, and the candidate must agree to the nomination.
- At the beginning of the meeting where the election is to be held, the Chair shall confirm who are the active/voting members.
- At the meeting, an additional opportunity shall be provided to make nominations, to second nominations, and for candidates to accept or decline nominations.
- A formal motion shall be made and passed to close nominations.
- After the close of nominations, for contested elections, an opportunity shall be provided for short statements by all candidates. Candidates also have the option of stating their credentials via email.
- For non-contested elections (i.e. one nominee for the position), a voice vote may be taken. If all positions are uncontested, a voice vote may be taken for the entire slate.

For contested elections, a committee member who is not standing for the position in question shall preside during the voting for that position.

For contested elections, the voting procedure depends on whether the vote is at a face-to-face meeting:

- If the election is face-to-face, written (secret) ballot shall be used. The presiding officer shall count the votes and announce the winner, with a second member confirming.
- If the election is not face-to-face, then the ballot may be secret on request from any member. In such a case, the presiding officer for the election, and a member of the SPEC Office, shall count the votes and announce the winner.
- The winner is the candidate who receives the highest number of votes (i.e. a plurality is sufficient).
- In the event of a tie for highest number of votes, a runoff election shall be held to decide among the tied candidates. If necessary, this step shall be repeated. If the tie cannot be broken after 3 attempts at a runoff, then the Chair of the steering committee shall use a randomized method to determine the winner.

2.1.5. Committee Dissolution

The EGSC creates and dissolves committees. A committee may recommend dissolution, or the EGSC may act without any formal recommendation from elsewhere. If a proposal is made to dissolve a committee, the EGSC could accept

such a proposal, or it might take other actions, such as adjusting a committee charter, merging it with another committee, or leaving it with an 'inactive' status.

When a committee is dissolved, a formal Dissolution Plan is required, which must address:

- Responsibility for any current SPEC products from that committee, including (as may be applicable) support plans, review of results, and Retirement plans.
- Code repositories, licenses, and other intellectual property for which the committee was responsible.
- Preventive Measures: The dissolution of a committee should not come as a surprise to the EGSC. If there is a risk that a committee may dissolve in the future, the EG Chair should be well informed by the committee chair as to the risk.

3. EG Support Guidelines

The members of the EGSC and its committees are responsible for providing adequate resources to handle technical support questions regarding current benchmark suites. It is the goal of technical support to provide timely response to questions regarding the nature and usage of these benchmark suites to help facilitate testing by other SPEC benchmark licensees. The purpose of SPEC's technical support is NOT to provide OS, compiler or other vendor tool support or assistance. At the technical support person's discretion, the user may be referred to a third party, who may charge a fee for such support.

4. Trademark and Copyright Notice

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5. Previous Revision History

Initial Version 1.00 - Approved by the SPEC BoD on November 30, 2023