

# Investigation of Allegation of Dominance in 802.11

## 1. Introduction

IEEE 802 held a plenary meeting in Orlando, Florida during the week of March 17, 2008. On Friday, March 21, during the closing plenary of 802.11 Bob O'Hara rose to address a concern over the possibility of dominance and sent an email note to the 802 EC on the same topic. (Bob's email statement is attached as Appendix A.)

When the issue was raised in 802.11 the task of investigating and reporting upon the observations was assigned to the Chair of WG11. (At the time of the observation the chair was Stuart Kerry, but during this meeting an election of Working Group officers was held, and at the conclusion of the week, after EC confirmation, the new 802.11 chair, Bruce Kraemer assumed the task.)

The topic was subsequently addressed later that day in 802 LMSC closing plenary and the request for the WG11 chair to prepare a report was reiterated.

## 2. Approach

Based upon the events cited in the initial letter, the following questions needed to be answered.

- Is there a sufficiently clear definition of dominance against which the activities reported here can be compared to determine if dominance was, in fact, observed?
- Step taken: Review IEEE definitions of dominance and any prescribed remedies.
- Are the activities reported being viewed in the same way by other participants? How do the Task group chairs and other participants in the activities recall the events?
- Step taken: Collect observations of primary participants
  - Stuart Kerry
  - Bruce Kraemer
  - Dorothy Stanley
  - Bob O'Hara
  - Jason Trachewsky
- Have others seen or reported similar behavior?
- Step taken: Include one additional interview is included in this report.
  - Because Bob's concerns were expressed publically in both the 802.11 and 802 closing plenaries a significant number of 802 members were aware of the topic. I subsequently received an unsolicited call from a member affiliated with Qualcomm who wished to express some similar observations and concerns.

### 3. Dominance definitions and remedies

Appendix B contains current text cited in IEEE-SA Standards Board Bylaws Section 5 and 802 Policies and Procedures Section 7

### 4. Summary Conclusion from WG11 chair Bruce Kraemer

Commercial development of 802 specifications has become big business and attracts large numbers of participants including those from large companies who may fund travel for 12 or more people at any one meeting.

In the course of constructing standards it is absolutely necessary that groups of people discuss options, and via voting, express agreement on a technical solution to allow any draft to be completed. Hence cooperation among groups is of immense importance. In some circumstances, identifying dominance can be fairly simple once the facts are known. In other circumstances, distinguishing among healthy competition, cooperation, and collusion can be extremely difficult.

It is not clear that any overt collusion or dominance occurred specifically during the recently completed March meetings, but it is clear that many people feel the boundaries between propriety and impropriety are continually being tested.

### 5. Summary Recommendation from WG11 chair Bruce Kraemer – affiliation Marvell Semiconductor, Inc

I do not believe that any of the observations thus far merit the declaration and identification of a voting bloc, terminating groups, unseating chairs, or rolling back prior accomplishments or votes.

It would, however, be appropriate to better educate chairs to be alert to violations and have a thorough knowledge of remedies. It would also be logical to apply institutional changes via the P&P to reduce the incidence of common improprieties and remove the possibility of occurrences of the more egregious meeting behaviors. For example, it may be possible to use the electronic attendance system to reduce the likelihood of mid-meeting room migration where the intent is not to switch rooms due to a change in interest but rather to affect the outcome of a pending vote.

Further discussion on this topic within 802.11 beginning in the July 2008 Plenary meeting session as well as within the broader set of 802 Working Groups within LMSC is recommended.

Topics for discussion should include:

- Is there an adequately clear definition of dominance and criteria for determination
- What meeting behaviors are contributing to reported problems
- What meeting behaviors can be modified/corrected at each level: TG , WG, LMSC, SA
- Where would chairs' guidance or education be adequate and where do P&Ps need to change.

6. One of the events mentioned in Bob's message reportedly occurred in TGv chaired by Dorothy Stanley (Aruba)

Message from Dorothy received April 09, 2008

Bruce,

In our conversation of Monday, April 7<sup>th</sup>, you asked me to put together information in response to the statement made in Bob O'Hara's "declaration of dominance" email (Friday March 21, 2008), related to TGv.

In the e-mail, Bob states:

"In addition, other 802.11 members have related a situation in 802.11 Task Group v, where Broadcom members comprised nearly one third of the votes in polls conducted on comment resolutions of the 802.11v draft WG letter ballot. There were 12 Broadcom voters present and a total of 35 37 total voters. Again, the Broadcom voters cast their votes in a block."

Bob states that other members related this situation in TGv to him, and does not provide detail on the specifics as to the poll, comments under discussion, or letter ballot, only the number of voters. Without additional specifics regarding the complaint, it is not possible to identify the event at issue.

Below are observations on the sessions in which the TG has been resolving comments related to a WG letter ballot to date.

Please let me know if you have further questions.

Thanks,

Dorothy

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- a) TGv is currently resolving comments received on LB123, on TGv draft 2.0, which closed 15 March 2008.
- b) At the recently completed March 2008 plenary meeting, at which the declaration of dominance was made by Bob, TGv focused on comment resolution on LB123, on Draft 2.0. The minutes for the March meeting are available here: <https://mentor.ieee.org/802.11/file/08/11-08-0337-00-000v-minutes-tgv-orlando-meeting-mar-08.doc> and the agenda slides, including motions and straw polls here: <https://mentor.ieee.org/802.11/file/08/11-08-0264-07-000v-march-2008-agenda.ppt> . No motions were taken on adoption of specific comment resolutions. Two straw polls were taken, see items 4.6.2.54 through 4.6.2.58 in the notes. For both of the straw polls, more than 40 people responded to the straw polls.
  - o **Channel Usage (mechanism may change from 08-0044) for 802.11-only technology should be added to the TGv draft**
    - **Yes/No/No Opinion 32-0-17**
  - o **Channel Allocation and Usage for 802.11 and non-802.11 technologies should be added to the TGv draft**
    - **Yes/No/No Opinion 12-25-9**

I don't know if one of the cases cited is that relayed to Bob or not, there is no way to tell; both of the vote totals were higher than that quoted by Bob. IF one of these two cases is that referenced, it's not clear that it would have materially changed the result.

- c) At the January Plenary, TGv resolved comments from LB108. The notes from that meeting are available here:

<https://mentor.ieee.org/802.11/file/08/11-08-0214-00-000v-11v-taipei-meeting-minutes.doc>, and the agenda slides are available here, where the motions are each on a slide: <https://mentor.ieee.org/802.11/file/08/11-08-0011-07-000v-january-2008-agenda.ppt> .

The only votes that were contentious in any way were one in which the position advocated by individuals affiliated with Broadcom was not adopted, and another in which the position advocated by individuals affiliated with Broadcom prevailed, resulting in a motion not being adopted.

(1) See Page 50 of the notes, [motion on 2898r1, norm text on efficient TIM broadcast multiple BSSIDs]

This motion was to adopt a document that was authored by Qi Wang, affiliation Broadcom.

The motion did not pass, with a vote of : [18, 7, 2], motion fails. In this case, 27 voters cast votes, less than that indicated by Bob.

(2) See page 57 of the meeting notes, [present 08/0048r3], continuing to [17, 16, 7], motion fails. In this case 40 voters cast votes.

I don't know if one of the cases cited is that relayed to Bob or not, there is no way to tell; one of the vote totals was slightly higher, one lower. IF one of these two cases is that referenced, note that in case (1) block voting, if it existed did not prevail, and that in (2), block voting of 12 voters was not necessary to defeat a motion that received 17 "yes" votes, as 6 "no" votes would defeat the motion.

- d) At the November Plenary, TGv resolved comments from LB 108. There were no motions or straw polls that had more than 20-25 voters. See the motions summarized in <https://mentor.ieee.org/802.11/file/07/11-07-2728-08-000v-november-2007-agenda.ppt> and the notes in <https://mentor.ieee.org/802.11/file/07/11-07-2800-00-000v-minutes-tgv-atlanta-meeting-nov-07.doc> and <https://mentor.ieee.org/802.11/file/07/11-07-2818-00-000v-minutes-tgv-atlanta-meeting-nov-07-mon-ad-hoc.doc> .
- e) At the September interim, TGv resolved comments form LB 108. All motions passed unanimously, or without a negative vote. See the motion list in <https://mentor.ieee.org/802.11/file/07/11-07-2424-08-000v-september-2007-agenda.ppt> and the corresponding notes in <https://mentor.ieee.org/802.11/file/07/11-07-2475-02-000v-minutes-tgv-waikoloa-meeting-sep-07.doc> .
- f) At the July 2007 and prior sessions, the TG focused on preparing a draft for initial WG letter ballot. Draft 1.0 was sent to the WG out of the July meeting. I'm interpreting Bob's statement as applying to the comments resulting from a WG letter ballot. These were processed from Sept 07 – present.

7. One of the events mentioned in Bob's message reportedly occurred in TGN chaired by Bruce Kraemer (Marvell)

During the Orlando meeting there was extended discussion of a topic known by its shorthand name DFS/Greenfield.

A comprehensive depiction of the most recent discussion of the topic is included in the minutes of the March 802.11n meeting [3].

The technical nature of the problem is that 802.11 devices operating in the 5GHz band have been required to detect radars operating in the band and not use the channels upon which the radar is operating. There was a report, dating back one year, that when an 11n device is transmitting short packets (typical of voip) when using Greenfield mode (short header that cannot be decoded by 11a devices) that the 11a devices see the 11n waveform as a radar and moves to another channel.

The primary debate revolved around whether the disturbance was the result of poor radar detection on the part of the equipment used (and hence a vendor implementation problem not within scope of 802.11) or in fact an unavoidable interaction for which there is no PHY solution and needs to be viewed as a flaw in the protocol that requires modification of protection mechanisms.

Various remedies have been proposed including banning the use of Greenfield mode when 11n devices operate in bands that require DFS.

Sides of the debate:

Initial reports of the problem originated from members affiliated with Cisco and updated reports and requests for text modification have been led primarily (but not exclusively) by members with the same affiliation.

Opponents to the text change were often (but not exclusively) affiliated with Broadcom. During Thursday am1 there were straw polls to assess the will of the group. An excerpt from the minutes indicates

- Straw Poll – “Who is willing to accept the text in 11-08-0302r5 into the draft?” (Y=26, N=27, A=14) so it would not pass
- Show of hands “Accept r5 but with ‘Shalls’ changed to ‘Shoulds’ ” – Accept= 28 ; Reject if ‘shalls’ changed to ‘shoulds’ = 25; Abstains =18; we remain deadlocked

Given the inability to insert new text but a desire to move ahead with a new letter ballot the following motion was made:

- **Motion #314: Motion by Doug Chan and seconded by Brian Hart to reject CIDs 5123 and 5363 with resolution text:  
“Reject: The problem of false detections in legacy devices is not limited to GF receptions”  
Passed without objection!!!!**

With the temporary solution to comment resolution in place the group agreed to go to letter ballot with the understanding that the same issue would be the subject of no votes and the topic would again be discussed during the next round of comment resolution

- **Motion - Having approved Comment Resolutions for all the comments received from LB115 on Draft 3.0 and the technical editor having incorporated those into the draft D3.07, move to rename D3.07 to Draft 4.0 and begin as soon as possible, a 15 day Working Group Recirculation Ballot asking the technical question “Should 802.11n Draft 4.0 be forwarded to Sponsor Ballot?” by Eldad Perahia and seconded by Jon Rosdahl to be put forward at tomorrow’s WG closing plenary passed (60,0,2)**

7.1. They have used the IMAT system to better understand attendance during the Thursday am1 meeting.

A few items stand out:

There was not absolute dominance by sheer number of attendees with any one affiliation. It is clear that there were several people from Broadcom in the room but their percentage of attendees was estimated to be 8.2% of registered attenders and 16.7% of registered attenders with voting rights. Neither of these numbers explains a 50/50 split in votes.

7.2. The raw IMAT data showed the following affiliations of registered attenders and their percentages of total registered attenders:

broadcom	10	7.50%
cisco	1	0.70%
samsung	9	6.70%
nokia	6	4.50%
gmail	10	7.50%
st	3	2.20%
yahoo	4	3.00%
ieee	13	9.70%
marvell	2	1.50%
hitachi	1	0.70%
intel	7	5.20%
motorola	2	1.50%
apple	1	0.70%
qualcomm	4	3.00%
atheros	2	1.50%
boeing	2	1.50%
hotmail	1	0.70%
yahoo	4	3.00%
sony	1	0.70%
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affiliations noted above	83	
Total attendance	134	

7.3 IMAT attendance recoding is not perfect for this assessment, for several reasons: internal inconclusiveness of the data, incomplete reporting of actual attenders, and under-reporting of actual voters (as opposed to “registered attenders with voting rights”). (Under current procedures, registration as “attending” is not a precondition for a WG member to vote.)

7.4 Attendance of voting members for the three primary TGn discussion meetings was correlated against the registered affiliation of each attendee. (No one that I interviewed suggested that there was any issue about undisclosed affiliations in 802.11.) The results are reported in the table below. Total TGn meeting attendance for Thursday was reported by IMAT to be 134. According to this data, Broadcom-affiliated attendees with voting rights represented 8.2% of the registered attenders and 16.7% of the registered attenders with 802.11 voting rights for Thursday AM1.

Also note that it is common practice for the TGn secretary to count the number of people in the room. Soon after the start of the Thursday am1 TGn meeting a count was performed and



Tropos	1	0.7%	1.5%		1
Hitachi		0.0%	0.0%	1	1
DoT		0.0%	0.0%	1	1
AT&T	1	0.7%	1.5%		1
Bosch		0.0%	0.0%		1
BT	1	0.7%	1.5%		
Qwest	1	0.7%	1.5%		
NEC		0.0%	0.0%		1
ARINC		0.0%	0.0%	1	
NDS	1	0.7%	1.5%		
NXP		0.0%	0.0%	1	
Boeing	1	0.7%	1.5%		
BBC	1	0.7%	1.5%		
InterDigital		0.0%	0.0%		1
Connexis		0.0%	0.0%	1	
Voting attendees registered in IMAT	66	49.3%	100.0%	76	72
Non-Voter attendees registered in IMAT	68	50.7%			
Total TGN attendees registered in IMAT	134	100.0%			

7.5 The IMAT data do not fully capture what actually occurred in the TGN room.

First, the data report the registered attendance, not actual attendance.

Second, registration is not a precondition for attendance. Meeting attendees may have registered for another activity or may not have registered at all. As one example, Brian Hart was engaged in TGN discussions during the Thursday am1 period (minuted in 11-08-0371r1) but had not registered attendance in IMAT for any activity during that time period.,

Third, the data report which registered attenders had voting rights, not who (whether registered or not) actually voted. According to the minutes (cited above), the total number of voters on the first straw poll during Thursday AM1 was 67 (Y=26, N=27, A=14) and on the second straw poll was 71 (Accept =28; Reject = 25; Abstains =18). The data do not tell us whether all 66 registered attenders with voting rights were present and voting during these straw polls. If all 66 were present and voting, there was still one additional voter on the first straw poll and 5 on the second, and the actual number of non-registered voters may have been higher.

Thus, regardless of whether the IMAT data (raw or as correlated with the affiliation disclosures) do or do not show relatively large numbers of “attenders” affiliated with a single company, they would still be inconclusive as to the actual voters.

7.6 Finally, even assuming that the 16.7% of Broadcom-affiliated voters is approximately correct, and that all Broadcom-affiliated voters voted as a bloc, this percentage would not account for the nearly 50-50 split on the two straw polls.

7.7 Some possibilities to address this issue are discussed in section 11 below.

## 8. Interview with Jason Trachewsky – Broadcom

There are two primary themes.

1. Was there a technical issue that split the opinion of the group?
2. Was there inappropriate stuffing of the room.



Jason recognized that there were several people in the room affiliated with Broadcom but there are typically several meetings of 802.11 running in parallel and the quantity of people registered is to provide adequate coverage of all on-going activities rather than to provide the opportunity to fill a room with voters. Typically each person has a primary assignment but they may move freely between activities as interest and meeting events warrant. Hence, it is possible that a larger than typical contingent may assemble in a room because of the topic and timing of the discussion.

His primary contention with regard to TGn is that the objections to the proposed draft text raised by himself and others from Broadcom was based upon disagreement with the justification presented and that the operational inconvenience imposed by the proposed changes were unwarranted.

Changes to draft text require 75% approval and hence do require a fair degree consensus to allow draft text changes. Jason observed that the actual vote split between accepting and rejecting the draft change was 50/50 and did not indicate overt dominance on that topic.

#### 9. Interview with Stuart Kerry –previous chair of WG11– affiliation NXP

Stuart’s comments were provided from his perspective as the Chair of WG11 at the time of the incident.

Stuart indicated that he first became aware of the incident at 7:15am on the morning of the closing plenary (March 21) when Bob O’Hara first alerted him of the pending dominance observation.

Stuart had not attended either the n or v meetings cited in Bob’s memo and hence could not supply any additional information. Stuart did not observe any physical evidence to substantiate the dominance claim.

Stuart commented that 802.11 has been very successful commercially. This success has resulted in an industry of high dollar value and hence a high stakes game. Industry pays considerable attention to the evolution and wording of amendments.

Stuart also commented that maintaining fairness and decorum in the WG11 meetings has been a high priority over the years, and that sometimes requires the presentation and review of TG activities to the larger audience in the WG to ensure that all issues and participants receive sufficient and open review.

#### 10. Additional commentary

Context:

During the majority of calendar year 2005 TGn was involved in a technology down selection process. Late in that process there were two primary groups remaining in the TGn down contention, called WWiSE and TGN Sync, debating the merits of the technology selection options. Because the group was nearly split 50/50 on the relative merits of the two groups’ proposals a “Joint Proposal” group was formed to facilitate exploring methods of converging the two proposals into one.

Recognizing that the topics of dominance and an ensuing investigation was publically aired during March IEEE 802 meetings, I was contacted by a member (affiliated with Qualcomm) who indicated concerns within 802.11's TGn dating back to September/October 2005.

Member comments:

The comment was that an external body known as EWC (reportedly comprised of some, but not all, members of WWiSE and TGN Sync) was exerting undue influence over the contents of the proposed TGn draft, that EWC discussions regarding the contents were not open and that once an external EWC decision had been made it was presented to TGn, presenting alternate proposals proved pointless, due to the overwhelming amount of voters affiliated with the EWC group of companies. According to this WG member, the EWC group often operated without due consideration for alternate proposals.

Response:

EWC was never discussed or made any presentations in TGn meetings, but there are public reports about EWC in the industry press. Those reports indicate that both Cisco and Broadcom were members of this group, along with more than twenty other companies. (Full disclosure: my current employer Marvell and my then-employer Connexant were also publicly identified as members.)

Whatever the issues are with EWC, they do not appear to relate directly to the specific issue that I was asked to investigate. First, there have been no public reports of continued EWC activities since early 2006 nor am I personally aware of any ongoing EWC activities. Second, EWC includes both the company (Broadcom) identified as an illustration of companies having potential dominance and the company (Cisco) with which Bob O'Hara was previously affiliated. Even if the EWC information is related, though, the potential approaches discussed in section 11 below would apply.

Industry press articles about EWC are referenced in Appendix C.

11. Follow-up conversation with Bob O'Hara

He recognizes that 802 activities involve high stakes and that tends to spawn contentious behavior.

His observations/comments were based upon first hand observations of activities in TGn while in Orlando.

Observations on TGv were second hand but were related to Orlando and were relayed by Allan Thomson.

The concern involves primarily the tendency for email or instant messaging among members of a single affiliation to coordinate presence in a meeting room where a contentious (important) topic is about to be balloted. He acknowledges that this is not a new behavior pattern and not unique to any one Task Group or Working Group and he has seen similar behavior over the years.

When asked if entity voting would be his proposal for correction he quickly indicated that there was no need to change to entity voting but there should be better guidelines regarding flooding the room with voters. His comment is that the TG chairs suffer from a lack of guidance regarding how to handle a flow of voters. There should be guidelines handed down by the WG or 802

explaining what voting etiquette is expected and what procedural powers the chair has to remedy the situation during the meeting. These need to be broadly shared with and accepted by the general membership, of course.

The dialog then evolved to mutual brainstorming on some possible remedies that could be used in the future:

1. Chair monitors who enters room and if a large influx from one entity occurs ask that large group to vote as an entity
2. Close doors before a vote takes place – do not allow new/additional entrants to the room.
3. Use IMAT as indication of where voter is; only voters registered for a meeting are eligible to vote. This would provide no better restrictions than those now manually available if people are allowed to update their attendance multiple times during a time slot.
4. Use IMAT as the basis for electronic balloting.
5. Use a two vote process. John Lemon would sometimes take two votes, one by entity and one by individual to see if results were the same. If not the same result, declare to topic unresolved and continue discussion.

## 12. Additional Conclusion comments from newly elected WG11 chair

Commercial development of 802 specifications has become big business and attracts large numbers of participants including those from large companies who may fund travel for 12 or so people at any one meeting.

It is clear from comments received that groups of people, who may be viewed as exerting an undue influence, may not be from a single company. The influential group could be composed of members of anywhere from 2 to 30 companies.

I agree that some forms of meeting behavior have come over time to be considered “normal” even though it might be considered to be poor etiquette. The most commonly cited example has been communication between people in other meeting rooms during an on-going meeting that can result in attendee migration and congregation in a meeting of special interest.

I would also observe that while there may be issues of poor meeting etiquette, or bad judgment, there has been no violation of any specific 802 rule. Additionally, the observed behavior is not exhibited by members of any one entity or affiliation but is broadly used by members who share a common interest. It has also been noted that while this behavior is observed broadly among participants in 802 and is actually not unique to any one sub activity such as task group.

In the constructive view, it is critical that groups of people do discuss options, and via voting, express agreement on a technical solution to allow any draft to be completed. In this vein, groups of people must communicate opinions and work out compromises and agreements that allow progress on technical draft text to be made.

## Recommendation

I do not believe that any of the observations thus far merit terminating groups, unseating chairs or rolling back prior accomplishments or votes.

It would be valuable to develop and deploy educational material to both activity chairs and members to sensitize them to the concerns and what should be considered to be improper vs. proper meeting behavior.

It may also be appropriate to apply institutional changes via the P&P to remove the possibility of occurrences of the more egregious meeting behaviors. Also, it may be possible to use the electronic attendance system to reduce the likelihood of meeting room migration.

Some of the remedies can be addressed beginning with 802.11 during the July 2008 session while others must be more broadly coordinated among 802.

## References

[1] Closing Minutes of the LMSC meeting held in Orlando March 2008  
<http://ieee802.org/minutes/mar2008/Minutes%20-%20Friday%2020080321.pdf>

[2] Minutes of the 802.11n meeting held in Orlando March 2008  
<https://mentor.ieee.org/802.11/file/08/11-08-0371-00-000n-mar-2008-session-minutes.doc>

# Appendix A

## Stuart J. Kerry

**From:** Bob O'Hara [bohara@wysiwyg104.com]  
**Sent:** Friday, March 21, 2008 11:39 AM  
**To:** Paul Nikolich; John Hawkins; greenspana@bellsouth.net; Tony Jeffree; matthew.sherman@baesystems.com; Bob Heile; Michael Lynch; Geoff Thompson; Buz Rigsbee; Stuart Kerry; Steve Shellhamer; Pat Thaler; Carl Stevenson; Vivek Gupta; Bob Grow; Bob O'Hara; John Lemon; Roger B. Marks  
**Cc:** Mills, Steve M (Standards); k.kenney@ieee.org  
**Subject:** declaration of dominance in 802.11  
**Categories:** Red Category

Paul has asked that I circulate this to the EC members prior to making the announcement in the meeting today. I will be making a similar declaration in the closing 802.11 meeting. My purpose in making the declaration in the 802.11 WG and EC meetings is to start the required investigation to make an official determination on the presence of dominance in the development of 802.11 standards and the establishment of procedures that will address that dominance, if it is determined to be present.

This email is being sent to the EC as I make the declaration in the 802.11 WG meeting.

It has been an open secret in 802.11 that several companies have a disproportionate amount of control over what is allowed to be adopted in several of the current 802.11 task groups. This week, in particular, I have personally observed this behavior in Task Group n. In TGn, Broadcom voted in a block to prevent adoption of resolutions to two final comments on the current 802.11n draft recirculation ballot until the resolution was changed to reject the comments with a response that is specious and nonresponsive to the commenters.

In addition, other 802.11 members have related a situation in 802.11 Task Group v, where Broadcom members comprised nearly one third of the votes in polls conducted on comment resolutions of the 802.11v draft WG letter ballot. There were 12 Broadcom voters present and a total of 35-37 total voters. Again, the Broadcom voters cast their votes in a block.

Broadcom is not alone in the use of large numbers of voters to force the adoption of measures they favor and preventing other measures from being adopted. These are only the most recent examples of this behavior in 802.11.

It is very common for large numbers of voters to arrive in a task group meeting in the closing moments of discussion, for those voters to cast a vote, and for the newly arrived voters to leave the meeting immediately after the vote is concluded. Nearly every task group chair has seen this behavior, time and again.

I have spoken with Stuart Kerry about this and believe that I have his agreement that there is a distinct possibility that dominance is present in 802.11.

-Bob  
Bob O'Hara

# Appendix B

- Dominance description cited in IEEE-SA Standards Board Bylaws Section 5

## 5.2.1.3 Dominance

The standards development process shall not be dominated by any single interest category, individual, or organization.

Dominance is normally defined as the exercise of authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints. Dominance can also be defined as the exercise of authority, leadership, or influence by reason of sufficient leverage, strength, or representation to hinder the progress of the standards development activity. Such dominance is contrary to open and fair participation by all interested parties and is unacceptable.

If evidence of dominance exists, corrective action shall be initiated. If the Sponsor's official P&P contain corrective action(s), the Sponsor shall implement such action(s) and promptly notify the IEEE-SA Standards Board. If the Sponsor's official P&P do not contain corrective actions, the Sponsor shall initiate corrective action(s), but only after such action(s) have been approved by the IEEE-SA Standards Board.

In the absence of effective corrective action(s) by the Sponsor, the IEEE-SA Standards Board shall implement either the corrective action specified in 5.2.1.3.1 or, at its discretion, an alternative corrective action [e.g., withdrawal of the PAR, limiting the number of voting members, one vote per organization, etc.]. The IEEE-SA Standards Board may impose further corrective action(s) if previous corrective action(s) prove to be insufficient

### 5.2.1.3.1 Default corrective action

#### *Fees for committee voting membership*

The IEEE-SA Standards Board shall instruct the Sponsor to implement an organization fee for any individual wishing to maintain voting rights in the standards development committee. Frequency of collection and duration of voting rights covered by collected fees shall be decided by the IEEE-SA Standards Board, which shall work in conjunction with the Sponsor. An individual's status as representing an organization shall be based on self-disclosure of affiliation in compliance with the IEEE-SA policy on [Disclosure of Affiliation](#) and on other information that may be available to the IEEE-SA Standards Board and the Sponsor.

All fees collected shall be forwarded to the IEEE Standards Association and are non-refundable.

This corrective action shall remain in force until withdrawn or amended by the IEEE-SA Standards Board.

- Dominance description cited in 802 Policies and Procedures Section 7

#### *7.2.4.2 WG Chair's Responsibilities*

The main responsibility of the WG Chair is to enable the WG to operate in an orderly fashion, produce a draft standard, recommended practice, or guide, or to revise an existing document. Responsibilities include:

- a) Call meetings and issue a notice for each meeting at least four weeks prior to the meeting.

b) Issue meeting minutes and important requested documents to members of the WG, the EC, and liaison groups.

The meeting minutes are to include:

- List of participants
- Next meeting schedule
- Agenda as revised at the start of the meeting
- Voting record (Resolution, Mover / Second, Numeric results)

Minutes shall be made available within 45 days of the meeting to the attendees of the meeting, all members, and all liaisons.

c) Maintain liaison with other organizations at the direction of the EC or at the discretion of the WG Chair with the approval of the EC.

d) Ensure that any financial operations of the WG comply with the requirements of Section 7.2.6 of these P&P.

e) Speak on behalf of the WG to the EC and, in the case of a “Directed Position”, vote the will of the WG in accordance with the Directed Position Procedure of this P&P (See subclause 9.1 Procedure for Establishing a Directed Position).

f) Establish WG rules beyond the WG rules set down by the EC. These rules must be written and all WG members must be aware of them.

g) Assign/unassign subtasks and task leaders (e.g., secretary, subgroup chair, etc.)

h) Determine if the WG is dominated by an organization and, if so, treat that organizations’ vote as one (with the approval of the EC).

i) Manage balloting of projects (see 7.2.4.2.2).



## Appendix C

For a period during late 2005 the EWC had a website but it no longer exists. What does remain are numerous editorials referring to the EWC and their goals. Some representative links are referenced below:

**Linley Group: 802.11n Heads For November Showdown**

<http://www.linleygroup.com/npu/Newsletter/wire051012.html#3>

**InfoWorld: New WLAN group shakes up standards process**

[http://www.infoworld.com/article/05/10/12/HNwlangroup\\_1.html?source=rss&](http://www.infoworld.com/article/05/10/12/HNwlangroup_1.html?source=rss&)

**Network Computing: Wireless Propagator: A Significant IEEE Standards 'Variation'**

[http://www.networkcomputing.com/blog/dailyblog/archives/2005/10/wireless\\_propag\\_2.html](http://www.networkcomputing.com/blog/dailyblog/archives/2005/10/wireless_propag_2.html)

**Maury Wright, *Intel and Broadcom push new WLAN spec, fear makes strange bedfellows***

[http://www.edn.com/index.asp?layout=blog&blog\\_id=150000015&blog\\_post\\_id=1610001561.](http://www.edn.com/index.asp?layout=blog&blog_id=150000015&blog_post_id=1610001561)

**Atheros Endorses EWC**

[http://www.unstrung.com/document.asp?doc\\_id=82089](http://www.unstrung.com/document.asp?doc_id=82089)

**EWC, TGN Submit Unified 802.11n Draft Proposal**

<http://electronics.ihs.com/news/2006/abi-80211n-draft.htm>