Project	**IEEE 802.20 Working Group on Mobile Broadband Wireless Access** **<http://grouper.ieee.org/groups/802/20>**
Title	**Minutes of 802.20 Session #3 in San Francisco, CA, July 20-25, 2003**
Date Submitted	**2003-08-17**
Source(s)	Brian Johnson Nortel Networks.
Re:	802.20 Session #3
Abstract	Minutes of the Session
Purpose	Minutes of the session
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Meeting Minutes of the 802.20 Session #3

July 20-25, 2003
San Francisco, CA
(DRAFT)

Brian F. Johnson
Recording secretary.

The third meeting of 802.20 was held at the July plenary meeting of IEEE 802 in San Francisco, CA.

Interim vice-chairs Mark Klerer and Jerry Upton lead the meeting. On Thursday morning, Paul Nikolich appointed Gary Robinson as new chair for 802.20. At that point interim vice-chairs Mark Klerer and Jerry Upton were announced as continuing on as vice-chairs and that they would continue to lead the meeting as Gary was not available to attend at this meeting. See the Thursday morning minutes for more details.

Contributions and WG documents referenced in these minutes may be found at the 802.20 website, http://www.ieee802.org/20/

See Appendix A for attendance list

Minutes of 802.20 Monday July 21, 2003 3:30 pm session

The meeting opened with a review of IEEE SA bylaws on Patents in Standards and a review of topics inappropriate for discussion at IEEE WG meetings

participants and especially potential working group leaders were strongly encouraged to attend the Education, Mentoring, Support tutorial.

The agenda was reviewd and a few scheduling adjustments for contributions were made.

Request to put on the agenda discussion on the 802.20 operating rules. Concern to delay discussion until after a couple days. Schedule for last thing Wed. that will give time for more discussion Thursday if necessary. This was agreed.

Mark Klerer: Motion to accept the agenda as amended, with the understanding that there may be possible a later motion not to hold the election. Amended agenda accepted without objection by acclamation.

Motion to approve the minutes from March meeting
Alan Chickinsky
Seconded: Mansour Nagy
Approved: unanimous

Motion to approve the minutes from May meeting
Alan Chickinsky
Seconded: Tom Kolze
Approved: unanimous

Discussion of Election Process and Discloser of Affiliation

Geoff Thompson and Paul Nickolich lead this discussion

Per ANSI essential requirements, (see Appendix B) if there is a request for identification of affiliation it shall be granted. Therefore we are requiring disclosure of affiliation in the sign in sheets. TheANSI rules apply since 802 does not have any exception speaking to this issue, 802 defaults to ANSI rules.

Geoff Thompson emphasized tha an independent consultant retained by a client to represent that client's interest would be considered an affiliation that would be required to be disclosed. Also the desire for openness in process including openness as to affiliation is conducive to quality standards development.

Paul Nickolich, the chair of the 802 Executive Committee reviewed the previously circulated voting rules.

The following issues were raised in conjunction with holding elections at this meeting:

Issue: Can we hold elections with an appeal in process?
Geoff: Yes, we can, because, in March 04, there must be new elections anyway.

Also noted: It is possible that the appeal process could overturn the July 03 election and reinstate the March 03 election results.

Issue: Will SEC approve the July election results?
Question from floor: Can we make a motion to agree to have an election at this meeting and vote on it up or down?

Geoff: Motion out of order during current item of business.

Paul Nikolich: We need to have elections to have leadership for this group.

Some discussion and questions.

Moved Mark Epstein:
Motion to postpone the election process until the appeals process is completed.
Seconded: Fran O'Brien

Paul Nikolich: Motion is out of order.

Motion on the floor:
Alan Chickinsky
Seconded: Jerry Upton
Move to suspend the rules to allow consideration of the motion to postpone.

Paul: The motion is in order, not debatable, requires 75% vote to pass based on the local rules established for the group that all procedural and technical actions would require a 75% vote.

Vote to approve the motion to suspend the rules.

Results: For 71, Against 31, Abstain 4.
Motion Fails. 66.9 %. Based on local rule of 75% for any decisions procedural or technical set up by the executive committee.

Therefore motion to postpone the elections is ruled out of order.

Further discussion.

Jerry Upton advocated that the LMSC rules require a vote, approved by 75%, of the attendees in order to elect a new chair.

Motion made by Jerry Upton:
Move that we have an election to elect a new chair at this plenary(July) per the LMSC rules.
Seconded: Marian Rudolph.

Lengthy discussion.

Jim Tomcik: Call the question whether or not to have a vote on this motion.
Seconded: Mark Epstein

Vote to call the question results: For 60, Against 32, abstain not counted, (65%) The motion fails

Further discussion

Vote on the motion to have an election: for 35, against 58, abstain 4   motion doesn't pass.

Straw poll taken by Geoff Thompson: Interest in having an election for a single vice-chair. Room not interested.

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Straw poll by Geoff Thompson: interest for a procedural vice chair. No preference expressed.

Joanne Wilson moves to adjourn
Seconded: by John Fan

Motion to adjourn passes by voice vote.
Session concluded at about 6:00 PM

Tuesday July 22, 2003
Meeting called to order at 8:15 AM

Mark Klerer reviews the revised agenda which consists mainly of changing the order of the presentations. Mark also noted that the elections scheduled for Thursday have been voted down and therefore will not be held.

Presentation by Alan Chickinsky C802.20-03/60 ISO OSI tutorial

The presentation reviewed various protocol layering schemes and proposed that in specifying requirements 802.20 should also include the protocol layer that the requirement resides in. Alan also proposes that we create liaisons to the other 802 groups that handle requirements in layers that 802.20 does not handle.

Presentation/Review by Khurram Sheikh on Requirements Document. Discussion was be based on version 5 of the requirements document based on the last conference call before the meeting.

Khurram: Intent to walk through the document, try to get consensus on things, identify contentious issues. Dave McGinnis, the document editor, will take notes and edits to the document as discussion goes.

Action agreed: Inputs needed for a new section that describes the services and applications, identifies to which layer they apply, and which layers may need to provide support. This is intended to help in the analysis of what hooks may be needed at different layers to support different services.

Issue for discussion: Can we specify in the document that the MAC and PHY are jointly optimized, but that the architecture is still layered and it is possible that in the future, a new PHY layer may be possible to be specified in the future.

Figure in section three needs to be changed and moved to an appendix for now. The current numbers in the picture are contentious.

Section 4.1.1 link budget issue/system gain. Should we have a system parameter that shows that the system defined is higher performance than existing systems.

Dan Gal proposes splitting into a system w/RF sub-layer removed. Can specify the processing gain of that reference/model system. Then can define several RF deployment scenarios.

Action to pull group of interested parties on system gain together, attempt to resolve this issue.

coffee break

Discussed section 4.1.2 spectral efficiency.

Objection on the floor to the downlink numbers as being higher than the numbers in the PAR.
Comments:
PAR did not specify uplink or downlink.
PAR states performance "significantly better" than existing systems.

Request for some to contribute measured numbers on spectral efficiencies of existing systems.

Suggestion from the chair: People write their positions and attempt resolution. Action: Tackle this issue with "system gain" issue. Send an email for an ad hoc discussion at this meeting possibly for presentation on Thursday.

The following issues were remanded to the Correspondence Group for further discussion to try to reach a broader base of support:

1. Channel bandwidths to be supported, both with respect to a minimum and maximum channel bandwidth.
2. Sytem gain.
3. Latency: Need to revisit the 20ms and make sure the latency spec is sensitive to the applicable applications.
4. Packet error rate:The rationale for the requirement was to specify a condition that would allow good TCP performance. Joseph Cleveland volunteered to create an email contribution on this section
5. QoS:
6. Several sections have no text at this time. Input is required or these sections will be deleted.

There was a call for better process to avoid excessive churning of drafts. Appendix C details the rules under which the correspondence groups will operate.

Stop for break

Section 4.5 Layer 3+ support

Appendix A:
Request to use sector when you mean sector and not use the term cell.

Appendix B coexistence issues
Question as to if it stays here or goes in evaluation criteria. It is unresolved

Motion made by Alan Chickinsky:
Empower the working group in Singapore to create a ballot for the requirements
document.
Seconded by Jim Mollenauer

Discussion:
Intent is to enable the group in Singapore do this w/o a quorum if they want.
By making a ballot, forcing everyone to read the document and respond.
The full ballot process could take a long time.
Concern some text may be thrown out in Singapore.
Concern for impact on other Correspondence groups.
The formal process requires everyone's involvement.
Ballot process will trigger folks to respond and will force people out if they don't respond.
Comment resolution can be handled by a subgroup.
Document is not mature enough to give reasonable chance of passing.
It sets a goal for the correspondence group to get finished.

Motion made by Jerry Upton:
Table the motion that Alan made until the discussion Thursday on the Singapore meeting.
Seconded by Tom Kolze

Favor 74, Against 2, Abstain 0, passed

Klerer: Please consider the topic of giving the Singapore meeting participants authority to
make decisions w/o a quorum for discussion on Thursday.
Straw poll by Mark Klerer for or against this idea. Mostly abstentions.

Break at 2:45PM

Reconvene at 3:30PM

Presentation by Jim Mollenauer contribution 802.20-3/65r1

Discussion:
What suggestions and guidance for success?
Keep it simple and/or the illusion of simplicity.
What about spectrum and prospects for allocations for wider channels?

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No specific examples sited by the speaker other than recent examples of unlicensed spectrum that are allocated in larger chunks.
The mobile and MMDS spectrum is in narrower channels.

Presentation by Marianna Goldhammer contribution 802.20/09r1 is a document plus there is a presentation.

Marianna presents her comments and proposed changes to the requirements document.

Discussion and Actions:

Khurram Sheik requests Marianna to submit to email reflector. Also need to have more context for the claims of spectral efficiency and peak data rates when comparing to .16e and other systems.

Joanne Wilson and Mark Klerer request Marianna to update her revisions to the current version of the document before submission to the email reflector.

Mark Klerer: There should first be a consensus contribution from the correspondence group. Then if there are opposing contributions we can have those then and then vote on those.

Action to the correspondence group to resolve the differences in the definitions before resolving consensus on the peak and average data rates.

Presentation by Reza Arefi of document 802.20-3/72 Coexistence Studies in 802.20

Includes a proposal to form an ad hoc group to work on a PAR for a group to address coexistence issues. The proposal suggests finalizing the PAR by the September meeting and submitting it to the SEC for approval in November.

Discussion:
Question on timing of this work relative to the primary work. Major work on coexistence could take a long time. Suggestion of a somewhat limited scope of the work to be useful for the group.

There is a large body of work already done. There are some TIA documents and several of the cellular standards groups do this work. Would like to see this work within the 802.20 group work program w/o doing the most detailed analysis. It could be in the proposal and/or in the requirements. Need some work on this to facilitate the primary work of the group.

Since this is for licensed bands, it makes sense to consider coexistence in a separate group. Especially considering the way other mobile standards bodies are considering coexistence.

Mark Klerer: Would like to revisit this issue after Jim Tomcik's contribution. Need to work on the wording for the PAR for this. One problem is inability to submit a PAR under our current rules.

Agenda review for tomorrow:
Traffic and channel modeling is tomorrow. First thing tomorrow is the RAND management work 8-8:30. Also proposal that we take the working rules off the agenda and ask members to comment on them via email. Target approval by November.

Wed. July 23, 2003 8:00AM

Karen McCabe IEEE and 802 Brand Identification Presentation

Glen Golden gives an update on the Channel and Usage modeling correspondence group.
N. K. Shankaranarayanan "Shankar" editing usage modeling
Qiang Guo editing channel modeling

Glen noted that there has not been a lot of activity on the email reflector.
Looking for potential ad hoc time for the group during the meeting.

Glen expires from coffee overdose.

Qiang Guo gives overview of channel modeling work to date.

Qiang Guo Presents C802.20-03/70 and reviews the correspondence group draft document

Discussion
Question about the motivation for separate SISO and MIMO channel models.

It was indicated there was a rough consensus on a previous conference call for that decision.

Because there will potentially be SISO and MIMO systems contributed. There should be a way to use a single channel model that allows fair comparison between the two.

Comments from the floor indicate the separation of SISO and MIMO channel models has not reached consensus and should be discussed by the wider group.

SISO channel models discussion:

Table 6 typical urban simulation model
Request to remove this model since it is a SISO only model and that it may have been only developed for the cellular band.

Another commenter thought there was an agreement to use the ITU models and would also ask this one be removed.

MIMO channel models discussion:
Action item for everyone to use metric units in requirements and channel model document.

Question about the Hata urban model. Hata is primarily outdoor urban. What about outdoor to indoor propagation?

Group hasn't discussed outdoor-indoor yet but it seems intent to do so, if there will be a contribution on this subject.

Comment on purpose section. The same channel models should be indicated for link simulation and for system simulation.

Discussion on the separation of SISO and MIMO
It is important that the MIMO models be collapsible to MISO and SISO.
We need contributions on how do to this.

The baseline document is mostly empty space and placeholders. The email group is the primary vehicle for contributions.

Call by Mark Klerer to get some contributions and action going on the correspondence group.

Inclusion of the TU model was at the request of Motorola. It was most likely because of the larger power profile at the longer delay values. It will be deleted for now and there can be a response on the email reflector.

The requirements document mentions transmit and/or receive diversity. How will this be addressed here? They should be addressed. Need contributions on this.

Presentation by N. K. Shankaranarayanan Traffic Model subgroup editor. C802.20-03/73
Status we have baseline draft document C802.20-03/66

Discussion:
Question and concern about using application models.
Clearly there is some difficulty there but we need to rely on open published data and open contributions. Also, we can use some best guesses for some difficult things as long as everyone is in agreement.

Another issue is the separation of the active user model from the arrival process for active users. We have less published data on that activity level.

There is some tonnage based data collected by some carriers.

It is very hard to get measured data from access ISPs. Open call for folks involved here to provide data if they are able.

The chairs are willing to work with carriers to ensure confidentiality of information if that is a concern.

Comment on traffic mix. Do we need a single mix or with different mixes? Probably need several. They could represent some worst case scenarios and also some other mixes.

11:00PM Presentation, Update on Evaluation Criteria Correspondence group, Farooq Khan
Review of the draft document C802.20-03/63
Note that little discussion has taken place on this document and all issues are still considered open for comment.

Comments/Discussion:
Information about 802.17 performance committee. This committee set the parameters and metrics to be used in evaluating simulation data.

Suggestion about TCP modeling section. Concern about specifying in words, the model vs. specifying a specific model and the parameters used. i.e. "TCP will be simulated based on xyz TCP implementation with these parameters".

Concern about complexity of a full TCP implementation in the simulator. In EV-DV there was only simulation of a few key TCP characteristics. We may want to take this approach.

Will the evaluation criteria be strictly based on simulation data or will there be some actual trial system tests and results presented.

3GPP2 also formed a evaluation ad hoc that worked hard to calibrate the various simulators so that there could be confidence in comparison of the proposals.

Should we do UL and DL simulations simultaneously, or will there be a phased approach. One view is that we are currently working on a simultaneous UL and DL model.

Another issue related to the TCP model selection. Do we want to enforce that everyone use the same tool to do the modeling.

802.17 has dealt w/many of these issues. Here are some of the issues and answers:

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Include TCP in the model? Important to do performance w/o TCP and then also agree on an acceptable model for TCP w/a set of parameters.

What about tools? Agreed not to enforce one too. However almost everyone used OPNET and that was convenient. Some people did achieve matching results using other tools.

Resolving the TCP issue could be a first task to resolve since it is less dependent on the other documents.

What about IP level metrics? Will the group be looking at the IP level and specific IP level metrics. These will be important to service providers who are measuring these metrics in actual networks. There are standardized metrics.

There is a section for this. Can someone contribute standardized IP level metrics to the email correspondence group?

Suggestion from the co-chairs. That at subsequent meetings, email contributions will be discussed first in the meeting. New contributions will get second priority. Will ask for formal consensus on this by the end of the meeting. This doesn't mean we don't want new contributions but only that we don't want to subject the whole group to making decisions on things that they haven't seen yet.

Suggestion that we need to freeze the documents a certain amount of time before each meeting.

Suggestion that conference calls have more limited and specifically announced agenda to cover limited parts of the document. It is difficult to go through whole document in one conference call.

Suggestion from the co-chairs: Recommendation for correspondence groups to schedule a joint call to discuss dependencies between the three activities.

Lunch break

Presentation by Shankar on Equivalent Circuit Rate
Joint Presentation by Vince Park
document C802.20-03/64

Discussion:
Can we discuss usefulness of the models.
The analytical model does not model collisions in the access part of the model.

One challenge is to calculate the shared bandwidth. Differences between the data rates of users at different parts of the cell will be large in a low freq. reuse system.

In simulation you don't have to decide what the shared rate is. The simulator may give you an indication of what it was, how it was changing. In the analytical model, then yes, calculating the shared rate may be a problem.

What will this add to a full simulation. It may make subsequent analytical analysis of the system easier. The other value is to translate the measured statistics easy to understand by non-technical people.

When doing simulation, you must collect the correct statistics in order to calculate ECR subsequently.

How does this apply to instantaneous behavior. The analytical model is for average behavior only. The simulation data showed that the 90% percentile results are also close to the average results.

Coffee break

Presentation by Jim Tomcik on Co-existence C802.20-3/61

Discussion/Comments:
Coexistence is an important issue. It is reassuring to note that there are already coexisting disparate modulation schemes deployed today.

Question about intent to make co-existence a separate, parallel activity that provides a recommended practice. Or, to make co-existence an integral part of the development and consideration of the standards development.

It was noted that the TSB 84A coexistence framework was not a standard but was a bulletin and it was developed separately from the standards.

Most of these frameworks determine C/I ratio. There was a reference to another established co-existence. Request for the reference to be provided.

One practical approach in NA is to comply with FCC rules for each band that 802.20 may be deployed. Those rules may not be strict enough because they rely on

Reza had a recommendation that there be a recommended practice. We can concurrently work on systems based on regulatory restrictions.

So the recommendation is to start an ad hoc group to come back with a recommendation on how to go forward on co-existence. They will not be restricted that they cannot write a PAR for a separate document. The charter for the ad hoc group will be open ended.

Draft charter for coexistence correspondence group. See attached charter text as Appendix D

Motion by Joanne Wilson and seconded by Dan Gal to form the Coexistence Ad Hoc correspondence group with the charter just created.

Approved by unanimous acclamation.

3.3hr slots tomorrow for face to face sessions 8:00-9:30 channel model, 9:30-11:00 evaluation criteria, 11:00-1:00 Requirements afternoon full session at 1:30 tomorrow.

Concluded at 4:38

Some notes on the Thursday morning ad hoc meetings.
(*Note from secretary: Note that attendance was not required at the ad hoc meetings and these notes are not official minutes and are not complete.*)

Thursday Morning modeling session

Issue: Do we choose the Metra or the 3GPP-3GPP2 MIMO model? Some people insist that the MIMO model collapse to the ITU SISO models. Others insist that the 3GPP-3GPP2 models took 18 months to settle on and they didn't accept Metra.

Traffic modeling
Do we go with minimal or comprehensive model?

Minimal: Web browsing, Voip and file transfer.
Comprehensive: take a look at all the applications, make a list, generate model specs.

WAP was added to ev-dv to stress the frame fill efficiency.
What about presence and instant messaging.
MMS is also becoming more important.
Also laptop background processes such as windows update.

11:00 AM Announcement by Paul Nikolich.
Gary Robinson has been appointed by Paul Nikolich as 802.20 chair until up to March of 2004 at the latest. Gary currently works for EMC. g.robinson@computer.org.

Deleted: now

Gary would like to have a permanent secretary. Gary will not be present at September meeting due to a previous commitment.

The restrictions on the operations of the group are still in place. Paul leaves it up to Gary and the group to decide how to deal with this going forward.

Thursday July 24,2003 1:30PM session starts

Motion from Alan Chickinsky on behalf of Robert Love:

and seconded by Jim Mollenauer.

> – *Preauthorize the IEEE 802.20 attendees at the interim meeting in Singapore to progress the technical work of the Evaluation Criteria, Traffic and Channel Modeling, Coexistence, and Requirements correspondence groups provided that at least 50 voting members of IEEE 802.20 attend that meeting. At least 75% of voting members voting YES or NO must agree to all decisions. The total number of YES and NO votes must be at least 25. This preauthorization includes the progression of the Requirements document, including, but not limited to authorizing that it be sent out for a 21 day WG ballot*

Discussion:
It is standard procedure to preauthorize specific technical work if it looks like we may not be able to without the preauthorization.

The motion originally made on Tuesday Alan Chickinsky and the second have withdrawn that original motion.

Some folks want to have a quorum for the next meeting.
Procedural clarification, did the chair Gary Robertson say no decisions would be made in Singapore?
Our understanding was that his statement applied to the question of lifting the operating restrictions that have been imposed by the SEC chair.

Results: 41 in favor 48 against. fails.

Review of the revised operating rules for the correspondence groups.

Formed a new coexistence group with a charter. The email reflector has been established stds-80220-coexistence@ieee.org. See attached slides.

Correspondence groups agenda and conference call schedules will be posted on the web.

Proposed policies and procedures for 802.20 will be circulated again via email.

Any new business?
Motion to adjourn Shawn Taylor and someone else seconds. Meeting adjourns at about 2:40PM

Appendix A: List of Attendees

Last Name	First Name	Employer	Declared Affiliation	Participation Credit
Aboul -Magd	Osama	Nortel	Nortel	NO
Agrawal	Aditya	Fujitsu	Fujitsu	NO
Alder	Larry	ArrayComm	ArrayComm	YES
Amer	Khaled	AmerNet	AmerNet	YES
Anderson	Geoff	Self	Cisco	YES
Ansari	Arif	Nextel	Nextel	YES
Aoki	Hidenori	NTT DoCoMo	NTT DoCoMo	NO
Aoki	Tsuguhide	Toshiba	Toshiba	`NO
Appaji	Anuradha	Sam sung	Samsung	YES
Arefi	Reza	ArrayComm	Self	YES
Asai	Yusuke	NTT	NTT	NO
Bae	Jin-Seok	KATS	KATS	NO
Bernstein	Jeffrey	TMG	TMG	YES
Bims	Harry	Airflow Networks	Airflow Networks	NO
Bussey	Chris	Bussey Consulting Serivces Inc (BCSI)	Bussey Consulting Serivces Inc (BCSI)	YES
Carneiro	Edson	Edmais Computer Services	Brazilian Companies Interest	YES
Carson	Peter	Flarion Technologies	Flarion Technologies	YES
Chang	Jin Weon	Samsung	Samsung	YES
Charron	Wendy	LCC international	LCC international	YES
Chauvin	Todd	ArrayComm	ArrayComm	YES
Chen	Joseph	ArrayComm	ArrayComm	YES
Chickinsky	Alan	Northrop Grumman	Northrop Grumman	YES
Chickneas	Jim	Consultant	Lucent	YES
Chindapol	Aik	Siemens	Siemens	YES
Choi	Hyoung-Jin	TTA	TTA	YES
Chung	Byung Ho	ETRI	ETRI	NO
Cleveland	Joseph	Samsung	Samsung	YES
Coleman	Neal	Cisco	Cisco	YES
Cook	Charles	Qwest	Qwest	NO
Cooklev	Todor	SF State Uni	Self	NO
Crowley	Steven	DoCoMo USA Labs	DoCoMo USA Labs	YES
Cudak	Mark	Motorola	Motorola	YES
Del-Toso	Christophe			NO
Dennett	Steven	Nextel	Nextel	YES
Desbrisay	Greg	IP Wireless	IP Wireless	YES
Dorenbosch	Jheroen	Motorola	Motorola	YES
Dorward	Lynne	Ladcomm	Ladcomm	YES
Eilts	Henry	Texas Instruments	Texas Instruments	YES
Eissa	Mohamed	Andrew Corp	Andrew Corp	NO
Engels	Marc	LoraNet	LoraNet	NO
Entzminger	Lindell	Consultant	Lucent	YES
Epstein	Mark	Qualcomm	Qualcomm	YES

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Last Name	First Name	Employer	Declared Affiliation	Participation Credit
Fan	John	Flarion Technologies	Flarion Technologies	YES
Ford	Brian	Bell South	Bell South	YES
Formoso	Ruben	Motorola	Motorola	NO
Freedman	Avi	Hexagon	Hexagon	NO
Gal	Dan	Lucent	Lucent	YES
Goldburg	Marc	ArrayComm	ArrayComm	YES
Golden	Glenn	Flarion Technologies	Flarion Technologies	YES
Goldhammer	Marianna	Alvarion	Alvarion	NO
Gomes	Eladio	Double E Enterprises	Brazilian Companies Interest	YES
Gorodetsky	Svetlana	Gorodetsky Consulting	Self	YES
Gu	Daqing			NO
Guo	Qiang	Motorola	Motorola	YES
Hadad	Zion	Runcom	Runcom	NO
Hafid	Abdelhakim	Telcordia	Telcordia	YES
Han	James	Motorola	Motorola	YES
He	Xiaoning	DoCoMo USA Labs	DoCoMo USA Labs	NO
Hicks	Neka	Clearwire	Clearwire	YES
Hinsz	Christopher	Symbol technologies	Symbol technologies	YES
Holt	Keith	Intel	Intel	YES
Hunzinger	Jason	Denso International	Denso International	YES
Imamura	Daichi	Panasonic	Panasonic	NO
Iritz	George	Northrop Grumman	Northrop Grumman	YES
Ishikawa	Hiroyasu	KDDI	KDDI	NO
James	David S.	Oak BV	Oak BV	YES
Jeong	Moo Ryong			NO
Jewitt	Jessie	France Telecom R&D	France Telecom R&D	NO
Joh	Clarence	Agere Systems	Agere Systems	YES
Johnson	Brian	Nortel	Nortel	YES
Jones	Dennis	Taliesen Consulting	Taliesen Consulting	YES
Joo	Pan Yuh	Samsung	Samsung	NO
Joshi	Avinash	Mesh Networks	Mesh Networks	YES
Jung	Young-Ho	KAIST	KAIST	YES
Kakura	Yoshikazu	NEC	NEC	YES
Kang	Yin Sung	ETRI	ETRI	NO
Kapoor	Samir	Flarion Technologies	Flarion Technologies	YES
Katsuyoshi	Naka	Panasonic	Panasonic	NO
Kazuaki	Nimura	Fujitsu	Fujitsu	NO
Khan	Farooq	Lucent Technologies	Lucent Technologies	YES
Khatibi	Farrokh	Qualcomm	Qualcomm	YES
Kim	Sang G	LG Electronics	LG Electronics	YES
Kim	Kyung Tae	NEC Labs	NEC Labs	NO
Kim	Young Min	SK Telecom	SK Telecom	NO
Kimura	Shigeru	Kyocera	Kyocera	YES
Klerer	Mark	Flarion Technologies	Flarion Technologies	YES
Knisely	Douglas	Lucent Technologies	Lucent Technologies	YES
Knowles	Skip	Bussey Consulting Serivces Inc (BCSI)	Bussey Consulting Serivces Inc (BCSI)	YES

Last Name	First Name	Employer	Declared Affiliation	Participation Credit
Kolze	Thomas	Broadcom	Broadcom	YES
Koo	Changhoi	Samsung	Samsung	NO
Kyung	Chan Ho	LG Electronics	LG Electronics	YES
Laihonen	Kari	TeliaSonera	TeliaSonera	YES
Lalaguna	Pablo	MedStar	MedStar	YES
Landon	James	Sprint	Sprint	YES
Laubach	Mark	Broadband Physics, Inc	Broadband Physics, Inc	NO
Lawrence	Lisa	CTCI Group	CTCI	YES
Lee	Heesoo	ETRI	ETRI	YES
Lee	Kyoung Seok	ETRI	ETRI	YES
Lee	Shi-Kai	ITRI	ITRI	NO
Lee	Byung-Gil	ETRI	ETRI	NO
Li	Junyi	Flarion Technologies	Flarion Technologies	YES
Lightman	Alex	Charmed technology	The 4G Society	NO
Ling	Stanley	Intel	Intel	YES
Liu	Charles			NO
Liu	Jim	Accton	Accton	NO
Liu	Yonghe			NO
Loh	Lee Ying	Panasonic Singapore	Panasonic Singapore	YES
Love	Robert	LAN Connect Consultants	LAN Connect Consultants	YES
Lu	Ben	NEC Labs	NEC Labs	YES
Lycklama	Heinz	Open Systems Technology	Open Systems Technology	YES
Malik	Rahul	Panasonic	Panasonic	NO
Mansour	Nagi	Nextel	Nextel	YES
Martin	Damiel	Infineon	Infineon	NO
Martynov	Irina	Belgud International	Belgud International	YES
Martynov	Michael	Belgud International	Belgud International	YES
Matsumoto	Yoichi	NTT DoCoMo	NTT DoCoMo	YES
Matsuo	Ryoko	Toshiba	Toshiba	NO
McCallum	Ian	Intel	Intel	YES
McGinnis	David	Sprint	Sprint	YES
Mcmillan	Donald	Advanced Network Technological Solutions	Self	YES
Migaldi	Scott	Motorola	Motorola	YES
Mishra	S Mubaraq	UC Berkley	UC Berkley	NO
Miyazono	Max	Qualcomm	Qualcomm	YES
Mollenauer	James	Technical Strategy	Motorola	YES
Montoya	Ruben	Cisco	Cisco	YES
Murakami	Kazuhiro	Kyocera	Kyocera	YES
Naguib	Ayman	Qualcomm	Qualcomm	YES
Naidu	Mullaguru	Qualcomm	Qualcomm	YES
Ngo	Chiu Y	Samsung	Samsung	NO
Nguyen	Paul Tuan	DISA	DISA	YES
Ni	Qiang			NO
Nikolih	Paul			NO
Nimura	Kazuaki	Fujitsu	Fujitsu	NO
Obara	Kei	Siemens	Siemens	NO

Last Name	First Name	Employer	Declared Affiliation	Participation Credit
O'Brien	Francis	Lucent	Lucent Share Holders	YES
O'Conner	Jim	IP Wireless	IP Wireless	YES
Odlyzko	Paul	Motorola	Motorola	YES
O'Hara	Sean			NO
Ohba	Yoshihiroo	Toshiba	Toshiba	NO
Ohseki	Takeo	KDDI	KDDI	YES
Olivier	Brian	Clearwire Technologies	Clearwire Technologies	YES
Park	DS	Samsung	Samsung	YES
Park	Vincent	Flarion Technologies	Flarion Technologies	YES
Park	Won Hyoung	Samsung	Samsung	NO
Petroni	Nick	WAA Associates	DISA	NO
Pico	Luis (Enrique)	UAS	UAS	NO
Pigg	James Everett	Vantage-Comm		NO
Pirhonen	Riku	Nokia	Nokia	YES
Pittampalli	Eshwar	Lucent	Lucent Share Holders	YES
Poisson	Sebastien	Oasis Wireless, Inc	Oasis Wireless Inc	YES
Polley	Mike	TI	TI	NO
Prochaska	Dean	Sprint	Sprint	YES
Pulcini	Gregory	Bussey Consulting Serivces Inc (BCSI)	Bussey Consulting Serivces Inc (BCSI)	YES
Ragsdale	James	Ericsson	Ericsson	YES
Rahul	Malik	Panasonic	Panasonic	NO
Rajkumar	Ajay	Lucent	Lucent	YES
Ramsey	Brian	Internick.com	Self	NO
Rausch	Walter	Sprint	Sprint	YES
Reible	Stan	Oak Wireless	Azimuth Systems	NO
Rommer	Stefan	Ericsson	Ericsson	YES
Ronning	Matthew	Sony	Sony	YES
Rudolf	Marian	Interdigital	Interdigital	YES
Rylance	Michael	NextNet Wireless	NextNet Wireless	YES
Ryu	Sihoon	SK Telecom	SK Telecom	NO
Salman	Taylor	Opnet	Opnet	NO
Sang	Aimin	NEC	NEC	YES
Saviotti	Vanni	ST Microelectronics	ST Microelectronics	YES
Seagren	Chris	Sprint	Sprint	YES
Shakouri	Mohammad	Alvarion	Alvarion	NO
Shankaranarayanan	N. K.	AT&T Labs	AT&T Labs	YES
Shaver	Don	TI	TI	YES
Sheikh	Khurram	Sprint	Sprint	YES
Shields	Judith	Ladcomm Corp.	Ladcomm Corp.	YES
Shin	Junho			NO
Shively	David	Cingular Wireless	Cingular Wireless	YES
Siamack	Ayandeh	Transwitch	Transwitch	NO
Sihoon	Ryu	SKT	SKT	NO
Simkins	Jim	Xilinx	Xilinx	NO
So	Tricci	Radiantzone Communications	Radiantzone Communications	NO
Sohn	Insoo	ETRI	ETRI	YES

Last Name	First Name	Employer	Declared Affiliation	Participation Credit
Springer	Warren	Springer Associates	Warren Springer Associates	YES
Staver	Doug	DTScom	Division of 3581969 Canada Inc	YES
Stone	Mike	Consultant	Lucent	YES
Su	Steven	MSI	MSI	NO
Sutivong	Arak	Qualcomm	Qualcomm	YES
Suzuki	Kei	Kyocera	Kyocera	YES
Tanaka	Hideki	Fujitsu Labs	Fujitsu Labs	NO
Tanaka	Yoshinori	Fujitsu	Fujitsu	NO
Taylor	Leslie	Leslie Taylor Associates	Leslie Taylor Associates	YES
Thomson	Bill	Comtech AHA		NO
Todor	Cooklev	San Francisco State Univ	Self	NO
Tomcik	James	Qualcomm	Qualcomm	YES
Trick	John	Bussey Consulting	Bussey Consulting Serivces Inc (BCSI)	YES
Trinkwon	David	Medley Systems	Beamreach Networks, Proximity Ltd, Quti hub Ltd	YES
Upton	Jerry	Consultant	Individual interest. Multiple interests of multiple companies, including Qualcomm this week.	YES
Valls	Juan Carlos	TMG Group	TMG	YES
Vatin-Perignon	Serge	Self	Self. Unemployed and Available	YES
Vivanco	Silvia	TMG	TMG	YES
Vook	Frederick	Motorola	Motorola	YES
Ward Jr	Robert	SciCom	SciCom	YES
Wasilewski	Thomas	TMG	TMG	YES
Watanabe	Fujio	DoCoMo USA Labs	DoCoMo USA Labs	NO
Whitehead	James	AT&T Wireless Services	AT&T Wireless Services	NO
Wieczorek	Alfred	Motorola	Motorola	YES
Wilson	Joanne	ArrayComm	ArrayComm	YES
Wong	Kensing			NO
Wu	Gang	DoCoMo USA	DoCoMo USA	YES
Xu	Xiaofeng	Alcatel	Alcatel	YES
Yaghobi	Hassan	Intel	Intel	YES
Yallapragada	Rao	Qualcomm	Qualcomm	YES
Yao	Richard	Microsoft	Microsoft	NO
Yao	Yu-Dong	Stevens Institute of Tech.	Stevens Institute of Tech.	YES
Young	Bill	Navini	Navini	YES
Youssefmir	Michael	ArrayComm	ArrayComm	YES
Yuza	Masaaki	NEC	NEC	YES

Appendix B: Slides from Geoff Thompson on Affiliation

Affiliation and ANSI Essential Requirements

On the web at:
http://public.ansi.org/ansionline/Documents/St
andards%20Activities/American%20National
%20Standards/Procedures,%20Guides,%20a
nd%20Forms/ER2003.doc

2.1 Openness

Timely and adequate notice of any action to create, revise, reaffirm, or withdraw a standard, and the establishment of a new consensus body shall be provided to all known directly and materially affected interests. Notice should include a clear and meaningful description of the purpose of the proposed activity and shall identify a readily available source for further information. In addition, the name, affiliation[1] and interest category of each member of the consensus body shall be made available to interested parties upon request.

[1] "Affiliation" refers to the entity that the consensus body member represents (which may or may not be that person's employer). If the consensus body member is serving in an individual capacity, then the name of the individual, that person's employer, sponsor and interest category should be available. Contact information is not required

Appendix C: Correspondence Group Work Process

Submission of
Correspondence Group Proposals

- Document your proposal:
  - Proposal for new text:
    - Text proposal
    - Rationale
  - Proposal for deletion of text
    - Rationale for why it is not needed
  - Proposal for replacement text:
    - Problem with current text
    - Replacement text
    - Rationale for replacement text

Processing of E-mail "contributions"

- Open up selected issues/topics for review and discussion.
- Comments in response to proposals are to be made within five business days.
- After 5 business days the chair/editor may make a "consensus" proposal and include the text in the draft. (Identifying it as a consensus proposal)
- Exception may be taken to that proposal.
- Minimum time interval between successive editorial drafts will be 5 business days (All changes between successive editions are to be done with tracked changes)
- When stable consensus has been reached that section of the document will be frozen for that round.
  - Meltdown may occur if technical problems are found.
- The final draft to be discussed at an upcoming meeting must be available 5 business days before that meeting

Appendix D: Charter of Coexistence Correspondence Group

- Charter of the coexistence correspondence group:
  - Study and create a consensus recommendation on how to address issues related to the coexistence of future 802.20 systems with other wireless technologies deployed in the licensed bands below 3.5GHz.
  - The group should start with the existing contributions on the subject.
  - Expected first report to the working group is in November 03.