

Project	<b>IEEE 802.20 Working Group on Mobile Broadband Wireless Access</b> < <a href="http://grouper.ieee.org/groups/802/20">http://grouper.ieee.org/groups/802/20</a> >	
Title	<b>Minutes of 802.20 Session #1 in Dallas, TX, March 10-13, 2003</b>	
Date Submitted	<b>2003-03-17</b>	
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Re:	802.20 meeting #1	
Abstract	Minutes of the meeting	
Purpose	Minutes of the meeting	
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**Meeting Minutes of the 802.20 Meeting #1**  
**March 10-13, 2003**  
**Dallas, Texas**  
*Reza Arefi*

The first official meeting (#1) of 802.20, Mobile Broadband Wireless Access (MBWA) Working Group, was held in March 10-13, 2003, in conjunction with the IEEE 802 Plenary meeting in Dallas, Texas, USA. A total of 240 individuals attended the meeting. A total of 183 individuals gained membership at the end of the meeting. Appendix A has the list of participants and members.

The WG had a joint opening plenary with 802.11, 802.15, 802.18, and 802.19 from 1:00 PM to 2:30 PM on Monday March 10, 2003.

**Working Group opening plenary, Monday March 10, 2003**

Meeting started 2:45 PM.

Mark Klerer, Interim Chair of the Working Group, opened the meeting with a presentation “opening meeting”. The presentation contained information about:

- Membership and voting rights
- Meeting sign in
- Nominations (on Wednesday) and elections (on Thursday evening session)
- Draft agenda for the week

Reza Arefi agreed to act as an interim secretary. Agenda for the week was approved with no objection.

Coffee break from 3:15 to 3:40.

Mark Klerer continued the meeting with “introduction to IEEE 802.20” – an overview of what’s happened so far and objectives of the project plus a summary of the operating rules, patent disclosure rules, and meeting schedule.

Discussions included the following.

- Clarification on the peak data rate number in the PAR
- Clarification on the spectral efficiency number in the PAR
- Clarification on the IP-based network structure
- Clarification on the maximum frequency in the PAR
- Justification for having two vice chairs
- Clarification on the proposed operating rules

Meeting adjourned at 5:15 pm.

**Day 2, Tuesday March 11, 2003**

Meeting started at 8:10 AM. Mark Klerer went over the schedule for the day. There will be presentations in the morning and in the afternoon.

First presentation is “Channel models and performance implications for OFDM-based MBWA” presented by Glen Golden from Flarion.

<http://iee802.org/20/Contribs/C802.20-03-15r1.pdf>

Second presentation from Bob Ward, SciCom, titled “Impact of mobility on PHY modulation layer”.

<http://iee802.org/20/Contribs/C802.20-03-11.pdf>

Discussions included the channel model of 16 and Bob’s opinion on the first presentation.

Coffee break on 9:10. Resumed at 10:00.

Presentation by Insoo Sohn from ETRI, “MIMO channel model for MBWA”.

<http://iee802.org/20/Contribs/C802.20-03-18.pdf>

Chair announced that we’ll stick to the schedule and won’t move the presentations from one slot to the other. No objection. Break at 10:15.

Meeting resumed at 1:05 PM.

First presentation “User data models for an IP-based cellular network” presented by Vincent Park from Flarion.

<http://iee802.org/20/Contribs/C802.20-03-13r1.pdf>

Discussions included the following.

- Consideration of other applications such as VOIP or cellular data models
- Ratio of asymmetry being adequate
- Situations under which uplink is the limiting factor

Coffee Break at 2:10 pm.

Second presentation by Vincent Park from Flarion “Architectural attributes of an IP-based cellular network, and their impact on MBWA design”.

<http://iee802.org/20/Contribs/C802.20-03-26.pdf>

Discussions included the following.

- Effect of vehicle speed on the IP handover
- Same QoS for air interface and backhaul? Differences between the presentation and the implementation in 3GPP and 3GPP2.

- The charter of the group being limited to the PHY and MAC and development of the air interface handover that can be linked to any other higher layer mechanisms including the ones in this presentation or the one proposed in 3GPP2.
- Issues discussed are still under investigation in IETF.

Presentation by Samir Kapoor from Flarion “benefits of mobile-controlled handoff for MBWA”.

<http://iee802.org/20/Contribs/C802.20-03-17.pdf>

Discussions included the following.

- How does the context switch work? The process of association with the BS?
- Load balancing?

On the request from the floor, Mark Klerer asked if anyone has objection to start the meeting at 8:30 the next day. No objection. Meeting will start at 8:30 on Wednesday. Meeting adjourned at 4:45 pm.

### **Day 3, Wednesday March 12, 2003**

Meeting started at 8:30 AM.

Presentation “802.20 PAR analysis” presented by James Tomcik.

<http://iee802.org/20/Contribs/C802.20-03-25r1.pdf>

Discussions included the following.

- Some ideas presented need to be done in the to-be-formed handoff SG.

Next, “802.20 technology evaluation process” presented by Ayman Naguib from Qualcomm.

<http://iee802.org/20/Contribs/C802.20-03-24.pdf>

Discussions included the appropriateness of an FRD.

Meeting resumed at 10:15 after coffee break.

Next, “Desired characteristics for an MBWA air interface”, presented by John Fan from Flarion.

<http://iee802.org/20/Contribs/C802.20-03-22.pdf> (text)

<http://iee802.org/20/Contribs/C802.20-03-23.pdf> (presentation)

Discussions included the following.

- ARQ delay and overhead.
- Rationale for 1.5 dB number on the EbNo requirement on a ½ rate code
- 2.5 GHz should also be mentioned for evaluation

- Larger channel bandwidth should also be used for evaluation
- Number of active users and what active means
- Source for the data presented
- Reason for Doppler spread of 400 Hz and max speed?
- Clarification on the <200 ms requirement on handover

Meeting resumed at 1:05 PM after lunch break.

First, “Initial contribution on a system meeting MBWA characteristics” by Samir Kapoor and Junyi Li from Flarion.

<http://ieee802.org/20/Contribs/C802.20-03-16.pdf>

Discussions included the following.

PHY section discussions:

- Level of granularity and subchannelization
- Reuse of 1
- Mechanism of coding over multiple OFDM symbols
- Scalability
- Asymmetry ratio
- Possibility of including adaptive arrays
- Interference effect on capacity
- Hopping gain over 1.25 MHz relatively narrow band
- Clarification on the block length (coded)
- How many slots in the LPDC code?

(Coffee break in the middle)

MAC section discussions:

- How QoS is assured?
- PHY and MAC coupling
- Uplink timing control
- RTT for initial access and cell size
- Tone granularity and effects of fading
- Handoff
- Access guarantee for mobiles coming out of sleep mode

Next, “Frequency domain oriented approaches for MBWA: overview and field experiments”, by Kevin Baum from Motorola.

<http://ieee802.org/20/Contribs/C802.20-03-19.pdf>

Next, nominations for officers:

Chair

- 1- Jerry Upton, consultant
- 2- Mark Klerer, Flarion

Procedural Vice Chair

- 1- Gang Wu, DoCoMo USA Labs
- 2- Farrokh Khatibi, Qualcomm
- 3- Arif Ansari, Nextel

Liaison Vice Chair

- 1- Scott Migaldi, Motorola
- 2- Joanne Wilson, ArrayComm, Inc.
- 3- Eshwar Pittampalli, Lucent

Secretary: Open.

Motion to recess for the evening by Alan Chickinski, seconded by Jim Mollenauer.  
Meeting ended at 4:45 PM.

**Day 4, Thursday, March 13, 2003**

Morning started at 8:10 AM.

First presentation “Antenna Arrays for MBWA: Overview and field experiments” by Frederick Vook from Motorola.

<http://iee802.org/20/Contribs/C802.20-03-12.pdf>

Discussions included the following.

- Feasibility of MIMO at the handset at lower frequencies where the spacing is not enough
- Performance under non-Rayleigh fading channels
- Performance on OFDM
- Effects of guard time on a TDD channel

Next, “Smart antenna and MC-SDMA” by Guangang Xu from Navini Networks.

<http://iee802.org/20/Contribs/C802.20-03-29.pdf>

Discussions included the following.

- Performance of OFDM in fading
- Comparison of OFDM and CDMA from intercell interference point of view
- Spectral efficiency

Coffee break at 9:50 AM, resumed at 10:10.

Next, Marc Goldberg from ArrayComm, Inc. presenting “Basic Elements of a TDD MBWA Air Interface”.

<http://iee802.org/20/Contribs/C802.20-03-14.pdf> (text)

<http://iee802.org/20/Contribs/C802.20-03-28.pdf> (presentation)

Discussions included the following.

- Billing support
- How the combination of Diffserv and rate limiting is done?
- Amount of overhead and access efficiency?
- Are there minislots in the random access
- How the beamforming works?
- Inter-BS synchronization and its accuracy requirements
- Dynamic TDD
- Measurements for verification of QoS (scheduler) function
- Other alternatives to GPS for synchronization
- Asymmetry in time
- Link budget available for degradation of performance

Break for lunch at 11:45 AM, resumed at 1:10 PM.

First, Larry Alder from ArrayComm, presented “PHY and MAC considerations for an adaptive antenna-based MBWA air interface”.

<http://iee802.org/20/Contribs/C802.20-03-27.pdf>

Discussions included the following.

- Collision resolution quantification
- Effect of moving users
- Process if the work divides into MAC and PHY TGs

Next, “Distributed security proposal for IEEE 802.20 MBWA (conceptual discussion)” was presented by Rene Struik from Certicom.

<http://iee802.org/20/Contribs/C802.20-03-21.pdf>

Mark Klerer: Is there additional nominations for the Chair and the two Vice Chairs?  
None.

Alan Chickinsky Moved to close the nominations, seconded by Reza Arefi.  
Meeting recessed until 7:00 PM for closing plenary.

### **Closing plenary**

Meeting started at 7:07 with presence from SEC Chair, Paul Nicolich, and SEC members Geoff Thompson and Bob O’hara.

Mark Klerer started the meeting by giving the meeting chairmanship over to Paul Nicolich for the election process. Next, voting tokens were distributed by Paul Nicolich to participants with at least 5 sessions attended.

Next, Paul Nicolich went over the election rules and asked for final last minutes nominations. Hearing none, the nominations were announced closed. Paul Nicolich and Geoff Thompson explained that the voting ballots should be marked clearly and only one

candidate be selected. Next, Paul Nicolich read the 802 rules related to the WG chair and Vice Chair. No objection to the process. Paul asked the candidates for Chair to step up to the podium and introduce themselves and say their piece in the order they were nominated.

First, Jerry Upton spoke, plus questions from the floor and answers from Jerry Upton.  
Second, Mark Klerer spoke, plus comments from the floor and answers from Mark Klerer.

Next, voting ballots were distributed to members with tokens. Votes were then collected and counted.

Results: 175 total ballots, 170 valid votes cast

Mark Klerer: 80

Jerry Upton: 90

Jerry Upton will be the Chair at the beginning of next meeting, subject to affirmation of the election by the Executive Committee.

Election of the procedural vice chair:

First, Gang Wu spoke.

Second, Farrokh Khatibi spoke.

Third, Arif Ansari spoke.

Next, voting ballots were distributed to members with tokens. Votes were then collected and counted.

Results: 172 total ballots, 171 valid votes cast

Gang Wu: 60

Farrokh Khatibi: 52

Arif Ansari: 59

Therefore, we'll have a runoff between gang Wu and Arif Ansari.

Results: 165 total ballots, 164 valid votes cast

Gang Wu: 82

Arif Ansari: 82

Revote for the procedural vice chair.

Results: 161 total ballots, 160 valid votes cast

Gang Wu: 92

Arif Ansari: 68

Gang Wu will be the procedural Vice Chair at the beginning of next meeting, subject to affirmation of the election by the Executive Committee.

Election for the liaison vice chair

First, Scott Migaldi spoke.

Second, Joanne Wilson spoke.

Third, Eshwar Pittampalli spoke.



Next, voting ballots were distributed to members with tokens. Votes were then collected and counted.

Results: 163 total ballots, 163 valid votes cast

Scott Migaldi: 35

Joanne Wilson: 53

Eshwar Pittampalli: 75

Therefore, a runoff is required.

Runoff results: 161 total ballots, 158 valid votes cast

Joanne Wilson: 68

Eshwar Pittampali: 87

Eshwar Pittampali will be the Liaison Vice Chair at the beginning of next meeting, subject to affirmation of the election by the Executive Committee.

Next, the new team had a brief introductory speech.

Then, Mark Klerer brought up the issue of the changing the name of the group.

Jerry Upton made a motion to delay making a decision on the name issue and discuss it on the reflector. Seconded by Arak Sutivong from Qualcomm. Motion passes by show of hands.

Motion to adjourn, moved by Alan Chickinski, seconded by Reza Arefi.

Motion passed by acclamation.

## Appendix A

IEEE 802.20 Meeting #1 – List of members and participants. In the following table, M stands for Member. Members are individuals attending at least 6 out of 8 meetings after the closing plenary on the evening of Thursday March 13, 2003.

Last Name	First Name	e-mail Address	Sponsor	Meetings Attended as of 3-13-2003 10:00PM	Status
Adachi	Tomoko	tomo.adachi@tosha.co.jp	Toshiba	6	M
Agrawal	Aditya	aagrawal@fmi.fujitsu.com	Fujitsu	6	M
Al-Dabagh	Baraa	baraax.al.dabagh@intel.com	Intel	7	M
Alder	Larry	alder@arraycomm.com	ArrayComm	8	M
Amer	Khaled			3	--
Anderson	Geoff	geoffrey.anderson@am.sony.com	Sony	8	M
Ansari	Arif	arif.ansari@nextel.com	Nextel	8	M
Antonello	Gordon	gantonello@wi-lan.com	Wi-LAN	4	--
Aoki	Hidenori	aokihid@nttdocomo.co.jp	NTT DoCoMo	7	M
Appaji	Anuradha	aappaji@sta.samsung.com	Samsung	8	M
Arefi	Reza	reza@arraycomm.com	ArrayComm	8	M
Baum	Kevin	kevin.baum@motorola.com	Motorola	7	M
Bernstein	Jeffrey	jeff@tmgtelecom.com	TMG	8	M
Bussey	Chris	chrisjbus@aol.com	Bussey Consulting	7	M
Buttar	Alistair	alistair.buttar@motorola.com	Motorola	8	M
Cameiro	Edson	edsoncameiro@hotmail.com		8	M
Carson	Peter	carson@flarion.com	Flarion Technologies	7	M
Chakravarthy	Rohini	rohini@intel.com	Intel Capital	2	-
Charron	Wendy	wendy_charron@lcc.com	LCC international	7	M
Chauvin	Todd	chauvin@arraycomm.com	ArrayComm	8	M
Chayat	Naftali	naftali.chayat@alvarion.com	Alvarion	6	M
Chen	Joseph	jchen@arraycomm.com	ArrayComm	8	M
Chickinsky	Alan	achickinsky@northropgrumman.com	Northrop Grumman	8	M
Chickneas	Jim	jimchickneas@mac.com	Consultant	8	M
Chindapol	Aik	aik.chindapol@icn.siemens.com	Siemens	8	M
Choi	Hyoung-Jin	ibm686@tta.or.kr	TTA	8	M
Choi	Woo-Young			1	--
Chung	Sae-Young	s-chung@airvananet.com	Airvana	8	M
Chung	Wonsuk			3	--
Cleveland	Joseph	lclevela@sta.samsung.com	Samsung	8	M
Coleman	Neal	neal@cisco.com	Cisco	8	M
Crowley	Steven	scrowley@attglob.al.com	DoCoMo USA Labs	8	M
Cudak	Mark	Mark.Cudak@motorola.com	Motorola	7	M
Dean	Christopher	cdean@cais.net	B/Net Systems	8	M
Dennett	Steven	steve.dennett@nextel.com	Nextel	7	M
DiBiaso	Eric	eric.a.dibiaso@delphi.com	Delphi	8	M
Dick	Steve			2	--
Dickerman	Jim			3	--
Dorward	Lynne	ladcomm@rogers.com	Ladcomm	8	M
Edmonston	Brian	brian@icoding.com	iCoding	7	M
Eilts	Henry	eilts@ti.com	Texas Instruments	8	M
Ekambaram	Natraj		Nimbus Wireless	1	--
Elgebaly	Hani	hani.elgebaly@intel.com	Intel	3	--
Eline	Roger	rogerx.j.eline@intel.com	Intel	7	M
Engels	Marc	marc.engels@imec.be	LoraNet	7	M
Entzminger	Lindell	trip@leapmail.net	Consultant	6	M
Epstein	Mark	mepstein@qualcomm.com	Qualcomm	7	M
Euscher	Christoph	christoph.euscher@siemens.com	Siemens	2	--
Fan	John	john@johnfan.com	Flarion Technologies	7	M
Feldman	Daniel	daniel@ic4ic.com	ic4ic	4	--
Frantz	Irvic	ifrantz@fma.fujitsu.com	Fujitsu	6	M
Froelich	Stuart	froelichs@nextnetwireless.com	Nextnet Wireless	8	M
Fukumoto	Satoru	fukumotos@nttdocomo.co.jp	NTT DoCoMo	8	M

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Gal	Dan	dgal@lucent.com	Lucent	8	M
Ghazi	Vafa	vafa@cadence.com	Cadence Design	1	--
Goldburg	Marc	marcg@arraycomm.com	ArrayComm	6	M
Golden	Glenn	g.golden@flarion.com	Flarion Technologies	8	M
Goldhammer	Marianna	marianna.goldhammer@alvarion	Alvarion	7	M
Gomes	Eladio	eladiogomes@msn.com	Double E Enterprises	8	M
Gorodetsky	Svetlana	gorodetsky@mindspring.com	Gorodetsky Consulting	8	M
Gorokhov	Alexei	gorokhov@philips.com	Philips	2	--
Gu	Young-Mo	youngmo.gu@samsung.com	Samsung	8	M
Guo	Qiang	qiangguo@motorola.com	Motorola	8	M
Hadad	Zion	zionh@runcom.co.il	Runcom	6	M
Hafid	Abdelhakim	ahafid@telcordia.com	Telcordia	7	M
Hamdi	Rabah			1	--
He	Xiaoning	xiaoning@docomolabs-usa.com	DoCoMo USA Labs	6	M
Herne	Bonneville			1	--
Hetherington	Dave			2	--
Hoghooghi	Michael			4	--
Hori	Satoru	hori@ansl.ntt.co.jp	NTT	6	M
Hunter	David	hunter@timefactor.com	Vektronix	1	--
Hwang	Gyung-Ho	gabriel@comis.kaist.ac.kr	KAIST	8	M
Imamura	Daichi	imamura.daichi@jp.panasonic.com	Panasonic	7	M
Iritz	George	giritz@northropgrumman.com	Northrop Grumman	8	M
Jamali	Hamadi	hjamali@ieee.org		8	M
James	David S.	djames@arraycomm.com	ArrayComm	8	M
Jang	Kyung Hun		Samsung	1	--
Jeon	Ho-In	hijeaon@kyungwon.ac.kr	Kyung-Won University	7	M
Jeong	Moo Ryong	jeong@docomolabs-usa.com	DoCoMo USA Labs	8	M
Johnson	Brian	brjohnso@nortelnetworks.com	Nortel	8	M
Jones	Dennis	drjones@mb.sympatico.ca		8	M
Joo	Pan Yuh	panyuh@samsung.com	Samsung	7	M
Kapoor	Samir	s.kapoor@flarion.com	Flarion	7	M
Kawahara	Toshi iro	kawahara@docomolabs-usa.com	DoCoMo USA Labs	8	M
Khademi	Majid	m.khademi@ieee.org	Khademi Consulting	8	M
Khatibi	Farokh	fkhatibi@qualcomm.com	Qualcomm	8	M
Kim	Jaeyoel	kinjy@smasung.com	Samsung	1	--
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Labs	Jon		Wavesat Wireless, Inc	6	M
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Lalaguna	Pablo	plalaguna@aol.com	MedStar	7	M
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Lee	Heesoo	heelee@etri.re.kr	ETRI	8	M
Lee	Tae-Jin			1	--
Lee	Seung-Que	squeue@etri.re.kr	ETRI	6	M
Lee	Seung-Hwan			1	--
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Last Name	First Name	e-mail Address	Sponsor	Meetings Attended as of 3-13-2003 10:00PM	Status
Li	Junyi	j.li@flarion.com	Flarion Technologies	6	M
Li	Xia Dong		Broadstorm	8	M
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Ling	Stanley	stan.k.ling@intel.com	Intel	1	--
Liu	Jim	jimliu@accton.com	Accton	8	M
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Lou	Hui-Liing	hlou@marvell.com	Marvell	1	--
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Malik	Rahul			1	--
Mansour	Nagi		Nextel	8	M
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Park	Michael	si0519.park@smasung.com	Samsung	1	--
Park	Vincent	park@flarion.com	Flarion Technologies	8	M
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Pittampalli	Eshwar	pittampalli@lucent.com	Lucent	8	M
Poisson	Sebastien	sebastien_poisson@yahoo.ca		8	M
Popescu	Paul	paul.popescu@rd.francetelecom.com	France Telecom	8	M
Prudhomme	Paul	pprudhomme@navini.com	Navini	7	M
Pulcini	Gregory	gpulcini@aol.com	Bussey Consulting	7	M
Ragsdale	James	ragsdale@rtp.ericsson.se	Ericsson	8	M
Raju	Venkatesh			1	--
Rath	Kamlesh	rath@cowave.com	CoWave	6	M
Rausch	Walter	walter.f.rausch@mail.sprint.com	Sprint	7	M
Resnick	Ron	ronald.j.resnick@intel.com	Intel	7	M
Pico	Enrique		UAS	8	M
Rommer	Stefan	stefan.rommer@erv.ericsson.se	Ericsson	1	--
Ronning	Matthew	matt.ronning@am.sony.com	Sony	6	M
Rudolf	Marian	marian.rudolf@interdigital.com	Interdigital	8	M

Last Name	First Name	e-mail Address	Sponsor	Meetings Attended as of 3-13-2003 10:00PM	Status
Russell	Robert	russell@knology.com	Knology	7	M
Saborian	Tony	tonysab@nortelnetworks.com	Nortel	7	M
Sandhu	Sumet	sumet.sandhu@intel.com	Intel	4	--
Sarikaya	Behcet	sarikaya@ieee.org	Alcatel	7	M
Schein	Brett	bschein@arraycomm.com	ArrayComm	8	M
Schramm	Greg	gschramm4@attbi.com		8	M
Schwartz	Randall	rschwartz@beamreachnetworks.com	Beamreach Networks	6	M
Seagren	Chris	cseagr01@sprintspectrum.com	Sprint	7	M
Seshadri	Krishna		Apacheta Corp.	1	--
Shakouri	Mohammad	mohammad.shakouri@alvarion.com	Alvarion	8	M
Shankaranarayanan	N. K.	nkshankar@ieee.org	AT&T Labs	8	M
Sheikh	Khurram	khurram.p.sheikh@mail.sprint.com	Sprint	7	M
Shelton	Tamara	tamara@athenecon.com	Athene	1	--
Shields	Judith	judy.shields@sympatico.ca	Ladcomm Corp.	8	M
Simkins	Jim	james.simkins@xilinx.com	Xilinx	7	M
Singleton	Andy	asing@algx.net	Allegiance Tellecom	3	--
Smith	Douglas	dsmith@dataradio.com	Dataradio	8	M
Sohn	Insoo	isohn@etri.re.kr	ETRI	8	M
Sol	Egbert Jan			4	--
Springer	Warren	warren@springerassociation.com	Springer Associates	8	M
Staver	Doug	dougstaver1@aol.com	DTScom	8	M
Stone	Mike	mstone8@austin.ur.can	Consultant	8	M
Struik	Rene	rstruik@certicom.com	Certicom	6	M
Su	Steven	steven@msi.com.tw	MSI	8	M
Sugimoto	Hiroki	hiroki@keystream.com	KeyStream	8	M
Sutivong	Arak	araks@qualcomm.com	Qualcomm	8	M
Suzuki	Kei	kei_suzuki@csg.kyocera.co.jp	Kyocera	8	M
Tan	TK			2	--
Taylor	Leslie	ltaylor@lta.com	Leslie Taylor Associates	7	M
Taylor	Shawn	staylor@wi-lan.com	Wi-Lan	6	M
Tellado	Jose	josex.tellado@intel.com	Intel	7	M
Tomcik	James	jtomcik@qualcomm.com	Qualcomm	8	M
Trick	John	johntrick@comcast.net	Bussey Consulting	7	M
Trinkwon	David	trinkwon@compuserve.com	Medley Systems	8	M
Upton	Jerry	jerrylupton@aol.com	Consultant	8	M
Valls	Juan Carlos	jcvalls@tmgtelecom.com	TMG Group	7	M
Van Waes	Nico	nico.vanwaes@nokia.com	Nokia	6	M
Vatin-Perignon	Serge	superignon@yahoo.com		7	M
Venugopal	Madan			1	--
Vivanco	Silvia	svivanco@ix.netcom.com		8	M
Vook	Frederick	Fred.Vook@motorola.com	Motorola	7	M
Wang	Arthur	awang@proxim.com	Proxim	8	M
Wang	Lei	lwang@wi-lan.com	Wi-LAN, Inc	7	M
Wang	Stanley			7	M
Ward Jr	Robert	drbmward@ieee.org	SciCom	8	M
Wasilewski	Thomas	tomw@tmgtelecom.com	TMG	8	M
Watanabe	Fujio	fwatanabe@ieee.org	DoCoMo USA Labs	7	M
Wilson	Joanne	joanne@arraycomm.com	ArrayComm	8	M
Wong	Jin Kue	jk Wong@nortelnetworks.com	Nortel	7	M
Wood	Tandy			8	M
Wu	Gang	wu@docomolabs-usa.com	DoCoMo USA	8	M
Wu	Geng	gengwu@nortelnetworks.com	Nortel	6	M
Wu	Robert			2	--
Xu	Guanghan	xu@navini.com	Navini	6	M
Yallapragada	Rao	rao@qualcomm.com	Qualcomm	7	M
Yang	Weidong		Navini	1	--
Yanower	Vladimir	vladimir.yanover@alvarion.com	Alvarion	2	--
Yeh	Choong-il	ciyrh@etri.re.kr	ETRI	6	M
Yeo	Geon Min	kunmin@etri.re.kr	ETRI	6	M
Yi	Gwang-Yong	ygy@lge.com	LG Electronics	8	M

Last Name	First Name	e-mail Address	Sponsor	Meetings Attended as of 3-13-2003 10:00PM	Status
Yong	Kit			1	--
Young	Bill	byoung@navini.com	Navini	8	M
Youssefmir	Michael	mike@arraycomm.com	ArrayComm	8	M
Yu	Patric			1	--
Yun	Yeo Song	hesperus@lge.com	LG Electronics	8	M
Yuza	Masaaki	yuzam@pb.jp.nec.com	NEC	8	M
Zhang	Wenzhong		Broadstorm	6	M
Zhong	Zhun	zhun.zhong@philips.com	Philips	2	--