IEEE-SA STANDARDS BOARD FORM FOR SUBMITTAL OF PROPOSED STANDARDS

1. PROJECT NUMBER: P1802.16.1

3. TITLE: Draft Standard for Conformance to IEEE Standard 802.16 - Part 1: Protocol Implementation Conformance Statement (PICS) Proforma for 10-66 GHz WirelessMAN-SC Air Interface

4. SPONSOR (Full name of society/committee): Computer Society/LMSC + Microwave Theory & Techniques Society

5. BALLOTING COMMITTEE: 802.16 Working Group + Microwave Theory and Techniques Society

(Include written delegation of balloting authority.)

6. NAME OF WORKING GROUP: 802.16 Working Group on Broadband Wireless Access

7. NAME AND ADDRESS OF SUBMITTER

Roger B. Marks NIST 325 Broadway, MC 813.00 Boulder, CO 80305 USA

Telephone: +1 303 497 3037

Fax: +1 509 756 2642

E-Mail: r.b.marks@ieee.org

2. DATE: 25 Apr 2003

8. DESCRIPTION OF DOCUMENT (Check one from each column.)

2

1

X New □ Revision □ Reaffirmation □ Withdrawal	X Standard □ Recommended Practice □ Guide □ Amendment/Corrigenda to an ex standard (Indicate number and y	6
8A. REAFFIRMATION ONLY:	-	lloting group agrees that this standard ent form and contains no significant n.

9. BALLOT INFORMATION

List the interest categories of eligible balloters only. Refer to the IEEE-SA Standards Board Operations Manual and the Working Guide for Submittal of Proposed Standards for the rules of balloting committee classification.

User	13	Pro	ducer	14	General Interest	23	Government	3
Interest Category	No.	Inte	erest Category	No.	Interest Category	No.	Interest Category	No.
			SUMMAR	Y OF ELIGI	BLE BALLOTS			
		Π	NITIAL BALL	ЮT	RECIRCU	LATIO	N BALLOT (if applicable)
		Draft D2	Date Closed:	2003-02-25	Draft D3	Da	ate Closed: 2003-04-24	
		Number	Percentage		Number	Pe	ercentage	
Ballots Mailed		53	100%		53	10	00%	
Ballots Returned		42	79		46	86	ō	
Affirmatives		<u>41</u>	100		45	<u>10</u>	00	
Negatives		0	N/A		0	N/	/A	

IEEE-SA Standards Board Approved Revision 7 December 2000

1

2

Reasons for abstentions:

10. RESOLUTION OF COMMENTS AND NEGATIVE VOTES

All balloting group members, observers, and coordinating groups have been advised of substantive changes made with respect to the balloted draft standard (in response to comments, in resolving negative votes, or for other reasons) and have received copies of all unresolved negative votes with reasons from the negative voter and the rebuttal, and have been advised that they have an opportunity to change their votes.

A. Have unresolved negative votes been circulated?	□ Yes	□ No	X No unresolved votes
Include unresolved negative comments and rebuttal.			
B. Have substantive document changes been circulated?	🛛 Yes	□ No	□ No substantive changes

11. COORDINATION ACTIVITY (Not required for reaffirmation)

Using the abbreviations listed below, indicate the response received from each committee/organization required for coordination and include a copy of the response. Include documentation authorizing coordination by common membership, if applicable.

$\mathbf{R} = \mathbf{Received}$	R/C = Received with comm	nent $NR = Not red$	ceived
Committee/Organization	Response	Committee/Organization	Response
SCC10 (IEEE Dictionary)	R		
SCC14 (Quantities, Units, & Letter S	Symbols) R		
IEEE Standards Editorial Staff	R		

Indicate below any unresolved problems from coordination activities.

None. "An Editorial and SCC 10 review was completed for P1802.16.1_D2. This document meets all requirements of coordination."

12. PATE	NT/COPYRIGHT and REGISTRATION ISSUES					
A. Is the	re any patented material in the proposed standard?	□ Yes	🖄 No	🗆 Origina	lly indicated on the PA	R, bu
If yes	, include letters(s) of assurance from the patent holder.			not inc	luded in the final docu	iment
B. Is the	re any copyrighted material in the proposed standard?	🛛 Yes	\square No			
	, include copyright release(s).					
	registration of objects and/or numbers a provision of	\Box Yes	🏽 No	\Box Already	y approved by RAC	
	oposed standard? If yes, include a proposal for review					
by the	e IEEE-SA Registration Authority Committee (RAC).					
	RNATIONAL STANDARDS ACTIVITIES (Not requi	ired for	rooffirm	nation)		
	locument intended to be the basis of or included in an intended to be the basis of or included to be the basis of or includ			,	es (Explain) X	Jo
15 1115 0	locument intended to be the basis of or included in an in	.cmation	iai stanc			NU
14. UNIT	OF MEASUREMENT (check one)					
	rnational System of Units (SI) - Metric	□ Bot	h □N	ot measurem	ent sensitive	
	•					
□ Othe	er					
	e Materials Submitted to IEEE Standards Departme					
	ve electronic versions of the source documents (text and t	igures)	XY	les □No	Format: FrameMak	er
	n provided?					
	l a diskette or other online material be required to accom lished standard?	pany the		les □No		
puo						
16. Submi	ission checklist (X = included in submittal package	N/A	= Not a	pplicable)		
	Submission Package Item	List V	URL if	online		
X	This submittal form					
X	Ballot summary form(s) (1 per ballot cycle)					
N/A	A Copies of unresolved negatives & rebuttals	-				
X		+				
N/A	11	+				
X		-				

Permissions & copyright releases

Delegation of balloting authority

Х

N/A

Ballot Summary

P1802.16.1 Closing date: 2003-02-25

1. This ballot has met the 75% returned ballot requirement.

```
53 eligible people in this ballot group.
41 affirmative votes
0 negative votes with comments
0 negative votes without comments
1 abstention votes
=====
42 votes received = 79% returned
2% abstention
```

2. The 75% affirmation requirement is being met.

```
41 affirmative votes
    0 negative votes with comments
=====
    41 votes = 100% affirmative
```

Ballot Details

Coordination Responses Only

IEEE/Coord Number	Name	Role	Phone / E - mail	Coordination Ballot Received	Coordination Comment(s) Received
00601054	<u>Bruce</u> Barrow	SCC14		yes	-
00001000	<u>Michelle</u> <u>Turner</u>	SCC10		yes	yes
00001001	<u>Michelle</u> <u>Turner</u>	Editorial		yes	yes

Balloters

Number	Name	Phone / E -mail	Vote	Т	Е	2	Graphics	Status Notes	Interest Categor
	<u>Selim Aissi</u> Intel		Approve, no comments (Y)	-	-		-		User
40250497	Ralph Baddour University of Toronto		Abstain for lack of time (A1)	-			-		General Interest

40357619	<u>John Barnet</u>	-	-	-	-	User
08805236	Mitchell Buchman US Government	-	-	-]	Governme
04503512	Ed Callaway Motorola	Approve, no comments (Y)	-	-		General Interest
41446421	Dean Chang Aperto Networks	Approve, no comments (Y)	-	-		Producer
40237493	Keith Chow	Approve, no comments (Y)	-	-	 	General Interest
03210820	Todor Cooklev San Francisco State University	Approve, no comments (Y)	-	-		Governme
06503270	Jose M. Costa Nortel Networks	Approve, no comments (Y)	-	-		General Interest
07633407	Steven Crowley	Approve, no comments (Y)	-	-		General Interest
40199311	Thomas Dineen Dineen Consulting	Approve, no comments (Y)	-	-		Producer
][]				

41385184	<u>Carl Eklund</u> Nokia		Approve, 1 comments (Y1)	1 -	• 1		Producer
08518995	Avraham Freedman Hexagon System Engineering Ltd.		Approve, no comments (Y)	. -			General Interest
41348507	Theodore Georgantas Athena Semiconductors		Approve, no comments (Y)	. -	. -		Producer
41414896	Andrew Germano WiDeFi Corporation			. -	 - - 		Producer
07393143	Robert Grow Intel		Approve, no comments (Y)	. -	. -		General Interest
01150382	José A. Gutierrez Eaton Corporation		Approve, no comments (Y)	. -	. -		User
41335410	David Husson		Approve, no comments (Y)	. -	.] [-		Producer
01556620	Hamadi Jamali ITC Center		Approve, no comments (Y)		.] [-	[General Interest
03343704	Jacob Jorgensen Malibu Networks, Inc.		Approve, no comments (Y)		.] [-		Produces
][

40357068	<u>STUART KERRY</u> OK -Brit	-	-	-	-	General Interest
05995253	Brian Kiernan InterDigital Communications Corp.	Approve, no comments (Y)	-		-	General Interest
41304605	<u>Pi-Cheng Law</u> Chughwa Telecom Labs.	Approve, no comments (Y)	-		-	User
08108896	<u>Yeou-Song Lee</u> Anritsu	-] -	_		Producer
40255444	Christina Lim The University of Melbourne	Approve, no comments (Y)			-	General Interest
01622778	Randolph Little AT&T - retired	Approve, no comments (Y)	-		-	General Interest
05845615	<u>Gregory Luri</u> CITY OF ST. CHARLES	Approve, no comments (Y)			-	User
08122103	Roger Marks NIST	Approve, comments (Y1)		1	1	Governme
40219720	Kevin Marquess Hyper Corporation	Approve, no comments (Y)				User

40183512	<u>Kyle Maus</u> AITG	-	-	-	-	User
40266634	Ingolf Meier	Approve, no comments (Y)	-	-	-	Producer
01271899	<u>George Miao</u>	Approve, no comments (Y)		-	-	General Interest
40223729	Apurva Mody Georgia Tech	Approve, no comments (Y)	-	-	-	General Interest
41505402	Rajesh Moorkath State of Maryland	Approve, no comments (Y)		-	-	General Interest
07446628	Michael Newman CSI Telecommunications	Approve, no comments (Y)		-	-	User
07858459	Paul Nikolich	Approve, no comments (Y)	-	-	-	User
03350758	Chris Osterloh Itron	Approve, no comments (Y)		-	-	User
07022429	Roger Pandanda MCS Corporation]-		-		General Interest
40300305	Kenneth Peirce	Approve,		-		Producer

	Malibu Networks	no comments (Y)			
00353235	Subbu Ponnuswamy	Approve, no comments (Y)			General Interest
01453273	Vikram Punj Meru Networks	Approve, no comments (Y)			General Interest
40283080	John Sargent Wireless Facilities Inc.				User
40156964	Neil Shipp Commsonic Ltd				General Interest
01109156	<u>Gil Shultz</u>	Approve, no comments (Y)]-		User
41392686	Kenneth Stanwood Ensemble Communications	Approve, comments (Y1)	1		Producer
40224483	Carl Stevenson Agere Systems	Approve, no comments (Y)			Producer
04389243	<u>Mark Sturza</u> 3C Systems Company	Approve, - no comments (Y)			General Interest
40324312	Jun Tan] _] _ -]]_	General

	Georgia Tech							Interest
03239332	JOAN VIAPLANA AUNA TELECOMUNICACIONES			-	-	-	-	General Interest
41328136	<u>Lei Wang</u> Wi-LAN Inc.			Approve, comments (Y1)	1	-	1	Producer
41278416	<u>Hung-yu Wei</u> Columbia Univ.			Approve, no comments (Y)	-	-	-	General Interest
05907266	<u>Oren Yuen</u>			Approve, no comments (Y)	-	-	-	User
41249250	<u>Nico van Waes</u> Nokia			Approve, no comments (Y)	-	-	-	Producer
			Comme	nt Totals *	$\boxed{2}$	2	4	 L
(*) You ha	ve at least these many commen	ts: each unstructured l						
	le, which may consist of one or							

Summary of Eligible Voters by Interest Category

Interest Category	Affirmative (s)	Negative(s) with Comments	Negative(s) without Comments	Abstention (s)	Not Total Returned
User	10	0	0	0	3 13
Producer	12	0	0	0	2 14
General Interest	17	0	0	1	5 23
Government	2	0	0	0	1 3
Voting Tally	41	0	0	1	11 53

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Abstention details:	1 for lack of time (A1)	0 for lack of expertise (A2)	0 for other reasons (A3)

Ballot Summary

P1802.16.1/D3 Recirculation Closing date: 2003-04-24

This is a recirculation ballot. The report collates the results from the following groups: 0000426 0000508.

1. This ballot has met the 75% returned ballot requirement.

```
53 eligible people in this ballot group.
45 affirmative votes
0 negative votes with comments
0 negative votes without comments
1 abstention votes
=====
46 votes received = 86% returned
2% abstention
```

2. The 75% affirmation requirement is being met.

```
45 affirmative votes
0 negative votes with comments
=====
45 votes = 100% affirmative
```

Ballot Details

Coordination Responses Only

IEEE/Coord Number	Name	Role	Phone / E-mail	Coordination Ballot Received	Coordination Comment(s) Received
00601054	<u>Bruce</u> Barrow	SCC14		yes	-
00001000	<u>Michelle</u> <u>Turner</u>	SCC10		yes	yes
00001001	<u>Michelle</u> <u>Turner</u>	Editorial		yes	yes

Balloters

Number	Name	Phone / E -mail	Vote	Т	E	Graphics	Status Notes	Interest Categor
40189595	<u>Selim Aissi</u> Intel		Approve, no comments (Y)*	-	-	-		User
40250497	Ralph Baddour University of Toronto		Abstain for lack of time (A1)*	-	-	-		General Interest

40357619	John Barnett	-	-	-	-	User
08805236	Mitchell Buchman US Government	-	-	-		Governme
04503512	<u>Ed Callaway</u> Motorola	Approve, no comments (Y)	-	-		General Interest
41446421	Dean Chang Aperto Networks	Approve, no comments (Y)	-	-	-	Producer
40237493	Keith Chow	Approve, no comments (Y)*	-	-		General Interest
03210820	Todor Cooklev San Francisco State University	Approve, no comments (Y)	-	-		Governme
06503270	Jose M. Costa Nortel Networks	Approve, no comments (Y)	-	-	-	General Interest
07633407	<u>Steven Crowley</u>	Approve, no comments (Y)	-	-		General Interest
40199311	<u>Thomas Dineen</u> Dineen Consulting	Approve, no comments (Y)	-	-		Producer

41385184	<u>Carl Eklund</u> Nokia	Approve, comments (Y1)	1	-	1	Produce
08518995	Avraham Freedman Hexagon System Engineering Ltd.	Approve, no comments (Y)	-	-	-	General
41348507	Theodore Georgantas Athena Semiconductors	Approve, no comments (Y)	-	-	-	Produce
41414896	Andrew Germano WiDeFi Corporation	Approve, no comments (Y)*	-	-	-	Produce
07393143	Robert Grow Intel	Approve, no comments (Y)	-	-	 	General Interest
01150382	José A. Gutierrez Eaton Corporation	Approve, no comments (Y)*	-	-		User
41335410	David Husson	Approve, no comments (Y)	-	-	 	Produce
01556620	Hamadi Jamali ITC Center	Approve, no comments (Y)	-	-	-	General Interest
03343704	Jacob Jorgensen Malibu Networks, Inc.	Approve, no comments (Y)	-	-		Produce

40357068	<u>STUART KERRY</u> OK -Brit		Approve, no comments (Y)*	-	General Interest
05995253	Brian Kiernan InterDigital Communications Corp.		Approve, no comments (Y)*		General Interest
41304605	<u>Pi-Cheng Law</u> Chughwa Telecom Labs.		Approve, no comments (Y)	-	User
08108896	<u>Yeou-Song Lee</u> Anritsu				Producer
40255444	<u>Christina Lim</u> Photonics Research Laboratory		Approve, no comments (Y)	-	General Interest
01622778	Randolph Little AT&T - retired		Approve, no comments (Y)		General Interest
05845615	<u>Gregory Luri</u> CITY OF ST. CHARLES		Approve, no comments (Y)		User
08122103	Roger Marks NIST		Approve, comments (Y1)		Governm
40219720	Kevin Marquess	 	Approve, -		User

	Hyper Corporation	no comments (Y)				
40183512	<u>Kyle Maus</u> AITG	Approve, no comments (Y)*	-	-		User
40266634	Ingolf Meier	Approve, no comments (Y)*	-	-	-	Producer
01271899	George Miao	Approve, no comments (Y)	-	-	-	General Interest
40223729	Apurva Mody Georgia Tech	Approve, no comments (Y)	-	-	-	General Interest
41505402	Rajesh Moorkath State of Maryland	Approve, no comments (Y)*	-	-	-	General Interest
07446628	Michael Newman CSI Telecommunications	Approve, no comments (Y)	-	-	-	User
07858459	Paul Nikolich	Approve, no comments (Y)	-	-	-	User
03350758	<u>Chris Osterloh</u> Itron	Approve, no comments (Y)	-	-	-	User
07022429	Roger Pandanda MCS Corporation	-	-	-	-	General Interest

	94309 USA					
40300305	<u>Kenneth Peirce</u> Malibu Networks	Approve, no comments (Y)	-	-		Producer
00353235	Subbu Ponnuswamy	Approve, no comments (Y)	-	-		General Interest
01453273	Vikram Punj Meru Networks	Approve, no comments (Y)*	-	-] [-	General Interest
40283080	John Sargent Wireless Facilities Inc.	-	-	-	[User
40156964	Neil Shipp Commsonic Ltd	Approve, no comments (Y)*	-	-		General Interest
01109156	<u>Gil Shultz</u>	Approve, no comments (Y)*	-	-	[User
41392686	Kenneth Stanwood Ensemble Communications	Approve, no comments (Y)*	-	1		 Producer
40224483	<u>Carl Stevenson</u> Agere Systems	Approve, no comments (Y)*	-	-		Producer
04389243	Mark Sturza 3C Systems Company	Approve, no comments (Y)	-	-		General Interest

	91436 US						
40324312	<u>Jun Tan</u> Georgia Tech		-	-	-	-	General Interest
03239332	JOAN VIAPLANA AUNA TELECOMUNICACIONES		-	-	-	-	General Interest
41328136	<u>Lei Wang</u> Wi -LAN Inc.		Approve, comments (Y1)	1	-	1	Producer
41278416	<u>Hung -yu Wei</u> Columbia Univ.		Approve, no comments (Y)	-	-	-	General Interest
05907266	Oren Yuen		Approve, no comments (Y)	-	-	-	User
41249250	<u>Nico van Waes</u> Nokia		Approve, no comments (Y)	-	-	-	Producer
(*) You ha single G fi	ve at least these many commen le, which may consist of one or	Comme ts: each unstructured binary file (i. hundreds of individual T and E co	nt Totals * .e., Word) is omments.				
		ent circulation of this recirc ballot.					

Summary of Eligible Voters by Interest Category

Interest Category	Affirmative (s)	Negative(s) with Comments	Negative(s) without Comments	Abstention (s)	Not Returned	Total
User	11	0	0	0	2	13
Producer	13	0	0	0	1	14
General Interest	19	0	0	1	3	23
Government	2	0	0	0	1	3

1						I
Voting Tally	45	0	0	1	7	53

Abstention details: 1 for lack of time (A1) 0 for lack of expertise (A2) 0 for other reasons (A)	3)
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PAR FORM

PAR Status: New PAR

PAR Approval Date: 08/15/2002

PAR Signature Page on File: Yes

Review of Standards Development Process: No

- 1. Assigned Project Number: 1802.16.1
- 2. Sponsor Date of Request: 07/12/2002
- 3. Type of Document: Standard for
- 4. Title of Document:
- Draft: Standard for Conformance to IEEE Standard 802.16 Part 1: Protocol Implementation Conformance Statement (PICS) Proforma for 10-66 GHz WirelessMAN-SC Air Interface

5. Life Cycle: Full Use

6. Type of Project:

6a. Is this an update to an existing PAR? No

6b. The project is a: The project is a new standard

7. Contact Information of Working Group:

Name of Working Group (WG): IEEE 802.16 Working Group on Broadband Wireless Access

 Name of Working Group Chair:
 Roger B Marks

 Telephone:
 (303)
 497-3037
 FAX:
 (303)
 497-3122

 Email:
 r.b.marks@ieee.org
 FAX:
 (303)
 497-3122

8. Contact Information of Official Reporter (If different than Working Group Chair)

Name of Official Reporter:(if different than WG Contact)Telephone:FAX:Email:

9. Contact Information of Sponsoring Society or Standards Coordinating Committee

Name of Sponsoring Society and Committee: Computer Society/Local and Metropolitan Area Networks

Name of Sponsoring Committee Chair: Paul NikolichTelephone: 857-205-0050FAX: 781-334-2255Email: p.nikolich@ieee.orgFAX:Name of Liaison Rep.(If different than Sponsor Chair):FAX:Telephone:FAX:Email:FAX:

10. The type of ballot is: Individual Sponsor BallotExpected Date of Submission for Initial Sponsor Ballot: 11/15/2002

11. Fill in Projected Completion Date for Submittal to RevCom: 5/2/2003 Explanation for Revised PAR that completion date is being extended past the original four-year life of the PAR:

12. Scope of Proposed Project:

This standard represents the Protocol Implementation Conformance Statement (PICS) Proforma, per ISO/IEC Standard 9646-7 (1995) and ITU-T X.296, for conformance specification of base stations and subscriber stations based upon the WirelessMAN-SC (10-66 GHz) air interface specified in IEEE Std 802.16.

13. Purpose of Proposed Project:

This document describes the capabilities and options within the WirelessMAN-SC (10-66 GHz) air interface specified in IEEE Std 802.16. It is to be completed by the supplier of a product claiming to implement the protocol. It indicates which capabilities and options have been implemented and what limitations might prevent interworking. It allows a customer of the product to evaluate its conformance and to determine whether the product meets the customer's requirements.

14. Intellectual Property

Sponsor has reviewed the IEEE patent policy with the working group? Yes Sponsor is aware of copyrights relevant to this project? Yes Sponsor is aware of trademarks relevant to this project? Yes Sponsor is aware of possible registration of objects or numbers due to this project?No

15. Are you aware of other standards or projects with a similar scope? No

Similar Scope Project Information:

16. Is there potential for this standard (in part or in whole) to be submitted to an international organization for review/ adoption? Do Not Know

If yes, please answer the following question:

Which International Organization/Committee?

International Contact Information:

18. Additional Explanatory Notes:(Item Number and Explanation)

MTT is also sponsoring this project. The standard will include access to an electronic form that will produce data transferable to another party. The standard will include permission to print completed hard copies of the form for documentation purposes.

Mr. Paul Nikolich Broadband Access Systems 18 Bishops Lane Lynnfield, MA 01940

Re: P802.16.2a Local and Metropolitan Area Networks - Amendment to Recommended Practice for Coexistence of Fixed Broadband Wireless Access Systems

P1802.16.1 Standard for Conformance to IEEE Standard 802.16 -Part 1: Protocol Implementation Conformance Statement (PICS) Proforma for 10-66 GHz WirelessMAN-SC Air Interface

Dear Paul:

I am pleased to inform you that on 15 August 2002 the IEEE-SA Standards Board approved the above referenced projects until December 2005 and December 2006, respectively. Copies of the files are attached in .pdf format.

Now that your projects have been approved, please forward a roster of participants involved in the development of these projects. This request is in accordance with the IEEE-SA Operations Manual, Clause 5.1.2f under Duties of the Sponsor which states:

"Submit annually to the IEEE Standards Department an electronic roster of individuals participating on standards projects"

Attached is an Excel spreadsheet for your convenience. Please forward these lists to me via e-mail at j.haasz@ieee.org no later than 1 November 2002.

At the bottom of this e-mail, please find URLs which you may find useful in the development of your proposed standard and in submitting your final draft for approval. We strongly recommend that a copy of your draft be sent to this office for review prior to the final voting by the working group to allow for a quick review by the editorial staff before sponsor balloting.

If you should have any further questions or would like to receive this information in paper, please contact me at 732-562-6367 or by email at j.haasz@ieee.org.

Sincerely,

Jodi Haasz Senior Administrator IEEE-SA Governance and Electronic Processes



May 1, 2003

Dr. Roger B. Marks IEEE 802.16 Working Group on Broadband Wireless Access Standards 325 Broadway MC 813.00 Boulder, CO 80303 mailto: r.b.marks@ieee.org

Dear Dr. Marks:

On behalf of the WiMAX Forum, I hereby grant permission to the Institute of Electrical and Electronics Engineers, Inc., to modify, distribute, make derivative works of, and print material contained in draft document IEEE P1802.16.1-2003 based upon C1802.16.1-02/01 developed and hereby submitted by the WiMAX Forum. The above permissions are granted for world rights for distribution and apply to all future revisions and editions in all media known or hereinafter known.

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BARAN

Margaret LaBrecque

<u>May 5, 2003</u> Date

Worldwide Interoperability for Microwave Access Forum, Inc. President