AGENDA & MINUTES (Unconfirmed) - IEEE 802 LMSC EXECUTIVE COMMITTEE MEETING (updated April 22, 2005)

Friday March 18, 2005   1:00 PM – 6:00 PM

Atlanta, GA

| 1.00 | | MEETING CALLED TO ORDER | - | Nikolich | 1 | 01:06 PM |

Paul Nikolich called the meeting to order at 1:00 PM Members in attendance were:

Paul Nikolich	- Chair, IEEE 802 LAN / MAN Standards Committee
Mat Sherman	- Vice Chair, IEEE 802 LAN / MAN Standards Committee
Pat Thaler	- Vice Chair, IEEE 802 LAN / MAN Standards Committee
Bob O'Hara	- Recording Secretary, IEEE 802 LAN / MAN Standards Committee
Buzz Rigsbee	- Executive Secretary, IEEE 802 LAN / MAN Standards Committee
John Hawkins	- Treasurer, IEEE 802 LAN/MAN Standards Committee
Tony Jeffree	- Chair, IEEE 802.1 - HILI Working Group
Bob Grow	- Chair, IEEE 802.3 - CSMA/CD Working Group
Stuart Kerry	- Chair, IEEE 802.11 - Wireless LANs Working Group
Bob Heile	- Chair, IEEE 802.15 – Wireless PAN Working Group
Roger Marks	- Chair, IEEE 802.16 – Broadband Wireless Access Working Group
Mike Takefman	- Chair, IEEE 802.17 – Resilient Packet Ring Working Group
Mike Lynch (acting)	- Chair, IEEE 802.18 – Regulatory TAG
Steve Shellhammer	- Chair, IEEE 802.19 – Wireless Coexistence TAG
Jerry Upton	- Chair, IEEE 802.20 – Mobile Broadband Wireless Access
Ajay Rajkumar	- Chair, IEEE 802.21 – Media Independent Handover
Carl Stevenson	- Chair, IEEE 802.22 – Wireless Regional Area Networks
Geoff Thompson	- Member Emeritus (non-voting)

| 2.00 | MI | APPROVE OR MODIFY AGENDA | - | Nikolich | 9 | 01:09 PM |

r03   AGENDA - IEEE 802 LMSC EXECUTIVE COMMITTEE
MEETING
Friday, March 18, 2005 - 1:00PM -6:00PM
Atlanta, GA

1.00		MEETING CALLED TO ORDER		-	Nikolich	1	01:00 PM
2.00	MI	APPROVE OR MODIFY AGENDA		-	Nikolich	9	01:01 PM
3.00				-			01:10 PM
3.01				-			01:10 PM
3.02				-			01:10 PM
4.00	II	TREASURER'S REPORT		-	Hawkins	10	01:10 PM
4.01	II	Announcements from the Chair		-	Nikolich	5	01:20 PM
		Category (* = consent agenda)		-			
				-			
5.00		IEEE Standards Board Items		-			01:25 PM
5.01	ME	802.16f to Sponsor Ballot		-	Marks	5	01:25 PM
5.02	ME	802.3REVam conditional approval, submission to RevCom		-	Grow	5	01:30 PM
5.03				-			01:35 PM
5.04	ME	802.15.3c PAR and 5C approval		-	Heile	5	01:35 PM
5.05	ME	802.11w PAR to NesCom		-	Kerry	5	01:40 PM
5.06	ME	Conditional approval to forward 802.1Q-REV to RevCom		-	Jeffree	5	01:45 PM

5.07	ME	Conditional approval to forward 802.1ad to RevCom	-	Jeffree	5	01:50 PM
5.08	MI	BPL PAR	-	Shellhammer	10	01:55 PM
5.09			-			02:05 PM
5.10			-			02:05 PM
5.11			-			02:05 PM
5.12			-			02:05 PM
5.13			-			02:05 PM
6.00		**Executive Committee Study Groups & Working Groups**	-			02:05 PM
6.01			-			02:05 PM
6.02			-			02:05 PM
6.03			-			02:05 PM
6.04			-			02:05 PM
7.00		Break	-		15	02:05 PM
8.00		**IEEE-SA Items**	-			02:20 PM
8.01	II	802 Task Force update	-	Nikolich	10	02:20 PM
8.02			-			02:30 PM
8.03	II	Entity Balloting Feedback	-	Law	5	02:30 PM
8.04	II	IEEE/ITU-R update	-	Lynch	2	02:35 PM
8.05	II	ISO/JTC1 discussions	-	Thompson	5	02:37 PM
8.06			-			02:42 PM
8.07			-			02:42 PM
9.00		**LMSC Liaisons & External Interface**	-			02:42 PM
9.01	ME	802.16 contribution to ITU-R	-	Marks	5	02:42 PM
9.02	ME	802 Liaison Letter to MII	-	Marks	4	02:47 PM
9.03	ME	802 Liaison Letter to CCSA	-	Marks	3	02:51 PM
9.04	ME	802 Liaison Letter to CESI	-	Marks	3	02:54 PM
9.05	II	Letter from 802.16 to IETF	-	Marks	2	02:57 PM
9.06	ME	Response to UK Ofcom on Spectrum Framework	-	Lynch	5	02:59 PM
9.07	ME	Response to UK Ofcom on Spectrum Framework Review Implementation	-	Lynch	5	03:04 PM
9.08	ME	Response to UK Ofcom on the UWB consultation	-	Lynch	5	03:09 PM
9.09			-			03:14 PM
9.10			-			03:14 PM
10.00		**LMSC Internal Business**	-			03:14 PM
10.01	MI	Confirmation of Mike Lynch as chair of 802.18	-	Nikolich	5	03:14 PM
10.02	MI*	Residential Ethernet SG extension	-	Grow	0	03:19 PM
10.03	MI*	POE Plus SG extension	-	Grow	0	03:19 PM
10.04	MI*	802.11 ADS SG extension	-	Kerry	0	03:19 PM
10.05	MI*	802.15.3c SG extension	-	Heile	0	03:19 PM
10.06	MI	802 Online Training	-	Thaler	10	03:19 PM
10.07	MI	Networking RFQ approval	-	Thaler	10	03:29 PM
10.08	MI	Formation of 802.11 CBP SG	-	Kerry	5	03:39 PM
10.09			-			03:44 PM
10.10	MI	802.11w press release	-	Kerry	5	03:44 PM
10.11			-			03:49 PM
10.12	MI	Approval of updated SOW for SA P&P support	-	Sherman	5	03:49 PM
10.13			-			03:54 PM
10.14			-			03:54 PM
10.15			-			03:54 PM
10.16	MI	Ballot term limit P&P change	-	Grow	5	03:54 PM
10.17	MI	Ballot P&P revision to fix clause 7.5	-	Jeffree	5	03:59 PM
10.18	MI	Adopt "P&P Revision Process"	-	Sherman	5	04:04 PM
10.19	MI	Division of "EC Membership and Meetings" Question	-	Sherman	5	04:09 PM
10.20	MI	Adopt "EC Voting Rules"	-	Sherman	5	04:14 PM
10.21	MI	Adopt "WG Voting"	-	Sherman	5	04:19 PM

10.22	MI	Adopt "EC Membership and Meetings"	-	Sherman	5	04:24 PM
10.23	MI	Ballot "WG Membership and Meetings"	-	Sherman	5	04:29 PM
10.24	MI	Ballot "LMSC Organization"	-	Sherman	5	04:34 PM
10.25	MI	Ballot "LMSC Procedures and Process"	-	Sherman	5	04:39 PM
10.26	MI	Ballot "Miscellaneous Issues"	-	Sherman	5	04:44 PM
10.27			-			04:49 PM
10.28			-			04:49 PM
10.29	MI	Venues outside North America	-	O'Hara	10	04:49 PM
10.30			-			04:59 PM
10.31			-			04:59 PM
10.32			-			04:59 PM
10.33			-			04:59 PM
10.34			-			04:59 PM
11.00		**Information Items**	-			04:59 PM
11.01	II	Report on appeal requests	-	Nikolich	10	04:59 PM
11.02	II	Machine Readable Extracts	-	Grow	3	05:09 PM
11.03	II	P802.3an and P802.3aq WG ballots approved	-	Grow	0	05:12 PM
11.04	II	802.15.3a issues update	-	Heile	5	05:12 PM
11.05	II	EC Procedures for Openness	-	Sherman	10	05:17 PM
11.06	II	Network Services Update	-	IDEAL	5	05:27 PM
11.07	II	802.22 progress	-	Stevenson	2	05:32 PM
11.08			-			05:34 PM
11.09	II	RROR	-	Kerry	1	05:34 PM
11.10			-			05:35 PM
11.11			-			05:35 PM
11.12			-			05:35 PM
11.13			-			05:35 PM
		ADJOURN SEC MEETING	-	Nikolich		06:00 PM
		ME - Motion, External MI - Motion, Internal				
		DT- Discussion Topic II - Information Item				
		Special Orders				

Moved: To adopt the agenda as modified.
Moved: Carl Stevenson/Jerry Upton
Passes: 14/0/1

4.00	II	TREASURER'S REPORT	-	Hawkins	10	01:10 PM

IEEE Project 802
Estimated Statement of Operations
March 2005 Plenary Session
Atlanta, GA
As of Mar 18, 2004

Meeting Income	*Estimate*	*Budget*	*Variance*	
Registrations	**1,544**	1,200	344	28.7%
Registration income	**495,850**	384,000	111,850	29.1%
Deadbeat collections	**0**	0	0	
Bank interest	**150**	150	0	0.0%
Other income	**0**	0	0	
TOTAL Meeting Income	**496,000**	384,150	111,850	29.1%

Meeting Expenses	*Estimate*	*Budget*	*Variance*	
Audio Visual Rentals	**20,500**	15,000	(5,500)	-36.7%
Audit	**6,000**	6,000	0	0.0%
Bank Charges	**275**	230	(45)	-19.6%
Copying	**5,500**	5,500	0	0.0%
Credit Card Discount	**13,392**	10,752	(2,640)	-24.6%
Equipment Expenses	**12,000**	9,000	(3,000)	-33.3%
Get IEEE 802 Contribution	**115,800**	90,000	(25,800)	-28.7%
Insurance	**3,000**	3,000	0	0.0%
Meeting Administration	**7,200**	75,064	67,864	90.4%
Misc Expenses	**2,500**	500	(2,000)	-400.0%
Network	**50,000**	34,388	(15,612)	-45.4%
Phone & Electrical	**4,000**	2,100	(1,900)	-90.5%
Refreshments	**133,000**	72,000	(61,000)	-84.7%
Shipping	**6,500**	3,100	(3,400)	-109.7%
Social	**47,000**	42,000	(5,000)	-11.9%
Supplies	**500**	500	0	0.0%
TOTAL Meeting Expense	**427,167**	369,134	(58,033)	-15.7%

NET Meeting Income/Expense	**68,833**	15,016	53,817	

Analysis

Refreshments per registration	**86**	60	(26)	27%
Social per registration	**30**	35	5	9%
Meeting Administration per registration	**5**	63	58	1%
Networking per registration	**32**	29	(4)	10%
Get IEEE 802 Contribution per registratio	**75**	**75**	0	23%
Surplus/Deficit per registration	**45**	13	32	
Pre-registration rate	**0.577**	0.600		

LMSC Budget

	2004					2005				
	January 802 Interims	March	July	Nov	Year	Jan Interim	March	July	Nov	Year
	Vancouver Actual	*Lake Buena Vista, FL Actual*	*Portland Actual*	*San Antonio Actual*		*Vancouver Actual*	*Atlanta Estimate*	*San Francisco Budget*	*Vancouver Budget*	
Exchange Rate	*0.780*					*0.86*			*0.750*	
Meeting Income:										
Registrations	*1,021*	*1,376*	*1,476*	*1,579*		*218*	*1,544*	*1,200*	*1,200*	
TOTAL Income	*334,617*	*440,530*	*484,558*	*509,952*	*1,769,657*	*54,050*	*496,000*	*384,150*	*384,150*	*1,264,300*
TOTAL Meeting Expense	*286,631*	*444,002*	*446,245*	*600,584*	*1,777,462*	*40,061*	*427,167*	*403,334*	*373,184*	*1,203,686*
NET to Operating Reserve	*47,986*	*(3,471)*	*38,313*	*(90,632)*	*(7,804)*	*13,989*	*68,833*	*(19,184)*	*10,966*	*60,614*
Opening Reserve	*280,058*	*328,044*	*324,573*	*362,886*		*272,253*	*286,242*	*355,075*	*335,891*	
Projected Closing Reserve	*328,044*	*324,573*	*362,886*	*272,253*		*286,242*	*355,075*	*335,891*	*346,857*	
Projected Closing Cash	*326,044*	*322,573*	*360,886*	*270,253*		*284,242*	*353,075*	*333,891*	*344,857*	
Meeting Contracts Liability	*38,766*	*171,540*	*150,326*	*269,356*		*108,000*	*108,000*	*136,985*	*158,162*	

John asked that the EC consider increasing the discount for preregistration, to improve our ability to predict and to budget for the meetings. John suggested that a difference of $100 would provide additional incentive to preregister.

Moved: To adjust the registration fee to $400 for registration after the preregistration deadline, effective for the November 2005 session.
Moved: Buzz Rigsbee/Bob Heile

Passes: 9/4/3

4.01	II	Announcements from the Chair	-	Nikolich	5	01:19 PM

Geoff just nailed with an action item (to investigate the preregistration ratio at the IETF).

5.00		**IEEE Standards Board Items**	-			
5.01	ME	802.16f to Sponsor Ballot	-	Marks	5	01:20 PM

The only remaining negative voter has no unresolved comments, but no contact has been able to be established with the balloter.

Moved: to forward 802.16f/D3 for Sponsor Ballot
Moved: Roger Marks/Buzz Rigsbee
Passes: 16/0/0

5.02	ME	802.3REVam conditional approval, submission to RevCom	-	Grow	5	01:24 PM

P802.3REVam Sponsor Ballot

- Initial ballot – P802.3REVam/D2.0
  - 69 in ballot group
  - 75.4% return, 85% approve, 3.8% abstain
  - 1959 comments responded to in January
- 1st Recirculation – P802.3REVam/D2.1
  - 82.6% return, 90.9% approve, 3.5% abstain
  - All "R" comments recirculated
  - Change pages extracted, complete draft included
  - 32 comments responded to this week
- 2nd Recirculation – P802.3REVam/D2.2

802.3 Closing Motion #6 (P802.3REVam)

IEEE 802.3 authorises the IEEE P802.3REVam Editor to incorporated the comments and produce D2.2 for Sponsor recirculation ballot.

IEEE 802.3 authorises the IEEE P802.3REVam Task Force to conduct meetings and recirculation ballots as necessary to resolve comments received during Sponsor Balloting.

IEEE 802.3 requests conditional approval (procedure 10) for submission to the REVCOM.

Upon RevCom approval submit to ISO for fast track consideration.

M: D. Law

S: Kevin Q Daines

Tech 75%

PASSED Date: 17-Mar-2005 2:48PM

Y: 70   N: 0   A: 7

P802.3REVam to RevCom

The LMSC EC grants conditional approval to forward P802.3REVam to RevCom per LMSC P&P Clause 21.

M: Bob Grow

S:

Y: N: A:

Moved: The LMSC EC grants conditional approval to forward P802.3REVam to RevCom per LMSC P&P Clause 21.

Moved: Bob Grow/Tony Jeffree
Passes: 16/0/0

5.03			-			
5.04	ME	802.15.3c PAR and 5C approval	-	Heile	5	01:27 PM

Comments/Responses on 802.15.3c PAR

- ## Summary of Comments
  - – All editorial comments were accepted
  - – All comments relating to missing information were satisfied
  - – All content comments were accepted. These comments related to limiting or clarifying the scope and a purpose

Comments/Responses on 802.15.3c PAR

- Comment
  - *The scope is too broad--I would like to see a specific range of frequencies (will this be contained to unlicensed frequencies?), data rates and ranges defined. – Nikolich, Petrick/802.11*

- Response
  - The intent is to operate in assigned unlicensed bands in the range of 25 to 100 GHz. This allows for the USA and Japanese unlicensed frequency allocations and expected allocations in other countries. Data rates will be defined to be at least 1Gbps under normal operating conditions with a typical range of no less than 10 meters.

Comments/Responses on 802.15.3c PAR

ORIGINAL SCOPE

This project will define a 24 GHz, and above, alternative PHY clause for a higher data rate amendment to Standard 802.15.3-2003.

REVISED SCOPE OF PROPOSED PROJECT

This project will define a 25 to 100 GHz (millimeter wave) alternative PHY clause for higher data rate amendment to Standard 802.15.3-2003. This frequency range allows for the USA and Japanese unlicensed allocations and expected unlicensed allocations in other countries. Data rates will be at least 1 Gbps under normal operating conditions with a typical range no less than 10 meters.

Comments/Responses on 802.15.3c PAR

- Comment
  - *Remove incorrect forward references to 20 in item 14. Change 20a/20b to 14 in item 21.- Parsons*
  - *Also I suggest that the technology should be named in the Purpose instead of quoting the standard.- Parsons*
- Response
  - Jodie Haasz agreed to make the editorial changes to fix the references and updated appropriate contact telephone numbers.
  - We are not quite sure what you would like to see regarding comment 2. Are you looking for a more application focus in the answer? Underlying technology would be part of the standards work.

Comments/Responses on 802.15.3c PAR

Text: 14. ORIGINAL PURPOSE OF PROPOSED PROJECT

This standard is for a millimeter-wave based alternative PHY that can achieve higher data rate transmission, higher frequency re-usage and superior coexistence than the existing 802.15.3 wireless systems. Multiple data rates will be offered. One optional data rate will be greater than 2Gbps (see 19), to satisfy an evolutionary set of consumer multi-media industry needs for WPAN communications.

Text: 14. REVISED PURPOSE OF PROPOSED PROJECT

To standardize an alternative PHY that can achieve higher data rate transmission, higher spectral re-use via optional directional antennas, and superior coexistence than existing 802.15.3 wireless systems. Multiple data rates will be offered. Data rates of at least 1 Gbps (see item 21), will satisfy an evolutionary set of consumer multi-media industry needs for WPAN communications.

Comments/Responses on 802.15.3c PAR

- *Comment*
  - *Section 7: number of working group members needs to be completed. - McCann*
  - *Section 15: needs to be completed. – McCann*

- Response
  - Section 7: Number of WG members is corrected to 200.
  - Section 15: (the text was recited but not changed.)

    15. REASON FOR THE PROPOSED PROJECT:

    This amendment extends the link rate for the 802.15.3 MAC by standardizing a new, mm wave PHY. Current PHYs are not able to reach the same performance point for the combination of speed, range, coexistence and complexity. It will provide opportunities to expand product features and performance for the consumer and will result in economic opportunity for technology component suppliers and equipment manufacturers.

Comments/Responses on 802.15.3c PAR

- Comment
  - *Section 18: doesn't this standard want to go to ISO eventually?- McCann*
  - *Section 21: please expand up abbreviation CFA.- McCann*
- Response
  - Regarding section 18, we don't know whether organizations like ISO will have an interest in this Standard yet. The past 802.15 PARs have left this option open by using "??" in this field. Since there was no provision for "??", we opted for No although we would still prefer "??".
  - A CFA is a Call for Application. This is where the study group asks the industry for examples of applications the standard should address. The PAR reflects the consolidated results of those needs.

Comments/Responses on 802.15.3c PAR

- *Comment (non-duplicate comments)*
  - *Does the MAC need to be modified to support this project? –Petrick/802.11*
  - *Clarify or delete "higher frequency re-usage"-Petrick/802.11*

- Response
  - No, we are not aware of any MAC changes at this time. Data rate is a "PHY Dependent Variable".
  - By "higher frequency re-use" we mean Spectrum re-use. The PAR text was modified in section 14 earlier in this presentation.

SG Motion

- Move to accept the changes to the SG3c PAR as captured in 15-04-0250-07-003c.

- Moved: Rypinski   Second: Mathew
- For: 15   Against:0   Abstain: 5 Passes

Motion

- That the 802.15 WG accept the modifications to 802.15.3c PAR and that the updated document, 15-04-0250-07-003c (with the addition of "..unlicensed allocations.." in the Purpose) be forwarded to the Executive Committee for approval.

- Moved: Reed Fisher   Second: Colin Lanzl
- For: 39   Against: 8   Abstain: 8
- Passed

Motion to the EC

- Move to forward the PAR for 802.15.3c to NesCom for approval.

- Moved- Bob Heile
- Second-Stuart Kerry

IEEE P802.15
Wireless Personal Area Networks

Project	IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)
Title	**IEEE P802.15.SG3c Five Criteria**
Date Submitted	[16 Nov, 2004]
Source	[Reed Fisher, SG3c Chair] [Oki Electric Industry Co., Ltd.] [2514 E. Maddox Rd., Buford, GA 30519, USA] Voice: [+1-770-271-0529] E-mail: [reedfisher@juno.com]
Re:	[IEEE P802.15.3c Project Authorization Request (PAR)]
Abstract	[SG3c will begin generating a millimeter wave based alternative physical layer (PHY) for Standard 802.15.3-2003. This project will satisfy these Five Criteria.]
Purpose	[Working document for the 5 Criteria to the P802.15 Working Group]
Notice	This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15.

IEEE P802.15 High Rate Wireless Personal Area Networks Study Group Functional Requirements Standards Development Criteria

The IEEE P802.15 Alternate PHY Study Group for Wireless Personal Area Networks (WPANs) reviewed and completed the required IEEE Project 802 Functional Requirements, Standards Development Criteria (a.k.a. the Five Criteria). The IEEE P802.15 SG3c Five Criteria response is in Italics below.

1. BROAD MARKET POTENTIAL

a) Broad sets of applicability

The increasing popularity of not only wearable, hand-held computing, communicating devices, consumer electronics, but also the indoor wireless connectivity among these devices has made clear that there will be broad demand for these types of wireless personal area networks (WPANs) for connectivity between them.

Wireless connectivity between not only these devices but also the piconets will make them easier to use, and more useful. Since the next wave of these devices and networks will need to support multimedia and large file applications, the next wave of wireless connectivity will require data rates in excess of 2Gbps.

Examples of applications include a temporal network among the devices belonging to present members in a meeting room and an ad hoc information distribution system that can connect several persons without wired connection and multiple simultaneous transmission of high definition audio/video streaming. Moreover, examples of applications include very high speed internet access, streaming content download (Video on Demand, HDTV, Home Theater, etc), real time streaming, inter/intra vehicle communications, sports/apartment complex communications and wireless data bus for cable replacement.

b) Multiple vendors and numerous users

The breadth of membership of this Alternative PHY Study Group demonstrates the interest in the utilization of millimeter-waves to achieve the high rate transmission without degradation of QoS caused by interference between the existing microwave systems including all IEEE 802 wireless PHYs. Group members include international wireless industry leaders, academic researchers, semiconductor manufacturers, system integrators, consumer electronics companies and corporate end users.

Individuals from more than 40 companies participated in drafting this PAR. The target user base will be large as indicated by the growing demand for multimedia connected PDAs, HPCs, digital imaging, display, digital video and digital audio devices.

This project also encourages the development of new categories of products in conjunction with the trend to extend transmission rate and to avoid the interference between other wireless systems.

c) Balanced costs

The Standard for the 802.15.3c millimeter-wave based Alternative PHY will be developed with the aim that the connectivity costs will be a reasonably small fraction of the cost of the target devices previously mentioned.

2. COMPATIBILITY

IEEE 802 defines a family of Standards. All Standards shall be in conformance with IEEE 802.1 Architecture, Management and Inter-working. All LLC and MAC standards shall be compatible with ISO 10039, MAC Service Definition, at the LLC/MAC boundary. Within the LLC Working Group there shall be one LLC Standard, including one or more LLC protocols with a common LLC/MAC interface. Within a MAC Working Group there shall be one MAC Standard and one or more Physical Layer Standards with a common MAC/Physical layer interface. Each Standard in the IEEE 802 family of Standards shall include a definition of managed objects, which are compatible with ISO systems management Standards.

The MAC (Medium Access Control) sublayer of the Alternative PHY Standard will be compatible with the IEEE 802 requirements for architecture, management and inter-networking and will be based upon the IEEE 802.15.3-2003 MAC.

3. DISTINCT IDENTITY

a) Substantially different from other IEEE 802 standards.

Current projects in 802.15 may not provide data rates in excess of 2 Gbps.

b) One unique solution per problem (not two solutions to a problem).

The proposed Alternative PHY Standard will provide a unique solution for an emerging high rate multi-media market. We are unaware of any existing Standard that will apply millimeter-wave technologies to a WPAN.

c) Easy for the document reader to select the relevant specification.

The proposed Alternative PHY Standard will be a distinct document with clearly distinguishable specifications.

4. TECHNICAL FEASIBILITY

a) Demonstrated system feasibility

There have been sufficient test results, numerous demonstrations, and simulations to indicate that the high data rates, quality of service, spectral coexistence management, and PHY management services objectives of the Alternative PHY are feasible.

b) Proven technology, reasonable testing

There are examples of existing millimeter-wave technology that will allow design and fabrication of these radio systems. Error performance testing and simulations at the data rates and distances defined by a WPAN indicate that the performance goal is feasible.

c) Confidence in reliability

The air interface protocol will be designed to meet commercial reliability standards. The data from existing products and prototypes representing the candidate approaches provide confidence in the reliability of the proposed solutions.

5. ECONOMIC FEASIBILITY

a) Known cost factors, reliable data

High volume devices and applications will provide a low cost source of millimeter-wave components.

b) Reasonable cost for performance

Based on test results of prototype systems, the estimates of the size, cost, and power requirements will be met.

c) Consideration of installation costs

The Alternative PHY Standard objectives will have no impact on installation costs.

Moved: to forward the PAR for 802.15.3c to NesCom and approve the five criteria.
Moved: Bob Heile/Stuart Kerry

Clarifications were sought for the data rate and changes being required to the 802.15.3 MAC. It was also pointed out that the coexistence section of the 5 criteria was missing. Bob indicated that the coexistence document would be created by the task group. He also indicated that he would modify the five criteria to include the coexistence statement.

Geoff indicated that he does not believe that a PAR should be forwarded if it does not meet the requirements in our policies and procedures.

Moved: to amend the five criteria of record by adding the coexistence statement required by the policies and procedures.
Moved: Pat Thaler/Bob Grow
Passes: 15/0/0

Main Motion Vote: Passes: 14/0/1

| 5.05 | ME | 802.11w PAR to NesCom | - | Kerry | 5 | 01:40 PM |

PAR FORM

PAR Status: Amendment of Standard (Unapproved PAR)
PAR Approval Date: 0000-00-00
PAR Signature Page on File: No

1. Assigned Project Number: 802.11w

2. Sponsor Date of Request: 2005-02-07

3. Type of Document: Standard for

4. Title of Document:
  Draft: Amendment to Standard [FOR] Information Technology-Telecommunications and
          Information Exchange between systems-Local and Metropolitan networks-Specific
          requirements-Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer
          (PHY) specifications: Protected Management Frames

5. Life Cycle: Full-Use

6. Type of Project:
  6a. Is this an update to an existing PAR? No

  6b. The Project is a: Amendment to Std 802.11

7. Working Group Information:
  Name of Working Group: IEEE P802.11, Working Group for Wireless LANS
  Approximate Number of Expected Working Group Members:450

8. Contact information for Working Group Chair:
  Name of Working Group Chair: Stuart J Kerry
  Telephone: 408-348-3171   **FAX:** 408-474-5343
  Email: stuart@ok-brit.com

**9. Contact information for Co-Chair/Official Reporter, Project Editor or Document
Custodian if different from the Working Group Chair:**
  Name of Co-Chair/Official Reporter, Project Editor or Document Custodian:
  Telephone: FAX:
  Email:

10. Contact information for 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 Nikolich
  Telephone: 857-205-0050   **FAX:** 781-334-2255
  Email: paul.nikolich@att.net
  Name of Liaison Rep. (if different from the Sponsor Chair):

Telephone: FAX:
Email:

Name of Co-Sponsoring Society and Committee:
Name of Co-Sponsoring Committee Chair:
Telephone: FAX:
Email:
Name of Liaison Rep. (if different from the Sponsor Chair):
Telephone: FAX:
Email:

11. The Type of ballot is: Individual Sponsor Ballot
Expected Date of Submission for Initial Sponsor Ballot: March 2007

12. Projected Completion Date for Submittal to RevCom: September 2007
   Target Extension Request Information for a Modified PAR whose completion date is being extended past the original four-year life of the PAR:

13. Scope of Proposed Project:
Enhancements to the IEEE 802.11 Medium Access Control layer to provide, as appropriate, mechanisms that enable data integrity, data origin authenticity, replay protection, and data confidentiality for selected IEEE 802.11 management frames including but not limited to: action management frames, deauthentication and disassociation frames.
Is the completion of this document contingent upon the completion of another document? No

14. Purpose of Proposed Project:
The purpose is to improve the security of some or all IEEE 802.11 management frames by defining enhancements such as data integrity, data origin authenticity, replay protection, and data confidentiality.

15. Reason for the Proposed Project:
The current IEEE 802.11 standard including amendment 'i' (security) addresses security of data frames but systems are still vulnerable to malicious attack because management frames are unprotected. For example, network disruption can be caused by malicious systems generating false information and impersonating valid equipment. The work envisioned in this PAR will reduce the susceptibility of systems to such attack and is of importance to all the current applications of IEEE 802.11 and both existing and anticipated amendments.

16. Intellectual Property:
a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR? Yes 2005-01-18
b. Is the sponsor aware of copyright permissions needed for this project? No
c. Is the sponsor aware of trademarks that apply to this project? No
d. Is the sponsor aware of possible registration activity related to this project? No

17. Are there other documents or projects with a similar scope? No

   Similar Scope Project Information:

18. Is there potential for this document (in part or in whole) to be adopted by another national , regional or international organization? Yes

   If yes, the following questions must be answered:

   Organization Name? ISO/IEC JTC1 SC6 WG1

   Technical
   Committee

   International   Robin Tasker
   Contact   CLRC
   Information? R.Tasker@dl.ac.uk

19. Will this project result in any health, safety, or environmental guidance that affects or applies to human health or safety? No

   If yes, please explain:

20. Sponsor Information

 a. Is the scope of this project within the approved/scope/definition of the Sponsor's Charter? Yes

   If no, please explain:

 b. The Sponsor's procedures have been accepted by the IEEE-SA Standards Board Audit Committee? Yes

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

   The new amendment shall be compatible with the IEEE 802.11 MAC, and will not facilitate, enable or cause violation of regulatory restrictions that would limit its geographical usage. The new extensions shall not conflict with any mandatory portions of the IEEE 802.11 standards and specification and published amendments. IEEE 802.11 Task Group k and the IEEE 802. 11Wireless Network Management Study Group may take advantage of the mechanisms for protecting management frames developed under this PAR.

IEEE P802.11
Wireless LANs

Draft of 5 Criteria for
Advanced Security

Date:

Jan 2005

Author:

Jon Edney et al.
Nokia
jon.1.edney@nokia.com

IEEE 802 Five Criteria

1. BROAD MARKET POTENTIAL

a) Broad sets of applicability.

The IEEE 802.11 standard has been used in a wide range of mainstream business and personal applications. The success of products has resulted in an increased dependency on IEEE802.11 as a primary method for the interconnection of networking equipment. This increased dependence has resulted in a need for assurance that the system will not be disrupted by the actions of unauthorized equipment. Such disruption can be caused by malicious systems generating false information and impersonating valid equipment.

The current IEEE 802.11 standard including amendment 'i' (security) addresses security of data frames but systems are still vulnerable to malicious attack because management frames are

unprotected. At the same time there is an increased dependence on management frames as a result of IEEE802.11 amendments such as IEEE802.11h. Based on the activities of current task groups 'e' and 'k', this trend is likely to continue.

Therefore, by reducing the susceptibility of systems to such attack, the result of the work envisioned in this PAR will be applicable and of importance to all the current applications of IEEE802.11 and both existing and anticipated amendments.

b) Multiple vendors, numerous users.

A wide variety of vendors currently build numerous products for the WLAN marketplace. It is expected that the majority of those vendors, and others, will participate in the standards development process and subsequent commercialization activities.

c) Balanced costs (LAN versus attached stations).

WLAN equipment is accepted as having balanced costs. The addition of management frame protection mechanisms will not disrupt the established balance.

2. COMPATIBILITY

The proposed amendment shall be entirely compatible with the IEEE 802.11 architecture and hence, by extension, compatible with the IEEE 802 architecture, including IEEE 802.1D, IEEE 802.1Q, and IEEE 802.1F.

Compatibility with IEEE 802 requirements will result from keeping the MAC SAP interface the same as for the existing 802.11 standard. The proposed amendment shall introduce no 802.1

architectural changes. The MAC SAP definition shall not be altered ensuring that all LLC and MAC interfaces are compatible to and in conformance with the IEEE 802.1 Architecture, Management and Internetworking standards. Existing managed objects may be augmented or extended as necessary in a format and structure consistent with existing 802.11 managed objects.

3. DISTINCT IDENTITY

a) Substantially different from other 802 Projects

This project will amend IEEE 802.11 to enhance security for IEEE 802.11 Management frames. IEEE 802.11 Management frames are unique to IEEE 802.11, so no other IEEE standard addresses their security.

b) One unique solution per problem (not two solutions to a problem).

IEEE 802.11 Management frames are currently completely unprotected. This amendment will hence be the first solution to address the problem of securing them.

c) Easy for document reader to select the relevant specification.

The project will produce an amendment to the IEEE 802.11 specification.

4. TECHNICAL FEASIBILITY

a) Demonstrated system feasibility.

It is expected that proposed solutions be similar to those already defined for protecting for IEEE 802.11 data frames as those mechanisms prove feasibility.

b) Proven technology, reasonable testing.

The main components of the technology to be developed have precedents proving their feasibility.

c) Confidence in reliability

Protection mechanisms already deployed in current WLAN products provides the confidence in the reliability of the proposed solutions.
Analysis of current WLAN products and of potential candidate approaches provides confidence in the reliability of the proposed solutions. There are currently reliable WLAN solutions. It is envisioned that the proposed amendment will result in similar or improved reliability over current levels.

5. ECONOMIC FEASIBILITY

a) Known cost factors, reliable data.

Support of the proposed amendment will probably require a manufacturer to develop modified firmware and possibly modified drivers, but no hardware. Hardware modifications should not be necessary, due to the relatively low rate of management frames. This is similar in principle to the transition between WEP and TKIP. The cost factors for these transitions are well known and the data for this is well understood.

b) Reasonable cost for performance.

Since only changes in firmware and drivers are called for in the proposed amendment, manufacturers will incur only non-recurring software development costs. Manufacturers have already requested the benefits of the proposed amendment, and are willing to incur the costs.

c) Consideration of installation costs.
The proposed amendment has no known impact on installation costs.

IEEE 802 LMSC RESOLUTION

Motion By: KERRY   Seconded By: HEILE

- *Believing the PAR & 5 Criteria contained in the documents below meet IEEE-SA guidelines,*

- Request to approve the PAR & 5 Criteria contained in 11-04/1245R5 & 11-05/1649R0, as posted to the ExCom agenda, and submit to NesCom for approval.

- Movers:
  ADS-SG: Chaplin/Montemurro   Result: 23-0-4
  WG: Walker/Chaplin   Result: 106-0-2

Moved: to approve the 802.11w PAR and five criteria and submit to NesCom for approval.
Moved: Stuart Kerry/Tony Jeffree

Moved to amend the five criteria of record by stating that the working group will not create a CA document and that the change is a security-only change that does not impact coexistence.
Moved: Pat Thaler/Carl Stevenson
Passes: 16/0/0

Main motion: Passes: 15/0/0

| 5.06 | ME | Conditional approval to forward 802.1Q-REV to RevCom | - | Jeffree | 5 | 01:45 PM |

MOTION

- 802.1 requests conditional approval from the EC, as per current P&P, to forward P802.1Q-REV to Sponsor ballot following completion of recirculation balloting

- 802.1 Proposed: wright   Second: patton
  - For: 14 Against: 0 Abstain: 2

- SEC Proposed: Jeffree, Second:
  - For: Against: Abstain:

P802.1Q-REV: Supporting Information

- First recirc ballot closed 26th Feb
- Voting:
  - 89% approval
  - 4 "No" votes
  - 77% of voters responding
- Comments/Resolutions:
  - See email for location of file.
  - One of the "No" voters, Dirceu Cavendish, has indicated he is not happy with our resolution of his comment; however 3 voters have indicated they would reverse their vote to "No" if his solution was adopted.
- Resolution plan:
  - Recirculation ballot in April timeframe
  - Comment resolution (if necessary) in May Interim meeting
  - Subsequent recirc if necessary

DISPOSITION OF BALLOT COMMENTS ON

IEEE *Draft* P802.1Q-Rev/D2.0

DRAFT IEEE Standard for Local and Metropolitan Area Networks—Virtual Bridged Local Area Networks — Revision

Sponsor

LAN MAN Standards Committee of the IEEE Computer Society

Prepared by: **Tony Jeffree, Project Editor**

Tony Jeffree, 11a Poplar Grove, Sale, Cheshire, M33 3AX, UK
Tel: +44-161-973-4278   Fax: +44-161-973-6534   Email: tony@jeffree.co.uk

Commentary:

This Disposition of Ballot Comments has been prepared to document the ballot comments received in the Working Group ballot on P802.1Q-Rev/D2.0, and to record the resolutions of those ballot comments, agreed during the meeting of 802.1 held in Atlanta, GA, in March 2005. The document contains:

1) A table of responses received.
2) A listing of comments received, each accompanied by a disposition.

This document constitutes a record of the Instructions to the Editor for the preparation of P802.1Q-Rev/ D3.0.

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1. Ballot summary

The following table indicates the status of each ballot response received. Where comments have been received without an accompanying ballot, this is indicated in the ***Comments*** column. The Status column indicates the voting status of the responder. ***V(oting)*** indicates 802.1 voting member at the start of the ballot period. ***N(on-voting)*** indicates a comment only response. ***L(iaison)*** indicates a voting liaison response. The ***Vote*** column indicates the vote cast; Y=Approve, N=Disapprove, T=Abstain due to lack of time, E=Abstain due to lack of expertise, O=Abstain for other reasons, C=Comments only.

STATUS	VOTE	NAME	Comments?
V	y	Brandon Barry	
V	n	Les Bell	y
V		Mike Borza	
V	y	Paul Bottorff	
V	y	Jim Burns	
V	n	Dirceu Cavendish	y
V	y	Paul Congdon	
V	y	Sharam Davari	
V	y	Arjan de Heer	
V	y	Craig Easley	
V	y	Anush Elangovan	
V	y	Hesham Elbakoury	
V	n	David Elie-Dit-Cosaque	y
V	y	Norm Finn	
V	y	David Frattura	
V		Gerard Goubert	
V	y	Steve Haddock	y
V	y	Ran Ish-Shalom	
V		Atsushi Iwata	
V		Neil Jarvis	
V	y	Tony Jeffree	
V	y	Hal Keen	
V	y	Yongbum Kim	
V		Shobhan Lakkapragada	
V		Bill Lane	
V	y	Loren Larsen	
V	y	Yannick Le Goff	
V		Marcus Leech	
V		John Messenger	
V	y	Dinesh Mohan	
V	e	Bob Moskowitz	
V	y	Don O'Connor	
V		Don Pannell	
V	y	Glenn Parsons	
V	y	Ken Patton	
V	e	Karen Randall	
V	y	Allyn Romanow	
V	o	Dan Romascanu	
V	n	Jessy V Rouyer	y
V	y	Ali Sajassi	
V	e	Dolors Sala	
V	e	Sam Sambasivan	
V	y	John Sauer	
V	y	Koichiro Seto	
V	y	Mick Seaman	y
V	y	Muneyoshi Suzuki	
V		Jonathan Thatcher	
V	y	Geoff Thompson	
V		Michel Thorsen	
V	e	John Viega	
V		Preeti Vinayakray-Jani	
V		John Vollbrecht	
V	y	Dennis Volpano	
V	y	Karl Weber	
V	y	Ludwig Winkel	
V	y	Michael D. Wright	
N	c	Anoop Ghanwani	y
N	c	Francois Tallet	y

The results of the ballot can be seen in the following table.

Category	Total	Percentage
Yes	33	89.19%
No	4	10.81%
Abstain	6	13.95%
No. of Voters	56	100.00%
Voters responding	43	76.79%

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2. Ballot Comments

Comment 1   **Mick Seaman**

COMMENT TYPE: Process
CLAUSE: Editor's Foreword
PAGE: 3
LINE:
COMMENT START:
This is a comment to do with the development process and not the final result. However I for one would find it useful if the editor's introduction to the current draft etc. was filled in on the next, pre-sponsor ballot revision. I say this because it is currently dangling at the end, and one has to know to pick up at Annex Z, which will be removed for sponsor ballot. I frequently have cause to examine the audit trail of revision of our standards, usually to determine when and why we made an apparent mistake. The editor's foreword as it notes draft to draft changes is incredibly useful for this purpose, and even filling in the short amount of material called for in Q-REV could be a great help in 5 years time.
COMMENT END:
SUGGESTED CHANGES START:
Complete editor's foreword with necessary material from Annex Z and anything else relevant for the inevitable recirc of the recirc. If a recirc is not required produce an archive "immediately prior to sponsor ballot copy".
SUGGESTED CHANGES END:

Disposition of Comment 1

Accept.

Comment 2   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: Introduction to 802.1Q
PAGE: 7
LINE:
COMMENT START:
While the introduction is not formally part of the standard it should be factually correct. Currently it refers to "this revision of the standard" as incorporating .1u, .1v, and .1s.
COMMENT END:
SUGGESTED CHANGES START:
I would be happy with any description of the current state and development history of 802.1Q that the editor could provide. I believe that this is in scope of changes in this ballot or subsequent to the ballot since the material is not in any case part of the formal standard that we are balloting.
SUGGESTED CHANGES END:

Disposition of Comment 2

Accept in principle. The most recent published Q was an edition (and has never been formally balloted), its status is not really much different from an editor's draft. So formally, this is indeed the point at which those amendments are properly incorporated into the standard. We should clarify the text to indicate that this is the case. "This revision is the result of balloting Q, mumble as a single project. Q and the individual amendments were previosly published collectively as Q 2003 Ed".

Comment 3 **Mick Seaman**

COMMENT TYPE: E
CLAUSE: Figures
PAGE: 19
LINE: 40-50
COMMENT START:
The length of the figure titles for figs 13-14 through 13-17 are so long as to cause a formatting problem in this clause.
COMMENT END:
SUGGESTED CHANGES START:
Remove the "Part n:" designations from the titles of the relevant figures and the trailing "role transitions" as this repeats what is said at the beginning of the figure title.
SUGGESTED CHANGES END:

Disposition of Comment 3

Accept.

Comment 4 **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 1.2
PAGE: 24
LINE: 10
COMMENT START:
Bullet (a) is clearly not a benefit, rather an observation, and the reason it is here at all will be entirely missed by those who do not know the particular development history.
COMMENT END:
SUGGESTED CHANGES START:
I am aware this comment is out of scope of the ballot. Archive it for next time, of for the sponsor ballot.
SUGGESTED CHANGES END:

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Disposition of Comment 4

Accept - remove bullet A.

Comment 5   Mick Seaman

COMMENT TYPE: T
CLAUSE: 1.3
PAGE: 24,25
LINE: 28-
COMMENT START:
This subclause (1.3) has now been entirely superseded for all it useful purposes with the
improvements to clause 5, including those made immediately prior to ballot. It is now just
clutter, at best, and at worst could be found to conflict with Clause 5. Most of Table 1-1
actually deals with informative annexes, which are not "provisions of the standard".
Removing the subclause and Table 1-1 will give us one less thing to keep in sync.
COMMENT END:
SUGGESTED CHANGES START:
Delete clause 1.3 and Table 1-1.
SUGGESTED CHANGES END:

Disposition of Comment 5

Accept.

Comment 6   Mick Seaman

COMMENT TYPE: E
CLAUSE: 2
PAGE: 26
LINE: 47
COMMENT START:
The reference to 802.4 token bus is not used anywhere in this document.
COMMENT END:
SUGGESTED CHANGES START:
Delete this reference. If the comment is out of scope for this ballot raise it for sponsor bal-
lot.
SUGGESTED CHANGES END:

Disposition of Comment 6

Accept.

Comment 7   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 3
PAGE: 28
LINE: -
COMMENT START:
There are chunks of this draft that are not consistent with the note to 3.2, i.e. they do abbreviated part of Bridged Local Area Network to Bridged LAN thus inviting confusion between a single LAN that is bridged to others, and the resulting concatenation or part thereof. I know that this was a result of post-sponsor ballot editorial processing on 1Q-1998 and 1Q-2003. It would be extremely convenient if we could get the terminology lined up with that in .1D-2004 now. In particular there are parts of clause 6 which are exactly the same as the parts of .1D except that "Virtual Bridged Local Area Network" or "Virtual Bridged LAN" has been substituted for "Bridged Local Area Network". In most cases "network" or "bridged network" would do just fine. If the wholesale and slightly incorrect replacement of names by partial abbreviations can be done as an editorial exercise post-sponsor ballot, it should be possible to do it now. It may save some long comments during sponsor ballot, although it could be raised then as an alternative.
COMMENT END:
SUGGESTED CHANGES START:
Add a definition of "Virtual Bridged Local Area Network" to clause 3. It is just "A concatenation of individual IEEE 802 LANs interconnected by bridges, including VLAN-aware Bridges."
In the NOTE to clause 3.2 replace
"the use of the word 'network' in this Standard refers to a Bridged Local Area
Network. The term Bridged Local Area Network is not otherwise abbreviated."
with
"the use of the word 'network' and the term "bridged network" in this Standard refers to a Virtual Bridged Local Area Network or Bridged Local Area Network. The terms Virtual Bridged Local Area Network and Bridged Local Area Network are not otherwise abbreviated."
Throughout the document replace every instance of "Virtual Bridged LAN" or "Bridged LAN" with "network" except in the following cases:

pg 7, l 7 - use "Bridged Local Area Network"
pg 7, l 11 - delete "in Bridged LANs"
pg 7, l 28 - replace "Virtual Bridged LANs" with "Virtual Bridged Local Area Networks"
pg 7, elsewhere - delete "in order to support ..." and "administer Virtual ..." to avoid unnecessary repetition
pg 38, l 4 - "bridged LANs" is exactly what is meant here, and should stay as is.
pg 38, l 49 - use "Virtual Bridged Local Area Network"
pg 44, l 10 - use "bridged networks"
pg 62, l 22 - "bridged LANs" is exactly what is meant here, and should stay as is.
pg 156, l 2 - use ""bridged network"
pg 292, l 6 - use "Bridged Local Area Networks"

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Similarly "VLAN Bridge" is used often when just "bridge" is meant. Replace all occur-
rences of "VLAN Bridge" in Clause 6 with "bridge" except in the following cases:
pg 43, l 32 - leave as is.
SUGGESTED CHANGES END:

Disposition of Comment 7

Accept.

Comment 8   Mick Seaman

COMMENT TYPE: E
CLAUSE: 5.3 (h) and Table 5-1
PAGE: 35
LINE: 12-13 and 26-43
COMMENT START:
Table 5-1 is completely full of "shalls" apart from the not applicable box. It was a way of
beating requirements into skulls one upon a time, but now serves no useful purpose within
the improved Clause 5, an should be removed.
COMMENT END:
SUGGESTED CHANGES START:
Delete the last sentence of bullet (h) and remove Table 5-1.
SUGGESTED CHANGES END:

Disposition of Comment 8

Accept.

Comment 9   Steve Haddock

COMMENT TYPE: E
CLAUSE: 5.3
PAGE: 35
LINE: 3
COMMENT START:
Incorrect reference: specification of Acceptable Frame Types, PVID, and VID
Set parameters have moved to 6.7.
This applies to:
section 5.3 page 35 line 3, 5 (two places)
section 5.3.1 page 36 line 10
section 10.3 page 104 line 11
section 12.10.1.1.3 page 139 lines 15, 21, 22 (three places)
section 12.10.1.2.1 page 139 line 39

section 12.10.1.3.1 page 140 lines 5, 11 (two places)
section 12.10.1.5.1 page 140 line 50
section A.21 page 245 line 50
section A.21 page 246 line 5
COMMENT END:
SUGGESTED CHANGES START:
Change "8.6.2" to "6.7".
SUGGESTED CHANGES END:

Disposition of Comment 9

Accept.

Comment 10   **Steve Haddock**

COMMENT TYPE: E
CLAUSE: 5.3
PAGE: 35
LINE: 7
COMMENT START:
Incorrect reference: Untagged set is specified in 8.8.2.
This applies to:
section 5.3 page 35 line 7
section 5.3.1 page 36 line 12
section 10.3 page 104 line 30
section 12.10.2.1.3 page 142 line 49
section A.21 page 247 line 35
COMMENT END:
SUGGESTED CHANGES START:
Change "(8.6.2 and 8.10.9)" to "(8.8.2)".
SUGGESTED CHANGES END:

Disposition of Comment 10

Accept.

Comment 11   **Steve Haddock**

COMMENT TYPE: E
CLAUSE: 5.3.1.2
PAGE: 37
LINE: 7
COMMENT START:

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Incorrect reference: Protocol based VLANs now in 6.8.
Also applies to section A.21 page 246 lines 16, 19, 21, 25 (four places).
COMMENT END:
SUGGESTED CHANGES START:
Change "(8.6.1 and 8.6.2)" to "(6.8)".
SUGGESTED CHANGES END:

Disposition of Comment 11

Accept.

Comment 12   Anoop Ghanwani

NAME: Anoop Ghanwani
COMMENT TYPE: E
CLAUSE: 6
PAGE: 38
LINE: 24
COMMENT START:
IEE should be IEEE.
COMMENT END:
SUGGESTED CHANGES START:
Change it.
SUGGESTED CHANGES END:

Disposition of Comment 12

Accept.

Comment 13   Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 6.3.2
PAGE: 41
LINE: 4
COMMENT START:
This statement conflicts with NOTE 1 on page 40 which says that admission control is
beyond the scope of this standard. Rate-limit is a form of admission control.
COMMENT END:
SUGGESTED CHANGES START:
Remove the statement from NOTE 1.
SUGGESTED CHANGES END:

Disposition of Comment 13

Accept.

Comment 14   Mick Seaman

COMMENT TYPE: E
CLAUSE: 6.3.6
PAGE: 42
LINE: 28
COMMENT START:
The conformance requirements do not use "must", however given its status in IETF documents its use id to be avoided in this standard as it creates ambiguity. Moreover its implication is only indirect in this sentence.
COMMENT END:
SUGGESTED CHANGES START:
Delete "must".
SUGGESTED CHANGES END:

Disposition of Comment 14

Accept.

Comment 15   Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 6.3.9
PAGE: 43
LINE: 44
COMMENT START:
This statement says something to the effect of end-to-end significance of priority. Yet, a few paragraphs later starting line 53, the draft says that priority can be overwritten under management control.
COMMENT END:
SUGGESTED CHANGES START:
The statement about maintenance of priority end-to-end should be removed to maintain consistency.
SUGGESTED CHANGES END:

Disposition of Comment 15

Accept.

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Comment 16   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 6.3.9
PAGE: 43
LINE: 45
COMMENT START:
The use of access_priority is a hangover.
COMMENT END:
SUGGESTED CHANGES START:
Replace "of priority to access priority" with "of priority to the priority requested from the individual LAN or supporting service".
SUGGESTED CHANGES END:

Disposition of Comment 16

Accept.

Comment 17   **Steve Haddock**

COMMENT TYPE: E
CLAUSE: 6.7
PAGE: 49
LINE: 32 and 49
COMMENT START:
Incorrect references.
COMMENT END:
SUGGESTED CHANGES START:
In line 32, change "VLAN tag type specified in 9.2" to "VLAN tag type specified in 9.5".
In line 49 change "type used to support the EISS (6.7, 9.3)" to "type used to support the EISS (9.5)".
SUGGESTED CHANGES END:

Disposition of Comment 17

Accept.

Comment 18   **Steve Haddock**

COMMENT TYPE: T
CLAUSE: 6.7.1
PAGE: 50
LINE: 10

COMMENT START:
There was text in clause 9.9 of draft 3.0 and 4.0 of 802.1ad that indicates it is a change to existing text in 802.1Q-REV, however this text does not appear in 802.1Q-REV draft 1.0 or 2.0. As it pertains to potentially discarding received frames with invalid VLAN tag formats, I believe it is more appropriate to include in clause 6.7.1 with the other conditions for discarding received frames based on ingress filtering. The text included a check of the validity of the E-RIF field when the CFI bit is set. It seems to me that this check should only be done when the E-RIF field is actually being used (either for source routing or if translation is required based on the underlying media access control method), and therefore it is not appropriate to require the check in 6.7.1.

COMMENT END:
SUGGESTED CHANGES START:
Change the opening paragraph of 6.7.1 to read:
"On receipt of an M_UNITDATA.indication primitive from the Internal Sublayer Service, the received frame is discarded if:

a) the initial octets of the mac_service_data_unit do not contain a valid VLAN tag type (9.5) and the Acceptable Frame Types is Admit Only VLAN-tagged frames; or
b) the initial two octets of the mac_service_data_unit contain a valid VLAN tag type (9.5) and

   1) there are fewer than two octets following the type; or
   2) the VID value is FFF, reserved in Table 9-2 for future implementation use; or
   3) the VID value is 000 (indicating priority-tagged) and the Acceptable Frame Types is Admit Only VLAN-tagged frames; or
    4) the VID value is in the range 001-FFE and the Acceptable Frame Types is Admit only Untagged and Priority-tagged frames."

Perhaps (but I recommend not) add:
"   5) the CFI bit is set and the the subsequent octets of the mac_service_data_unit do not include a properly encoded E-RIF field (9.7)."

SUGGESTED CHANGES END:

Disposition of Comment 18

Accept in principle. Edit as follows:
"On receipt of an M_UNITDATA.indication primitive from the Internal Sublayer Service, the received frame is discarded if:

a) the initial octets of the mac_service_data_unit do not contain a valid VLAN tag header (9.3) of the type used to support the EISS (9.5) and the Acceptable Frame Types is Admit Only VLAN-tagged frames; or

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b) the initial two octets of the mac_service_data_unit contain a valid VLAN tag header (9.3) or the type used to support the EISS (9.5) and

       1) the VID value is FFF, reserved in Table 9-2 for future implementation use; or

       2) the VID value is 000 (indicating priority-tagged) and the Acceptable Frame Types is Admit Only VLAN-tagged frames; or

       3) the VID value is in the range 001-FFE and the Acceptable Frame Types is Admit only Untagged and Priority-tagged frames."

Comment 19   **Steve Haddock**

COMMENT TYPE: T
CLAUSE: 6.7.2
PAGE: 51
LINE: 28
COMMENT START:
Text refers to include_tag parameter, which has been removed from the document, and a Service VLAN tag, which anticipates 802.1ad.
COMMENT END:
SUGGESTED CHANGES START:
Change: "and the value of the include_tag parameter is False or the tag to be used is a Service VLAN tag (S-TAG), then" To: "and no tag header is to be inserted, then"
SUGGESTED CHANGES END:

Disposition of Comment 19

Accept.

Comment 20   **Anoop Ghanwani**

COMMENT TYPE: E
CLAUSE: 7.2
PAGE: 58
LINE: 23
COMMENT START:
Statement (b) is true only when using IVL.
COMMENT END:
SUGGESTED CHANGES START:
Clarify this, especially the part about addresses being treated differently per-VLAN.
SUGGESTED CHANGES END:

Disposition of Comment 20

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Comment 21   Mick Seaman

COMMENT TYPE: E
CLAUSE: 7.4
PAGE: 60
LINE: 11
COMMENT START:
Please make sure the occurrence of "VLAN-Bridged LAN" is dealt with in the clean up of "Bridged LAN" in general.
COMMENT END:
SUGGESTED CHANGES START:
SUGGESTED CHANGES END:

Disposition of Comment 21

Accept.

Comment 22   Mick Seaman

COMMENT TYPE: E
CLAUSE: 7.5
PAGE: 60
LINE: 54
COMMENT START:
With the changes following the last ballot it is no longer just the Forwarding Process that controls the listed results.
COMMENT END:
SUGGESTED CHANGES START:
Delete "by the Forwarding Process (8.6) of".
SUGGESTED CHANGES END:

Disposition of Comment 22

Accept.

Comment 23   Mick Seaman

COMMENT TYPE: E

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CLAUSE: 7.5
PAGE: 61
LINE: 43 (NOTE 2)
COMMENT START:
With the changes following the last ballot NOTE 2 is no longer accurate. What is more
NOTE 4 (misnumbered) is really a note to a note, which is unnecessary. Also the second
NOTE 1 has clearly been overtaken by the passage of time and .1w.
COMMENT END:
SUGGESTED CHANGES START:
Delete the second NOTE 1, NOTE 2, and NOTE 4. (There was no NOTE 3).
SUGGESTED CHANGES END:

Disposition of Comment 23

Accept.

Comment 24   Steve Haddock

COMMENT TYPE: E
CLAUSE: 8.1.7
PAGE: 64
LINE: 37
COMMENT START:
Incorrect reference: Untagged set is specified in 8.8.2.
COMMENT END:
SUGGESTED CHANGES START:
Change "(8.8.1, 6.7.2)" to "(8.8.2, 6.7.2)".
SUGGESTED CHANGES END:

Disposition of Comment 24

Accept.

Comment 25   Steve Haddock

COMMENT TYPE: E
CLAUSE: 8.3
PAGE: 66
LINE: 51
COMMENT START:
In Figures 8-3, 8-4, 8-6, and 8-7, change "802.X" to "802.n" to make consistent with Fig-
ures 8-2 and 6-1.
COMMENT END:

SUGGESTED CHANGES START:
Change "802.X" to "802.n".
SUGGESTED CHANGES END:

Disposition of Comment 25

Accept.

Comment 26   Steve Haddock

COMMENT TYPE: E
CLAUSE: 8.3
PAGE: 66
LINE: 21
COMMENT START:
Some of the figures in this section are not obviously related to the text of the section.
COMMENT END:
SUGGESTED CHANGES START:
Change:
 "b) The LLC Entity or Entities that support Higher Layer Entities."
To:
"b) The LLC Entity and Higher Layer Entities such as:
     1) Spanning Tree Protocol
     2) Generic Attribute Registration Protocol
     3) Bridge Management"
Also move the paragraph and note preceding the sentence beginning with "Figure 8-5 ..."
to before the sentence beginning with "Figure 8-7 ..."
SUGGESTED CHANGES END:

Disposition of Comment 26

Accept.

Comment 27   Steve Haddock

COMMENT TYPE: E
CLAUSE: 8.6.2
PAGE: 71
LINE: 54
COMMENT START:
The sentence "A VLAN-aware Bridge shall not translate VIDs." offers little value in this
standard because the concept of translating VIDs has not been introduced (and the stan-
dard does not as a rule try to list everything that could conceivably be done and specifi-

cally disallow it). I think it was added in anticipation of 802.1ad changing it to specify a VID translation table, but I'm going to be submitting a comment in the .1ad ballot that this is not the appropriate place in the document for the VID translation table.
COMMENT END:
SUGGESTED CHANGES START:
Delete the sentence.
SUGGESTED CHANGES END:

Disposition of Comment 27

Accept.

Comment 28   **Steve Haddock**

COMMENT TYPE: T
CLAUSE: 8.6.4
PAGE: 72
LINE: 51
COMMENT START:
As currently written flow metering applies to all frames for which the set of potential transmission ports is not empty, after having reduced the set of potential transmission ports on the basis of:
    8.6.1 active topology enforcement,
    8.6.2 ingress VLAN rules, and
    8.6.3 filtering on the basis of Forwarding Data Base entries,
but before reducing the set of potential transmission ports on the basis of:
    8.6.5 egress VLAN rules.
Metering should not apply to frames that are discarded due to the egress rules.
COMMENT END:
SUGGESTED CHANGES START:
Reverse the order of 8.6.4 and 8.6.5.

Change the first sentence of "8.6.4 Egress":
"The Forwarding Process shall further reduce the set of potential transmission ports for each received frame by eliminating any ports that are not in the Member Set (8.8.9) for the frame's VID, and then queue the received frame to each port remaining the the set of potential transmission ports."

Change the first sentence of "8.6.5 Flow classification and metering" from:
"... (as determined by 8.6.2, 8.6.1, and 8.6.3 above) ..." to:
"... (as determined by 8.6.1, 8.6.2, 8.6.3, and 8.6.4 above) ..."
SUGGESTED CHANGES END:

Disposition of Comment 28

Accept.

Comment 29   Steve Haddock

COMMENT TYPE: E
CLAUSE: 8.6.7
PAGE: 74
LINE: 31
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Change "manging" to "managing".
SUGGESTED CHANGES END:

Disposition of Comment 29

Accept.

Comment 30   Steve Haddock

COMMENT TYPE: T
CLAUSE: 8.7
PAGE: 75
LINE: 4
COMMENT START:
Text says that learning follows active topology enforcement, which used to come after application of the ingress rules (ingress filtering based on VID and the corresponding VLAN's Member Set). In draft 2.0 the order of ingress rules and active topology enforcement was reversed, which means that now the ingress rules are not applied prior to learning. I believe this was an unintended technical change in the learning process.
COMMENT END:
SUGGESTED CHANGES START:
Change: "following active topology enforcement"
To: "following the application of ingress rules (8.6.2)"
SUGGESTED CHANGES END:

Disposition of Comment 30

Accept.

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Comment 31   **Steve Haddock**

COMMENT TYPE: E
CLAUSE: 8.8.2
PAGE: 79
LINE: 10
COMMENT START:
With the removal of the include_tag parameter and moving the determination of whether a
frame is to be transmitted tagged or untagged from the the Forwarding Process to the sup-
port of the EISS, it seems architecturally inconsistent to have the Untagged set be part of
the filtering database. It would be more appropriate to have a list of untagged VLANs per
port as a port parameter, than a list of untagged ports per VLAN as a filtering data base
parameter. However the ripple effect of making this change would extend to many parts
of the document as well as changing the managed objects, and it probably isn't worthwhile
just for architectural purity.
COMMENT END:
SUGGESTED CHANGES START:
Discuss whether it is worth making this change.
SUGGESTED CHANGES END:

Disposition of Comment 31

Reject. Steve's observation on the architectural issue is correct; however, it would cause
considerable churn.

Comment 32   **Glenn Parsons**

COMMENT TYPE: T
CLAUSE: 8.12
PAGE:
LINE:
COMMENT START:
As a result of the sun setting of MIB work in the IETF to support 802.1Q and others, sev-
eral RFCs and pointers to Internet Drafts have been added here. However, some of this is
unstable and non-existant.

COMMENT END:

SUGGESTED CHANGES START:

I do not believe we can reference unstable Internet Drafts in the normative part of an IEEE
standard. As a result, the information in the notes should probably be moved to an infor-
mative annex on MIBs.

Further, there is no MIB for MSTP. This should be indicated in the text and a PAR initiated to create one (if we do not want to hold back QREV to do it).

SUGGESTED CHANGES END:

Disposition of Comment 32

Accept in principle. See Disposition of Comment 44 on page 29.

Comment 33   Mick Seaman

COMMENT TYPE: E
CLAUSE: 8.13.7
PAGE:
LINE:
COMMENT START:
COMMENT END:
SUGGESTED CHANGES START:
Replace "SNBM" with "SNMP"
SUGGESTED CHANGES END:

Disposition of Comment 33

Accept.

Comment 34   Les Bell

COMMENT TYPE: E
CLAUSE: 8.13.7
PAGE: 92
LINE: 28
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Replace "SNBM" with "SNMP".
SUGGESTED CHANGES END:

Disposition of Comment 34

Accept.

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Comment 35   **Mick Seaman**

COMMENT TYPE: E
CLAUSE:8.13.9
PAGE: 95
LINE: 39
COMMENT START:
Capitalize the initial "U" and "C" of "Uncontrolled Port" and "Controlled Port". These
names are used as proper nouns and capitalized everywhere else they appear (in other doc-
uments).
COMMENT END:
SUGGESTED CHANGES START:
SUGGESTED CHANGES END:

Disposition of Comment 35

Accept.

Comment 36   **Les Bell**

COMMENT TYPE: E
CLAUSE: 9.6
PAGE: 101
LINE: 12
COMMENT START:
Typo at the beginning of bullet (d).
COMMENT END:
SUGGESTED CHANGES START:
Replace "In" with "If".
SUGGESTED CHANGES END:

Disposition of Comment 36

Accept.

Comment 37   **Dirceu Cavendish**

COMMENT TYPE: TR
CLAUSE: 9
PAGE: 98
LINE: all
COMMENT START:

Comment 44 on D1.0 ballot requested a "tagged frame format". The comment was rejected on the basis that "it was unclear to the group the scope of such diagram should be – just the tag, or the entire frame." However, the "suggested change" of the aforementioned ballot comment reads: "Include in Clause 9 a picture depicting the tagged frame format". It is therefore very specific, it requests a picture of a tagged frame format for .1q bridges, the entire frame. The commenter therefore does not agree with the reason for rejection.
COMMENT END:
SUGGESTED CHANGES START:
Include in Clause 9 a diagram of a tagged frame format supported by 802.1q bridges.
SUGGESTED CHANGES END:

Disposition of Comment 37

Reject. Although not mentioned in the previous disposition, the discussion of this item in the meeting made the observation that "Include in Clause 9 a picture depicting the tagged frame format" is not actually specific, as the Q-tag is just one possible tag that can be added to a frame. It is therefore a non-trivial task to draw a generalized diagram that shows all the possible ways that the Q-tag might appear in a frame, in relation to other possible tags. Maintaining such a diagram as we go forward with future, and possibly parallel amendments and related standards, would create a continuous and unrewarding burden of effort on the committee and its editors.

Comment 38   **Steve Haddock**

COMMENT TYPE: T
CLAUSE: 9.7
PAGE: 102
LINE: 6
COMMENT START:
Text refers to the include_tag parameter which ahs been removed from the document. Stating "the include_tag parameter True" is actually unnecessary since the text describes how to encode an embedded RIF field which would not exist if the frame were not to be tagged.
COMMENT END:
SUGGESTED CHANGES START:
Delete "and the include_tag parameter True"
SUGGESTED CHANGES END:

Disposition of Comment 38

Accept.

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Comment 39   **Mick Seaman**

NAME: Mick Seaman
COMMENT TYPE: T
CLAUSE: 12.8.2.1.3
PAGE: 132
LINE:
COMMENT START:

Add the NOTE (possibly revised) from 802.1D Clause 7.4 to explain the relationship
between the State used in bullet (b) and the actual Port States of Discarding, Learning, and
Forwarding that are described in clause 8.4 of this document.
Include the Port Role in the list of output parameters, instead of forcing the administrator
to work it out from the evidence provided.
Include the value of the disputed flag.
COMMENT END:
SUGGESTED CHANGES START:
SUGGESTED CHANGES END:

Disposition of Comment 39

Accept.

Comment 40   **Mick Seaman**

COMMENT TYPE: T
CLAUSE: 12.8.2.2.3
PAGE: 132
LINE:
COMMENT START:
Include the Port Role in the list of output parameters.
Include the value of the disputed flag.
COMMENT END:
SUGGESTED CHANGES START:
SUGGESTED CHANGES END:

Disposition of Comment 40

Accept.

Comment 41   **Steve Haddock**

COMMENT TYPE: T

CLAUSE: 12.10.2.1.3

PAGE: 142

LINE: 48

COMMENT START:

Port numbers are members of the Member/Untagged set of a VLAN; VLANs are not members of the Member/Untagged set of a Port. Also, reference is wrong.

COMMENT END:

SUGGESTED CHANGES START:

Change:

"b) List of Untagged Ports: The set of Port numbers for which this VLAN ID is a member of the Untagged set (8.8.9) for that Port;

c) List of Egress Ports: The set of Port numbers for which this VLAN ID is a member of the Member set (8.8.9) for that Port."

To:

"b) List of Untagged Ports: The set of Port numbers in the Untagged set (8.8.2) for this VLAN ID;

c) List of Egress Ports: The set of Port numbers in the Member set (8.8.9) for this VLAN ID."

SUGGESTED CHANGES END:

Disposition of Comment 41

Accept.

Comment 42   **Mick Seaman**

COMMENT TYPE: E

CLAUSE: Fig 13-1

PAGE:

LINE:

COMMENT START:

It would be much more convenient for the reader if this diagram was in a frame that took up the whole page, thus avoiding orphaning bullet (c).

COMMENT END:

SUGGESTED CHANGES START:

Do it.

SUGGESTED CHANGES END:

Disposition of Comment 42

Accept.

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Comment 43   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 13
PAGE: 155-213
LINE:
COMMENT START:
Remove the various editors notes in << >> brackets from the diagrams.
COMMENT END:
SUGGESTED CHANGES START:
SUGGESTED CHANGES END:

Disposition of Comment 43

Accept.

Comment 44   **Dan Romascanu**

NAME: Dan Romascanu
COMMENT TYPE: T
CLAUSE: 13
PAGE: 155 and following
LINE:
COMMENT START:
My comment 53 in the previous ballot still stands. There is no SMIv2 MIB module for
management of MSTP by SNMP. I believe that this standard is incomplete without defin-
ing such a MIB module, and inconsistent with the WG decision to include SMIv2 MIB
modules in the management sections of all 802.1 standards not covered by the IETF
Bridge MIB WG work. The reason for rejecting the comment was 'no proposed text is pro-
vided'. I cannot accept this reason, as 'the proposed text' is a full section / MIB module and
it was the editor's task to fill it in.
COMMENT END:
SUGGESTED CHANGES START:
I am aware about the difficulties in recruiting a committed editor for the MIB section and I
do not intent to stall the approval of the standard. For this reason I am not casting a Disap-
prove vote, and I lowered the type of the comment to a T instead of a TR. However, I
believe that at a minimum a place holder subsection or a note must be included in Section
13 stating: 'This version of the standard is not fully complete in what concerns the man-
agement model for MSTP. Management of networks and bridges supporting MSTP is pos-
sible, but the management operations may be complex in the absence of a standard
management data model and protocol interface to ensure interoperability with manage-
ment applications. The Working Group intents to standardize in the future a revision of the
standard that will include a SMIv2 MIB module for management of MSTP by SNMP.'
SUGGESTED CHANGES END:

Disposition of Comment 44

Accept in principle.
1) Change "...modules defined in the following standards:" to "modules specified in the following documents:" in 8.12
2) Add a note to balloters in 8.12 that the following are expected to be approved before publication. IEEE Editors please update appropriately, or to remove the reference if necessary."
3) Add a NOTE after 8.12 d) along the following lines:
NOTE—This version of the standard is not fully complete in what concerns the management model for MSTP. Management of networks and bridges supporting MSTP is possible, but the management operations may be complex in the absence of a standard management data model and protocol interface to ensure interoperability with management applications. The Working Group intends to standardize in the future a revision of the standard that will include a SMIv2 MIB module for management of MSTP by SNMP.

Comment 45   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.11, NOTE 1
PAGE: 170
LINE:
COMMENT START:
The note is out of date. It should refer to the "agree" flag not to "agreed", at present it is true but uninteresting. Also needs to be updated to account for the change to retain information if "better or same" not just "same".
COMMENT END:
SUGGESTED CHANGES START:
Replace "agreed" with "agree" and "not the same as" with "not better than or the same as".
SUGGESTED CHANGES END:

Disposition of Comment 45

Accept.

Comment 46   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.12
PAGE: 171
LINE: 42-44
COMMENT START:
Re the editor's note question. Do not refer to 802.1D but include the relevant text here.
COMMENT END:

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SUGGESTED CHANGES START:
As per comment.
SUGGESTED CHANGES END:

Disposition of Comment 46

Accept.

Comment 47   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 13.14
PAGE: 174
LINE: 4
COMMENT START:
The two "may"s in this paragraph refer to mandatory requirements, not to options.
COMMENT END:
SUGGESTED CHANGES START:
Replace both instance of "may" with "shall".
SUGGESTED CHANGES END:

Disposition of Comment 47

Accept.

Comment 48   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 13, Editor's note question
PAGE: 175
LINE: 10-12
COMMENT START:
Retaining a complete blow by blow history is too complex. Simplification rather than addition should be the result of the passage of time. The second NOTE is really a justifica-tion, since MSTP has already been standardized and no further change to the BPDU for-mat is proposed at this revision it can be removed.
COMMENT END:
SUGGESTED CHANGES START:
Delete NOTE 2. Replace NOTE 1 with the following:
NOTE 1—Use of a separate hop count and message loss detection timer provides superior reconfiguration performance compared to the original use of Message Age and Max Age by STP. Detection of loss of connectivity to a neighboring Bridge is not compromised by the need to allow for the overall diameter of the network, nor does the time allowed extend

the number of hops permitted to aged recirculating information. Management calculation of the necessary parameters for custom topologies is also facilitated, as no allowance needs to be made for relative timer jitter and accuracy in different Bridges. MSTP and RSTP (as standardised in IEEE Std 802.1D-2004) treat the CST Message Age field as a hop count.
SUGGESTED CHANGES END

Disposition of Comment 48

Accept.

Comment 49   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.16 NOTE-5, Editor's Note
PAGE: 180
LINE: 20-24
COMMENT START:
NOTE 5 is out of date, and this is not a suitable place to detail all the refinements made to the Topology Change Machine.
COMMENT END:
SUGGESTED CHANGES START:
Delete NOTE 5 and the following Editor's note.
SUGGESTED CHANGES END:

Disposition of Comment 49

Accept.

Comment 50   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.16
PAGE: 180
LINE: 37
COMMENT START:
Missing "and"
COMMENT END:
SUGGESTED CHANGES START:
Replace "loops, do not cause" with "loops, and do not cause"
SUGGESTED CHANGES END:

Disposition of Comment 50

Accept.

Comment 51   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.17 Editor's note
PAGE: 181
LINE: 8
COMMENT START:
I believe the contents of this clause are accurate, and should not be extended to detail the
changes in the TCM.
COMMENT END:
SUGGESTED CHANGES START:
Delete the editor's note.
SUGGESTED CHANGES END:

Disposition of Comment 51

Accept.

Comment 52   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.19
PAGE: 181
LINE: 45-46
COMMENT START:
Bullet (4) refers back to RSTP per 802.1D-2004 and is no longer true, RSTP has the same
capabilities now.
COMMENT END:
SUGGESTED CHANGES START:
Delete bullet 4) and its text.
SUGGESTED CHANGES END:

Disposition of Comment 52

Accept.

Comment 53   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 13.19 Editor's note
PAGE: 181, 182
LINE: 52-, 7-
COMMENT START:
Update to meet goals of the editor's note. This is easy since the paragraph beginning pg 181, line 48 already says what is required. It is just necessary to remove the following paragraph.
COMMENT END:
SUGGESTED CHANGES START:
Remove the paragraph beginning pg 181, line 52 and the editor's note beginning pg 182, line 7.
SUGGESTED CHANGES END:

Disposition of Comment 53

Accept.

Comment 54   **Jessy V Rouyer**

COMMENT TYPE: ER
CLAUSE: 13.19
PAGE: 181
LINE: 23
COMMENT START:
The Port Timers state machine is said to be "for the Bridge", while it is actually defined on a per-Port basis as specified in 13.27.
COMMENT END:
SUGGESTED CHANGES START:
Replace "for the Bridge" by "for each Port".
SUGGESTED CHANGES END:

Disposition of Comment 54

Accept.

Comment 55   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: Figure 13-9.
PAGE: 183

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LINE: 1
COMMENT START:
The figure needs to be updated to reflect the revised state machines included for this bal-
lot. I have supplied the editor with a revised figure with the following modifications:
1. The flags rcvdTc, rcdvTcn, rcvdTcAck are actually 'owned' and set by PIM not by PRX.
2. The unused initPm variables has been removed from PPM.
3. portEnabled is input to PPM.
4. PRX can set edgeDelayWhile and operEdge, now shown and communicated to BDM.
5. fdbFlush (in TCM) is per TREE, not per port. Now shown , previously missing from
figure. Needs accompanying change to move bullet (b) of 13.24 to the per tree part of the
list.
6. BDM uses proposing from PRT.
7. BDM uses sendRSTP (logically from PPM, but not shown connected all the way
because of the spaghetti wiring problem).
8. newInfoCist and newInfoMsti logically belong to PTX, now shown.
9. PIM can clear proposing, now shown with other variables communicated to PRT.
10. disputed was missing from variables set by PRX and communicated to PRT. Also
added to PRT variables.
11. PTX does not use ForceVersion directly, only as in sendRSTP from PPM.
12. PRT doesn't use ForceVersion, only as it results in the value of forwardDelay, which is
now shown as an input.
13. Added xst prefix to designated... communicated to PTX.
14. learn and forward given a home in PRT, with learning and forwarding added to PST.
15. TCM uses learn, learning, forward - now shown.
16. BDM now added (I think that was one of Les's comments).
17. proposing didn't have a home, now added to PRT.
COMMENT END:
SUGGESTED CHANGES START:
Replace the figure with the proposed revised figure, including the above changes.
SUGGESTED CHANGES END:

Disposition of Comment 55

Accept.

Comment 56   **Les Bell**

COMMENT TYPE: TR
CLAUSE: 13.19
PAGE: 183
LINE: 1-40
COMMENT START:
This diagram does not include the Bridge Detection state machine.
COMMENT END:
SUGGESTED CHANGES START:

Add it,
SUGGESTED CHANGES END:

Disposition of Comment 56

Accept.

Comment 57   **Jessy V Rouyer**

COMMENT TYPE: E
CLAUSE: 13.22
PAGE: 184
LINE: 51
COMMENT START:
Admin Edge Port should take a recommended value of FALSE as a default, which is the default value recommended in Clause 18.3.3 of IEEE Std 802.1t-2001. However the specification of RSTP in IEEE Std 802.1D-2004, on which this MSTP specification is based, does not provide such a default value.
COMMENT END:
SUGGESTED CHANGES START:
Add a Note to indicate that the recommended default value of Admin Edge Port is FALSE.
SUGGESTED CHANGES END:

Disposition of Comment 57

Accept.

Comment 58   **Mick Seaman**

COMMENT TYPE: T
CLAUSE: 13.22 Editor's note
PAGE: 185
LINE: 6
COMMENT START:
As the editor's note says, MaxHops is nowhere formally defined. Although its use is described.
COMMENT END:
SUGGESTED CHANGES START:
Add a new subclause '13.22.1 Max Hops', defining MaxHops as the initial value of remaining Hops for MSTI information generated at the boundary of an MSTI region and referencing 13.2.3.7 (root Times).
Delete the editor's note.
SUGGESTED CHANGES END:

Disposition of Comment 58

Accept.

Comment 59   Les Bell

COMMENT TYPE: E
CLAUSE: 13.22
PAGE: 184
LINE: 47
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Replace "parameter is" with "parameters are".
SUGGESTED CHANGES END:

Disposition of Comment 59

Accept.

Comment 60   Les Bell

COMMENT TYPE: T
CLAUSE: 13.22
PAGE: 185
LINE: 6
COMMENT START:
The definition for MaxHops is mising.
COMMENT END:
SUGGESTED CHANGES START:
Add the following definition:
"The maximum number of hops from the Root Bridge to the most distant Bridge in the
supported Spanning Tree topology. A hop is the link from one Bridge to the next."
SUGGESTED CHANGES END:

Disposition of Comment 60

Accept in principle - see Disposition of Comment 58 on page 36.

Comment 61   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: 13.24
PAGE: 187
LINE: 38/39
COMMENT START:
There is separate instance of the fdbFlush variable per tree, as is clear from the new TCM. Whether the implementation can flush just learnt information for a single tree is an implementation issue, since we have not changed the specification in that area at this ballot it appears to be out of scope.
COMMENT END:
SUGGESTED CHANGES START:
Move bullet (b) to the list that currently begin with bullet (t).(next page)
SUGGESTED CHANGES END:

Disposition of Comment 61

Accept.

Comment 62   **David Elie-dit-Cosaque**

NAME: David Elie-dit-Cosaque
COMMENT TYPE: ER
CLAUSE: 13.24.4
PAGE: 189
LINE: 45
COMMENT START:
The use of "cist" in "cistDesignatedTimes" is now obsolete.
COMMENT END:
SUGGESTED CHANGES START:
Rename this subclause to "designatedTimes".
SUGGESTED CHANGES END:

Disposition of Comment 62

Accept.

Comment 63   **Jessy V Rouyer**

COMMENT TYPE: TR
CLAUSE: 13.24.4
PAGE: 189

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LINE: 48
COMMENT START:
The "HelloTime, " component is missing after "ForwardDelay, ".
COMMENT END:
SUGGESTED CHANGES START:
Insert "HelloTime, " after "ForwardDelay, ".
SUGGESTED CHANGES END:

Disposition of Comment 63

Accept.

Comment 64   Les Bell

COMMENT TYPE: T
CLAUSE: 13.24.11
PAGE: 190
LINE: 50-54
COMMENT START:
The editor's note is correct, this conflicts with updtRcvdInfoWhile().
COMMENT END:
SUGGESTED CHANGES START:
remainingHops should be set to MaxHops.
Delete the Editor's note.
SUGGESTED CHANGES END:

Disposition of Comment 64

Accept.

Comment 65   Les Bell

COMMENT TYPE: E
CLAUSE: 13.24.11
PAGE: 191
LINE: 1-4
COMMENT START:
Clarify the origin of the remainingHops value used.
COMMENT END:
SUGGESTED CHANGES START:
Replace "received with message priority components" with "received in the same BPDU
as the message priority components".
Delete the Editor's note.

SUGGESTED CHANGES END:

Disposition of Comment 65

Accept.

Comment 66   Les Bell

COMMENT TYPE: E
CLAUSE: 13.24.16
PAGE: 191
LINE: 45
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Replace "for each MSTI may differ for each MSTI" with "for each MSTI may differ".
SUGGESTED CHANGES END:

Disposition of Comment 66

Accept.

Comment 67   Francois Tallet

COMMENT TYPE: E
CLAUSE: 13.25.8
PAGE: 193
LINE: 37
COMMENT START:
A cut & paste typo in the MigrateTime parameter definition.
COMMENT END:
SUGGESTED CHANGES START:
The migrate time parameter (17.13.9 of Std 802.1D).
SUGGESTED CHANGES END:

Disposition of Comment 67

Accept.

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Comment 68   Jessy V Rouyer

COMMENT TYPE: ER
CLAUSE: 13.26.5
PAGE: 196
LINE: 21, 26
COMMENT START:
The use of "Cist" in "newInfoCist" is now obsolete.
COMMENT END:
SUGGESTED CHANGES START:
Rename "newInfoCist" to "newInfo".
SUGGESTED CHANGES END:

Disposition of Comment 68

Accept.

Comment 69   Mick Seaman

COMMENT TYPE: T
CLAUSE: 13.26.6
PAGE: 196
LINE: 30
COMMENT START:
Processing received TCN BPDUs has got lost in the changes. Add in received TCN recog-
nition at the start of this procedure. Note that procedure can still return OtherInfo.
COMMENT END:
SUGGESTED CHANGES START:
Replace the following text which starts the first paragraph of the clause:
"Decodes, for a given Port and Tree (CIST, or MSTI), the message priority ..."
with:
"Decodes received BPDUs. Sets rcvdTcn if a TCN BPDU has been received, and extracts
the message priority ..."
SUGGESTED CHANGES END:

Disposition of Comment 69

Accept.

Comment 70   Mick Seaman

COMMENT TYPE: T
CLAUSE: 13.26.6, Editor's note

PAGE: 196, 197
LINE:
COMMENT START:
The referenced suggested replacement text is not quite right. The change to add "other than Message" age should be removed, and the condition b) 2) should be "infoIs is Received" instead of "infoIs is Mine".
COMMENT END:
SUGGESTED CHANGES START:
Change the existing text as follows:
On line 49, replace "Returns ..." with "Otherwise, returns ..." and break the sentence after "Role, and" with the remainder of the sentence becoming sub-bullet 1)
Add sub-bullet 2) to read: "infoIs is Received".
On line 49, replace "Returns ..." with "Otherwise, returns ..." and delete the rest of the sentence beginning on line 51 after "Designated Port Role". On line 54, replace "Returns ..." with "Otherwise, returns ...".
SUGGESTED CHANGES END:

Disposition of Comment 70

Accept.

Comment 71   **Les Bell**

COMMENT TYPE: E
CLAUSE: 13.26.6
PAGE: 196
LINE: 47
COMMENT START:
Both the priority vector and timer values must be the same to indicated RepeatedDesignatedInfo.
COMMENT END:
SUGGESTED CHANGES START:
Replace "port priority vector or timer values" with "port priority vector and timer values".
SUGGESTED CHANGES END:

Disposition of Comment 71

Accept.

Comment 72   **Francois Tallet**

COMMENT TYPE: T
CLAUSE: 13.26.8

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PAGE: 198

LINE: 23

COMMENT START:

The definition of recordDispute() is not clear as to whether the one way communication is detected independently by each instance or by the CIST only (I guess that recordDispute() always consider the "RST or MST BPDU" received by the CIST, even when invoked in the context of an MST Instance). Either way, there may be an issue when receiving inferior designated information that is not internal to the region, as the MST Instances will not have their disputed variable set.

COMMENT END:

SUGGESTED CHANGES START:

Here is a possible solution, assuming that only the CIST is driving the unidirectional link failure detection:

RecordDisputeCist()

For the CIST on the given Port, if an RST or MST BPDU with the learning flag set was received, for all MST Instances on this port:

a) the disputed variable is set; and

b) the agreed variable is cleared.

SUGGESTED CHANGES END:

Disposition of Comment 72

Accept in principle. Francois to supply text.

Comment 73   Mick Seaman

COMMENT TYPE: E

CLAUSE: 13.26.16 Editor's note

PAGE: 199

LINE: 49

COMMENT START:

The phrase "in the CST message" is used as a cliche for "for the CIST in the received BPDU".

COMMENT END:

SUGGESTED CHANGES START:

Replace the 5 instances of "in the CST message" with "for the CIST in the received BPDU".

SUGGESTED CHANGES END:

Disposition of Comment 73

Accept.

Comment 74   **Mick Seaman**

COMMENT TYPE: E
CLAUSE: Figure 13-12
PAGE: 205
LINE:
COMMENT START:
A better solution than adding portEnabled in the two places shown is to simply add "!portEnabled" to the BEGIN initialization condition.
COMMENT END:
SUGGESTED CHANGES START:
Remove " && !portEnabled" from the transition to TRANSMIT_PERIODIC and "portEnabled &&" from the transition to "TRANSMIT_RSTP". Replace the condition "BEGIN" with "BEGIN || !portEnabled".
SUGGESTED CHANGES END:

Disposition of Comment 74

Accept.

Comment 75   **Jessy V Rouyer**

COMMENT TYPE: TR
CLAUSE: 13.26.22
PAGE: 202
LINE: 47-48
COMMENT START:
The text "Otherwise, if the Port is not Disabled and the CIST port priority information was not received from a Bridge external to the Region (infoIs != Received or infoInternal == TRUE):" has not been updated as required for proper merging of the text in former "updtRolesCist()" and"updtRolesMsti()" subclauses.
COMMENT END:
SUGGESTED CHANGES START:
Replace those two lines by:
"Otherwise,

- For each Port of the CIST, or
- For each Port of a given MSTI that is not Disabled and whose CIST port

priority information was not received from a Bridge external to the Region (infoIs != Received or infoInternal == TRUE),

the CIST or MSTI port role for each Port is assigned, and its port priority vector and Spanning Tree timer information are updated as follows:".

SUGGESTED CHANGES END:

Disposition of Comment 75

Accept.

Comment 76   Jessy V Rouyer

COMMENT TYPE: TR
CLAUSE: 13.26.22
PAGE: 201
LINE: 38-39
COMMENT START:
The text " (this second condition applying only when calculating the Bridge's root priority vector in the CIST)" was added to match one of the changes to Clause 13 found in P802.1ad/D3.0 (more specifically, the change proposed to subclause 13.26.26 on page 84). However, it appears that the text "and whose Port's restrictedRole parameter is FALSE" is missing after the last "; and" in the change to bullet b) proposed for subclause 13.26.26 on page 84 of P802.1ad/D3.0. The text " (this second condition applying only when calculating the Bridge's root priority vector in the CIST)" should consequently be deleted.
COMMENT END:
SUGGESTED CHANGES START:
Delete " (this second condition applying only when calculating the Bridge's root priority vector in the CIST)".
SUGGESTED CHANGES END:

Disposition of Comment 76

Accept.

Comment 77   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.26.23 Editor's note
PAGE: 202
LINE: 41-
COMMENT START:
The editor's note has served its purpose.
COMMENT END:
SUGGESTED CHANGES START:
Remove the editors note and update the figure to remove the change indications. They are too complex in origin to serve any purpose during sponsor ballot.
SUGGESTED CHANGES END:

Disposition of Comment 77

Accept.

Comment 78   Mick Seaman

COMMENT TYPE: E
CLAUSE: 13.34
PAGE: 207
LINE: 13
COMMENT START:
It is not satisfactory to have this state machine split across two standards. Include the first part, which is a copy of Figure 17-20 of 802.1D-2004, in this specification.
COMMENT END:
SUGGESTED CHANGES START:
Do it, updating references to the figure.
SUGGESTED CHANGES END:

Disposition of Comment 78

Accept.

Comment 79   Les Bell

COMMENT TYPE: ER
CLAUSE: 13.29
PAGE: 203
LINE:
COMMENT START:
The reference to Clause 17 of IEEE Std 802.1D, 1998 Edition does not exist.
COMMENT END:
SUGGESTED CHANGES START:
Correct the reference to refer to clause 17.24 of IEEE Std 802.1D, 2004 Edition.
SUGGESTED CHANGES END:

Disposition of Comment 79

Accept.

Comment 80   Les Bell

COMMENT TYPE: TR

1 CLAUSE: 13.32
2 PAGE: 206
3 LINE: 31
4 COMMENT START:
5 The UPDATE state should not set synced = FALSE. It subsequently, correctly,
6 sets synced = synced && agreed.
7 COMMENT END:
8 SUGGESTED CHANGES START:
9 Delete the statement "synced = FALSE;".
10 SUGGESTED CHANGES END:
11
12 ### Disposition of Comment 80
13
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15 Accept.
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17 ### Comment 81   Les Bell
18
19 COMMENT TYPE: E
20 CLAUSE: 13.34
21 PAGE: 207
22 LINE: 22-24
23 COMMENT START:
24 This paragraph lists 5 figures, then refers to them as "both" and "either".
25 COMMENT END:
26 SUGGESTED CHANGES START:
27 Replace "both" with "all of these". Replace "either" with "any".
28 SUGGESTED CHANGES END:
29
30 ### Disposition of Comment 81
31
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33 Accept.
34
35 ### Comment 82   Steve Haddock
36
37 COMMENT TYPE: E
38 CLAUSE: A.21
39 PAGE: 247
40 LINE: 7
41 COMMENT START:
42 Incorrect reference: Transmitting frames tagged/untagged now in 6.7.2.
43 COMMENT END:
44 SUGGESTED CHANGES START:
45 Change "(8.6.5)" to "(6.7.2)".
46

SUGGESTED CHANGES END:

Disposition of Comment 82

Accept.

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Moved: to grant conditional approval from the EC, as per current P&P, to forward P802.1Q-REV to Sponsor ballot following completion of recirculation balloting.

Moved: Tony Jeffree/Carl Stevenson
Passes: 16/0/0

| 5.07 | ME | Conditional approval to forward 802.1ad to RevCom | - | Jeffree | 5 | 01:50 PM |

MOTION

- 802.1 requests conditional approval from the EC, as per current P&P, to forward P802.1ad to Sponsor ballot following completion of recirculation balloting

- 802.1 Proposed: wright   Second: haddock
  - For: 17 Against: 0 Abstain: 1
- SEC Proposed: Jeffree, Second:
  - For: Against: Abstain:

P802.1ad: Supporting Information

- Initial WG ballot closed 11th March
- Voting:
  - 78% approval
  - 7 "No" votes
  - 91% of voters responding
- Comments/Resolutions:
  - See email for location of file.
  - There are a small number of "reject" dispositions; however, the commenters were present for the discussion and we anticipate that they will accept the resolution of their comments in the recirc ballot.
- Resolution plan:
  - Recirculation ballot in April timeframe
  - Comment resolution (if necessary) in May Interim meeting
  - Subsequent recirc if necessary

Moved: to grant conditional approval from the EC, as per current P&P, to forward P802.1ad to Sponsor ballot following completion of recirculation balloting.

Moved: Tony Jeffree/Carl Stevenson
Passes: 16/0/0

| 5.08 | MI | BPL PAR | | - | Shellhammer | 10 | 02:00 PM |

Broadband over Power Line (BPL) PAR

BPL PAR

- The Communication Society has sponsored a PAR for broadband over power line.

- The PAR has been distributed to the EC reflector

- Several issues have been raised concerning this PAR
  - In order for the technology to be bridgeable they would need to participate in 802.1
  - There is potential interference from BPL that could affect the wireless 802 standards

Meeting to Discuss BPL PAR

- We held a meeting to discuss the BPL PAR at the chair's request
- Attendees:

Paul Nikolich	Tom Siep
Gunter Kleindl	Barry O'Mahony
Chantal Gazaille	Chantal Davis
Carl Stevenson	Steve Whitesell
Brian Ford	Steve Shellhammer
Mat Sherman	

Meeting Summary

- Paul expressed some of his concerns about the BPL PAR

- Barry O'Mahony gave a presentation on "US BPL Regulatory Status", 19-05-0009r0

- Carl Stevenson showed a video demonstrating the effect of interference from BPL on amateur radio

- Discussed recommendations to Paul on his comments on the BPL PAR

Recommendation to Paul on BPL PAR

13 Scope of Proposed Project

- The scope of the project is too broad. The PAR should be broken into at least two individual PARs for first/last mile and in-premises distribution.

- Please add to the Scope a statement that they intend to work with the Registration Authority Committee (RAC).

- The PAR does not address coexistence with IEEE 802 standards. Please add the following text to the Scope of the project "The standard will coexist with IEEE 802 standards. The project will produce a coexistence assurance (CA) document demonstrating that the standard will coexist with IEEE 802 standards."

Recommendation to Paul on BPL PAR (cont.)

21 Additional Explanatory Notes

- The statement regarding the liaison with IEEE 802 needs to be reworded. Please change it to say "It is the intension of the group to establish two liaisons with project IEEE 802. The two liaisons will be with the IEEE 802.1 architecture working group and the 802.19 coexistence technical advisory group."

Final Recommendation

- The 802 Architecture Committee recommends that the LMSC join the BPL sponsor ballot, since it will be using Entity Voting

There is concern that we are only talking about coexistence with 802 and not discussing the broader interference that the current trial systems are causing with licensed services. It is felt that lack of addressing this issue will end up with the licensed community protesting the interference from Part 15 devices, in general, tarring 802 with the same brush.

Another opinion was expressed that problems with this technology would not affect 802.

It was pointed out that the architecture and bridging issues also affect whether BPL will need RAC services.

Paul will take the information on this topic to NesCom, as an individual.

5.09			-			
5.10			-			
5.11			-			
5.12			-			
5.13			-			
6.00		**Executive Committee Study Groups & Working Groups**	-			
6.01			-			
6.02			-			
6.03			-			
6.04			-			
7.00		**Break**	-		**15**	**02:05 PM**

The Break was moved to 3:00pm.

8.00		**IEEE-SA Items**	-			
8.01	**II**	**802 Task Force update**	-	**Nikolich**	**10**	**02:18 PM**

Paul reported the following:
```
IEEE 802 Task Force Agenda:

  1) MyBallot beta testing update: Grow to report
  2) Funded Services Project Updates:
     -On-line training: Thaler/Ickowicz
     -P&P: Sherman/Ringle (or equivalent)
  3) Discussion on Entity Balloting: review draft of 'corporate procedures'
     developed by Law and Booth
  4) Complementary Copies: GOT and AI to report on their suggestions for
     alternative 'trophies'
  5) ISO/IEC  IEEE SA relationship and strategic impact on 802 LMSC:
     Nikolich
  6) Financial Budgeting and Reporting: increased emphasis: Grow to review
     his comments
  7) Policy on offensive project numbers: Grow to review his suggestion
  8) Drafts for sale policy; Roger Marks
  9) Submitting 802 documents to ANSI
```

Concerns were expressed that the direction is to apply digital rights management (DRM) to all drafts and standards. It was also expressed that while PDF is advertised as cross-platform, the DRM utilized by the IEEE invalidates that feature, because it requires a specific Windows program to allow access.

8.02   -
8.03   **II**   **Entity Balloting Feedback**   -   **Law**   **5**   **02:26 PM**

At the IEEE 802 Task Force meeting in September 2004, an ad hoc consisting of David Law, Brad Booth, and Mary Lynne Nielsen was tasked with addressing the possibility of including corporate standards development processes in the IEEE 802 procedures.

The task force agreed that the best initial approach would be as follows: 802-related corporate work may be done by the Corporate Advisory Group (CAG) in its capacity as an IEEE Standards Sponsor, using a new 802.nn project number, provided that the 802 EC has approved the assignment of that number prior to the approval of a new PAR. Any such approval would have to address the new project's place in the 802 architecture. Liaison capacities would also be assured, and it is expected that the model corporate sponsor and working group procedures would be followed.

The task force's next job, if these principles are accepted, would be to consider what new procedures or rules would need to be created within IEEE 802 to allow such considerations and project assignments.

There was a great deal of concern expressed about the very limited control that 802 would have over a standard developed using entity balloting in the CAG, other than liaison, initial veto by withholding an 802 number assignment, and potentially as participating as an entity.

One opinion expressed was that only 802 should approve 802 standards.

It was pointed out that 802 has three checks on each project: initial PAR approval, approval to go to sponsor ballot, and approval to go to NesCom. The proposal here would remove two of those three checks from our hands.

Paul asked that David continue discussion of this topic on the EC reflector.

8.04	II	IEEE/ITU-R update	-	Lynch	2	02:40 PM

Mike will be the IEEE-SA Liaison to ITU-R. The next item of interest is WP 8a next month.

8.05	II	ISO/JTC1 discussions	-	Thompson	5	02:42 PM

There has been previous discussion in the EC to look more closely as to how we participate in ISO. Two paths seem to exist that would increase our influence on the ISO process: pump up our participation in SC6 or formally lift the status of either IEEE or IEEE 802 standards in the international arena (category A liaison with SC6). The latest issue with JTC1 is that the temporary one month suspension of balloting on 802.11 has been extended indefinitely while unspecified decisions are made.

Stuart Kerry formally requested that the 802 chair obtain a response from JTC1 as to exactly which policies and procedures were followed, resulting in the initial suspension of balloting on 802.11 and the indefinite extension of the balloting suspension.

8.06			-			
8.07			-			
9.00		**LMSC Liaisons & External Interface**	-			
9.01	ME	**802.16 contribution to ITU-R**	-	Marks	5	02:47 PM

INTERNATIONAL TELECOMMUNICATION UNION

**RADIOCOMMUNICATION
STUDY GROUPS**

IEEE L802.16-05/028r1

[* Draft ***]
Document 8A/???-E
17 March 2005
English only**

Subject: Question ITU-R 212/8

[* Draft ***]
Institute of Electrical and Electronics Engineers (IEEE)**

PROPOSED WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW
RECOMMENDATION ITU-R M.[8A/BWA]

1   Introduction

This contribution was developed by IEEE Project 802, the local and metropolitan area network standards committee ("IEEE 802"), an international standards development committee organized under the IEEE and the IEEE Standards Association ("IEEE-SA").

The content herein was prepared by a group of technical and regulatory experts in IEEE 802 and was approved for submission by the IEEE 802.16 working group on wireless metropolitan area networks and the IEEE 802 executive committee, in accordance with the IEEE 802 policies and procedures, and represents the view of IEEE 802.

IEEE and ETSI have successfully worked with ITU-R WP 9B towards the development of a draft Recommendation in the F-series on radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz

IEEE 802.16 is now working on an extension to the standard to support mobile systems at frequencies below 6 GHz. Therefore, the purpose of this contribution is to propose to initiate the development of a similar Recommendation in the M-series for interoperability standards for systems operating in the mobile service below 6 GHz.

2   Discussion

This Recommendation identifies radio interface specifications for BWA systems in the mobile service, addressing profiles for the recommended interoperability parameters. It provides references to the standards for interoperability between BWA systems and it is not intended to deal with the identification of suitable frequency bands for BWA systems, nor any regulatory issues.

It is envisioned that in the future the IEEE standard may also be submitted to WP 8F for consideration as a technology for IMT-2000 and/or systems beyond IMT-2000. Indeed, we understand that many of the IMT-2000 technologies currently in Rec. ITU-R M.1457 originally started in WP 8A Recommendations (e.g., M.1033 and M.1073).

3   Proposal

IEEE proposes that WP 8A adopts the working document in Attachment 1 as a starting point for the development of a draft Recommendation

Attachment 1

WORKING DOCUMENT TOWARDS PRELIMINARY DRAFT NEW RECOMMENDATION ITU-R M.[8A/BWA]

Radio interface standards for broadband wireless access systems in the mobile service operating below 6 GHz

(Question ITU-R 212/8)

1　Introduction

This Recommendation recommends standards for broadband wireless access (BWA)[1] systems in the mobile service for international use. These standards are significantly harmonized specifications developed by standardization bodies with broad international participation. The standards support a wide range of applications in urban, suburban and rural areas for both generic Internet-type data and real-time data, including applications such as voice and videoconferencing.

2　Scope

This Recommendation identifies radio interface specifications for BWA systems in the mobile service, addressing profiles for the recommended interoperability parameters. It provides references to the standards for interoperability between BWA systems and it is not intended to deal with the identification of suitable frequency bands for BWA systems, nor any regulatory issues.

3　Related ITU Recommendations

The existing Recommendations that are considered to be of importance in the development of this particular Recommendation are as follows:

Recommendation ITU-R F.1399: Vocabulary of terms for wireless access.

[Preliminary Draft New] Recommendation ITU-R F.[9B/BWA]: Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz (Annex 6 to Doc. 9B/83)

Recommendation ITU-R M.1450: Characteristics of broadband radio local area networks

Recommendation ITU-R M.1457: Detailed specifications of the radio interfaces of International Mobile Telecommunications-2000 (IMT-2000)

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[1]　　　　"Wireless access" and "BWA" are defined in Recommendation ITU-R F.1399.

4   Considerations

Recommendation ITU-R M.1457 recommends the detailed specifications of the radio interfaces of International Mobile Telecommunications-2000 (IMT-2000), which include broadband capabilities.

[Preliminary Draft New] Recommendation ITU-R F.[9B/BWA] (Annex 6 to Doc. 9B/83) recommends radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz. Some of these standards have been extended to support mobility as described in Annex 1.

It is recognized that future versions of the standard referenced in Annex 1 will be taken into account through future revisions of this Recommendation following the procedures of Resolution ITU-R 1-4. Any subsequent versions of these specifications which have not been accepted and approved by the ITU-R are not part of this Recommendation.

5   Recommendations

The Radiocommunication Assembly recommends the radio interface standards in Annex 1 for BWA systems in the mobile service operating below 6 GHz.

Annex 1

Radio interface standards for broadband
wireless access (BWA) systems in the mobile service

1   Overview of the radio interface

Depending on the frequency band and implementation details, an access system built in accordance with this standardized interoperable radio interface can support a wide range of applications, from enterprise applications to residential applications in urban, suburban and rural areas. This radio interface can also be applied to other applications, such as for backhaul network applications. The specification could easily support both generic Internet-type data and real-time data, including applications such as voice and videoconferencing.

This type of system is referred to as a wireless metropolitan area network (WirelessMAN). The word "metropolitan" refers not to the application but to the scale. The design is primarily oriented toward outdoor applications. The architecture for this type of systems is primarily point-to-multipoint, with a base station serving subscribers in a cell that can range up to tens of km. Terminals can be mobile, nomadic or fixed.

The radio interface supports a variety of channel widths and operating frequencies, providing a peak spectral efficiency of up to 4 bits/s/Hz.

The radio interface includes a physical layer (PHY) as well as a medium-access control layer (MAC). The MAC is based on demand-assigned multiple access in which transmissions are scheduled according to priority and availability. This design is driven by the need to support carrier-class access to public networks, both Internet protocol (IP) and asynchronous transfer mode (ATM), with full quality of service (QoS) support.

The MAC supports several PHY specifications, depending on the frequency bands of interest and the operational requirements. In particular, the alternatives include, typically, below 6 GHz:

i)   WirelessMAN-OFDM: this specification is based on orthogonal frequency-division multiplexing (OFDM).

ii)   WirelessMAN-OFDMA: this specification is based on orthogonal frequency-division multiple access (OFDMA).

iii)   WirelessMAN-SCa: this specification uses single-carrier transmission.

The SDOs define profiles for the recommended interoperability parameters. IEEE 802.16 profiles are included in the main standards document.

2   Detailed specification of the radio interface

The specifications contained in this section include the following standards for BWA in the mobile service:

[Draft] IEEE Standard 802.16e-????

[Draft] IEEE Standard for local and metropolitan area networks Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems – Amendment for Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in Licensed Bands.

Abstract: This Amendment updates and expands IEEE Standard 802.16 2004 to allow for mobile stations.

Scope: This document provides enhancements to IEEE Standard 802.16-2004 to support stations moving at vehicular speeds and thereby specifies a system for combined fixed and mobile broadband wireless access. Functions to support higher layer handover between base stations or sectors are specified. Operation is limited to licensed bands suitable for mobility below 6 GHz. The fixed IEEE Standard 802.16-2004 subscriber capabilities are not compromised.

IEEE Standard 802.16-2004: this standard specifies the air interface of fixed BWA systems supporting multimedia services. The medium access control layer (MAC) supports a primarily point-to-multipoint architecture, with an optional mesh topology. The MAC is structured to support multiple PHY specifications, each suited to a particular operational environment. For operational frequencies from 10-66 GHz, the PHY is based on single-carrier modulation. For frequencies below 11 GHz, where propagation without a direct line of sight must be accommodated, three alternatives are provided, using OFDM, OFDMA, and single-carrier modulation. This standard revises and consolidates IEEE Standards 802.16-2001, 802.16a-2003, and 802.16c-2002.

Standard: The IEEE Standard is available in electronic form at the following address: http://…

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Motion: to approve IEEE 802.16-05/028r1 as an intended contribution from IEEE to ITU-R, subject to editorial revision: "Proposed working document towards a Preliminary Draft New Recommendation ITU-R M.[8A/BWA]"

Moved: Roger Marks/Mike Lynch

The break was begun at 3:00pm.

Additionally, Joanne Wilson (an 802.20 member) requested from the floor that the following statement be added to the contribution:

"Additionally, IEEE 802.20 is developing mobile broadband wireless standards that, upon their completion, may be submitted to Working Party 8A."

Without objection, this motion was moved to a 10-day EC email ballot, beginning 3/19/2005.

| 9.02 | ME | **802 Liaison Letter to MII** | - | **Marks** | 4 | 03:20 PM |

IEEE 802 LAN/MAN Standards Committee

Dr. Roger B. Marks
IEEE 802 China Liaison Official
r.b.marks@ieee.org

TO: Mr. Wen Ku, Director General
Department of Science & Technology
Ministry of Information Industry
People's Republic of China

CC: • Baoxin Zhou, Zhao Shizhuo, Cao Shumin, CCSA
• Wang Lijian, CESI
• Paul Nikolich, Chair, IEEE 802
• Jim Carlo, Past President, IEEE-SA

SUBJECT: IEEE 802 Interactions with Chinese standardization projects

DATE: 18 March 2005

Dear Mr. Wen,

Thank you for accepting our invitation to meet with me and IEEE-SA Past President Jim Carlo again. We appreciate that you (along with Cao Shumin of the China Communications Standards Association [CCSA]) traveled to Sanya on 24 January 2005 to meet us. We are very pleased that you have visited both of the first two IEEE 802 Working Group meetings held in China. I appreciate the clear and focussed discussions regarding issues relevant to MII and to the IEEE 802 LAN/MAN Standards Committee ("IEEE 802").

IEEE 802 appreciates your note of 30 December and your suggestion that we "work together to further enhance exchange, deepen mutual understanding, and strengthen the connections and cooperation between CCSA and IEEE, and assist Chinese enterprise to participate in the IEEE projects." We are very committed to that same goal. For your reference, we have compiled a summary of "IEEE 802 Efforts to Encourage Chinese Participation" (IEEE 802China05/03). I am sending you a copy. We welcome your further insights into how we may be more effective in this process.

Thank you for raising with us the difficulty of some Chinese participants in obtaining visas to attend standards meetings in the US, where many 802 meetings are held. We truly regret such difficulties and are trying to assist. We have learned that the US-based organization ANSI has recently published a guidebook entitled "United States Visa System: Information for Experts from the People's Republic of China Attending Meetings of the ISO and IEC Held in the United States." Though the title refers only to ISO and IEC, the content appears useful to IEEE participants also. It is available here:
        http://www.ansi.org/news_publications/news_story.aspx?menuid=7&articleid=892
We will be including information about this document, and other relevant information, on the IEEE 802 meeting registration web site. We have also instituted an easy process for the request of a meeting invitation letter for visa application purposes. We processed over 25 such requests in advance of our session in Atlanta, USA this week, where 17 people registered with a Chinese address.

We have communicated to the US Department of State regarding the difficulties we face when our own members and participants are unable to attend some of our meetings. We have received some very specific suggestions to aid the possibility of visa approval. If you are interested in discussing this, please feel free to contact me. We were happy to learn that the US has begun offering unlimited-entry visas and understand that several of our Chinese participants have already received them.

Please feel free to circulate this information. We welcome your suggestions on how we can increase contacts and communications with Chinese standardization bodies, including at the detailed technical level.

Best regards,

Roger B. Marks
IEEE 802 China Liaison Official

Attachment: *Update on IEEE 802 activities of interest*

- On 13-18 March, in Atlanta, Georgia, USA, IEEE 802 met in a Plenary Session, as it does each March, July, and November. This included meetings of Working Groups (WGs) 802.1, 802.3, 802.11, 802.15, 802.16, 802.17, 802.20, 802.21, and 802.22, as well as Technical Advisory Groups (TAGs) 802.18 and 802.19. The attendance was about 1600 people. For information on future sessions, please see <http://ieee802.org/meeting>.

- The IEEE 802.11 Working Group session including meeting of Task Groups …. named a liaison… how many attendees… May session in Australia…

- The IEEE 802.16 Working Group on Broadband Wireless Access held its Session #36 on 14-17 March. The meeting included a presentation from CCSA TC5/WG3 (IEEE L802.16-05/020), to which the 802.16 Working Group responded (IEEE L802.16-05/026). The attendance was approximately 350 people.

- The 802.16 held a successful Session #35 in Sanya, China on 24-27 January 2005, its second session in China within 9 months. 313 people registered and attended, including 43 from China and many others from Chinese companies. The full report of 802.16's Session #35 is available at <http://ieee802.org/16/meetings/mtg35/report.html>.

IEEE 802 Efforts to Encourage Chinese Participation

This document summarizes activities of the IEEE 802 LAN/MAN Standards Committee to ensure that Chinese industry and standardization bodies understand the IEEE 802 process and are welcomed to participate in it:

- In December 2003, IEEE 802 wrote to the Standardization Administration of China (SAC), with a copy to the Ministry of Information Industry (MII) <http://ieee802.org/16/liaison/docs/L80216-03_19.pdf>. The letter provided an introduction to IEEE-SA and IEEE 802, explaining their global participation, scope, and status. It also noted that the IEEE 802.16 Working Group (WG) had accepted an invitation to meet in Shenzhen, China in May 2004. The letter mentioned the Chinese WAPI standard and said "We recognize that 802.11 security is not optimal and have been working to improve it through the 802.11i project. We would like to better understand your concerns and see if they can be met through the current 802.11i draft standard. That draft could be made available through the appointment of a bilateral liaison." It also said "Perhaps the occasion of [the 802.16] meeting would be an opportunity for high-level discussions with SAC and IEEE-SA, including an exchange of information on how the two bodies operate and formulation of some concrete steps to facilitate increased Chinese participation in IEEE. If this is of interest to you, I would be happy to investigate the availability of the IEEE-SA leadership."

- In January 2004, the IEEE-SA President Jim Carlo wrote a follow-up letter to SAC, with a copy to MII <http://ieee802.org/16/liaison/docs/L80216-04_04.pdf>. This letter requested a meeting with SAC to exchange information and views regarding the value of cooperative activity. It proposed sending a three-person delegation in conjunction with the May 802.16 session. SAC Administrator Li Zhonghai sent a warm welcome and offered a meeting with IEEE-SA's proposed three-person delegation. He noted that "According to my knowledge and your explanation, IEEE-SA is a very important organization in developing international standards." The meeting took place on 17 May 2004 with Li Zhonghai at SAC in Beijing.

- In April 2004, the 802.16 Working Group Chair requested a meeting of the same delegation with China Communications Standards Association (CCSA) <http://ieee802.org/16/liaison/docs/L80216-04_13.pdf>. The meeting was arranged in Shenzhen and included Wen Ku, Director General of MII's Science and Technology Department, as well as Cao Shumin, Deputy Secretary-General, China Communications Standards Association. Cao Shumin then sent congratulations on the successful 802.16 session <http://ieee802.org/16/liaison/docs/L80216-04_18.pdf> and added " We were happy to have quite number of delegates from China participate this meeting, which showed the great interest from Chinese industry. We hope there will be more meetings in the future held in China. Led by Mr. Wen Ku, the Direct General of Science and Technology Department of MII, we had a very good meeting with IEEE-SA President Mr. Jim Carlo, Ms. Terry deCourcelle and you in Shenzhen. We believed our meeting and discussion was very productive, we had better understanding about each other and we were pleased that we also identified some areas for possible cooperation between IEEE-SA and CCSA. I reported our meeting to the CCSA General Secretary Mr. Zhou Baoxin, he was very impressive about our meeting and he would like to further explore our cooperation in several areas, including IEEE 802.3, 802.11 and 802.16 and other possible areas. It was really a good start for both sides of us. We hope to extend our relationship in the future." CCSA's TC5/WG3 and the IEEE 802.16 Working Group proceeded to develop a constructive liaison relationship.

UNAPPROVED DRAFT NOT FOR CIRCULATION

- On August 26, the IEEE 802.16 Chair visited Cao Shumin and a number of CCSA officials in Beijing. Topics included efforts to enhance interactions between IEEE 802 and CCSA and the possibility of more 802 meetings in China.

- In December 2004, IEEE 802 wrote to Wen Ku, with a copy to CCSA, that 802 has appointed Roger Marks, the IEEE 802.16 WG Chair, as China Liaison Official and offered an update on relevant activities in IEEE 802 <http://ieee802.org/16/liaison/docs/802China04_01r5.pdf>. It noted that the IEEE WG 802.16 would meet in Sanya, China in January 2005 and requested another meeting with him. It noted that it had become aware of visa problems that had affected standards meetings in the U.S. and would try to learn more about the problem. It mentioned that several IEEE 802 WGs, including the 802.11 WG, hoped to hold their May 2005 meetings in Beijing. It said that the IEEE 802.11 WG had received, from JTC1/SC6, the Chinese National Body contribution 6N12687, noting that "the Working Group is very interested in working with the contributors and welcoming them to pursue their work within the Working Group... It welcomes the JTC1/SC6/WG1 meeting in Frankfurt, Germany on 21-25 February, which was arranged for technical experts from China and IEEE 802 to discuss 802.11i and 6N12687." Wen Ku replied <http://ieee802.org/16/liaison/docs/802China04_02.pdf>, "We hope IEEE work together to further enhance exchange, deepen mutual understanding, and strengthen the connections and cooperation between CCSA and IEEE, and assist Chinese enterprise to participate in the IEEE projects." He offered to meet in Sanya. The meeting took place and included Wen Ku, Cao Shumin, Roger Marks, and Jim Carlo. CCSA Secretary Baoxin wrote that "CCSA would like to establish friendly relations with IEEE and further explore our cooperation in several areas, including IEEE 802.3. 802.11, and 802.16 and other possible areas" <http://ieee802.org/16/liaison/docs/802China05_02.pdf>.

- In December 2004, IEEE 802 representatives worked with officials in Beijing to try to arrange the May 2005 session in Beijing. However, it was not possible to complete the arrangements on such short notice.

- In a letter of 21 January 2005 to SC6 and to the Chinese SC6 delegation <http://ieee802.org/16/liaison/docs/802China05_01r1.pdf>, personally delivered by the IEEE 802 China Liaison to officials of the China Electronics Standardization Institute (CESI) in Beijing on 28 January, the Chairs of IEEE 802 and the IEEE 802.11 WG responded to China's submission 6N12687, as forwarded to IEEE 802 by SC6. It noted IEEE 802's global participation, scope, and status. It stated that "IEEE Project 802 LMSC and the IEEE 802.11 Working Group fully support China's desire to improve WLAN security." It invited and encouraged Chinese participation, including working with committees within 802 to "identify ways to incorporate submission N12687 into IEEE Std. 802.11 via LMSC's well-defined standards development process." It said "Incorporation of essential technical components from submission N12687 in IEEE Std 802.11 will require experts from China to participate in committees within IEEE Project 802 LMSC so that the result meets China's needs, is backward compatible with the existing IEEE 802.11 and ISO/IEC 8802-11 standards, and forward compatible with other amendments already under way... We suggest that the next step be to convene joint meetings in China, to discuss both the process and technical aspects of moving forward." This letter was also presented at the Frankfurt meeting in February 2005.

- At the Frankfurt meeting, IEEE liaison representatives presented three additional documents (all publicly available on the Internet):

    o IEEE 802.11-04/1555r3, a presentation to accompany the letter to SC6. It proposed a specific process to cooperatively develop a new amendment that, on completion, could be forward by the

UNAPPROVED DRAFT NOT FOR CIRCULATION

Chinese National Body to JTC1 for Fast Track balloting as a proposed new amendment to 8802-11. The presentation also offered to initiate an activity that would include experts from WAPI and 802.11, hold meeting in China, and include one or more Chinese citizens among the leaders. It suggested a meeting at the May 2005 802.11 session in Australia.

o   IEEE 802.11-05/0122r2, a technical presentation noting that "the Chinese proposal contains useful technology" and that, while many issues need to be resolved before incorporating it into 802.11 and 8802-11, "We believe that cooperation between China's experts and the 802.11 Membership can successfully address all of these issues."

o   IEEE 802.11-05/0123r1, a technical presentation on IEEE 802.11i.

The Chinese National Body had departed the Frankfurt meeting prior to the presentation of the last two documents.

UNAPPROVED DRAFT NOT FOR CIRCULATION

Moved: to approve the 802 liaison letter to MII, subject to editorial revision.
Moved: Roger Marks/Stuart Kerry
Passes: 16/0/0

9.03   ME   802 Liaison Letter to CCSA   -   Marks   3   03:28 PM

IEEE 802 LAN/MAN Standards Committee

Dr. Roger B. Marks
IEEE 802 China Liaison Official
r.b.marks@ieee.org

TO: Mr. Zhou Baoxin, Secretary-General
China Communications Standards
Association [CCSA]

CC: • Zhao Shizhuo, Cao Shumin, CCSA
• Wen Ku, MII
• Paul Nikolich, Chair, IEEE 802

SUBJECT: IEEE 802 Relationship with CCSA

DATE: 18 March 2005

Dear Mr. Zhou,

Thank you for your kind letter of 24 January (IEEE 802China05/03). We appreciate your interest in the IEEE 802.16 Session of Sanya, China and hope, as you did, that such meetings can "encourage Chinese participation in IEEE 802 activities." I enjoyed seeing many CCSA officials there, including Cao Shumin, and I was pleased to meet Zhao Zhizhuo, CCSA contact person for IEEE 802.

IEEE 802 appreciates the fact that CCSA would like to establish a friendly relationship. IEEE 802 would also like to pursue closer links and a friendly relationship. I am available to be your point of contact regarding any IEEE 802 issues. In addtion, we encourage the development of specific contacts between groups at the working level. We acknowledge your interest in exploring cooperation regarding the IEEE 802.3, 802.11, and 802.16 Working Groups. We have already established close coordination between the IEEE 802.16 Working Group and CCSA TG5/WG3. The 802.11 Working Group has now identified IEEE 802.11 Chair Stuart Kerry and Member Alex Cheng as contact points who will be happy to provide more information on the group and its activities. We are not able to identify a specific contact for 802.3 at this time.

We have become aware of the difficulty of some Chinese participants in obtaining visas to attend standards meetings in the US, where many 802 meetings are held. We truly regret such difficulties and are trying to assist. We have learned that the US-based organization ANSI has recently published a useful guidebook entitled "United States Visa System: Information for Experts from the People's Republic of China Attending Meetings of the ISO and IEC Held in the United States." It is available here:
http://www.ansi.org/news_publications/news_story.aspx?menuid=7&articleid=892 .

We have communicated to the US Department of State regarding the difficulties we face when our own members and participants are unable to attend some of our meetings. We have received some very specific suggestions to aid the possibility of visa approval. If you are interested in discussing this, please feel free to contact me.

We are interested in pursuing the possibility of holding a large meeting of some or all the 802 Working Groups in China. Such a large meeting requires advance planning. We would like to consider January or May of 2007. If CCSA would consider supporting such an activity, we hope to pursue the idea further. Please let us know of your thoughts.

We welcome your suggestions on further strengthening our relationship.

Best regards,

Roger B. Marks
IEEE 802 China Liaison Official

Moved: to approve the 802 liaison letter to CCSA, subject to editorial revision.
Moved: Roger Marks/Stuart Kerry
Passes: 16/0/0

9.04   **ME**   **802 Liaison Letter to CESI**   **-**   **Marks**   **3**   **03:32 PM**

IEEE 802 LAN/MAN Standards Committee

Dr. Roger B. Marks
IEEE 802 China Liaison Official
r.b.marks@ieee.org

TO: Mr. Wang Lijian, China Electronics   **CC:**   • Wen Ku, MII
            Standardization Institute (CESI)   • Han Jun, MII
                                                               • Paul Nikolich, Chair, IEEE 802

SUBJECT: IEEE 802 Relationship with CESI

DATE: 18 March 2005

Dear Mr. Wang,

Thank you for inviting me to dinner on 28 January. I appreciated the chance to get to know you and your colleague Wu Dongya. I also appreciate that Yao Zhongbang, whom I have gotten to know through his participation in the IEEE 802.16 Working Group, was able to attend.

On behalf of the IEEE 802 LAN MAN Standards Committee, I would like to convey our openness to communications with CESI and to exchanges of information. We welcome any information you wish to provide regarding the roles and activities of CESI.

I have valued the participation of CESI staff members in the two IEEE 802.16 Working Group sessions held in in China during the past 10 months. We welcome CESI staff to extend their participation to additional activities within IEEE 802.

We have become aware of the difficulty of some Chinese participants in obtaining visas to attend standards meetings in the US, where many 802 meetings are held. We truly regret such difficulties and are trying to assist. We have learned that the US-based organization ANSI has recently published a useful guidebook entitled "United States Visa System: Information for Experts from the People's Republic of China Attending Meetings of the ISO and IEC Held in the United States." It is available here:
        http://www.ansi.org/news_publications/news_story.aspx?menuid=7&articleid=892 .

We have communicated to the US Department of State regarding the difficulties we face when our own members and participants are unable to attend some of our meetings. We have received some very specific suggestions to aid the possibility of visa approval. If you are interested in discussing this, please feel free to contact me.

I look forward to learning more about CESI.

Best regards,

Roger B. Marks
IEEE 802 China Liaison Official

Moved: to approve the liaison letter to CESI, subject to editorial revision.
Moved: Roger Marks/Stuart Kerry
Passes: 16/0/0

9.05   II   Letter from 802.16 to IETF   -   Marks   2   03:38 PM

Roger presented a liaison letter that 802.16 would be sending to the IETF.

IEEE 802.16 Working Group on Broadband Wireless Access

http://WirelessMAN.org

Dr. Roger B Marks
NIST
325 Broadway, MC 818.00
Boulder, CO 80305 USA
Tel: +1 303 497 7837
mailto:marks@nist.gov
17 March 2005

To: Mr. Bernard Aboba, IETF Liaison to IEEE 802; Co-Chair, IETF EAP Working Group

Dear Mr. Aboba,

Thank you for taking the time to speak with officials of the IEEE 802.16 Working Group (WG) on 9 March 2005, as recorded in IEEE L802.16-05/019, to discuss liaison communications between IETF and IEEE 802.16. The call included 802.16 participants Roger Marks (Chair, 802.16 WG), Brian Kiernan (Chair, 802.16's Task Group e), Phil Barber (Chair, 802.16's Network Management Task Group and 802.16 representative on 802 Architecture Group), and David Johnston (802.16 representative on 802 Architecture Group). The IETF participants were Bernard Aboba (IETF EAP WG co-chair, IETF liaison to 802, and IETF IAB member) and Jari Arkko (IETF EAP WG co-chair). Dorothy Stanley, the IEEE 802.11 liaison to IETF, also participated.

In this call it was noted by Mr. Aboba that he had met with IEEE 802 in January 2004 <http://www.drizzle.com/~aboba/IEEE/coord.ppt> and that this meeting led to the suggestion that draft IEEE 802 MIBs be reviewed by a "MIB Doctor" in IETF <http://ops.ietf.org/mib-doctors.html>. The second major topic of the call was the use of EAP and the possibility that the 802.16 WG might request a basic review of conformance to RFC 3748.

To place our work in context, IEEE Std 802.16-2004 defining a fixed broadband wireless access air interface. The 802.16 WG has been developing several amendments. One of these, P802.16e, will amend the standard to add mobility functionality to the base fixed broadband wireless access air interface. This work includes the development of security protocols that take advantage of EAP to provide an authentication mechanism. The IEEE 802.16 working group respectfully requests IETF EAP WG review of the method of EAP use employed in P802.16e. The specification details are defined in IEEE 802.16 Std 2004 as well as in draft P802.16e/D7, which is being created by the Technical Editor following the WG's Session #36 of 14-17 March 2005.

We would like to bring particular attention to the following aspects of the defined security mechanisms:

a) In support of fast handover in mobile 802.16 systems, the 802.16e PKMv2 protocol defines a key derivation algorithm based on the definition of the AAA-Key-A,B,C... keys as described in the EAP Key Framework draft draft-ietf-eap-keying-05.txt. This sort of security protocol typically requires great care in its production and great scrutiny in review to render it secure and functional. The complexity and novelty of the solution method gives us cause to solicit external expert review.

b) Another area of concern is the PKMv2 TEK transfer mechanism that securely transfers keys generated in a base station to a subscriber station. It is not clear whether or not this meets all the requirements of the EAP key framework requirements for transient session keys.

c) The MBS (Multimedia Broadcast Service) and Multicast security mechanisms in P802.16e/D7 describe multicast rekeying mechanisms that may overlap the work of the IETF MSEC working group.

Separately, 802.16's Network Management Task Group is developing the P802.16f project, defining a MIB to facilitate the management of fixed mode 802.16 systems based on IEEE 802.16-2004. We respectfully request an IETF MIB expert to review P802.16f/D3 for compatibility with IETF MIB-related standards. We appreciate your efforts to obtain the expeditious assignment of a MIB Doctor (Bert Wijnen). We understand that the document has already been preliminarily reviewed. The draft is open for IEEE-SA Sponsor Ballot until 27 April 2005. I welcome your comments and will gladly submit them to Sponsor Ballot on your behalf.

Per the letter of 26 July 2004 from IEEE 802 to IETF's Bert Winjen and Bernard Aboba entitled "IEEE 802 archive access policy for IETF coordination purposes," I am authorized to grant membership in IEEE 802.16 to an IETF WG chair upon request. As a member of the IEEE 802.16 WG, the IETF WG chair will receive username/password access to the IEEE 802.16's draft. These drafts are IEEE-SA copyright controlled and shall be used by the IETF WG solely for the purposes of IETF research and standards development. They shall not be redistributed outside of the IETF WG, or made use of in IETF drafts, without prior approval.

Please let me know who would be most appropriate for assignment of membership in the IEEE 802.16 WG in order to expedite IETF participation in our process.

We greatly appreciate the enthusiasm with which the IETF members have offered to work with and assist the IEEE 802.16 WG on these matters and look forward to future cooperation in these and other matters.

Sincerely,

Roger B. Marks
Chair, IEEE 802.16 Working Group on Broadband Wireless Access

cc: Jari Arkko, Co-Chair, IETF EAP Working Group
         Bert Wijnen, Co Area Director, Operations and Management Area, IETF
         Dorothy Stanley, IEEE 802.11 liaison to IETF
         Russ Housley, IETF
         iab@ietf.org
         statements@ietf.org
         Brian Kiernan (Chair, 802.16 Task Group e)
         Phil Barber (Chair, 802.16 NetMan Task Group and 802 Architecture Group Representative)
         David Johnston (802 Architecture Group Representative)
         Paul Nikolich, Chair, IEEE 802 LAN/MAN Standards Committee
         Paul Congdon, IEEE 802

9.06   ME   **Response to UK Ofcom on Spectrum Framework**   -   Lynch   5   03:42 PM

<table>
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802.18 Motion to SEC

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Agenda: 9.06
Date: 03/18/2005
Time: _

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</table>

Motion by: 802.18 – Lynch   **Seconded by:** Stevenson

Moved: To approve document

18-05-0012-00-0000-Ofcom_sfr-consultation_comments.doc as an 802 document,

authorizing the Chair of 802.18 to do necessary editorial and formatting changes and,

using the document as a "template," create the appropriate input to Ofcom.

Informative: The SFR is a review of the current UK spectrum management regime and possible changes. This document was circulated to the SEC on 16 March and no comments were received.

Approve: Do Not Approve: Abstain: Motion:

IEEE P802.18
Radio Regulatory

Project	IEEE P802.18 consultation to regulatory bodies
Title	**Working Document to Ofcom SFR Response**
Date Submitted	[16 March, 2005]
Source	[Michael Lynch] [IEEE 802] [802.18]
Re:	This doc contains working text intended as a response to the Ofcom call for consultation on the Spectrum Framework Review (SFR).
Abstract	[This doc contains working text intended as a response to the Ofcom call for consultation on SFR.]
Purpose	[The purpose of this document is to provide a response to Ofcom on behalf of IEEE 802.]
Notice	This document has been prepared to assist the IEEE P802.18. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by 802.18.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

What do you want Ofcom to keep confidential?

Nothing	☐	Name/contact details/ job title	☐
Whole response	☐	Organisation	☐
Part of the response	☐	If there is no separate annex, which parts?	

If you want part of your response, your name or your organisation to be confidential, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

Yes ☐   No ☐

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response. It can be published in full on Ofcom's website, unless otherwise specified on this cover sheet, and all intellectual property rights in the response vest with Ofcom. If I have sent my response by email, Ofcom can disregard any standard email text about not disclosing email contents and attachments.

Ofcom can publish my response: on receipt ☐   once the consultation ends ☐

Name   Signed (if hard copy)

Professor William Webb;

The IEEE 802 appreciates the consideration of this document by Ofcom. IEEE 802 understands the original due date was February 15, 2005 and that consideration of this document is at the discretion of Ofcom. In this document we are offering views of IEEE 802 which we hope will constructively add to the body of knowledge being considered on this subject.

IEEE 802 applauds Ofcom for the forward thinking displayed by this Framework Consultation. The concern exhibited by Ofcom about a valuable resource is obvious in the tone and content of this document. The IEEE 802 looks forward to working with Ofcom on future consultations.

Questions from Document with IEEE 802 answers.

Q1: Are there any other major medium- to long-term spectrum management issues that this review should be considering? Are there any other significant technological or market developments that this review should be aware of when developing its thinking?

> The IEEE 802 and other bodies are continuously evolving radio transmission and modulation methods. For example,
>> a. The IEEE 802.18 group would like to bring to Ofcom's attention a new group that has started under the 802 umbrella. This is 802.22, which is concentrating on developing a standard for the re-use of TV Bands spectrum. The primary users and industry are working together to come up with viable solutions for the effective use of fallow or under-utilized TV bands spectrum. The initial program intends to find cognitive, licence exempt methods of coexisting with TV broadcast signals for fixed wireless broadband distribution.

Q2: Do you believe it is useful to publish a compendium of issues? How frequently should it be published? What information should be included?

> A. It is useful to publish a compendium of issues and this may be best served on an annual basis. Accordingly, there would be more opportunity for feedback and the changes to spectrum policy would not make up such large queues, causing regulatory bottlenecks and slow response to market issues.

Q3: Are there any other issues of sufficient significance to merit mention in this document?

> A. We would invite Ofcom to designate an official liaison to relevant IEEE 802 groups.

Q4: Are there important lessons to be learnt from experience in other countries that is not addressed here?

> A. No Comment

Q5: Do you agree with Ofcom's intent to maximise the use of trading and

liberalisation?

A. No Comment

Q6: Are there other areas, apart from those identified above, where trading and liberalisation should be restricted? Are there areas identified above where you believe the trading and liberalisation could be fully implemented?

A. Where liberalization is implemented, Ofcom should review the spectrum interference requirements before a change of use is granted.

Q7: Do you agree with Ofcom's approach to providing spectrum for licence-exempt use?

A. While the consultation describes what appears to be a good model for predicting usage for 5-10 years, our recommendation is that the issue of licence exempt spectrum usage be reviewed on a regular basis to account for changes in technologies, applications and demand. For instance,

- Unlicensed applications are changing rapidly and new applications like security, voice and video may require more dedicated bandwidth per connection.
- Technological advancements may improve efficiencies and will require flexible rules for implementation.

Q8: Is Ofcom's proposed methodology to estimate the amount of spectrum needed likely to deliver the right results?

A. The Review mentions *"By restricting spectrum for licence-exempt use to short-range applications, the likely demand, at least over the short to medium term can be determined."* Our interpretation of this clause is that Ofcom is limiting technological performance in order to estimate the amount of economic demand. . Demand should not be artificially limited for the purpose of usage prediction. Performance limits should be based on interference, coexistence and safety characteristics. Technological innovations may be hampered by this restrictive approach. Use cases for licence exempt devices include lower rate long range applications or high rate short-range applications dependent on higher powers.

Q9: What is the appropriate timing and frequency bands for making available any additional spectrum for licence-exempt use that might be needed?

A. While additional spectrum around 5GHz would be good for short-range applications, additional spectrum below 2.4 GHz where propagation characteristics would foster innovative technologies would be desirable with appropriate protections for licenced services.

B. As for timing, if a specific band or amount of spectrum is to be earmarked for licenced exempt use, IEEE 802 believes that Ofcom should consider making these adjustments quickly in order for the technology cycles to begin.

C. IEEE 802 believes that harmonization with the proposed changes to the TV bands in the US would be desireable.

Q10: Do you agree with Ofcom's longer term proposals for market-based spectrum management methods?

A. No Comment.

Q11: Is the approach set out here, and in Annex H, for developing technology-neutral spectrum usage rights appropriate? Are there alternatives?

A. IEEE 802 supports the approach to develop technology-neutral spectrum usage rights.

Q12: Should Ofcom do more to resolve interference?

A. No Comment.

.
Q13: To what extent should Ofcom intervene in promoting innovation?

A. Ofcom should assume the proactive role of "public defender" for innovative technologies where a special interest group may not exist to represent a fledgling technology.

Q14: Do you agree with Ofcom's proposed approach to harmonisation?

A. IEEE 802 does not have a position on economic policy methods.

Q15: Can you foresee any problems with the proposed approach to harmonization other than those listed above?

A. The effort to harmonize globally or regionally should be mitigated with the cost of the impact of harmful interference to other spectrum users. A great effort should be made to achieve harmonization for the economic benefits it can afford, but not at the expense of an unnecessary introduction of harmful interference due to insufficient protection restrictions. A decision on protection criteria should not be limited to only a few analysis studies in forming a conclusion, but should rather consider the entire body of analysis studies available.

Q16: Do you agree with Ofcom's proposal to continue with division by frequency as the primary method of dividing the spectrum?

    A. Presently, the historical method continues to be effective. Innovation may result in new technologies for which division by frequency is less appropriate as a method for managing spectrum.

.
Q17: Is Ofcom's approach of not Intervening to mandate entitlements in time (aka cognitive radio)appropriate?

A. The particular case of cognitive radio operation you have described is one efficient method of utilizing spectrum. Innovative methods are showing other possibilities of operation on a non-interfering basis. IEEE 802 supports appropriate rules which allow for various implementations of "cognitive radio behavior".

Q18: Do you agree with the RIA?

A. No Comment

Moved: To approve document 18-05-0012-00-0000-Ofcom_sfr-consultation_comments.doc as an 802 document, authorizing the Chair of 802.18 to do necessary editorial and formatting changes and, using the document as a "template," create the appropriate input to Ofcom.

Moved: Mike Lynch/Carl Stevenson

Carl will aid Mike in formatting the submission correctly, with correct signatures and disclaimer.

Passes: 15/0/1

9.07	ME	**Response to UK Ofcom on Spectrum Framework Review Implementation**	-	Lynch	5	03:47 PM

802.18 Motion to SEC	**Agenda:** 9.08 **Date:** 03/18/2005 **Time:** _

Motion by: 802.18 – Lynch   **Seconded by:** Stevenson

Moved: To approve document

18-05-0014-00-0000_ofcom_sfr_implementation_plan_comment.doc as an 802 document, authorizing the Chair of 802.18 to do necessary editorial and formatting changes and, using the document as a "template," create the appropriate input to Ofcom.

Informative: The SFR implementation consultation asked for comments on Ofcom's proposed changes to their spectrum management regime. They are proposing to move to a more liberal model. This document was circulated to the SEC on 17 March and no comments were received.

Approve: Do Not Approve: Abstain: Motion:

IEEE P802.18
Radio Regulatory

Project	IEEE P802.18 consultation to regulatory bodies
Title	**IEEE 802 Comments to Ofcom SFR Implementation Plan Consultation**
Date Submitted	[17 March, 2005]
Source	[Michael Lynch] [IEEE 802] [802.18]
Re:	This document is the IEEE 802 is a response to the Ofcom call for consultation on the Spectrum Framework Review (SFR) Implementation Plan.
Abstract	This doc contains the IEEE 802 response to selected questions within the Ofcom SFR Implementation Plan Consultation.
Purpose	The purpose of this document is to provide a response to Ofcom on behalf of IEEE 802.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

What do you want Ofcom to keep confidential?

Nothing ☐   Name/contact details/ ☐
                    job title

Whole response ☐   Organisation ☐

Part of the response ☐   If there is no separate annex, which parts?

If you want part of your response, your name or your organisation to be confidential, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

Yes ☐   No ☐

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response. It can be published in full on Ofcom's website, unless otherwise specified on this cover sheet, and all intellectual property rights in the response vest with Ofcom. If I have sent my response by email, Ofcom can disregard any standard email text about not disclosing email contents and attachments.

Ofcom can publish my response: on receipt ☐   once the consultation ends ☐

Name   Signed (if hard copy)

Professor William Webb:

The IEEE 802 appreciates the consideration of this document by Ofcom. In this document we are offering views of IEEE 802 which we hope will constructively add to the body of knowledge being considered on this subject.

IEEE 802 applauds Ofcom for the forward thinking displayed by this consultation. The IEEE 802 looks forward to working with Ofcom on future consultations.

Responses to Ofcom Implementation Plan Questions

Question 4.2 Do you agree future auctioned licences be for a minimum fixed term with a rolling extension?

IEEE 802 agrees that the auctioned licenses should be for a minimum fixed term that has the requirement for certain parameters to be achieved during this period.

These parameters could include such criteria as:

- Percentage of system installed

- Percentage of coverage area completed

- Number of users on the system

Question 4.5 Do you agree these are relevant consideration which Ofcom should take into account in devising its programme of spectrum awards?

A consideration that appears to be missing in Ofcom's spectrum auction plans is an incentive for new technology development, as much of the efforts appear to address substitute services. New communications technologies with improved spectrum efficiencies should be provided an auction advantage to encourage their development/deployment.

2500 – 2690 MHz

Question 5.16 Is a technology neutral award the right approach for the award of 2500 – 2690 MHz?

IEEE 802 believes that administrations have a responsibility to enable innovative technologies and are encouraged by the UK's progressive thinking with respect to licensing in the 2.5 -2.69 GHz band.

While there may be opposition to releasing the band under a "technology neutrality" regulatory framework, this needs to be balanced with the positive benefits from enabling competition and removing anti-competitive barriers.

Further European activities should be undertaken to encourage other administrations to progressively move to a more flexible regulatory framework. IEEE 802 supports the UK in their efforts within Europe to positively ensure any Decision does not preclude flexibility. We are aware of ongoing developments within CEPT and ITU in pursuit of a channel plan for the 2.5 – 2.69 GHz band. We believe that while there is a general perception that 2.5 – 2.69 GHz could be split into 2 X 70 MHz for FDD and a 50 MHz centre gap for TDD, administrations should also consider the possibility of proactively allowing operators the flexibility to deploy TDD within FDD allocations.

 IEEE 802 believes that forcing any guard band requirements to come from the 50 MHz centre gap disadvantages TDD with respect to FDD. Consideration should be given to sharing any guard band requirement equitably.

Question 5.17 Do you consider an auction in 2006/7 appropriate?

IEEE 802 supports the Ofcom proposal to adopt the second option, namely: "wait until the position on any binding EU harmonisation measures are clear (we anticipate that we may get this clarity by mid 2005) and award the spectrum by auction in 2006/7 for use from 1/1/2007 on as flexible a basis as allowed by such binding measures."

IEEE 802 recommends that every effort be made to ensure that the EU harmonised measures enable this. Qtherwise, a concerted lobbying effort with the European Commission and a resulting European Mandate could be required.

Removing restrictions on the use of spectrum for mobile services

Question 8.1 Do you have any views on the approach that Ofcom should take to restrictions that prevent the use of spectrum for mobile services other than 3G?

IEEE 802 believes that restrictions that prevent the use of spectrum for mobile services other than 3G should be limited to technical considerations such as sharing criteria. Other limitations should be removed as soon as practical.

Question 8.2 Do you have a view on whether Ofcom should impose restrictions on new spectrum licences to prevent use of the spectrum for mobile services other than 3G?

IEEE 802 believes that restrictions on new spectrum licenses should be limited to technical considerations.

Question 8.5 Do you consider that the criteria used above are the most relevant considerations in relation to the potential removal of restrictions on offering 3G mobile services? Do you have any views on the approach that Ofcom should take towards removing restrictions in existing spectrum licences that prevent use of the spectrum to provide 3G mobile services? Which of options 1-4 above do you think offers an appropriate balance between those considerations that are relevant?

IEEE 802 supports the Ofcom proposal to adopt option 2, which would remove restrictions in 2007. We support efforts to allow flexibility in usage, especially with respect to allowing mobility in frequency bands originally identified for fixed and nomadic use but recommend that sufficient time is taken to enable appropriate sharing studies (if needed) to be performed. We believe that removing the restrictions in 2007 would be desirable and allow sufficient time to complete any necessary regulatory analysis and studies.

IEEE 802 believes administrations should remove constraints on how spectrum can be used, taking into account the implications of change of use which might necessitate additional technical analysis with respect to coexistence. Providing operators and users with flexibility, including mobility, is desirable; however, mobility performance is a direct function of frequency band. Hence, it is also important to continue to pursue access to lower frequency spectrum already identified for mobility, since some European countries are proposing to prevent innovative technological solutions being deployed, e.g. IEEE 802.16, in 2.5 – 2.69 GHz.

Question 8.7 Ofcom seeks views from interested parties on the approach that it should take to the award of new licences (other than in the 2010-2025 MHz and 2500-2690 MHz bands), and whether these should contain any restrictions as to use of the spectrum to offer 3G services. Do

you have any views on which of the options discussed offers the most appropriate balance between relevant considerations?

As stated above, IEEE 802 believes that restrictions on new licenses should be limited to technical considerations only.

Moved: To approve document 18-05-0014-00-0000_ofcom_sfr_implementation_plan_comment.doc as an 802 document, authorizing the Chair of 802.18 to do necessary editorial and formatting changes and, using the document as a "template," create the appropriate input to Ofcom.

Moved: Mike Lynch/Carl Stevenson

Passes: 12/1/2

| 9.08 | ME | Response to UK Ofcom on the UWB consultation | - | Lynch | 5 | 03:44 PM |

802.18 Motion to SEC	**Agenda:** 9.07 **Date:** 03/18/2005 **Time:** _

Motion by: 802.18 – Lynch   **Seconded by:** Stevenson

Moved: To approve document

18-05-0013-00-0000-ofcom_uwb_consultation_comments.doc as an 802 document, authorizing the Chair of 802.18 to do necessary editorial and formatting changes and, using the document as a "template," create the appropriate input to Ofcom.

Informative: The UK Ofcom asked for comments on their proposed rules for UWB. This document was jointly developed by 802.15 and 802.18 and circulated to the SEC on 16 March and no comments were received.

Approve: Do Not Approve: Abstain: Motion:

IEEE 802.18
RR-TAG

Project	IEEE 802.18 Radio Regulatory Technical Advisory Group (RR-TAG)
Title	**Reply Comments to the Ofcom UWB Consultation**
Date Submitted	[16 March, 2005]

Source	[Michael Lynch]	Voice:	[(972) 684-7518]
	[802.18 ad hoc draft group]	Fax:	[(972) 684-3775]
	[]	E-mail:	[mjlynch@nortel.com]

Re:	This doc contains text intended as a response to the Ofcom call for consultation on UWB.
Abstract	[This doc contains text intended as a response to the Ofcom call for consultation on UWB.]
Purpose	[The purpose of this document is to provide comment to Ofcom requested UWB consultation.]
Notice	This document has been prepared by the IEEE 802.18.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: UWB Consultation

To (Ofcom contact): Professor William Webb

Name of respondent: Michael Lynch

Representing (self or organisation/s): IEEE 802

Address (if not received by email):

CONFIDENTIALITY

What do you want Ofcom to keep confidential?

Nothing	X	Name/address/contact details/job title	
Whole response		Organisation	
Part of the response		If there is no separate annex, which parts?	

Note that Ofcom may still refer to the contents of responses in general terms, without disclosing specific information that is confidential. Ofcom also reserves its powers to disclose any information it receives where this is required to carry out its functions. Ofcom will exercise due regard to the confidentiality of information supplied.

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response. It can be published in full on Ofcom's website, unless otherwise specified on this cover sheet, and I authorise Ofcom to make use of the information in this response to meet its legal requirements. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once consultation has ended, please tick here.

Name   Michael Lynch   Signed (if hard copy)

REPLY COMMENTS TO THE OFCOM UWB CONSULTATION

IEEE 802 would like to applaud the leadership efforts of Ofcom in its proposed regulations to allow UWB technologies. IEEE 802 concurs with Ofcom's view that "under appropriate regulation, UWB could bring substantial net economic benefits to the UK as well as promoting innovation."

IEEE 802 applauds the Ofcom effort to allow for an introduction of UWB systems. IEEE 802 recommends that Ofcom monitor UWB use and perhaps periodically review the rules as experience is gained over time.

IEEE 802 welcomes Ofcom's analysis method, balancing interference versus economic benefits, as an equitable and innovative approach.

The UWB Consultation presents a new and beneficial concept in spectrum management wherein spectrum is shared with incumbent users at emission levels that do not cause harmful interference.

IEEE 802 supports Ofcom opening the full and contiguous 3.1 to 10.6 GHz band to UWB use as soon as possible. Industry is dedicated to resolving questions about potential interference from UWB to other radio services. Early deployment of products using UWB technology in the 3.1 to 5 GHz band will allow for higher performance and greater economic benefit to consumers. There are concrete plans to expand into the 5 to 10.6 GHz band in the future. Therefore, IEEE 802 anticipates use of the full 3.1 to 10.6 GHz band.

IEEE 802 recommends that the emissions mask should have a defined floor that is measurable with commonly available test equipment. IEEE 802 believes that the radiated measurement is the preferred technique.

IEEE 802 believes that Ofcom should consider multiple masks in the future depending upon the UWB applications used. For example low data rate and location tracking applications are currently under development and considered for international standardization. For these devices, the emissions characteristics may not require the steep roll-off in the proposed mask to operate on a non-interfering basis. Furthermore, our sources indicate that the steep roll-off may be an economic disincentive.

IEEE 802 believes that UWB offers great benefits to the consumer in many diverse applications. In addition to the communication applications considered IEEE 802 anticipates many more innovations in the future.

_____

Moved: To approve document 18-05-0013-00-0000-ofcom_uwb_consultation_comments.doc as an 802 document, authorizing the Chair of 802.18 to do necessary editorial and formatting changes and, using the document as a "template," create the appropriate input to Ofcom.

Moved: Mike Lynch/Carl Stevenson

Passes: 16/0/0

9.09			-			
9.10			-			
10.00		**LMSC Internal Business**	-			
10.01	**MI**	**Confirmation of Mike Lynch as chair of 802.18**	-	**Nikolich**	**5**	**03:50 PM**

Mike Lynch was elected as the chair of 802.18 by a vote of 12/0/0. Mike provided a short description of his background to the EC.

Moved: to confirm Mike Lynch as the chair of 802.18.
Moved: Stuart Kerry/Jerry Upton

Passes: 15/0/1

10.02	**MI***	**Residential Ethernet SG extension**	-	**Grow**	**0**	**03:19 PM**
10.03	**MI***	**POE Plus SG extension**	-	**Grow**	**0**	**03:19 PM**
10.04	**MI***	**802.11 ADS SG extension**	-	**Kerry**	**0**	**03:19 PM**
10.05	**MI***	**802.15.3c SG extension**	-	**Heile**	**0**	**03:19 PM**
10.06	**MI**	**802 Online Training**	-	**Thaler**	**10**	**03:53 PM**

IEEE 802 Online Training Update

IEEE 802 LAN/MAN Standards Committee (LMSC) EC meeting

18 March 2005

IEEE 802 Online Training: Current Milestones

- Final vendor selection by March 2005
- Contract review complete by early April 2005
- Content delivery to vendor by early April 2005
- Module testing by May 2005 (request for testing candidates)
- First module complete by June 2005
- Further determine IEEE-SA Staff resources needed for project: ongoing

IEEE 802 Online Training: Financial Information

- IEEE 802 EC approved $30,000 budget for first training module in July 2004

- Current SOW meets budget (approx. $26,000) and includes:
  - Content development
  - Learning Management System (LMS)

IEEE

- **Moved to approve going forward with the EMS courseware agreement with Avilar subject to IEEE legal and procurement review.**

Moved: to go forward with the EMS courseware agreement with Avilar, subject to IEEE legal and procurement review.

Moved: Pat Thaler/Carl Stevenson

This contract will not be materially significant to Avilar.

It was asked whether the currently reserved $30,000 should continue at that value, or if the value should be reduced to $26,000? The response was that the $30,000 should be continued.

Passes: 14/0/1

| 10.07 | MI | Networking RFQ approval | | - | Thaler | 10 | 04:04 PM |

IEEE 802 LMSC
Network Services Request for Quotes
Pat Thaler
Revision 3, 18-March-2005

1. Objective

Provide a robust computer communication network infrastructure for use at IEEE 802 plenary sessions including site survey, network design, installation, operation, and management.

2. Background

Recent IEEE 802 plenary sessions have had about 1500 attendees. Attendance levels are likely to remain between 1200 and 2500 attendees for the duration of this contract. Most attendees bring laptops and expect network connection to the Internet with the ability to run VPN connections to their home office. Most document distribution during the meeting is done via the network and the attached servers. The sessions are generally in hotel or conference center meeting rooms. Many of the future sessions covered by this contract will be located in a single large hotel. If there is unexpected expansion, it may be necessary to utilize meeting space in additional hotels or a convention center.   There are three plenary sessions a year held in March, July and November.

There are also interim session which may require services and involve 300 to 1000 attendees. We would like a quote on the cost of handling these sessions as well. There may be from three to six interims requiring services a year.

Some meetings are held outside North America – for the next two years this may apply to one plenary and several interims.

The full network is required to be operational in all meeting spaces from Monday morning to Friday afternoon. At least some portion of the network should be operational beginning Sunday afternoon to support pre-session meetings and early arrivals. Some group meetings conclude Thursday afternoon or Friday morning. Vendor may work with meeting planner to begin breakdown of the network in unused areas on Thursday and Friday. The network will need to remain in service until at least 6:00PM Friday in one specific meeting room for the Executive Committee session and in some portion the Conference Office.

Locations for our future sessions can be found at:
http://ieee802.org/meeting/future_meetings.html

3. Requirements

3.1.1. Required Network Services
The network must provide the following features:
- Network Address Translation (NAT)
- Translatable Virtual Private Networking (VPN) services. Support for Microsoft, Cisco, Nortel, and IPSEC VPN clients. Distribution of VPN sessions to a single external VPN server over multiple IP addresses on the Internet.
- Dynamic Host Configuration Protocol (DHCP)
- Mail forwarding (SMTP)
- Domain Name Services (DNS) including support for local hosting of 802wirelessworld.com and other Working Groups servers as needed.
- Caching / Acceleration Proxy services to reduce internet bandwidth.
- File sharing using Samba and FTP.
- Virus protection on Linux and/or Windows file servers.
- Network printer serving and sharing
- Backups of site configuration and in-progress document data.
- Detection, identification, and isolation of network users that are infected with viruses or performing "network-hostile" activities.
- Network Authentication and Encryption using 802.1x
- Maintain RADIUS server for network authentication

3.1.2. Equipment

IEEE 802 will provide networking equipment including network servers, routers, hubs, access points, and wiring. Vendor is to provide the following services for equipment:

- Storage for equipment between meetings and shipment to session site coordinating with IEEE 802 meeting planner.
- Inventory, test, and inspection of equipment to verify that it is in working order.

Vendor is to provide any personal equipment required for its staff to maintain the network: e.g. laptops and any network test equipment. Vendor may recommend that IEEE 802 purchase additional equipment or software that would improve network operation.

3.1.3. Network support services
Vendor is to provide the following network support services:

- Design the network including both internal network layout and external connections. Include design for any back-up alternatives as necessary.
- Propose internet services appropriate to the venue.

- Provide IEEE 802 with documentation of the planned network including topology diagram and configuration information prior to the meeting.
- Provide IEEE 802 with a detailed Network Services Budget based on the final design including estimates of all costs and expenses.
- Install onsite Network Operations Center (NOC).
- Install wireless and wired network infrastructure as needed at session sites.
- Monitor and maintain network operation.
- Work with internet connection provider to resolve any external connection problems. Verify contracted bandwidth capacity and proper operation of internet service provider connection with simulated load testing on Sunday before the session.
- Provide 24/7 user and network support during sessions. The user support "helpdesk" may be limited to the hours of 7:30AM to 9:30PM, but the network itself should be operational 24/7.
- After close of session, breakdown the network, inventory and pack equipment, and ship back to storage site.
- Perform any necessary updates to servers and networking equipment between sessions.
- Synchronizes files and session information to remote hosted servers.
- Import users to RADIUS database for network authentication purposes.

4. Performance

Performance goals of the network are support of up to 2500 simultaneous connected users with availability of at least 98% during the hours when session meetings are in progress.

5. Additional information

Proposals should include information on staffing and a statement of whether vendor or IEEE 802 will provide equipment insurance.
IEEE 802 will reimburse reasonable and appropriate travel and shipping expenses for vendor at IEEE 802 hosted sessions and for approved pre-session on-site inspections.

IEEE provides a budget for equipment maintenance per plenary cycle (4 months). Any expenses that exceed that budget must be approved in advance.

Moved: to approve the issuance of the RFQ.
Moved: Pat Thaler/Stuart Kerry

Passes: 14/0/0

10.08   MI   Formation of 802.11 CBP SG   -   Kerry   5   03:39 PM

IEEE 802 LMSC RESOLUTION

Motion By: KERRY   Seconded By: Buzz R.

Request the IEEE 802 Executive Committee to approve the formation of the 802.11, study group Contention Based Protocol (CBP) , that invites the participation of all interested parties, to study the opportunity afforded by the FCC Report and Order and Memorandum Opinion and Order (FCC - 05-56) subject to the scope as shown in doc: 802.11-05/0223/r0.

802.11 WNG Results

SG: Eccelsine*/Myles*   Result: *(25-0-5)* Approved

WG: Moved by *TK Tan WNG-Chair* on behalf of the Study Group

802.11 WG Results

   – Result: *(88-5-9)* Approved

Proposed CBP SG Scope

- **Identify technical scope**
- **Determine impacts on IEEE 802.11, for example:**
  - Co-channel sensing requirements
  - Definition of 'contention-based protocols'
  - Signaling of enablement to mobile stations
- **Decide whether a TG is needed, and if so define PAR and 5Criteria.**

Moved: to approve the formation of the 802.11, study group Contention Based Protocol (CBP) , that invites the participation of all interested parties, to study the opportunity afforded by the FCC Report and Order and Memorandum Opinion and Order (FCC -05-56) subject to the scope as shown in doc: 802.11-05/0223/r0.

Moved: Stuart Kerry/Buzz Rigsbee

Some opinions were expressed that this should be an EC SG. There was also reservation that the scope of the SG was somewhat vague.

There was much discussion of the character of the study group as under a single working group, jointly among several working groups, or under the EC.

Roger suggests that since this involves wireless working groups that do not always meet coincidently, the SG could meet at any meeting of any of the wireless working groups. Stuart agrees that this SG will hold meetings at all meetings of any of the wireless working groups.

Passes: 7/6/3

10.09			-			
10.10	MI	802.11w press release	-	Kerry	5	04:33 PM

IEEE 802 LMSC RESOLUTION

Motion By: KERRY   Seconded By:

Request the IEEE 802 Executive Committee approve document 05-0310 as the press release to announce the formation of Task Group W, Protected Management Frames.

802.11 WG: Moved by *Nanci Vogtli, on behalf of the PC*

 802.11 WG Results

– Result: *(92/0/6)* Approved

Approve: Do Not Approve: Abstain:

IEEE P802.11
Wireless LANs

Suggested Liaison to IEEE 802.1

Date: 2005-03-17

Author(s):

Name	Company	Address	Phone	email
Nanci Vogtli	Concrete Logic			nancivogtli@concrete-logic.com
Dorothy Stanley	Agere Systems			dstanley@agere.com

Abstract

This document contains the press release for TGw, Protected Management Frames.

Contact: Stuart J. Kerry, Chair of the 802.11 Working Group
408-348-3171; stuart@ok-brit.com
or
Karen McCabe, IEEE Marketing Manager
+1 732-562-3824, k.mccabe@ieee.org

IEEE Begins Work on Protected Management Frames for Wireless LANs

IEEE APPROVES FORMATION OF WIRELESS

LOCAL AREA NETWORK STANDARDS TASK GROUP

Project Addresses Management Frame Protection

PISCATAWAY, N.J., USA, __ March 2005 – The IEEE has approved the formation of a new task group, concerning IEEE 802.11™ wireless local area network (WLAN) standards. The project involves a wireless LAN standard amendment for WLAN devices to support protection of management frames. This amendment, TGw, provides enhancements to the IEEE 802.11 Medium Access Control layer to provide mechanisms that enable data integrity, data origin authenticity, replay protection, and data confidentiality for selected IEEE 802.11 management frames.

This project is sponsored by the IEEE Computer Society. IEEE 802.11 standards form a family of specifications that define how WLAN equipment should be produced so equipment from different manufacturers can work together. IEEE 802.11w is under development by the IEEE 802.11 Working Group, which is sponsored by the IEEE 802® LAN/MAN Standards Committee of the IEEE Computer Society. For further information, visit: http://www.ieee802.org.

About the IEEE Standards Association

The IEEE Standards Association, a globally recognized standards-setting body, develops consensus standards through an open process that brings diverse parts of an industry together. These

standards set specifications and procedures based on current scientific consensus. The IEEE-SA has a portfolio of more than 870 completed standards and more than 400 standards in development. Over 15,000 IEEE members worldwide belong to IEEE-SA and voluntarily participate in standards activities. For further information on IEEE-SA see: http://www.standards.ieee.org/.

About the IEEE

The IEEE has more than 300,000 members in approximately 175 countries. Through its members, the organization is a leading authority on areas ranging from aerospace, computers and telecommunications to biomedicine, electric power and consumer electronics. The IEEE produces nearly 30 percent of the world's literature in the electrical and electronics engineering, computing and control technology fields. This nonprofit organization also sponsors or cosponsors more than 300 technical conferences each year. Additional information about the IEEE can be found at http://www.ieee.org.

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# # #

This will be sent to a 10-day EC email ballot.

10.11				-			
10.12	MI	Approval of updated SOW for SA P&P support		-	Sherman	5	04:35 PM

Statement of Work for
Revision of IEEE Project 802 LMSC Policies & Procedures

1 Background

The IEEE Project 802 LAN MAN Standards Committee (LMSC) maintains a set of Policies and Procedures (P&P) as required by the Standards Board of the IEEE Standards Association (SA) and the IEEE Computer Society's Standards Activities Board (CS SAB), under whose auspices the LMSC operates. This P&P has a long history and has undergone many changes, as have the many documents within and without IEEE that have precedence over the LMSC P&P. In addition, the SA now has a Model P&P whose format the LMSC P&P does not follow, as the LMSC P&P was created well in advance of the Model P&P. Because of this, it is felt that a rewrite of the current LMSC P&P is required to reformat it around the SA Model P&P, and to ensure that it is in compliance with those documents that have precedence over it.

In addition, many changes to the LMSC P&P have been proposed so that the P&P may better accommodate some of the complex situations facing the LMSC today. The burden of implementing the procedures required to ballot and incorporate these changes is so large that the volunteers who currently maintain the P&P feel outside assistance may be required on an ongoing basis. Thus, this Statement of Work (SOW) is being issued to the Staff of the SA as a solicitation for assistance with the activities involved in revising the LMSC P&P.

2 Contract Management
Matthew Sherman, Vice Chair, IEEE 802 LMSC, will be the contract manager for IEEE 802. Karen Kenney, Associate Managing Director, will be the contract manager at the IEEE SA.

2.1 Subject Matter Expert

The IEEE-SA will assign Dave Ringle as the subject matter expert to this project.

3 Detailed Work Plan

The following work items are required to complete the activities desired.

3.1 Familiarization with current LMSC P&P and related documents - $6,008.00

SA Staff will develop in-depth knowledge of the following documents:

LMSC P&P
LMSC Chair's Guidelines
Any pending change request for the LMSC P&P

CS P&P
CS SAB P&P

3.2 Recommended enhancements for conformance with IEEE-SA Governance Policy and Procedures - $3,479.00

This next step will analyze the current P&P to determine if it is deficient in that it is missing content relative to the model P&P and other IEEE-SA documents. SA Staff should add content in redlined form to create a new draft (DRAFT 2) of the P&P. This draft will contain no substantive deletions, only additions. Any conflicts or contradictions created by the added text should be highlighted in this draft. The draft will be distributed to the Executive Committee of the LMSC (EC) for comment. SA Staff will collect and collate the comments for presentation to the EC. Based on the EC commentary, a revision to DRAFT2, DRAFT2.1, may be created.

3.3 Revising updated LMSC P&P - $16,129.00, travel and living expenses to be billed separately if required.

The IEEE 802 Contract Manager will supply to SA Staff the final approved changes from any EC ballots on the LMSC P&P that have been completed in 2005. SA Staff will keep these changes until the creation of a final draft (see 3.4).

LMSC has four major areas of revision to its P&Ps that need to be implemented within that document. They are Working Group Membership/Meetings, Process Issues, Organizational Issues, and a collection of miscellaneous issues such as documentation and editorial. Each one of these major areas contains a number of specific sub-issues concerning the existing LMSC P&P.

SA Staff will assist in creation and serve as administrator of these four major revision ballots. Working with the contract manager of IEEE 802, staff will develop proposed text changes for each specific revision within the four major areas.

SA staff will prepare and conduct an initial ballot of the EC on each of the four major areas of revision to the LMSC P&P. Working with the contract manager of IEEE 802, staff will conduct ballot resolution based on any EC comments or objections to each ballot. SA staff will conduct teleconferences, webex, and face to face meetings, if required, on each of the four major areas of revision. Such meetings shall be conducted according to a prearranged schedule with the EC. Such a schedule will have to fit within the overall deliverable schedules for this statement of work.

The option of separately balloting any particular change due to lack of consensus from the EC may also be exercised.

Deliverable Schedule for 3.3:

Working Group Membership/Meetings
>   Prepare and mail out initial ballot by 29 April
>   EC initial ballot closes by 20 May
>   Suggested ballot resolution prepared by 3 June
>   Telecons / Webex for further resolution 17 June
>   Report to EC of final resolution, including revised document by July IEEE 802
>   Plenary meeting

Process Issues
>   Prepare and mail out initial ballot by 20 May
>   EC initial ballot closes by 10 June
>   Suggested ballot resolution prepared by 20 June
>   Telecons / Webex for further resolution 5 July
>   Report to EC of final resolution, including revised document by July IEEE 802
>   Plenary meeting

Organizational Issues
>   Prepare and mail out initial ballot by 20 May
>   EC initial ballot closes by 10 June
>   Suggested ballot resolution prepared by 20 June
>   Telecons / Webex for further resolution 5 July
>   Report to EC of final resolution, including revised document by July IEEE 802
>   Plenary meeting

Editorial/Documentation Issues
>   Prepare and mail out initial ballot by 20 May
>   EC initial ballot closes by 10 June
>   Suggested ballot resolution prepared by 20 June
>   Telecons / Webex for further resolution 5 July
>   Report to EC of final resolution, including revised document by July IEEE 802
>   Plenary meeting

The IEEE 802 Contract Manager shall determine if SA Staff is required to attend any IEEE 802 Plenary meetings in support of the activity in 3.3. If travel is required, actual travel and living expenses for any trips shall be supported by IEEE 802 and are in addition to any costs required by this statement of work.

SA staff will prepare a final, complete versionof the LMSC P&P, incorporating the approved suggestions from 3.2 as well as the resolutions from the ballots conducted from 3.3. This draft will also contain all changes approved through any earlier ballots of the EC completed in 2005.

This document will be delivered to the EC by August 10, 2005 in Word and PDF formats.

3.4 Costs

The costs of the work outlined above is quoted to be $25,616.00 plus any travel and living expenses associated with trips to IEEE 802 Plenaries. The travel expenses will be billed on actual low-cost coach class travel to and from each plenary session as negotiated by the IEEE Travel Office. The living (hotel) expenses will be billed based on actual charges associated with the rates obtained by the 802 Plenary meeting planners. Meal expenses will not exceed $75 per day. Any legal expenses requested by the IEEE 802 will be billed based on actual charges.

3.5 Period of Performance

The contract period of performance for items 3.1 through 3.3 shall be 19 July 2004 to 31 July 2005. If the IEEE 802 EC elects to exercise item 3.5, a separate deliverable and cost schedule will be established.

4   On-Going support for P&P Revisions

The volunteers of the LMSC will likely require ongoing assistance to deal with future ballots of proposed P&P changes outside the scope of this statement of work. The desire is to allocate funds at LMSC Plenary sessions for ongoing support, should it be needed. It is also desired that such efforts be turned around quickly, without a formal SOW process.

Accordingly, it is requested that SA staff provide a quote for assistance on their part based on additional task statements that is in line with the quote for Clause 3. At least 10 business days prior to initiating further work items, LMSC volunteers will present the work items in writing (or electronic format) to SA staff. SA staff should then provide an estimate of the number of hours and costs to complete the item as well as indicate their availability to perform the work (in writing or electronically). The LMSC will then decide whether to allocate funds to perform such additional work items on a not-to-exceed basis.

5   Terms and Conditions

Exclusivity clause: Any work done for LMSC is the property of the IEEE. If the IEEE-SA wishes to use the LMSC work (or derivative works) for other groups, it must obtain permission from the LMSC.

Right to modify: The SOW can be modified only by written addendum and upon mutual agreement and signature of the original signatories of this agreement, their successors, or designees.

Right to terminate: Either party reserves the right to terminate the contract for this SOW, without penalty, at the end of any task in section 3. The SA will be compensated for all tasks and expenses until the point of termination.

Payments: The IEEE-SA will invoice the LMSC for each task at the completion of the task. Invoices will be paid within 30 days of their receipt.

Liability: IEEE-SA staff and/or legal counsel shall not be held liable for any deficiencies in the resultant P&P documents, as ultimate responsibility for the approval of these documents and their contents resides in the EC.

6   Notices
Any notices, reports, payments or other form of communication required by this Agreement shall be sent as follows:

LMSC	IEEE-SA
Matthew Sherman, First Vice Chairperson BAE SYSTEMS, CNIR Mail Stop 11B01 164 Totowa Road Wayne, NJ 07474-0975 Email: matthew.sherman@baesystems.com Office: +1 973.633.6344 Cell: +1 973.229.9520 Fax: +1 973.633.6004	Karen Kenney, Associate Managing Director, Business Administration IEEE-SA 445 Hoes Lane Piscataway, NJ 08855 k.kenney@ieee.org Bus: +1. 732.562.3822 Bus Fax: +1.732.562.1571 Web Page: http://www.standards.ieee.org

Judith Gorman   Paul Nikolich
Managing Director, IEEE-SA   Chairperson, IEEE 802 EC

Date: Date

Moved: To approve activities and expenditures for rewrite and maintenance of LMSC Policies and Procedures as described in the document:

      Final 0503 SOW for SA P&P Support.doc (shown above)

Moved: Mat Sherman/Tony Jeffree

Mat indicated that the cost has declined with this SOW.

Passes: 14/0/0

Straw Poll:
Do we want SA to present a proposal for breaking our P&P into a set of documents, some of which would be easier to modify.

Yes: 13
No: 1
Abstain: 1

10.13			-		
10.14			-		
10.15			-		
10.16	**MI**	**Ballot term limit P&P change**	-	**Grow**	**5**

Removed from the agenda without objection.

10.17	**MI**	**Ballot P&P revision to fix clause 7.5**	-	**Jeffree**	**5**	**04:44 PM**

Moved: To approve for distribution and executive committee ballot the P&P Revision titled "WG Membership and Meetings" as described in the document titled:

      802.0-WG_Membership_&_Meetings-Proposed_P&P_Revision_ballot_r3.doc

Moved: Tony Jeffree/Mat Sherman

Passes: 15/0/0

10.18	**MI**	**Adopt "P&P Revision Process"**	-	**Sherman**	**5**	**04:50 PM**

EC Motion

To approve the proposed P&P revision titled "P&P Revision Process" as described in the document titled:

802.0-P&P_Revision_Process-Proposed_P&P_Ballot_Resoution_r3_050318.doc

Moved: M. Sherman

2nd: R. Grow

For:

Against:

Abstain:

Comments

- Swap requirements for approval to ballot and final approval

- Eliminate 'further study' option

Moved: To approve the proposed P&P revision titled "P&P Revision Process" as described in the document titled:

      802.0-P&P_Revision_Process-Proposed_P&P_Ballot_Resoution_r3_050318.doc

Moved: Mat Sherman/Bob Grow

Passes: 13/1/0

10.19	MI	Division of "EC Membership and Meetings" Question	-	Sherman	5	04:53 PM

This is a correction of the title for this item. It will be taken up after item 10.22.

10.20	MI	Adopt "EC Voting Rules"	-	Sherman	5	04:54 PM

EC Motion

To approve the proposed P&P revision titled "EC Voting Rules" as described in the document titled:

802.0-EC_Voting_Rules-
Proposed_P&P_Ballot_Resolution_r5_050318.doc

Moved: M. Sherman

2nd: R. Grow

For:

Against:

Abstain:

Comments

- Tighten up voting rules
- 2/3 vote for disciplinary action

Moved: To approve the proposed P&P revision titled "EC Voting Rules" as described in the document titled:

802.0-EC_Voting_Rules-Proposed_P&P_Ballot_Resolution_r5_050318.doc

Moved: Mat Sherman/Bob Grow

Passes: 16/0/0

| 10.21 | MI | Adopt "WG Voting" | - | Sherman | 5 | 04:56 PM |

EC Motion

To approve the proposed P&P revision titled "WG Voting Rules" as described in the document titled:

> 802.0-WG_Voting_Rules-Proposed_P&P_ballot_resolutions_r5_050318.doc

Moved: M. Sherman

2nd: R. Grow

For:

Against:

Abstain:

Comments

- Fixed problems in WG letter ballot rules
  - Were too specific to draft balloting

Moved: To approve the proposed P&P revision titled "WG Voting Rules" as described in the document titled:

> **802.0-WG_Voting_Rules-Proposed_P&P_ballot_resolutions_r5_050318.doc**

Moved: Mat Sherman/Bob Grow

Moved: to lay the motion on the table
Moved: Pat Thaler/Stuart Kerry

Passes: 9/1/4, the motion is tabled.

10.22	MI	Adopt "EC Membership and Meetings"	-	Sherman	5	05:05 PM

Moved: To approve the proposed P&P revision titled "EC Membership and Meetings" as described in the documents titled:
- ➢ **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r6_050318_all_else.doc**
- ➢ **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r5_050313_telecon.doc**
- ➢ **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r5_050313_emeriti.doc**

Moved: Mat Sherman/Tony Jeffree

10.22a	MI	Division of "EC Membership and Meetings" Question	-	Sherman	5	05:06 PM

Moved: To divide the question of approving the P&P Revision titled "EC Membership and Meetings" into motions to approve the individual documents titled:
- ➢ **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r6_050318_all_else.doc**
- ➢ **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r5_050313_telecon.doc**
- ➢ **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r5_050313_emeriti.doc**

Moved: Mat Sherman/Tony Jeffree
Passes: without objection

Taking up each of the individual motions, in turn:

Moved: To approve the proposed P&P revision titled "EC Membership and Meetings - emeriti" as described in the document titled:

> **802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r5_050313_emeriti.doc**

Moved: Mat Sherman/Tony Jeffree

Fails: 7/5/3

Moved: To approve the proposed P&P revision titled "EC Membership and Meetings - telecon" as described in the document titled:

    802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r5_050313_telecon.doc

Moved: Mat Sherman/Tony Jeffree

Fails: 0/12/2

Moved: To approve the proposed P&P revision titled "EC Membership and Meetings – all else" as described in the document titled:

    802.0-EC_Membership_&_Meetings-Proposed_P&P_Ballot_Resolution_r6_050318_all_else.doc

Moved: Mat Sherman/Tony Jeffree

    Moved: the previous question
    Moved: Carl Stevenson/Stuart Kerry
    Fails: 7/6/0

Passes: 14/1/1

10.23	**MI**	**Ballot "WG Membership and Meetings"**	**-**	**Sherman**	**5**	**05:26 PM**

Moved: to issue agenda items 10.23-26 to go to ballot
Moved: Mat Sherman/Tony Jeffree

    Moved: the previous question
    Moved: Bob O'Hara/Carl Stevenson
    Passes: without objection
Passes: the chair votes in favor 12/1/4

10.24	**MI**	**Ballot "LMSC Organization"**	**-**	**Sherman**	**5**	
10.25	**MI**	**Ballot "LMSC Procedures and Process"**	**-**	**Sherman**	**5**	
10.26	**MI**	**Ballot "Miscellaneous Issues"**	**-**	**Sherman**	**5**	
10.27			**-**			
10.28			**-**			
10.29	**MI**	**Venues outside North America**	**-**	**O'Hara**	**10**	**05:30 PM**

Moved: to establish an EC subcommittee to recommend procedures for identifying and selecting Plenary venues outside North America, including, but not limited to, the development of a meeting requirements package for distribution to potential meeting hosts and a meeting host solicitation package. The members of this subcommittee will include, at

a minimum, the EC Executive Secretary and a representative from the meeting planner. A status update is to be provided to the EC 30 days prior to the next plenary session.

Moved: Bob O'Hara/John Hawkins

Buzz will chair the subcommittee. Paul will appoint members.

Passes: 15/0/0

10.30			-			
10.31			-			
10.32			-			
10.33			-			
10.34			-			
11.00		**Information Items**	-			
11.01	**II**	**Report on appeal requests**	-	**Nikolich**	**10**	**05:40 PM**

The intent of this item is to alert the EC that the EC chair had two appeal requests this week that may or may not result in formal appeals to be handled at the July plenary session.

1) David James is considering appealing the handling of his comments by the 802.3 ballot resolution committee on 802.3rev-am. I met with him in an attempt to resolve his concerns informally this week. We did not reach resolution at that meeting, but David is considering whether or not to pursue a formal appeal.

2) Mark Bowles is considering appealing his removal from the 802.15 WG voter roster due to not satisfying the requirement to return 2 out of the last 3 letter ballots. I met with him in an attempt to resolve his concerns informally this week. We did not reach resolution at that meeting, but Mark and I agreed to meet further on this with Bob Heile to resolve his concern via telephone over the next few weeks.

11.02	**II**	**Machine Readable Extracts**	-	**Grow**	**3**	**05:42 PM**

Standards Extracts

- Manual entry of essential components of standards is difficult and error prone
- Complexity growing in IEEE 802.3
    - 1000BASE-T – 5 pages of templates
    - 10GBASE-T – 144 page template
- Machine readable extracts are important
- Do other 802 WGs have similar challenge?
- Should we have a common approach in 802?
- Are we content with:
    http://standards.ieee.org/reading/ieee/downloads/LMSC

| 11.03 | II | P802.3an and P802.3aq WG ballots approved | - | Grow | 0 | 05:49 PM |
| 11.04 | II | 802.15.3a issues update | - | Heile | 5 | 05:49 PM |

This TG started 23 months ago with 23 proposals. 18 months ago, this was reduced to 2 proposals. There are two camps that are well funded and have been making many allegations against each other. They are deadlocked. There is a sense that "something" needs to be done. Bob will report back if any action needs to be taken by the EC.

| 11.05 | II | EC Procedures for Openness | - | Sherman | 10 | 05:17 PM |

Openness Issues for EC Reflector

Author:

Matthew Sherman
1st Vice Chair, IEEE 802
BAE Systems - CINR
Matthew.Sherman@BAESystems.com

Date: March 14th, 2005

Why this topic

- In P&P revisions contemplated openness of EC reflector has been raised as issue
  - Telecons
  - Lengths of electronic ballots
  - Outside comments on P&P revisions, etc
- A number of suggestions have been made to improve openness

Mechanisms for Improved Openness

- Leave things as is
  - Archive access to reflector traffic
- Open current EC reflector to observers
  - Is this even possible?
- Separate reflector for rules changes and other issues
- Separate observer reflector with forwarding from current reflector
- Posting on website

Straw Poll: Should we persue?

- Leave things as is   _____
    - Archive access to reflector traffic
- Open current EC reflector to observers   _____
    - Is this even possible?
- Separate reflector for rules changes etc.   _____

- Separate observer reflector (forwarding)   _____

- Posting on website   _____

Straw poll:
Leave things as they are: 13
Open EC reflector to observers: 0
Separate reflector for rules changes, etc: 0
Provide a separate EC reflector for observers: 1
Posting on web site: 1

11.06 II   Network Services Update   -   IDEAL   5   05:57 PM

IEEE NETWORK OVERVIEW

Audience:
Institute of Electrical and Electronics Engineers

March 13th - 19nd, 2005
Atlanta, GA

**Prepared by:**
Anthony L. Awtrey
CTO
I.D.E.A.L. Technology Corporation

I.D.E.A.L. TECHNOLOGY CORPORATION

NETWORK PLAN

- Provide network support for conference

  - Network topology design and implementation

  - Management of network resources

  - Facilitate Internet access

  - File and print server access

- Provide end user support for conference

  - Wireless and wired client configuration

  - Diagnose and resolve VPN issues

- Communicate with all members any network disruptions or notable network issues

I.D.E.A.L. TECHNOLOGY CORPORATION
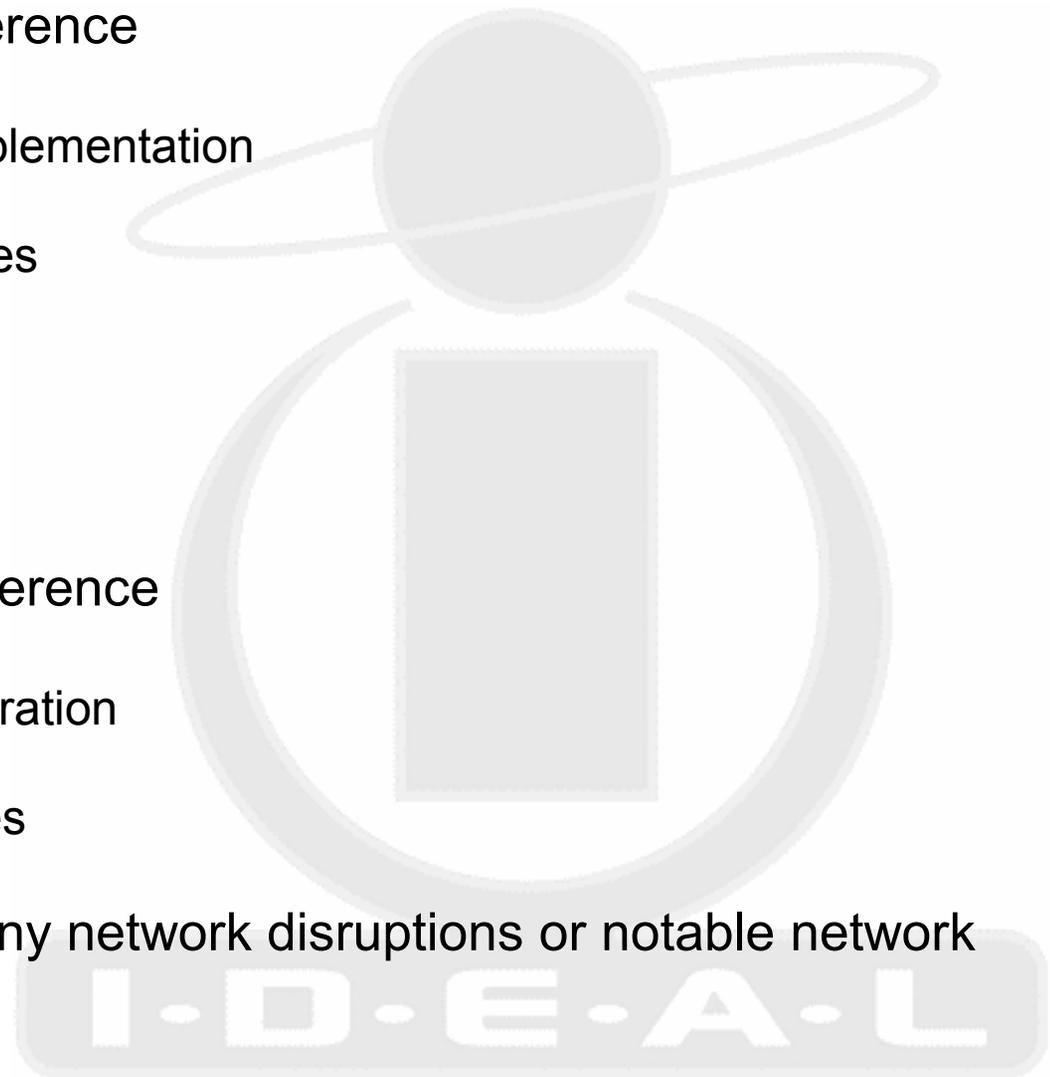
NETWORK AVAILABILITY

- Equipment inventory and initial NOC configuration by 1:00pm Saturday

- Internet access established by 2:00pm Saturday

  - Core Communications and Hyatt Regency Atlanta took extraordinary steps to ensure that the DS3 was installed, tested and ready for us by Saturday

- Deployment of access points completed by Sunday 9:00pm

  - Thanks go to Face To Face Events and Hyatt Regency Convention Services who scheduled meeting room access starting on Saturday

  - The 28,832 sq. foot Centennial Ballroom (I-IV) represents a record for IEEE conferences with a network designed to support 1200 clients utilizing 16 access points during the opening plenary

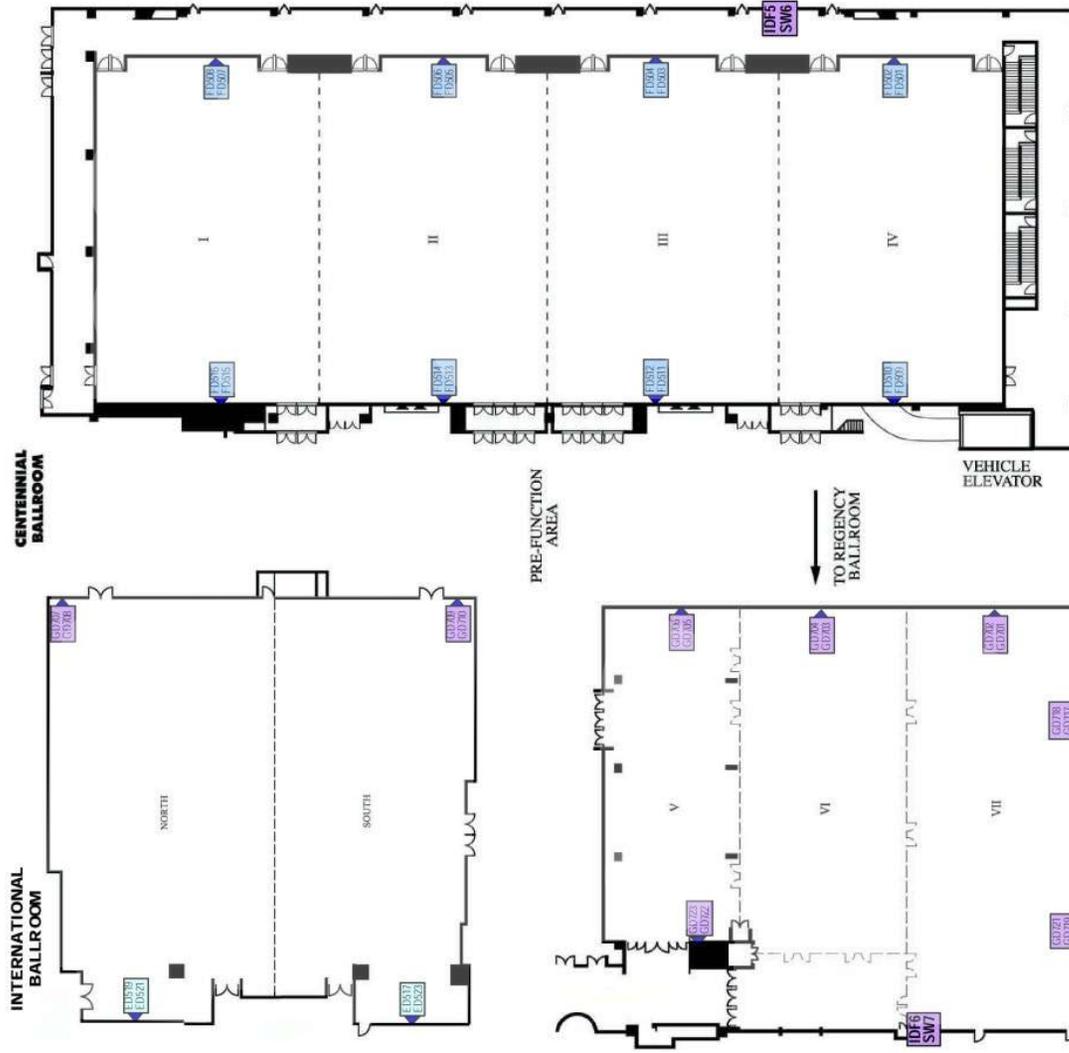- All services were active and available on time for conference sessions
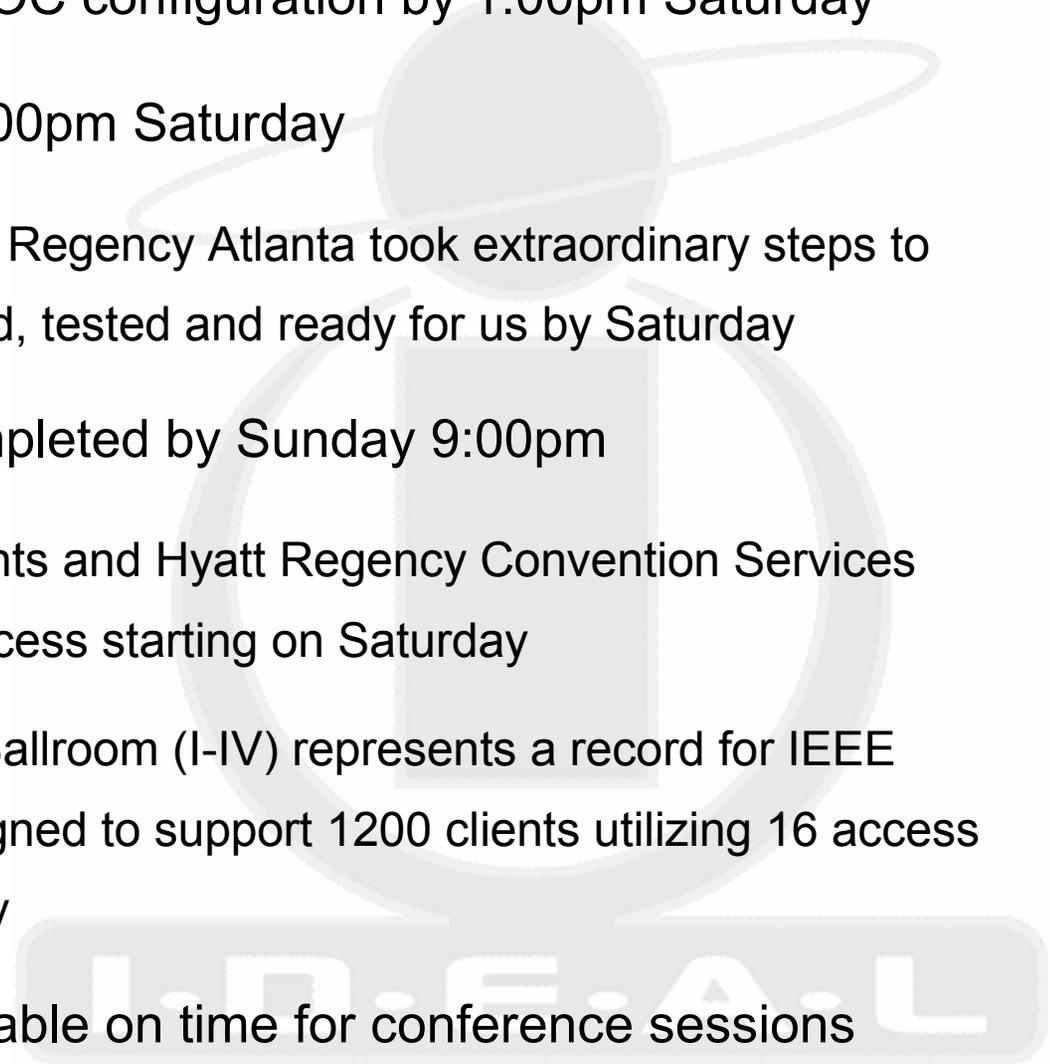
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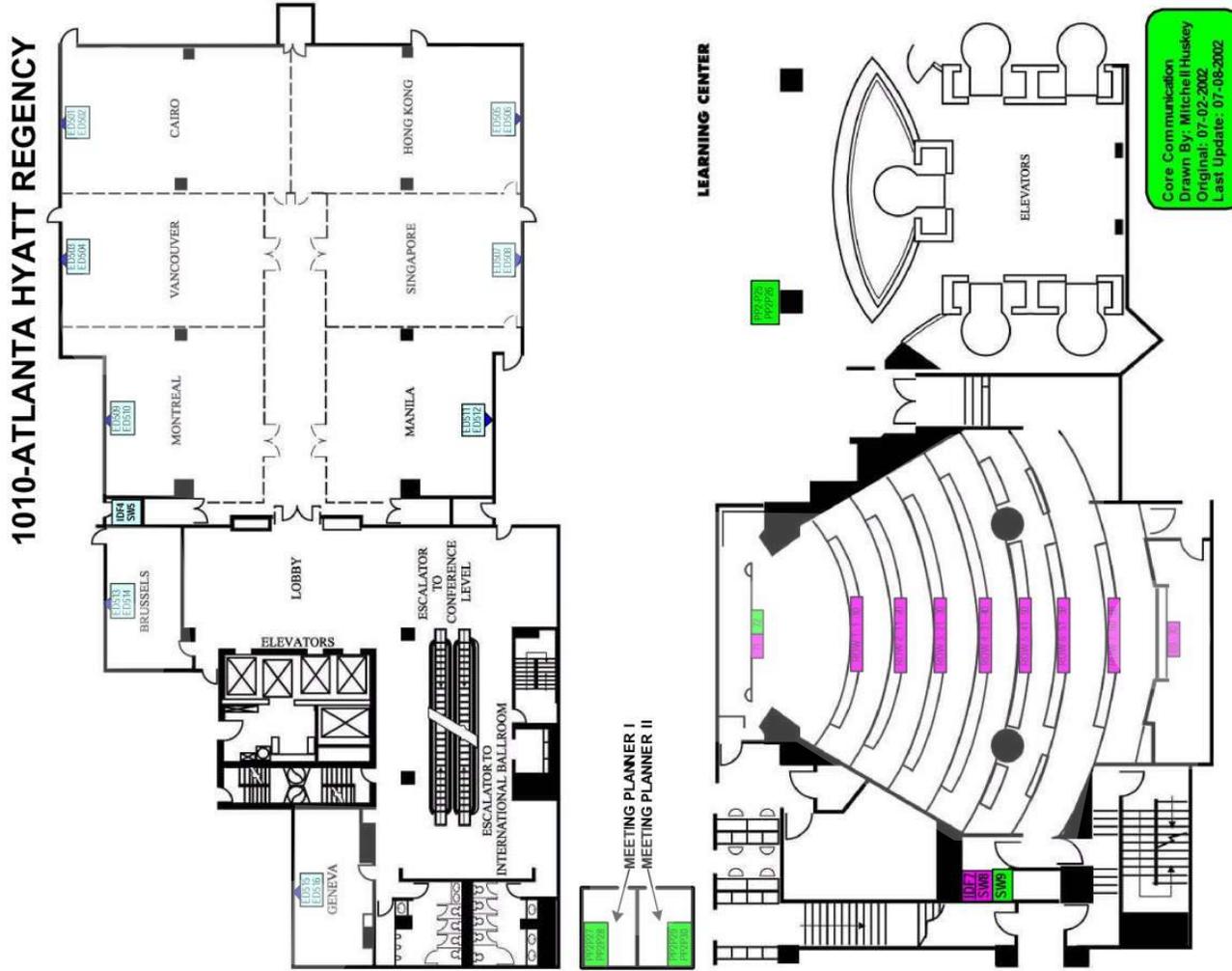
Hyatt Regency II

HYATT REGENCY III

Suite 226

HYATT REGENCY IV

NETWORK STATISTICS

(Statistics accurate as of 9:00am 03-18-2005)

- Client Statistics

  - Unique devices requesting an IP address: 2028

  - Average concurrent network clients: 950 (Max 1554)

- HTTP Statistics

  - Total HTTP requests served: 8,613,726

  - Total Gigabytes of HTTP data delivered: 67.9 GB

  - Average rate of requests for proxy server: 32 req/sec (Max 66 req/sec)

  - Proxy averaged a 45.11% cache hit rate which speeds web browser responsiveness and reduces the bandwidth utilized

- Internet Statistics

  - Average Internet access utilization: 16-24 Mb/sec (Max 30 Mb/sec)

I.D.E.A.L. TECHNOLOGY CORPORATION
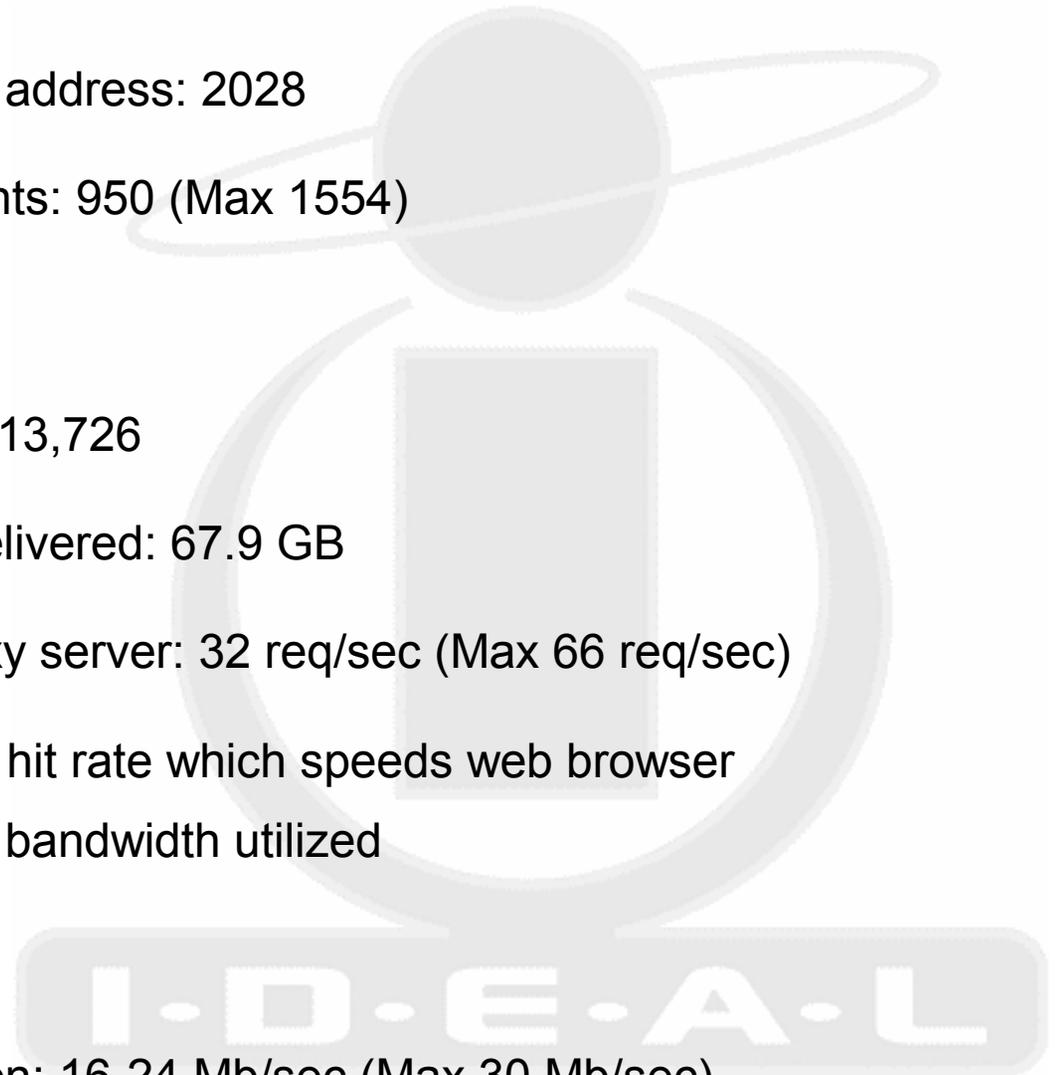
NETWORK CLIENTS

19	3Com Corporation	4	Delta Networks, Inc.	1	Nokia Danmark A/S
1	Abocom Systems, Inc.	4	Edimax Technology Co., Ltd.	8	Nokia Wireless Business Comm.
1	Accton Technology Corp.	5	Enterasys Networks	15	Nortel Networks
3	Acer Technologies Corp.	5	Epigram, Inc.	1	Palm Inc.
20	Actiontec Electronics, Inc.	1	Ericsson Group	52	Philips Components
114	Agere Systems	1	Farallon Computing/Netopia	2	Planet Communications, Inc.
10	Airgo Networks, Inc.	13	Fujitsu, Ltd	23	Private
47	Aironet Wireless Communication	107	Gemtek Technology Co., Ltd.	22	Proxim, Inc.
1	Airvast Technology Inc.	2	Giga Fast E. Ltd.	4	Quanta Computer, Inc.
1	Allied Telesis K.K.	3	Global Sun Technology, Inc.	2	Realtek Semiconductor Corp.
8	Alpha Networks Inc.	25	Hewlett Packard	24	Samsung Electronics Co., Ltd.
4	Alps Electric Co., Ltd.	1	High Tech Computer, Corp.	1	Senao International Co., Ltd.
62	Ambit Microsystems Corporation	3	I-O Data Device, Inc.	3	Sharp Corporation
10	Ani Communications Inc.	58	IBM Corporation	1	Sitecom Europe Bv
40	Apple Computer, Inc.	536	Intel Corporation	10	SMC Networks, Inc.
1	Arima Computer Corp.	3	Intersil Corp.	27	Solomon Extreme International Ltd.
74	Askey Computer Corp.	1	Inventec Corporation	25	Sony Corporation
2	Asustek Computer Inc.	2	Lg Electronics, Inc.	1	Standard Microsystems Corp.
5	Atheros Communications, Inc.	7	Lucent Technologies	5	Sychip Inc.
8	Belkin Corporation	4	Marvell Semiconductor, Inc.	4	Symbol Technologies, Inc.
2	Benq Corporation	3	Matsushita Electric Ind. Co	1	Test-Um Inc.
1	Billionton Systems, Inc.	8	Megahertz Corporation	49	The Linksys Group, Inc.
3	Broadcom Corporation	14	Melco Inc.	15	Toshiba Corporation
1	Cameo Communications, Inc.	4	Micro-Star International	2	U.S. Robotics, Inc.
2	Card Access, Inc.	1	Microlink Communications Inc.	9	USI
166	Cisco Systems, Inc.	4	Microsoft Corp.	2	Vmware, Inc.
1	Cnet Technology Inc.	1	Mitac International Corp.	1	Winbond Electronics Corp.
5	Compal Electronics, Inc.	1	Mmc Technology, Inc.	13	Wistron Corp.
30	Compaq Computer Corporation	1	Module Department	1	Woonsang Telecom, Inc.
2	Corega K.K.	2	Nec Corporation	23	Ww Pcba Test
1	Cybertan Technology, Inc.	1	Nec Customtechnica, Ltd.	43	Xircom
46	D-Link Corporation	74	Netgear, Inc.	1	Zyxel Communication
45	Dell Computer Corp.	1	No Wires Needed Bv	1	00:08:3B
				2028	**Total**

NETWORK ISSUES

- No significant outages of IEEE servers or networking equipment

  - Automated management and monitoring tools worked perfectly and alerted staff when network devices became disconnected

  - The new 802.16 document server was able to work under load all week without reboots which was previously an ongoing issue at plenaries

- Detected the most number of disruptive network events since March 2004

  - Some members left infected clients on the local network despite being aware of problems their computers were causing (See next slide for more details)

  - Detection of one false positive when IEEE member forwarded a suspicious email to an Internet site though our email spam/virus filter and was blocked temporarily until an investigation revealed the issue
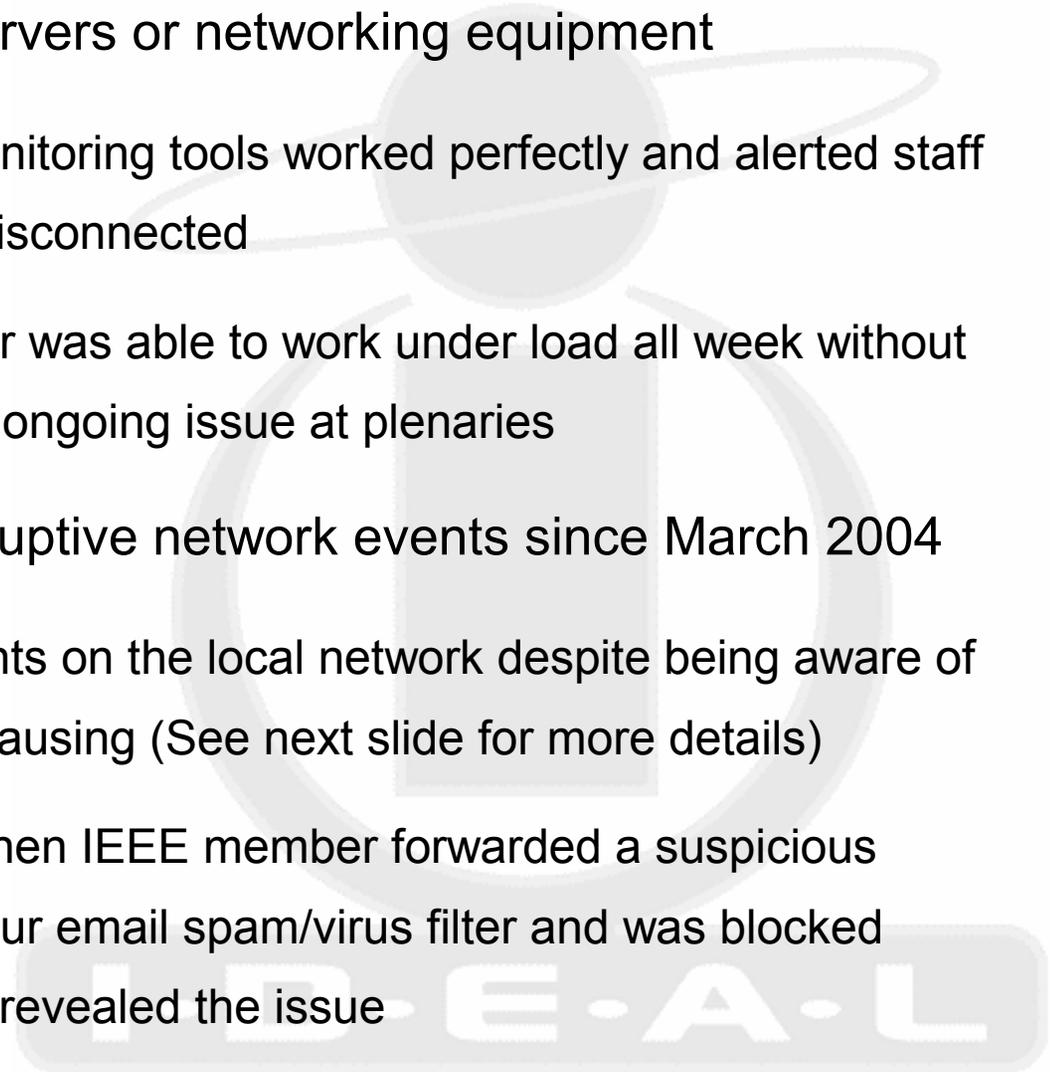
ANATOMY OF A WORM ATTACK

This is a graphical view of our Internet connection utilization from Monday. Two clients were responsible for this particular attack. When both were removed from the network the Internet traffic returned to normal. Allowed to escalate, this would made the network completely unusable.

Please note that while this chart shows the disruptive traffic is no longer reaching the Internet, it is still taking up bandwidth in the radio spectrum and the packets must be evaluated before being dropped by the gateway until the infected computer is taken off of the wireless network by the user.

Internet utilization prior to attack: **700KB outgoing + 1400KB incoming** **= 16.8Mbps**
Internet utilization during attack: **1400KB outgoing + 1600KB incoming** **= 24.0Mbps**

Attack Starts   Clients Removed
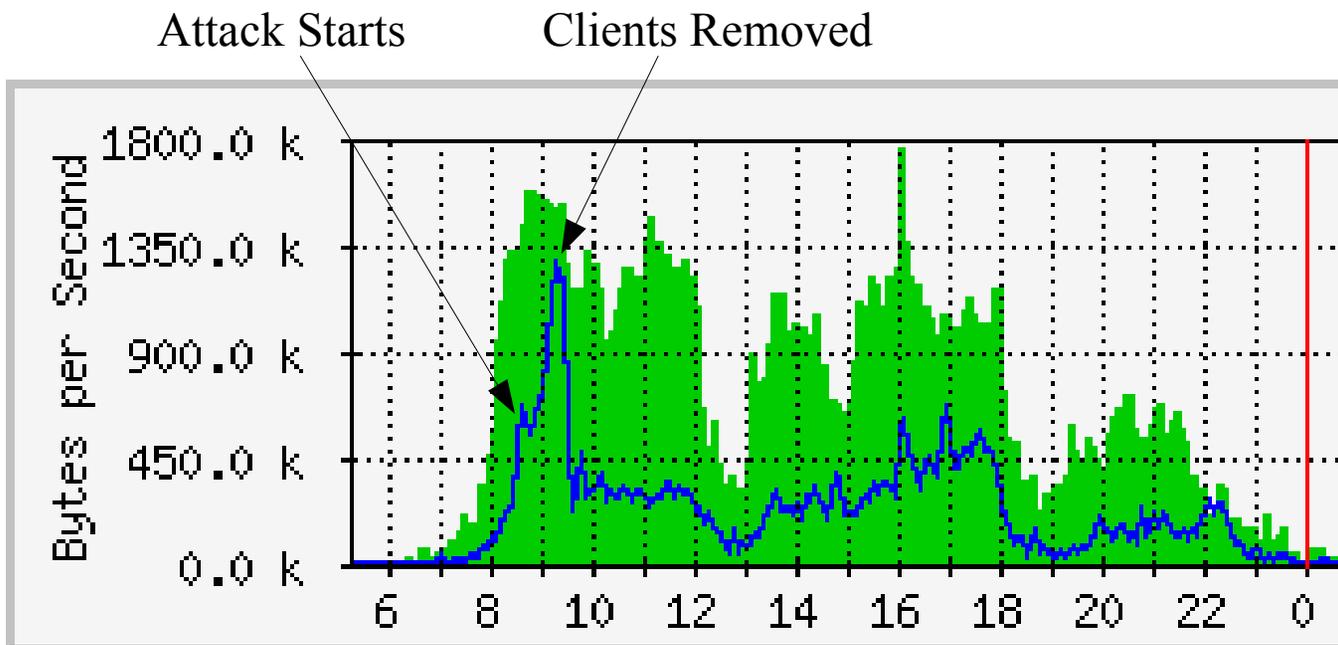
Legend for Internet Bandwidth Chart:

Blue Line on chart shows data leaving out of our network to the Internet

Green area on chart shows data arriving into our network from the Internet

Total bandwidth calculated by adding incoming + outgoing rates

Data is represented in kilobytes per second

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NETWORK ISSUES (CONT)

- Both Centennial Ballroom (I-IV) and Regency Ballroom (V-VII) experienced extreme signal congestion on 802.11b channels

  - Access points were configured properly with reduced output power and specific fixed data rates as in all previous plenary/interim large room sessions

    - The access points also configured to advise clients to transmit at reduced power levels, but not all 802.11 driver implementations observe this correctly

  - According to some 802.11 engineers, the very high wireless signal congestion was exacerbated by room décor which utilized aluminum, steel, copper and wire mesh that reflected and scattered the 2.4GHz signals

  - 802.11a was unaffected due to lower number of clients and no channel overlap to provide adequate coverage of the facility space

  - Centennial Ballroom II meeting chair requested a wired café in the rear of their meeting room to provide an alternative to the wireless network on Tuesday

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Stuart and the rest of the EC thanked Tony, personally, for his efforts and expertise supporting our on site network.

ADJOURN SEC MEETING	**-**	**Nikolich**	**06:00 PM**
ME - Motion, External	**MI - Motion, Internal**		
DT- Discussion Topic	**II - Information Item**		
Special Orders			

Respectfully submitted,

Bob O'Hara
Recording Secretary, 802 LMSC