

Tentative Minutes of the WPAN Study Group Meeting

Wireless Personal Area Network Study Group Interim Meeting

**Boston Marriott Hotel Cambridge
Cambridge, MA USA**

8-9 April 1998

1.0 The meeting was called to order on April 8th, 1998 at 1:40pm in Salon 5-7 by our Chairman Dick Braley

1.1 Roll Call: People in the room were invited to introduce themselves.

1.2 Secretary: The Chair recognized Ian Gifford as the Secretary for the Study Group Meeting.

1.3 Agenda Approval: Dick Braley presented the following agenda for approval:

Old Business
Approval/Modify Agenda
Approval /Modification of January & March Minutes
Review of Action Items from January & March Meeting
<Break>
New Business
Summary of Irvine Meeting/Press Release
Objectives of the Study Group/Milestone Schedule
Review of 802.11 PHY and MAC Layers
<Recess>
Review of Wearables Standards Ad Hoc Committee work
Draft WPAN PAR
Draft 5 Criteria & 2.4GHz Coexistence
+"High-Density Networking", a Wireless Self-Organizing Network, Rob Poor, MIT Media Lab
+"Benchmark Applications", a list of apps, Rich Ditch, Motorola SPS
+Draft Functional Requirements
Identify Responsibilities
Identify Principle Investigators
Progress Reports w/ Milestone
<Break>
Next Steps
Review Action Items
Draft Review Liaison
WPAN Forum
Next Meeting(s) Venue & Agenda
<Adjourn>

+Note: These agenda items were added during the agenda submission

Bob Heile made a motion to accept the agenda; Ian Gifford seconded it. The motion passed by general consent.

2.0 Ian Gifford overviewed the January and March meetings minutes of the Study Group (SG). The January meeting created some draft documents i.e., WPAN PAR, 5 Criteria, Functional Requirements, and Vision Statement but these documents were pre-IEEE SG. One of the goals of the Cambridge meeting was to assign Principle Investigators to some of the documents and to prepare them, formally, as IEEE 802.11 WPAN SG Submissions. The March meeting was overviewed in terms of the motion that were made and the result was that the Wireless Personal Area Network was formed. The following is the motion:

MOTION: “Move to form a Wireless PAN Study Group under 802.11 with the charter of drafting a PAN PAR for presentation at the next Plenary of 802.”

Chair: Dick Braley

Vice Chair: Bob Heile

Secretary/Tech Editor: Ian Gifford

802.11 WG: Approve 35, Do Not Approve 0, Abstain 10 The motion passed

- 3.0** Dick Braley asked that the minutes be approved for the January and March meetings. Bob Heile made a motion to accept the minutes as written and Ian Gifford seconded the motion. The motion passed by unanimous consent.
- 4.0** Ian Gifford indicated that there were no pending action items from the January and/or March meeting. The January action to present a Tutorial to 802 as well as make a motion for sponsorship in 802.11 were completed in March and the March action was to finalize the ExCom edits to the WPAN Press Release; which was also completed.
- 5.0** The March WPAN Press Release was discussed and distributed to the meeting attendees, via Flash Card.
- 6.0** Bob Heile overviewed the May 19-21, 1998 Interim WPAN Meeting Venue:

Sheraton Grand Hotel (10 minutes from Dallas/Fort Worth Airport)
 4440 West Carpenter Freeway
 Irving, TX 75063
 +1 972-929-8400
 +1 800-345-5251
 May 19th, 1998 1:00pm to 5:00pm to May 21st, 1998 8:00am to 2:00pm

- 7.0** Bob Heile led the discussion on potential Liaisons from the WPAN Study Group to:

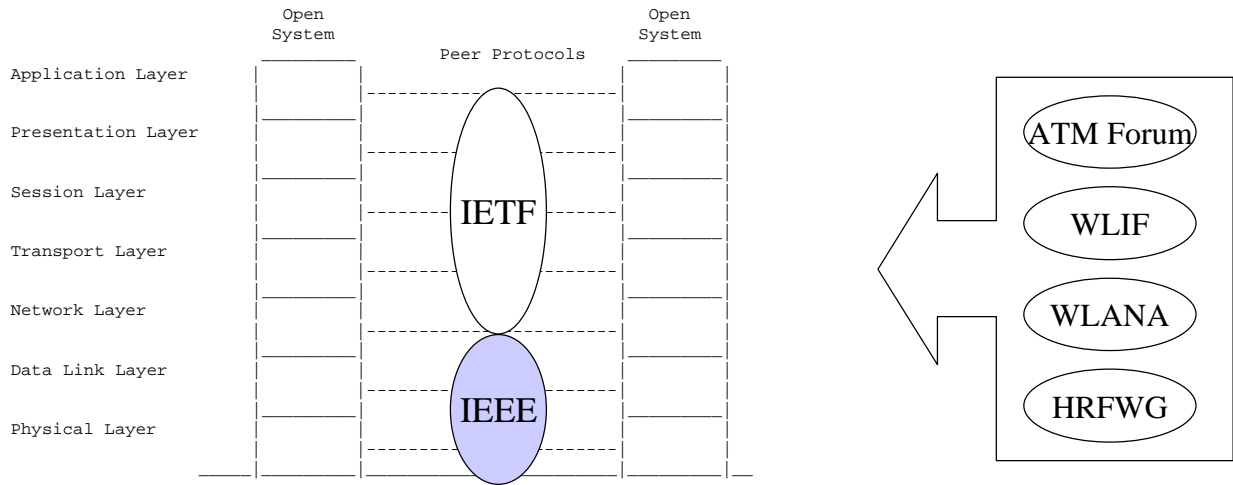
- Infrared Data Association (IrDA)
- Home Radio Frequency Working Group (HRFWG)
- ETSI Broadband Radio Access Networks (BRAN) Project
- ATM Forum Wireless ATM (WATM) Working Group
- Wireless LAN Alliance (WLANA)
- Internet Engineering Task Force (IETF)

The liaison “communication devices” would be the Draft IEEE WPAN SG Press Release and possibly the Call For Proposal (CFP) i.e., MAC & PHY Layer solutions that was discussed during the second day of the Cambridge meeting.

- 8.0** Again, Jim Carlo provided an extensive overview of 802 Study Group procedures as well as how to navigate the process from a Wireless Personal Area Networking (WPAN) point of view. In particular Jim suggested the Study Group should:

- Progress the specificity of the WPAN Functional Requirements
- Draft a WPAN PAR for the July 1998 802 LMSC Plenary Meeting
- Considering joining or forming an Alliance, Forum, etc. for marketing the WPAN and the overall Wearable Computer standards effort.

Jim provided a summary of the OSI Reference Model (see below) in terms of Standards Development Organizations i.e., IETF, IEEE, etc. and suggested that in terms of the WPAN “Upper Layers” we may need to liaison with the IETF’s routing area e.g., Mobile IP Working Group and that the “Lower Layers” we may find a Sponsor in 802.11 and/or 802, however, in the final analysis we should coordinate these activities from an external Marketing Forum, Alliance, etc. These non-SDO based activities require Corporate Investment of \$10K to \$100K per annum to cover the costs of Market Communications e.g., Collateral, Web Site, PR, etc. Bottom line is that an IEEE Working Group can not coordinate as effectively as an Industry based Forum or Alliance.



During the Jim’s discussion the IEEE SAB Calendar was highlighted and with Jim leadership we discussed the likely Milestone for a WPAN Specification/Standard. We have made the assumptions, in the following high level milestone, such as the Study Group successfully delivers a Wireless Personal Area Network (WPAN) Project Authorization Request (PAR), 5 Criteria, a 2.4GHz Coexistence “Proof”, as well as any other ancillary documents and/or communication devices. Additionally, the group discussed the need to force an additional step in the process, which is to say the insertion of a Call For Proposals for a Medium Access Control and Physical Layer(s). Without a preliminary lower layer approach i.e., 48 bit MAC Addresses, 2.4GHz FHSS, etc. the PAR Reviewers will have a hard time approving/sponsoring us.

TASKS	START DATE	END DATE
Cambridge, MA WPAN SG Meeting	4/8/98	4/9/98
Utrecht, NL 802.11 Interim Meeting	5/4/98	5/8/98
Call For Proposals (CFP)	4/98	5-7/98
Irving, TX WPAN SG Meeting	5/19/98	5/21/98
SUBMIT WPAN PAR		6/4/98
La Jolla, CA 802 Plenary Meeting	7/5/98	7/10/98
Study Group to Working Group		
Waltham, MA 802.11 Interim Meeting	9/14/98	9/18/98
Etc.		
First Unapproved WPAN Draft Specification		March 1999
Draft Specification approved by 802.11 WG		September 1999
Draft Specification approved by IEEE SAB		March 2000

9.0 During the course of the morning session it became apparent that due to the new entrants to the WPAN SG we should provide a short overview of our history and direction. Dick Braley agreed to provide a rerun of the March ExCom Presentation.

10.0 Bob Heile then progressed the specificity of the WPAN Functional Requirements. This work consumed the group until we adjourned at 6:00pm.

11.0 Dick Braley brought the meeting back to order at 8:05am. Dick provided an overview of the “Wearables” Standards activities the following headlines the discrete areas:

- Wireless Personal Area Networks
- “Wearable Computing” and Interfaces
- “Wearables” System Architectures
- Nomadicity

- Humionics

Joe Dvorak inquired into the actual definitions of the above terms and Dick provided a quick summary. The SG discussed the need to provide definition of terms for some of the unique WPAN terminology. **ACTION: Ian Gifford agreed to solicit definitions for a WPAN SG Glossary and Acronyms list.**

12.0 Joe Dvorak provided a brief overview of the January 15, 1998 draft WPAN PAR that was generated by the “Wearables” Ad Hoc Committee. **ACTION: The SG discussed the Draft PAR at length and we edited the document as well as designated Rich Ditch as the Principle Investigator.**

13.0 Ian Gifford provided a brief overview of the January 15, 1998 draft 5 Criteria document that was generated by the “Wearables” Ad Hoc Committee. **ACTION: The SG discussed the 5 Criteria and 2.4GHz Coexistence deliverable and we assigned Ian Gifford to be the Principle Investigator.**

14.0 Robert Poor from MIT Media Laboratory’s Personal Information Architecture group presented a paper on HYPHOS “High-Density Networking”...a wireless, self-organizing network. *“Hyphos (from the Greek word for web), is a wireless, self-organizing digital network. Each node in the network communicates only with its immediate neighbors. Neighbors relay messages to their neighbors in turn until the message reaches its destination.”*

For further information please contact Rob or point your browsers at the following URL:

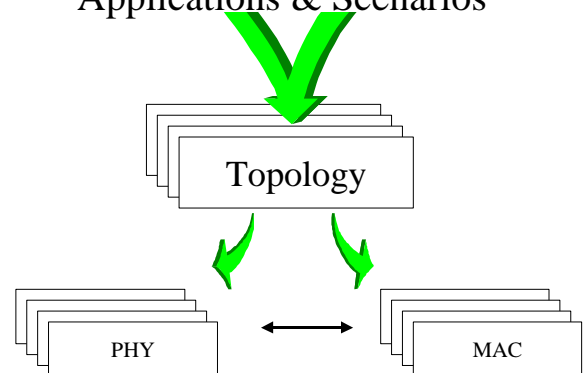
<http://tnt.media.mit.edu/pia/Research/Hyphos/index.html>

15.0 Rich Ditch presented an overview of some related “Benchmark Applications” to consider when discussing WPANs:

- Information transfer/synchronisation between PDA and desktop computer
- Information transfer from PDA/portable PC to conference room display
- Download user interface from factory machines to PDA for monitor and control functions
- Download user interface/operating manual from home appliances to PDA for remote control of devices
- Exchange of electronic business cards by proximity
- Detection by home/auto security system
- Set personal environment preferences in home/auto by personal ID tagging
- Monitor toddler in home/yard with personal ID tag
- Ticketing/reservations/seating/check-in verification by personal ID tagging
- Transfer of maps/directions from PDA to rental car
- Access email, internet, etc. via wired LANs, mobile phones in moving cars

16.0 Pat Kinney presented the Functional Requirements from the December 1997, January 1998, and March 9 & 10th Meetings. The group edited the latest (3/10) Functional Requirements. We also debated the purpose of the Functional Requirements which led to a discussion on the Call For Proposals. One conclusion from this discussion was to have the CFP authors target a few scenarios or applications for a WPAN as we concluded that there may be more than one WPAN being discussed in the SG. The graphic to the right was presented by Bruce Kraemer as way to describe the Market & Application scenarios that drive the MAC & PHY Layers

Market Requirements Applications & Scenarios



17.0 Next Steps

WHAT	WHO	WHEN
-98/159 – WPAN SG Agenda/Minutes – Cambridge, MA April 8-9, 1998	I. Gifford	4/20/1998

-98/160 – Functional Requirements	P. Kinney	4/21/98
-98/161 - 5 Criteria + 2.4GHz Coexistence	I. Gifford	4/21/1998
-98/162 - Draft WPAN PAR	R. Ditch	4/21/1998
-98/163 – WPAN SG May 19-21, 1998 Venue	I. Gifford/B. Heile	4/21/1998
-98/164 – WPAN Call For Papers	D. Braley	4/98
Draft liaison letters for submittal includes Press Release, Cambridge Minutes, and CFP	B. Heile	4/24/98 or sooner
Agenda for WPAN SG at Utrecht	B. Heile	4/24/98
Agenda for WPAN SG at Dallas	D. Braley	4/24/98
Provide a Glossary & Acronym List for WPAN	I. Gifford	5/4/98
Setup IEEE Majordomo reflector: stds-802-wpan@majordomo.ieee.org	I. Gifford	4/21/1998

The meeting was adjourned on April 9th, 1998 at 1:15pm in Salon 5-7 by our Chairman Dick Braley

The Ad Hoc Group wishes to thank the 802 ExCom members as well as the 802.11 Working Group for their time and assistance in helping to form this new and important Study Group. We look forward to participating in the Working Group in Utrecht.

Tentative meeting schedule

Date	Month	Year	Place	Type	Location	Host
4-8	May	1998	Utrech, the Netherlands	Interim WG +SG	Holiday Inn Utrecht City Center	Lucent Technologies
19-21	May	1998	Irving, TX	Interim Study Group only	Sheraton Grand Irving	GTE
5-10	Jul	1998	La Jolla, CA	Plenary	Hyatt Regency	
14-18	Sept	1998	Waltham, MA, tent	Interim WG		Raytheon
8-13	Nov	1998	Albuquerque, NM	Plenary	Hyatt Regency	
7-12	March	199	Austin, TX	Plenary	Hyatt Regency, Town Lake	
4-9	July	1999	Montreal, PQ	Plenary	Queen Elisabeth Hotel	
7-12	Nov	1999	Koloa, HI	Plenary	Hyatt Regency Kauai	

Attendance list for minutes Cambridge, MA

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