211IEEE P802.11
Wireless LANs

Draft Project Authorization Request (PAR)
Spectrum Managed IEEE 802.11a Study Group (SMaSG)

Date: September 2000

Author: Peter Ecclesine
Cisco Systems
petere@ieee.org

IEEE-SA Standards Board Project Authorization Request (PAR) Form (2000-Rev 1)

1. Sponsor Date of Request	2. Assigned Project Number	3. PAR Approval Date
[_____]	[_____]	_____

Copyright release must be submitted with appropriate signatures by FAX (1-732-562-1571)}

[...] PAR Signature Page on File {IEEE Staff to check box}

4. Project Title, Recorder and Working Group/Sponsor for this Project

Document type and title: {Place an X in only one option below}

- [X] **Standard for** {document stressing the verb "shall"}
- [..] **Recommended Practice for** {document stressing the verb "should"}
- [..] **Guide for** {document in which good practices are suggested}

Title: [Supplement 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, for Spectrum and Transmit Power Management extensions in the 5GHz band in Europe**]

Name of Working Group (WG): [**IEEE P802.11, Working Group for Wireless LANs**]

Name of Official Reporter (usually the WG Chair) who must be an SA member as well as an IEEE/Affiliate Member:	Stuart J. Kerry
IEEE-Standards Staff has verified that the Official Reporter (or Working Group Chair) is an IEEE and an IEEE-SA member:	[...] (Staff to check box)

Contact Information:

Telephone	+1-408-474-7356	FAX:	[+1-408-474-7247]
E-mail:	stuart.kerry@philips.com		

Name of Working Group Chair (if different than Reporter):	[...]
IEEE-Standards Staff has verified that the Working Group Chair is an IEEE and an IEEE-SA member:	[...] (Staff to check box)

Contact Information:

Telephone	[...]	FAX:	[...]
E-mail:	[...]		

Name of Sponsoring Society and Committee:	Computer Society/LMSC
Name of Committee Sponsor Chair:	Jim Carlo
IEEE-Standards Staff has verified that the Sponsor is an IEEE and an IEEE-SA member:	[...] (Staff to check box)

Contact Information:

Telephone	+1-214-340-8837	FAX:	+1-214-853-5274
E-mail:	jcarlo@ti.com		

5. Type of Project

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

b. Choose one from the following:

[…] New Standard
[...] Revision of existing Standard {number and year} [...]
[X] Amendment (Supplement) to an existing standard {number and year}
[**ISO/IEC International Std 8802.11-1999 IEEE P802.11**]
[...] Corrigenda to an existing standard {number and year} [...]

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6. Life Cycle

[X] Full Use (5-year life cycle)
[...] Trial Use (2-year life cycle)

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7. Balloting Information

Choose one from the following:

[X] Individual Sponsor Balloting
[...] Entity Sponsor Balloting
[...] Mixed Balloting (combination of Individual and Entity Sponsor Balloting)

Expected Date of Submission for Initial Sponsor Ballot: July 19, 2001

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8. Fill in Projected Completion Date for Submittal to RevCom: March 19, 2002

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9. Scope of Proposed Project:

[Enhance the 802.11 Medium Access Control (MAC) standard and 802.11a High Speed Physical Layer (PHY) in the 5GHz Band supplement to the standard; to add indoor and outdoor channel selection for 5GHz license exempt bands in Europe; and to enhance channel energy measurement and reporting mechanisms to improve spectrum and transmit power management (per CEPT and subsequent EU committee or body ruling incorporating CEPT Recommendation ERC 99/23).]

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10. Purpose of Proposed Project:

[To enhance the current 802.11 MAC and 802.11a PHY with network management and control extensions for spectrum and transmit power management in 5GHz license exempt bands, enabling regulatory acceptance of 802.11 5GHz products. Provide improvements in channel energy measurement and reporting, channel coverage in many regulatory domains, and provide Dynamic Channel Selection and Transmit Power Control mechanisms.]

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11. Intellectual Property {Answer each of the questions below}

Are you aware of any patents relevant to this project?

[No] {Yes, with detailed explanation below / No}
[...] {Explanation}

Are you aware of any copyrights relevant to this project?

[No] {Yes, with detailed explanation below / No}
[...] {Explanation}

Are you aware of any trademarks relevant to this project?

[No] {Yes, with detailed explanation below / No}
[...] {Explanation}

Are you aware of any registration of objects or numbers relevant to this project?

[No] {Yes, with detailed explanation below / No}
[...] {Explanation}

12. Are you aware of any other standards or projects with a similar scope?

[Yes] {Yes, with detailed explanation below / No}
{Explanation}

ETSI BRAN HIPERLAN/2

1. ETSI has published ETSI TS 101761-2 V1.1.1 Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Data Link Control (DLC) layer; Part 2: Radio Link Control (RLC) sublayer, with Radio Resource Control services for Dynamic Frequency Selection and Transmit Power Control.

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13. International Harmonization

Is this standard planned for adoption by another international organization?
[Yes] {Yes/No/?? if you don't know at this time}
If Yes: Which International Organization [ISO]
If Yes: Include coordination in question 15 below
If No: Explanation [...]

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14. Is this project intended to focus on health, safety or environmental issues?

[No] {Yes/No/?? if you don't know at this time}
If Yes: Explanation [...]

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15. Proposed Coordination/Recommended Method of Coordination

Mandatory Coordination

SCC 10 (IEEE Dictionary) by **DR** {Circulation of

DRafts}

IEEE Staff Editorial Review by	by **DR**
SCC 14 (Quantities, Units and Letter symbols)	by **DR**

Coordination requested by Sponsor:

[ISO]	by [DR]	{circulation of **DR**afts/**LI**aison memb/**CO**mmon memb}
[.....IEEE 802.15, .16.....]	by [.DR, LI..]	{circulation of **DR**afts/**LI**aison memb/**CO**mmon memb}
[..ETSI BRAN.....]	by [..DR, LI.]	{circulation of **DR**afts/**LI**aison memb/**CO**mmon memb}
[.....]	by [...]	{circulation of **DR**afts/**LI**aison memb/**CO**mmon memb}

Coordination Requested by Others:

[...] {added by staff}

16. Additional Explanation Notes: {Item Number and Explanation}

Scope of the Project

Regulatory Bodies

IEEE P802.11 will correspond with regulatory bodies worldwide in order to try to assure that the proposed extension will be applicable geographically as widely as possible.

Patents

The Task Group will adhere to the IEEE patent policy.

(1) The intended timetable is:

Nov 2000

Issue Drafts of Proposal Selection Process, Functional Requirements, Evaluation Criteria as Study Group

Issue Call For Proposals for PHY and MAC as Study Group

PHY: Modifications of 802.11a

MAC: Modifications of 802.11 MAC

Jan 2001 Meeting as Task Group

Review proposals already on hand and

Issue Drafts of Proposal Selection Process, Functional Requirements, Evaluation Criteria as Task Group

Issue Call For Proposals for PHY and MAC as Task Group

PHY: Modifications of 802.11a

MAC: Modifications of 802.11 MAC

Mar 2001

Decision on specific modifications

First Tentative Draft Standard submitted for review

May 2001

Comment Resolutions

June 2001

Second Tentative Draft Standard submitted for Letter Ballot

July 2001

Comment Resolutions

Initiate Sponsor Ballot

Sep 2001

Comment Resolutions

Nov 2001

Comment Resolutions

Mar 2002

Submit to RevCom

(2) As required by the LAN/MAN Standards Committee, documentation of how of the project will address the Five Criteria for Standards Development is included.

The PAR Copyright Release and Signature Page must be submitted by FAX to 732-562-1571 before this PAR will be sent on for NesCom and Standards Board approval.

IEEE P802.11
Wireless LANs

Draft of 5 Criteria for

Date: September, 2000

Author:

Name
Company
Address
Phone:
Fax:
e-Mail:

IEEE 802 Five Criteria

1. BROAD MARKET POTENTIAL

a) Broad sets of applicability.

Enhancing the 802.11 medium access control (MAC) and 802.11 High Speed Physical Layer (PHY) in the 5GHz band standards for wide acceptance of 802.11 in the 5GHz unlicensed bands will open its potential to a world of applications. The addition of DCS and TPC, along with the full range of channel measurement and reporting features, will enable dense network deployments and improve the ability of the 802.11a systems to coexist with other systems in these bands.

b) Multiple vendors, numerous users.

The need for these extensions has been driven by a consortium of companies representing the PC, communications, consumer electronics, silicon and service provider industries. Worldwide acceptance will allow these systems to be used in areas where wired networks are difficult or costly to deploy.

The IEEE 802.11 membership supporting this PAR includes a broad range of international wireless industry leaders, ranging from semiconductor manufacturers to system integrators.

c) Balanced costs (LAN versus attached stations).

The cost to implement these enhancements is projected to be within the range of the existing IEEE 802.11a systems. The changes are anticipated to have a minimal impact on the cost.

2. COMPATIBILITY

The proposed extensions will maintain compatibity with the existing IEEE 802.11 MAC. The extensions shall be compatible and in conformance with IEEE 802.1 Architecture, Management and Internetworking. Additional features will be added, but the MAC/PHY Layer interface shall be backward compatible with the existing IEEE 802.11 definitions.

3. DISTINCT IDENTITY

a) Substantially different from other 802 Projects

The channel management and measurement capabilities added by this project will improve system management capabilities of 802.11a over other 802.11 projects. Dynamic Channel Selection will improve the way in which multiple BSSs cooperate with each other. DCS will also improve the ability of 802.11a systems to coexist with other systems in these bands. Transmit Power Control enables better control of AP cell size, improving coexistence capabilities.

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

The PAR will define only one solution for TPC and DCS, and the measurement and channel management support for it.

4. TECHNICAL FEASIBILITY

a) Demonstrated system feasibility.

There are a number of relatively simple methods that have been presented as feasible solutions to the DCS and TPC extension question.

Preliminary proposals from Nokia, Philips and Atheros have been reviewed that indicate the technical feasibility of these extensions to IEEE 802.11a.

b) Proven technology, reasonable testing.

The main components of the technology for the proposed extensions to be developed already exist in current 802.11a silicon. These extensions better utilize these functions. The existing MAC message structures will require only minor changes to support the channel management and measurement features.

c) Confidence in reliability.

The analysis of the existing products and proposals representing the candidates' approaches provides confidence in the reliability of the proposed solutions. This data has been partially presented within the 802.11a Study Group and the papers are available for review.

5. ECONOMIC FEASIBILITY

a) Known cost factors, reliable data.

The expected changes to support the enhancements will only require minor changes to existing 802.11a products.

b) Reasonable cost for performance.

The improved performance can be achieved for virtually no cost increase.

c) Consideration of installation costs.

The installation cost of the improved devices is the same as that projected for standard IEEE 802.11a devices. Upgrading an existing network with these new capabilities can be performed selectively in areas with a demand for the supported new features.