
**Submission to:
IEEE P802.11
Wireless LANS**

**Title: SG on MAC Enhancements Report 11/08/99 to 11/12/99
Kauai, HI**

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IEEE802.11 Study Group ,
On MAC Enhancements
Nov. 08-13,1999, Kauai HI.

AGENDA

- Secretary Appointment
 - Call to Order
 - Policies overview
 - Voting Rights
 - Debates
 - Key Motions
 - Point of order
 - Point of information
 - Parliamentary inquiry
 - Study/ schedule overview
 - Call for Papers
 - Load Balancing 252 (10 min)
 - Frame customization 253 (10 min)
 - DFS/TPC 254 (10 min)
 - Introduction to QOS 255 (30 min)
 - 802.11 Enhancements for QOS 251 (20 min)
 - Reed Salomon coding for 802.11 250 (15 min)
-
- Evaluation of protocol efficiency 256
 - Streaming enhancements to 802.11 b 259
 - Scheduling overlay for 802.11 MAC 260
 - Security issues 802.11 257

- Presentation of papers
 - Discussions

PAR Draft

- New Business
- Presentation to WG Plenary.

STUDY AUTHORIZATION & CHARTER

Moved: To approve the Working Group Study Group initiated by 802.11 for 802.11 enhancements with the charter to Investigate for QoS and CoS metrics, Enhanced Security mechanisms for supporting long keys, key negotiation & distribution and investigate enhancements to the authentication process with the aim to submit the related PAR(s) and 5 criteria. The goal is to approve the PAR at the March 2000 meeting.

For information, the chair is John Fakatselis.

SG SCHEDULE TO COMPLETION

- September 99: Generate Candidate Enhancement Projects
 - Initial Draft on Objective
- November 99 : Generate Candidate Enhancement Projects
 - Initial PAR Draft .
- January 00 : Finalize Enhancement Projects List
 - Update PAR Draft
- March 00: Finalize PAR
 - Submit PAR to EXCOM

SG MEETING SCHEDULE

Thues. 8:30-12:00

Wed. 8:30-10:00

Thur: 8:30-10:00

1:00-3:00

| CANDIDATE PROJECT | PROPOSER | SCOPE | COMMENTS/ SCOPE |
|--|--------------------------|--|--|
| QoS Multimedia over wireless Voice over IP | Maarten, Amar, Bob | Enhance the 802.11 MAC to support streaming over wireless with Emphasis on enhancements in the areas of Latency, bandwidth, Priority, error correction, data | Enhance the 802.11 MAC to perform quality of service based on PCF or DCF. Soft real time services. Ways to prioritize traffic. Integration of IETF in wireless. |

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|------------------|------------------|--|---|
| | | streams, channel agility policies. | Enhance the 802.11 MAC to define and accommodate multimedia applications. Emphasis of enhancements in the areas of Latency, BW, Priority, channel protection, data streams. REQs Maximize bandwidth Enhance the 802.11 MAC to facilitate voice over IP capability. |
| Enhanced Privacy | Richard | Enhance the 802.11 MAC to implement stronger privacy protection. Enhance MAC management functions in the areas of algorithm negotiation , key length, key management to accommodate a more secure 802.11 system. | Enhance the 802.11 MAC to implement stronger security protection. Scalable mechanisms for security as applicable and required form users and within regulatory restrictions. Eliminate existing algorithm flaws that compromise security. Enhance MAC management functions in the areas of key management, length, negotiation , distribution and algorithm selection to accommodate a more secure 802.11 system. Note: evaluate other existing schemes i.e. IETF, BT |
| IAPP | Richard, Maarten | Enhance the 802.11 MAC to establish an inter AP protocol to maintain connectivity and ensure smooth hand off and continuity of services between APs. | Enhance the 802.11 MAC to establish an inter AP protocol to maintain connectivity and ensure smooth hand off and continuity of services between APs. |
| Load Balancing | Maarten | Enhance the 802.11 MAC to facilitate load balancing. | Enhance the 802.11 MAC to accommodate load balancing and avoid interoperability issues. |

| | | | |
|--|---------|--|---|
| Extend the MAC to include proprietary vendor specific information. | Maarten | Enhance the 802.11 MAC to accommodate proprietary vendor specific information without compromising interoperability. | Enhance the 802.11 MAC to include proprietary vendor information without compromising interoperability. |
| Enhanced Authentication | Bob O | Enhance the 802.11 MAC to use stronger authentication mechanisms. | Enhance the 802.11 MAC to use stronger authentication mechanisms. AP to server authentication protocol with privileged classes. |
| Dynamic Frequency allocation | Jan | | |
| Power control | Jan | | |
| DCF acknowledgement scheme and frame aggregation enhancements | Alan | | |
| Enhanced PCF mode. | Alan | | |
| | | | |
| | | | |

Five Criteria

1. Broad Market Potential

A standards project authorized by IEEE Project 802 shall have a broad market potential. Specifically, it shall have the potential for:

- a) Broad sets of applicability.
- b) Multiple vendors, numerous users.

2. Compatibility with IEEE Standard 802

IEEE Project 802 defines a family of standards. All standards shall be in conformance with 802.1 Architecture, Management and Interworking.

All LLC and MAC standards shall be compatible with ISO/IEC 10039, MAC Service Definition at the LLC/MAC boundary. With the LLC Working Group there shall be one LLC standard, including one or more LLC protocols, with a common LLC/MAC interface.

3. Distinct Identity

Each IEEE Project 802 standard shall have a distinct identity. To achieve this, each authorized project shall be:

- a) Substantially different from other 802 Projects
- b) One unique solution per problem (not two solutions to a problem).
- c) Easy for document reader to select the relevant specification.

4. Technical Feasibility

For a project to be authorized, it shall be able to show its technical feasibility. At a minimum, the proposed project shall show:

- a) Demonstrated system feasibility.
- b) Proven technology, reasonable testing.
- c) Confidence in reliability.

5. Economic Feasibility

For a project to be authorized, it shall be able to show economic feasibility (so far as can reasonably be estimated), for its intended applications. At a minimum, the proposed project shall show:

- a) Known cost factors, reliable data.
- b) Reasonable cost for performance.
- c) Consideration of installation costs.

AGENDA GOALS JANUARY 2000 Meeting

Letter Ballot Comment Resolution.

Technical papers / proposals.
Requirements documents Draft.

Motions from the MAC Enhancements SG for the 802.11 WG Plenary

Motion to request extension of the MAC enhancements SG until the March of 2000 Plenary.

Moved Jan Boer, 2nd Amar Ghori.

Vote on motion: Passes 27/0/1

Motion to ask the WG to send out a WG Letter Ballot on the MAC enhancements PAR Draft. If the Letter Ballot has 75% approval, the January 2000 Interim will be authorized to resolve all comments and submit the PAR to the ExCom. If the Letter Ballot has under 75% approval, the January 2000 Interim will resolve comments, and start a recirculation ballot.

Motion to accept text. Moved Tom T, 2nd Dick Eckard

Vote on motion: Passes 27/0/3

Motion to ask the WG to send out a WG Letter Ballot on the IAPP PAR Draft, which is document 99/275. If the Letter Ballot has 75% approval, the January 2000 Interim will be authorized to resolve all comments and submit the PAR to the ExCom. If the Letter Ballot has under 75% approval, the January 2000 Interim will resolve comments, and start a recirculation ballot.

Moved Tom T, 2nd Albert Young.

Vote on motion: Passes 20/0/5