Issue Processing

As adopted by the 802.11 MAC subgroup
&
The 802.11 Functional Requirements Ad-Hoc group
&
(indirectly by)
The 802.11 PHY Subgroup

Including a sample issue form
&
A rough list of issues to create the MAC subgroup issues log.

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Introduction:

The following is the procedure adopted by the MAC subgroup and the Functional requirements group or processing issues.

General rules for an Issue:

1) All issues must be phrased as a question.

2) Issues and their status are logged by the secretary.

3) All issues will be open for a minimum of the time between 2 802.11 meetings.
This is to allow time for all members to read new issues and develop positions regarding them.

To open an issue:

1) Anyone can open an new issue. Simply identify the issue to the secretary and/or issue librarian and provide the phrasing for the question.

To add arguments to an open issue:

1) Argumentation can be added to an issue by:
    a) Submitting a paper supporting a position, or
    b) Submitting arguments during discussion of the issue.

To close an issue:

1) An issue is closed when the committee adopts an answer to the question posed within the issue.

2) It requires a 2/3 vote of the committee to adopt a position and close an issue.

(This is the a key part of the process. A group of technical experts should reach a 2/3 majority to close an issue. It is felt that a simple majority represents too weak a position to justify deciding a technical issue.)

3) A closed issue represents a position which the committee has taken. It therefore guides subsequent work by the committee.

To reopen an issue:

There are times that it is necessary to reopen an issue. This should not be done trivially or we will never make progress.

There are two ways to reopen an issue:

1) An closed issue can be changed to open status if new argumentation is presented which has not been previously considered and recorded.

(This allows the correction of decisions which may turn out to have been faulty due to lack of information.)

2) A closed issue can be changed to open status if 2/3 of the committee votes to reopen the issue.

(This allows the committee to reexamine closed issues which may be interrelated to other, open issues, even though there may be no new arguments presented for the closed issue. The 2/3 vote requirement is intended to prevent the committee from thrashing. It is intentionally symmetrical to the 2/3 vote which was required to close the issue.)

Sample MAC group Issue Form

Issue # 1:

How should the MAC group record and process issues?

Alternatives:

A) Ad hoc.
B) Use a semi-formal procedure. 802.11/91-15 (plus min issue open time)

Arguments:

Pro A:
It's fun (?).
We get to vent our emotions.
If you really want to be obstinate you can kill hours of the groups time.
Con A:
No decisions ever get made.
We waste lots of time hearing the same argument over and over.
Life expectancy of a decision is highly variable.

Pro B:
Provides a fair process for all participants.
Provides record of how and why for decisions.
Provides to correction of bad decisions.
See document 802.11/91-15 by Dave Bagby for process presentation.
See minutes of May 1992 MAC group for discussion of issue.
Con B:
see Pro A.

Related Issue numbers:
None.

Issue Originator:
David Bagby

Issue History:
Date first opened: Mar 1991
Alternative B adopted by 802.11 vote in March 91.
Alternative B adopted by MAC subgroup May 11th, 1992.

Issue status:
Closed.

Some current and previous issues as captured from Wim, DB, Simon, nat, jim, franc, in ad-hoc mtg eve of 5/13/92.

The following is a list of raw issue questions captured during the Leiden meeting. The intent is to expand these into issue pages to create the MAC issue log.

we have given our issues librarian the authority to take these issue questions and group them, out them into issue format etc. This will become the first version of the MAC group issue log.

Note the following numbers are not issue numbers - they are simply paragraph numbers to make this document easier to refer to.

0. see hand written back page of 92-40 for initial list to include here.

1. preamble length affects ᴍᴀᴄ performance - take to phy group. what length to use.

2. can the mac handle diff preamble lengths from diff phys?

3. what is the mac/phy interface?

4. do we support as hoc net?

5. do we support infrastructure nets?

6. what security support do we need? auth? registration? privacy? what do they mean?

7. what does support for LLC mean? all 3 classes (connection w/o ack. connectionless, connect with ack)?

8. what control and observation features are need for net mgt support?

9. what does time bounded mean? What are the bounds?

10. what are the limits on latency and delay?

11. do we support roaming for both async and time bounded services?

12. what is roaming?

13. what level of reliability for group addressing do we need?

14. what level of reliability for broadcast do we need?

15. what is the extent of multicast (bss, ess)?

16. do we need anything from 802.1 re roaming?

17. what is the definition of an AP?
    what is an CF?

18. what does coexist with a BSS mean for both types of services (FR doc)?

19. what does stmt re "resolve media use conflict mean"?

20. what do we mean by "shall / will be", must when we use them?

21. what are the int, must when we use them?

22. what are the inter networking reqs with existing wired nets?

23. Do we want to have options in the standard?

24. what are the conformance requirements? do we follow ISO 9646 (conformance std).

25. do we have different conformance levels?

26. do we have different phy classes (yes in par)

27. what Phys are specified?

28. How do we achieve multi phy support for the mac?

29. what interfaces are exposed? mac/phy? DSS? DSM interfaces?

30. can we resolve frequency reuse in the mac, if so should we? and how?

31. should the MAC work equally well at all PHY data rates?

32. do we support 1 mac driving multi phys of different rates?

33. do we support phy with variable rates?

34. Do we allow the phy data rate to vary as function of signal quality?

35. what protocols above the mac would drive the time bounded services?

36. what is the mac/ LLC interface for time bounded services?

37. what is the arch of the net mgmt services? layer? side? what?

38. what are the mac services provided to LLC?

39. what are the services or functions unique to wireless nets?

40. are there any services outside of the mac/phy that we have to have in order to
    operate?

41. do we support source routing?

42. do we need to specify the internals of the DS or only the services it provides?

43. is there a need for multiple APs per BSS?

44. what is a conformant DS?

45. what are our priorities when we have to make engr trade offs?

46. do we want to develop a weighted list of criteria? (delays, efficiency etc.?)

47. what do we mean by efficiency?

48. what support do we provide for power mgmt DC and RF?

49. how do we phrase the 21 pts as issues?

50. do we want to use a common simulator? MAC? Phy? how do we simulate? what do
    we simulate?
    what are the traffic models we driver simulation from?

51. what is the intelligence level at the mac phy interface?

52. do we need a phy independence layer in the mac?
    how do we manage the split of capacity between time bounded and async services?

53. do we provide a way to reserve medium channel capacity?

54. must the mac work on single channel phys?
    do we support multi channel phys?

55. what is a channel? PHY? logical?

56. what does graceful degradation mean?

57. does the mac have a concept of priority traffic? what is priority?

58. what physical environments do we support?

59. what are the parameters of mobile stations?

60. what values do we support? (Speed etc.).

61. what are the issues surrounding the PCF DCF arguments?

62. what is the common service? async? time bounded?

63. shall we depend on higher levels for recovery from failed xmits? to what extent?

64. will the .11 mac look like all other 802 macs re delivery reliability? How does multicast affect this decision?

65. what are event that cause switch between multiple CFs? do we need multiple CFs?

66. what do we mean by addressing? size? is 802 addressing ok?

67. how much overhead do we accept to get reliable frames? (error ck and correct?)

68. can we assume some minimum BER for a phy? what is it? is it constant, variable?

69. how does global addressing and directory services affect the mac?

70. how does cost of goods influence our designs?

71. how do safety concerns impact our decisions?
    do we let our decision making be driven by time constraints?

72. how important is physical size?

73. Channels (PHY group)
         same channel/AP
         different channel/AP
         both of 1&2

74. if 1.2/1.3/1.4 supported then do we support seamless "handover"? (PHY group)

75. define seamless (PHY group)

76. is mac support needed for antenna diversity (PHY group)

77. is mac support needed for power control (PHY group)

78. does the phy perform or support the security function (PHY group)

79. do we supply a phy type to the mac (PHY group)

80. is mac/phy exchange needed to supply network management information (PHY group)

81. does the mac supply a packet number to the phy (PHY group)

82. is data rate agility only a phy matter (PHY group)

83. what are the environments including station speed (PHY group)

84. what is the intelligence level of the mac/phy interface - same as #51? (dave)

85. is the layer that provides phy independence the same as the mac/phy interface or not. (dave)

86. what are the dss functions needed. (dave)

87. what mac users other than LLC do we want to support. (John Corey)

88. what are the logical and physical functions required to communicate to the management layer. nat what is the relationship between mac phy and network management? (?)

89. what are the trades offs in efficiency between a connection oriented protocol versus running time bounded data over a connectionless protocol. (?)

90. what kind of services will be supported with the time bounded services. (don)

91. where shall the connection and connectionless services by integrated - the mac or llc or somewhere else. (chan)

92. what is the algorithm for managing the partitioning of capacity between the time bounded and asynchronous services. (chan)

93. what is roaming? what is handoff - same as #12. (john)

94. do all stations and all infrastructures support the time bounded service. (simon)

95. what kind of error recovery mechanisms are to incorporated into the mac. (?)

96. do we intend to define or limit the max number of stations in a bss due to media characteristics. (nat silberman)

97. is the ds interface at the mac or the phy. or both (john corey)

98. what is the strategy for capacity control. (wim)

99. what is the mac frame structure. (jim)

100. what are the performance requirements of the ds. (john)

101. are there code size limits?

102. is cost proportional to functionality? can we measure it? do we let it guide us?

103. what characteristics of the phy will be specified?