August '94 MAC group report

MAC: an abbreviation for Media Access Control.

Misc subjects

- Approval of MAC minutes
  - done - unan.
  - this weeks minutes to be compiled by Chris, Jon and sent to Vic for mailing.
Goals from July 94 mtg

- Prep of MAC draft text before Nov Letter Ballot.
  - Significant work done, revisions will be in B3.
- DTBS
  - Mechanisms adopted.
- Remaining major subjects.
  - Frame formats, RT, multi rates etc.
  - discussed, decisions in report.
- Complete MAC parameter values
  - not completed, will work on before November.

Papers Discussed
July papers

- None

94/180: Doing Without RTS

- Motion to adopt text from 180 as amended:
  - Usage of MPDU, MSDU corrected, no default value.
  - Actual final text in MAC minutes.
  - MAC vote: 19, 0, 5 - Passed
  - Plenary Vote: 30, 0, 3
94/181: Standard Randomness

- Backoff random func
- No motion made - Author withdrew based on comments.

Frame Formats (format / functionality)

- 94/170, 170a: Frame format for the MAC protocol
- 94/230: Frame formats
- 94/213, 213a, 214a: MAC frame formats
- Discussion resulted in eve session.
Format priorities straw poll:

- Correct functionality first
- Efficiency second
- Several kinds of efficiency:
  - Uniformity
  - Implementation
  - Processing
  - Byte / bit counts

MAC frame formats

- See 94/236.
- 94/236 has 9 authors and more contributors!
- Process
  - Identified what was common.
  - Identified deltas from B2.
  - Resolved differences.
  - Created common proposal.
94/236...

- **Header Ctrl field bits**
  - Separated CF frame type
    - Added a type for CF frames.
      - Allowed enough bits for all ctrl info bits in all frames in one octet.
  - All frame types (except CF)
    - All B2 Ctrl bits present.
  - CF frame type
    - All B2 Ctrl Bits, but...
      - CF ack, CF poll functionality to be detailed by mike f, wim d, tim p.
      - maybe a bit, subtype(s) or combo.
      - Probably one bit will do.
  - "Extra" Reserved bits?
    - Only enough to pad required octets, not extras.

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94/236...

- **MPDU-ID & BSS-ID improvements**
  - Adopted MPDU-ID & BSS-ID changes from 213.
    - MPDU-ID -> (sa, seq #) & directed ctrl frames
    - BSS ID -> unique address & ESS-ID -> fewer frames
  - Due Diligence / comfort commitment:
    - Interested parties will work thru corner cases before Nov.
  - Evening vote: 15, 0, 1
94/236...

- **Type, subtype, req/resp grouping**
  - Group decision:
    » Use 6 bits,
    » Try to make 2 groups if possible,
    » If code space to tight for separate fields would try to pack from ends to middle of space.
    • If fit nicely.
  - Request / response moved into subtype field.
  - Privacy trans (2) -> req/resp format.
  - Poll -> ctrl type from mgt.

- **Frame contents**
  - Adopted msg contents from 214.

94/236...

- **Encoding issues**
  - Work will continue in light of frame format progress made during mtg.
  - Withdrawn from agenda with consent of authors
    » 94/228: Shorter Elements
94/236...

- Issue 20.3: Frame formats
  - Moved: That issue 20.3 be closed and updated to reflect the frame format decisions reported above.
  - MAC Vote: 13, 0, 6 - Passed
  - Plenary vote: 19, 0, 14

CRC 32

- 94/231: Error control in mac frame formats
- Requested change adopted before paper presented.

- Moved: that all frames use a common CRC as defined 94/230 & 213 (with the extra paren in section 2 removed..)
  - Mac Vote: 16, 0, 1 - Passed
  - Plenary Vote: 33, 0, 0
Post 236 adoption minor changes:

- Shift table 4-1 so req/resp are even/odd for numbers.
  - MAC vote: unan
  - Plenary vote: 32, 0, 0

- Change name of VIA to BSS-ID.
  - MAC Vote: unan
  - Plenary vote: unan

Frame Formats (Additional Msg contents)

- 94/171, 171a: PHY Dependant Elements for Frames

- Added Phy dependent elements from 171:
  - w/ change of geographic location -> regulatory domain
  - MAC vote: 16, 2, 4 - Passed
  - Plenary vote: 28, 1, 3

- Make Fragmentation field a “present when needed” field:
  - MAC vote: 5, 11, 4 - Failed
Frame Formats (misc issues)

- 94/178: How Long Is Long Enough?
  - Field already 2 octets by the time the paper came up on the agenda.

- 94/179: Making Hash
  - Made moot by frame decisions, no more hash.

Power Mgt

- 94/172: The SPM (Simple Power Management)
  - No motions made after straw poll by author
Multi-rates

- 94/164: Required MAC functions to support MultiRate PHYs
  - No formal motion made
  - Subject was in Wed joint M/P session.

B2 review

  - CF capable vs poll
    » Add CF capable indication to Assoc & Reassoc msgs
    » Add CF mgmt msg to put CF capable a station on/off poll list.
    » Vote: 7, 0, 3 - Passed
    » Plenary vote: 26, 0, 7
  - Restriction of numbers of STA per BSS due to encodings of TIM / elements.
    » Moved: Encoding combination of TIMs & elements limits STAs/BSS - remove accidental limitation.
    » Vote: unan
    » Action: Mike F to submit proposed details.
  - Many editorial corrections referred to editors.
B2 review

• 94/209: PCF state machines
  – No paper avail at presentation time, will be in mailing.
  – No discussion.

B2 review

• 94/229: B2 comments
  – Beacon interval referenced to TSF timer, timer in mod(n*beacon interval). TS range = 0 - (n * beacon interval).
    » Wim to provide detailed language proposal.
B2 review

- MAC Chairman and Editors thank the people who took the time to read and comment on B2 details!
- More such review is anticipated.

- Please categorize review comments with:
  Editorial:
  - Truely editorial that the editors can fix w/o group action.
  Factual Conflict:
  - ex: Section A says X=5 while B says X=12, which is it?
  Minor functionality question or problem
  - ex: CF capable vs poll
  Reference all comments to proposed B3 draft section #.

DTBS

- Much progress made
DTBS

- 94/176: Concerns with Priority Assertion Signal based DTBS
  - Motion: None made. Paper informative of problems.

DTBS

- 94/150d: DTBS alternatives
  - generated discussion
DTBS

- 94/196: Issues impacted by DTBS proposals
  - Will be input to Nov Issue log cleaning.

- Moved: That not all Phys will be required to support the optional MAC DTBS functionality. Each Phy will specify if it supports this or not as part of it’s standard.
  - MAC Vote: 14, 5, 1 passed
  - Plenary Vote: 15, 10, 6 failed
DTBS

- Moved: There shall be only one mechanism to support DTBS within each phy.
  - MAC vote: 15, 2, 1 - passed
  - Plenary Vote: 26, 2, 2

DTBS

- Moved: There shall only be one common MAC mechanism to support DTBS across all PHYs.
  - MAC Vote: 5, 9, 5 - failed
DTBS

- Moved: That the MAC provide only DTBS Mechanism of Parameterized Active/passive, per phy, as described in 94/150d.
  - MAC Vote: 7, 6, 2 - passed
  - Plenary vote: 14, 6, 14 fails

DTBS

- Action: Wim to bring detailed text to reflect these motions to Nov (for monday), for review by MAC group.
  - Agreed by Wim and MAC group.
Pushed Off schedule:

- M/P interface
  - 94/168: MAC/PHY issues
    » No author present

Goals for November

- **Everyone** should **READ** before the November meeting.
- Unsettled subjects:
  - Wired Equivalent Security
- Issues log clean up.
  - DTBS decisions affects lots of issues.
- Encoding proposal.
  - Work going on between mtgs, anticipating a consensus recommendation next meeting.
- In November, plan on (minor) draft tweaking before (internal) 802.11 letter ballot.
  - Executive Cmtee Attitude
MAC group report

• That’s all folks...