August '94 MAC group report

LLC

MAC

MAC: an abbreviation for Media Access *Control.*

PHY

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Misc subjects

- **Approval of MAC minutes**
  - done - unan.
  - this weeks minutes to be compiled by Chris, Jon and sent to Vic for mailing.

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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.

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Papers Discussed

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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.

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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.

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Format priorities straw poll:

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

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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.

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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

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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.**
      - • It 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**
    - » **94/215, 215a: Encoding of MAC frames.**
    - » **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.
    - » ref doc 94/236
  - 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

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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

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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.

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Power Mgt

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

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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

- **94/185: Inconsistencies & Omissions in 94/20B2**
  - CF capable vs poll
    - » Add CF capable indication to Assoc & Reassoc msgs
    - » Add CF mgt 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.

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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.

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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 #.

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DTBS

- **Much progress made**

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DTBS

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

DTBS

- **94/150d: DTBS alternatives**
  - generated dicsussion

DTBS

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

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DTBS

- **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

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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 Paramiterized Active / passive, per phy, as described in 94/150d.**
  - MAC Vote: 7, 6, 2 - passed
  - Plenary vote: 14, 6, 14 fails

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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.

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Pushed Off schedule:

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

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Goals for November

- <u>Everyone</u> should ** *READ* ** the B3 draft <u>before</u> 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

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MAC group report

- **That's all folks...**

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