

Section 2 Main Clauses

Comment Resolution Summary

John Lemon
Steve Wood
Dave Meyer
Med Belhadj

Summary

- Total of 364 comments against Clauses 5, 6, & 8, and punted to Section 2
 - 36 / 58 / 6 / 6 Editorial
 - 61 / 155 / 40 / 2 Technical
- All technical comments dealt with (resolved or deferred)
- Editors granted editorial license on all editorial comments
- 4 comments rejected (118, 129, 177, 461)
- 0 comments deferred to WG
- 3 comments deferred to RAH (Rate Ad Hoc)
- 8 comments deferred to FFAH (Frame Format Ad Hoc)

Rejected Comments

- 118
 - Clause 5, page 35, line 1
 - Comment: Clause 5 talks about a number of state machines. They are still missing.
 - Resolution: Commenter may have a valid point, however this can not be addressed in clause 5. Commenter is requested to re-submit comment against clause 6, 9 and any other clause as applicable.
- 177
 - Clause 5.3.3.5, page 39, line 33
 - Comment: The MAC does not immediately reflect packets addresses to it but will these go around the ring and then be received by the client. If so these packets would cause a MA_DATA.indicate later.
 - Resolution: WG agreed that client packets are not reflected.

Rejected Comments

- 129
 - Clause 5.2, page 35, line 50
 - Comment: I think that we need to add support for "promiscuous mode" to allow transparent bridging. In this mode, the MAC passes all the frames from the ring to the client. This may be covered under the ISS, but I don't think so.
 - Resolution: Not needed at this time. Need use in another clause before being referenced in clause 5. Commenter is requested to submit proposed text to other clause(s) making use of this term.
- 461
 - Clause 8.4, page 84, line 8
 - Comment: indicate order in which bits are sent. This is vital for correct CRC implementation. Annex G almost addresses this but is only Informative.
 - Resolution: Order of bit transmission will be spelled out in the individual PHY reconciliation layers.

Issues Covered – Clause 5

- Overlap of reference model and datapath clauses
 - Movement of some text from reference model to datapath.
- Consistent and correct usage of term "Fairness Eligible"
- Removal of class C service
 - Removal rejected but Clause 6 state diagrams will be updated to show proper handling of Class B EIR.
- Layer diagram to be replaced by Rhett's contribution
- Fairness eligible traffic is rate limited subject to fairness algorithm constraints

Issues Covered – Clause 5

- Primitive formal parameter lists adjusted
- Acceptance of new ringlet selection text and fixing ringlet selection in current draft
- Change Priority to service class in header parameters
- Remove TTL in MA_Data.indicate primitive
- control.ind/req opcodes specifications
- Use new reference model from Anoop
- Remove reference to A0 and A1 in text and in table 5.3

Issues Covered – Clause 6

- PHY_* primitives do not have specification of their effect in clause 6. They need to.
- Shaper definitions to be included in text.
- Optimization that a packet can always be sent one hop if nothing is waiting in the transit path.
- Rework definition of MAC jitter/delay measurement points to avoid reference to client queues
- New shaper definition added to class A, A0 traffic
- Add descriptions of the difference between A0/A1 traffic before using the terms normatively later in clause 6.
- Adopt stage_dmeyer and associated textual description of how the stage buffer selection is done.
- Fixes to figures 6.1 and 6.10

Issues Covered – Clause 6

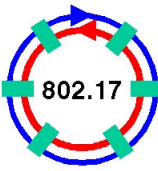
- Additional text specification provided to explain sendC and PassC signals.
- Explain how Class A traffic gets reclaimed by the FA.
- Rewording of terms spatial/uniform "provisioning" to "bandwidth allocation"
- Section 6.2 gets moved to annex I. Clean up "value statements" as per 309.
- Shading issues in figures in 6.2.x
- Clarify description of static and dynamic rate limits
- Fix credit adjustment limit definitions (define why LoLimit is MTU)
- MAC control traffic is not shaped by the Sa shaper (fig 6.8 is wrong)

Issues Covered – Clause 6

- Update state tables to be correct. Add note that state tables take precedence over flowcharts.
- Flowcharts in figures 6.9/6.11 need to be reworked
- Table 6.2/6.3 corrections
- Clarifications on why PTQ should be minimum of 2 MTUs, even in the cut-through case, but not state it in any conformance requiring manner
- Define variables/parameters in tables 6.2/6.3.
- Section 6.6 rewrite (cls06_MAC_6.6_j1)
- Punted to protection group for resolution: should protection messages be wrapped

Issues Covered – Clause 8

- Removal of reference to CID and QTAG frame formats
- MaxTU and MinTU comments. Decision was to make Min Frame Size 24 bytes
 - Other editors need to be reminded that minimum control payload size is now 2 bytes.
- Frame format figure construction and field naming
- Clarification of necessity of differentiation of A0/A1 in the header
- Respecification of protocol type and control type fields
- Remove control TTL from control packet
- Clarification of FCS coverage in the fairness message. Define actions of MAC when invalid parity received on fairness message.



Comments Deferred To WG

- None

Comments Deferred To RAH

- 249
 - Clause 6.1.1, page 48, line 3
 - Comment: We need to describe how the MAC determines the amount of reserved bandwidth A0, if it is not specifically provisioned. Page 51 line 3 indicates that A0 is provisioned.
 - Resolution: RAH is requested to address this as an informative addition to the draft.
- 250
 - Clause 6.1.1, page 48, line 3
 - Comment: The text refers to "The MAC is provisioned for a total class-A amount, from which it determines how much is subclass-A0 and how much is subclass-A1, based on ring circumference and STQ size. The MAC advertises a class-A provisioning equal to its internal subclass-A0 amount."
What is the algorithm?
 - Resolution: RAH is requested to address this as an informative addition to the draft.

Comments Deferred To RAH

- 252
 - Clause 6.1.1, page 48, line 4
 - Comment: Need to fully account for RTT.
 - Resolution: RAH is requested to address this as an informative addition to the draft.

Comments Deferred To FFAH

- 437
 - Clause 8, page 79, line 1
 - Comment: There is no minimum frame size in RPR.
 - Resolution: Last WG specified minimum size of 8 bytes for control frames. Could specify a minimum frame size of 16 bytes, and an optional minimum data frame payload size configuration (via LME), with a default of 48 bytes. Need to research how bridges will treat short frames. Will they pad?
- 444
 - Clause 8.1, page 80, line 18
 - Comment: Protocol type field is not needed to be protected by HEC. In general, protocol type is not seen or modified by the MAC and should not alter the behavior of the MAC.
 - Resolution:

Comments Deferred To FFAH

- 469
 - Clause 8.5, page 86, line 1
 - Comment: Fairness packets do not have a HEC. This is a problem for Type B fairness messages which are broadcast.
 - Resolution:
- 470
 - Clause 8.5, page 86, line 1
 - Comment: The Fairness frame format should be the same as the control packet format. Any savings in bandwidth is in the noise and multiple frame formats complicates design unnecessarily.
 - Resolution:
- 473
 - Clause 8.5, page 86, line 29
 - Comment: Using bit 0 as a parity bit does little to protect the fairness packet. Given that there is no default setting for this bit in a data packet, Flipping the bit that differentiates a Fairness packet and a data packet can easily cause a fairness packet to look like a data packet.
 - Resolution:

Comments Deferred To FFAH

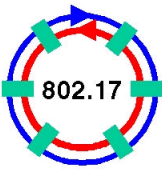
- 474
 - Clause 8.5, page 86, line 29
 - Comment: Using bit 0 as a parity bit does little to protect the fairness packet. Given that there is no default setting for this bit in a data packet, Flipping the bit that differentiates a Fairness packet and a data packet can easily cause a fairness packet to look like a data packet.
 - Resolution:
- 475
 - Clause 8.5, page 86, line 29
 - Comment: Assuming we stay with a parity bit we need to define the parity sense.
 - Resolution:
- 477
 - Clause 8.5, page 86, line 29
 - Comment: Clarification of fairness packet parity and FCS required.
 - Resolution:

Action Items – Clause 5

- Peter Jones requested to provide a contribution to define promiscuous behavior and submit to appropriate clause (not Clause 5, initially) (see #129)
- Bob Sultan to work with us on the creation of a subclause to describe rate control and then adjust service classes to refer to that subclause (see #137, #140)

Action Items – Clause 6

- State machines for shapers to be drawn up for next draft by Dave Meyer and Komal Rathi (see #215)
- RAH to review and approve shaper description text in time for inclusion in next official draft (see #216)
- Bob Sultan to work with John Lemon on reclaimability text (see #236)
- Editors to try to remove all any normative descriptions of things that do not affect the external behavior of the MAC (see #245)
- RAH to provide informative description on how subclasses A0/A1 are determined (see #'s 249, 250, 252, 373, 375)
- Contribution requested from Harry Peng on how A1 service is provided using lower link utilization in single queue only systems (see #297)



Action Items – Clause 8

- David James to provide detailed example/code for HEC-16 as for CRC-32 (see #456)

Open Issues

- Shaper definitions and uses
- Backpressure/sendX definitions and uses
- State machines/tables completion
- Location of type field in frame format
- Fairness frame format
- Better linking between clause 6 and 9
- Implementation guidelines
- Ringlet selection
- *Bridging effects on frame format and data path*
- *Echo and flush frames use of data traffic paths*
- *HEC-32*