C **01**   *S* **57.2.2**   *P* **190**   *L* **5**   # **561**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
This reference needs to be added to Clause 1.3

SuggestedRemedy
Add this reference to Clause 1.3

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Reassigning comment to Clause 1. Add reference for "ITU-T Recommendation G.975" to 1.3

C **56**   *S*   *P*   *L*   # **56001**
Ariel Maislos

Comment Type **T**   *Comment Status* **A**
Discovery state-machine diagrams require cleanup in order to simplify diagram and enhance understanding of discovery process

SuggestedRemedy
Adopt maislos_cmts_4_0103.pdf diagrams prepared during meeting as basis for new discovery state-diagrams.

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S*   *P*   *L*   # **58**
Kramer, Glen   Teknovus

Comment Type **E**   *Comment Status* **A**
Typos

Page 128 line 6: "Trnsmit" should be "Transmit"
Page 134 line 4: "existance" should be "existence"
Page 147 line 49: "TIme" should be "Time"
Page 168 line 8: "instanciation" should be "instantiation"
Page 170 line 4: "instanciation" should be "instantiation"

SuggestedRemedy
Fix the typos as indicated above.

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S*   *P* **121**   *L* **12**   # **434**
I2R, Onfig Team   Institute For Infocom

Comment Type **E**   *Comment Status* **A**
REGISTER_REQUEST is not consistent with the rest of the document

SuggestedRemedy
Suggest replacing REGISTER_REQUEST with REGISTER_REQ

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S*   *P* **121**   *L* **14**   # **406**
I2R, Onfig Team   Institute For Infocom

Comment Type **T**   *Comment Status* **A**
The sentence "discovery window - .. the exchange of DISCOVERY_GATE," is not complete

SuggestedRemedy
Suggest removing "the exchange of DISCOVERY_GATE,"

Proposed Response   *Response Status* **C**
ACCEPT.
E not T

C **56**   *S* **???**   *P* **???**   *L* **???**   # **99100**
Tom Murphy   Infineon

Comment Type **TR**   *Comment Status* **D**   gate D1.1 #911
Several burst-mode receiver designs require a hard-wired Reset signal. This is particularly true if fast receiver times are to be implemented, now or in the future. This comment is intended to generate discussion of this topic in the MPCP group.

SuggestedRemedy
Provision for a receiver reset signal in the MPCP

Proposed Response   *Response Status* **Z**
PROPOSED ACCEPT IN PRINCIPLE.
See attached diagram
See 514

C **56**   *S* **00**   *P*   *L*   # **437**
Kramer, Glen   Teknovus

Comment Type   **TR**   *Comment Status*   **D**

Currently, the draft 1.2 presents an inconsistent approach to the scheduling protocol. On the one hand, the scheduling protocol is left to be implementation-dependant (see D1.2 page 122, line 53: [Clause 56] does not deal with topics including bandwidth allocation strategies…). On the other hand, protocol messages have fixed format that do not allow implementation-dependant information to be passed between the OLT and ONUs.

SuggestedRemedy

Allow three types of fields in the GATE and REPORT messages:

1. Fixed field
2. Well-known optional field
3. Vendor-specific optional fields

This approach is explained in detail in the accompanying presentation kramer_cmts_2_0103.pdf

Proposed Response   *Response Status*   **Z**

PROPOSED REJECT.
Comment does not fix anything broken in standard.
Standard is consistent in its approach to scheduling:
Primitives provide for reporting from ONUs, and for gating by OLT.
It is left to the implementor to devise an allocation method. It is not left to the implementor to invent new protocol elements.
Fixed message formats are what allow for interoperability in a standard.

Suggested remedy is a completely different protocol.
Effect on stabilility of standard can not be understated for this major modification.
Absolutely no interoperability may be achieved when vendors are free to craft their proprietary protocols.

C **56**   *S* **3.6.1.6**   *P* **154**   *L* **1**   # **53**
Hirth, Ryan   Terawave Communic

Comment Type   **T**   *Comment Status*   **R**

Figure 56-21 - The Force Registration flag of Table 56-5 is never used.

SuggestedRemedy

remove the force registration flag from table 56-5 if it is not necessary.

Proposed Response   *Response Status*   **C**

REJECT.
See 431 for exact solution

C **56**   *S* **3.6.1.6**   *P* **156**   *L* **1**   # **52**
Hirth, Ryan   Terawave Communic

Comment Type   **T**   *Comment Status*   **A**

An ONU should be Deregistered if a Report is not received after an interval of time. (i.e. the ONU was removed from the network).

SuggestedRemedy

State REGISTERED_WAIT should have a time out if no Report messages are received.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
ONU generates reports and does not receive them.
Proposed fix:
OLT to deregister ONU after no Reports received.
ONU to deregister after no Gates received.

Arming mechanism to be added in Figure 56-17 for indication error state.
For OLT:
Input from indication to be processed in new diagram, that will issue indication to INDICATE DEREGISTER state.

For ONU
Input from indication to be processed in new diagram, that will issue indication to DEREGISTER state.

C **56**   *S* **53.3.6.1.6**   *P* **156**   *L* **10**   # **430**
I2R, Onfig Team   Institute For Infocom

Comment Type   **TR**   *Comment Status*   **A**

There is no explicit description about the process of deregister. Neither can we see clearly how the deregister process is done between ONU and OLT from figure 56-23.

SuggestedRemedy

(1) Add explicit text description like following for the deregister process into line 4 of page 146:
For the registered ONU, it can also send REGISTER_REQ (set the corresponding bit in it) message to OLT for deregistering itself. When the OLT receive such REGISTER_REQ it will deregister the associated ONU and send a REGISTER (set the corresponding "flag" field in REGISTER MPCPDU) message to inform this ONU that it has been deregistered. Upon receipt of this REGISTER message, the "registered" variable for this ONU is set to false. So the whole process of deregister is completed. This ONU will try to reregister at the earliest opportunity, once allowed.

(2) Change figure 56-23 in page 156 correspondingly.

Proposed Response   *Response Status*   **U**

ACCEPT IN PRINCIPLE.
Editor will add text to describe deregistration process to 56.3.6 header.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 2 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **53.3.6.1.6**

C **56**   *S* **56**   *P* **L**   # 99000

Diab, Wael William   Cisco Systems

Comment Type **TR**   *Comment Status* **A**   *D1.0*

There is no mention on the constraint for the local time stamping. I believe that there is an inherent assumption that the delay throuh the MAC & Phy is relatively constant. This needs to be explicitly stated in the draft.

SuggestedRemedy

Please add a timing constraint for the time stamping mechanism to eliminate any variability through the MAC and Phy. For instance, a min and max time between processing to trnsmition.

Proposed Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
Transmission/reception delay can not be distinguished from propagation delay.
Specification needs to constrain delay variations not necesseraly delay.
D1.0 #672

C **56**   *S* **56**   *P* **123**   *L* **1**   # 520

Maislos, Ariel   Passave

Comment Type **TR**   *Comment Status* **A**

Counters missing throughout text

SuggestedRemedy

Add counters and variables, updating text and diagrams for reference by Clause-30

Proposed Response   *Response Status* **C**

ACCEPT.
Editor will draft list of Clause 30 management variables for inclusion prior to ballot.
Interface variables would be included in this list.
See 324

C **56**   *S* **56.1**   *P* **122**   *L* **20**   # 467

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

"signal" should be plural

SuggestedRemedy

change "signal" to "signals"

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1**   *P* **122**   *L* **26**   # 438

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

ONU does not transmit necessarily when grant arrives

SuggestedRemedy

Change sentance to "When the grant arrives, the ONU should then transmit frames at wire speed during its assigned time slot."

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1**   *P* **122**   *L* **35**   # 440

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

Figure 56.1 needs label for drop fiber, and indication of more than 3 ONUs

SuggestedRemedy

Add "Drop" in 56-1 Diagram on line from Splitter to ONU, and change "ONU 3" to "ONU N".

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Also add dotted line from ONU 2 to ONU N

C **56**   *S* **56.1**   *P* **122**   *L* **49**   # 439

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

clause deals with allocation of "upstream" transmission resources

SuggestedRemedy

Change line to "...clause include allocation of upstream transmission resources..."

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1**   *P* **123**   *L* **14**   # 441

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

capitalize "control"

SuggestedRemedy

Change Multi-Point MAC control to Multi-Point MAC Control.

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1**   *P* **123**   *L* **8**   # **54**
Kramer, Glen   Teknovus

Comment Type   **E**   *Comment Status*   **A**
     Use of abreviation LLID before it is explained.

SuggestedRemedy
     Add a reference to a corresponding subclause in clause 57.

Proposed Response   *Response Status*   **C**
     ACCEPT IN PRINCIPLE.
     Definition is to be added to Clause 1.4
     Editor will add Cross-Ref to 57.1.3.1.2

C **56**   *S* **56.1.1**   *P* **123**   *L* **30**   # **442**
Pesavento, Gerry   Teknovus

Comment Type   **T**   *Comment Status*   **A**
     g) Negotiation of PMD parameters allowing flexibility in design of PMD

     --> this is still being debated in PMD group concerning ONU parameters.

SuggestedRemedy
     Add Editor Note under (g) to say:
     "Necessity to negotiate ONU PMD parameters is under study"

Proposed Response   *Response Status*   **C**
     ACCEPT IN PRINCIPLE.
     Based on motions adopted in meeting, advertisement of PMD parameters for laser is not
     required.
     Fields used to advertise these parameters should be removed from messages as well.

     Modify objective g) to read:
     g) Negotiation of PMD receiver parameters allowing flexibility in design of PMD

C **56**   *S* **56.1.1**   *P* **123**   *L* **37**   # **443**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**
     l) Continuous ranging for thermal compensation.
     This is the main variable, but other variables may cause timing variance

SuggestedRemedy
     Change to:
     l) Continuous ranging for compensating round trip time variation
     or something like that...

Proposed Response   *Response Status*   **C**
     ACCEPT.
     See 521

C **56**   *S* **56.1.2**   *P* **123**   *L* **38**   # **407**
I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **A**
     The sub clause heading Position of Optical Multipoint within the IEEE 802.3ah hierarchy
     should be changed to reflect the change to Multi-Point MAC Control in the passage

SuggestedRemedy
     Suggest changing Optical Multi-Point to Multi-Point MAC Control

Proposed Response   *Response Status*   **C**
     ACCEPT.
     E not T

C **56**   *S* **56.1.2**   *P* **123**   *L* **39**   # **55**
Kramer, Glen   Teknovus

Comment Type   **E**   *Comment Status*   **A**
     Subclause title should read "Position of Multi-Point MAC Control within the IEEE 802.3
     hierarchy"

SuggestedRemedy
     Change the title

Proposed Response   *Response Status*   **C**
     ACCEPT.

C **56**   *S* **56.1.2**   *P* **123**   *L* **41**   # **445**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**
     "Architectural" - spelled wrong

SuggestedRemedy
     Change to "architectural"

Proposed Response   *Response Status*   **C**
     ACCEPT.

C **56**   *S* **56.1.2**   *P* **123**   *L* **42**   # **444**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**
     "multiplexing control sublayer" should be "Multi-Point MAC Control sublayer"

SuggestedRemedy
     Change as suggested in Comment

Proposed Response   *Response Status*   **C**
     ACCEPT.

C **56**   *S* **56.1.2**   *P* **123**   *L* **46**   *#* **446**
Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**
Optical Multi-Point (OMP) title was changed

SuggestedRemedy
Change to Multi-Point MAC Control

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.1.2**   *P* **123**   *L* **53**   *#* **447**
Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**
Change MPCP to "Multi-Point Control Protocol (MPCP)", and change "OMP" to either "EPON" or "P2MP"

SuggestedRemedy
Change MPCP to "Multi-Point Control Protocol (MPCP)", and change "OMP" to either "EPON" or "P2MP"

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.1.2**   *P* **124**   *L* **20**   *#* **449**
Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**
Change PMD to P2MP-PMD as per the Figure PMD layer.

SuggestedRemedy
Change PMD line in Figure 56-2 to:

P2MP-PMD=POINT-TO-MULTI-POINT PHYSICAL MEDIUM DEPENDENT

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.1.2**   *P* **124**   *L* **24**   *#* **408**
I2R, Onfig Team   Institute For Infocom

Comment Type **T**   *Comment Status* **A**
Figure 56-2
The figure title "Relationship of OMP …" should be changed to reflect the change to Multi-Point MAC Control in the passage

SuggestedRemedy
Suggest changing "OMP" to "Multi-Point MAC Control"

Proposed Response   *Response Status* **C**
ACCEPT.
E not T

C **56**   *S* **56.1.2**   *P* **124**   *L* **24**   *#* **450**
Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**
Figure 56-2 title should not say "OMP", nor the line 26 below.

SuggestedRemedy
Change "OMP" to "Multi-Point MAC Control Sublayer" in Figure 56-2 title

Also remove the text "OMP functional block" in the paragraph below (page 124 line 26).

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.1.2**   *P* **124**   *L* **52**   *#* **451**
Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**
Change sentance "... a single copy of a frame and this frame is being received by all ONUs" to

SuggestedRemedy
"... a single copy of a frame that is received by all ONUs"

Also, there should be a period after the word "once" in this paragraph.

Proposed Response   *Response Status* **C**
ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 5 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56**   *S* **56.1.2**

C **56**   *S* **56.1.2**   *P* **124**   *L* **53**   # **112**

Karasawa, Satoru   Oki Electric Industry

Comment Type **T**   *Comment Status* **R**

As a MAC client can have its own MAC address, the OLT can have N MAC addresses when N ONUs connect to the OLT. However, the OLT has only one physical port. Therefore, it is natural that the OLT has a MAC address for the PON port.

SuggestedRemedy

Add the following sentence into the subclause 56.1.2.
"Although the OLT has N MAC clients, the MAC address of the OLT can be one."

Proposed Response   *Response Status* **C**

REJECT.
As each PON port has a MAC associated with it, the MAC has an address. The address assignment strategy is an implementation decisions.

C **56**   *S* **56.1.2**   *P* **124**   *L* **53**   # **409**

I2R, Onfig Team   Institute For Infocom

Comment Type **TR**   *Comment Status* **A**

The number of MAC instances and clients supported for P2PE is N+1. However, for shared LAN emulation it is 2N+1

SuggestedRemedy

Add another passage or sentence to indicate this.

Proposed Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
Add paragraph in compatibility considerations describing use of shared emulation

C **56**   *S* **56.1.2**   *P* **124**   *L* **8**   # **448**

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **R**

Change "MAC CONTROL (OPTIONAL)" to "MULTI-POINT MAC CONTROL" in Figure 56-2

SuggestedRemedy

Change "MAC CONTROL (OPTIONAL)" to "MULTI-POINT MAC CONTROL" in Figure 56-2

Proposed Response   *Response Status* **C**

REJECT.
T not E
See 308

C **56**   *S* **56.1.2**   *P* **125**   *L* **2**   # **452**

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

Take out capitalization of Emulation

SuggestedRemedy

Change to "emulation" with lower case

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1.2**   *P* **125**   *L* **42**   # **307**

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

The MAC supported in EPON is only full duplex. Any reference to CSMA/CD should be removed.
Also at page 126 line 28

SuggestedRemedy

Remove any reference to CSMA/CD when refering to EPON MAC

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1.3**   *P* **125**   *L*   # **433**

I2R, Onfig Team   Institute For Infocom

Comment Type **TR**   *Comment Status* **A**

From Fig 56-4, we can't see clearly the relationship between Mac Control Client and the OMP function block.

For example, as is known the Discovery Processing block needs to indicate the Mac Control Client the results(Ma_Control.indication(denied/accepted)) or states(Ma_Control.indication(in_progress)) of the discovery process.

On the other side the Mac Control Client generates Ma_Control.request() to control the transmit of the OMP function block.

And the OMP.request() and OMP.indication() can only be used within the OMP function block.

SuggestedRemedy

See the file: raymond_cmts_2_0103.pdf.

Proposed Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
See kramer_cmts_3_0103.pdf for exact solution.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 6 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56**   *S* **56.1.3**

C **56**   *S* **56.1.3**   *P* **125**   *L* **24**   # **453**

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

It is not clear what this Functional Block is titled. A label needs to be added in the Figure 56-4 line, and also made more clear in the block itself.

SuggestedRemedy

Change Figure 56-4 Functional Block Diagram to "Figure 56-4 - Multi-Point MAC Control Instance Functional Block Diagram"

Change Figure 56-4 "Multiplexing MAC Control instance N" to "Multi-Point MAC Control instance n" and put this label not on the bottom right, but add room at the top of the block for this label.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change title of figure 56-4 to read: "Multi-Point MAC Control Functional Block Diagram".
See kramer_cmts_3_0103.pdf for actual diagram.

C **56**   *S* **56.1.3**   *P* **125**   *L* **6**   # **454**

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

Change "Optical Multi-Point (OMP)" to "Multi-Point MAC Control" - the functional block diagram has more than the OMP block.

SuggestedRemedy

change text to "Multi-Point MAC Control"

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1.3**   *P* **126**   *L* **44**   # **505**

Maislos, Ariel   Passave

Comment Type **T**   *Comment Status* **A**

Study of interaction between PAUSE and MPCP has reached maturity level and is probably concluded.

SuggestedRemedy

Add text as in file maislos_cmts_1_0103.pdf

Proposed Response   *Response Status* **C**

ACCEPT.
Editor will add in new compatibility consideration section the following:

Even though MPCP is compatible with flow control, flow control may not be efficient in the case of large propagation delay.

C **56**   *S* **56.1.3**   *P* **127**   *L* **7**   # **500**

Jaeyeon Song   Samsung

Comment Type **T**   *Comment Status* **A**

It is not clear the connection between MAC Control Client and Multi-point MAC Control instance n.

SuggestedRemedy

Clarify the connection between MAC Control Client and Multi-point MAC Control instance n.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See attached diagram for modified interaction with MAC Control Client
See also 433

C **56**   *S* **56.1.4**   *P* **126**   *L* **4**   # **456**

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

Change "Optical Multi-Point functional block" to "Multi-Point MAC Control functional block"

SuggestedRemedy

Change "Optical Multi-Point functional block" to "Multi-Point MAC Control functional block"

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.1.4**   *P* **126**   *L* **6**   # **457**

Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**

Change (a) "....for synchronizing the multiple MAC clients...." to "for synchronizing Multi-Point MAC Control Instances..."

SuggestedRemedy

Change (a) "....for synchronizing the multiple MAC clients...." to "for synchronizing Multi-Point MAC Control Instances..."

Proposed Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 7 of 55

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn   *C* **56**   *S* **56.1.4**

C **56** *S* **56.2** *P* **126** *L* **3** # **410**
I2R, Onfig Team   Institute For Infocom

Comment Type **T**   *Comment Status* **A**
The phrase "Optical MAC Control" should be changed to Multi-Point MAC Control to reflect the change to Multi-Point MAC Control in the figure 56-4

SuggestedRemedy
Suggest changing "Optical Multipoint" to "Multi-Point MAC Control"

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.
E not T
use Multi-Point MAC Control

C **56** *S* **56.2** *P* **126** *L* **9** # **455**
Pesavento, Gerry   Teknovus

Comment Type **E**   *Comment Status* **A**
Change (b) "Multi-Point" to "Multi-Point MAC Control Instance"

SuggestedRemedy
Change (b) "Multi-Point" to "Multi-Point MAC Control Instance"

Proposed Response   *Response Status* **C**
ACCEPT.
See 501

C **56** *S* **56.2** *P* **128** *L* **15** # **311**
Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**
Description of function (d) Control Mutiplexer needs to be rewritten

SuggestedRemedy
Make the required changes

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.
Editor is open to suggestions, but please suggest what changes to make.

C **56** *S* **56.2** *P* **128** *L* **9** # **501**
Jaeyeon Song   Samsung

Comment Type **E**   *Comment Status* **A**
The block name b) is wrong.

SuggestedRemedy
b) Multi-Point --> Multi-point MAC Control Instance n

Proposed Response   *Response Status* **C**
ACCEPT.
See 455

C **56** *S* **56.2** *P* **128** *L* **9** # **310**
Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**
In function (c) is not clear what Multi-Point is refered to

SuggestedRemedy
Make the required changes

Proposed Response   *Response Status* **C**
ACCEPT.

C **56** *S* **56.2.1** *P* **126** *L* **25** # **56**
Kramer, Glen   Teknovus

Comment Type **E**   *Comment Status* **A**
"As depicted in Figure 56–4, the layered system may instantiate multiple MAC entities, using a single Multi-Point MAC Control."

This is a very confusing statement. Perhaps, the intention was to say that "Multi-Point MAC Control sublayer may instantiate multiple Multi-Point Control instanses in order to interface multiple MAC and MAC Control clients above with multiple MACs below."

SuggestedRemedy

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.
Add text as suggested in the comment body.

C **56** *S* **56.2.1** *P* **126** *L* **53** **#** 57
Kramer, Glen   Teknovus

Comment Type **E** *Comment Status* **A**
"At the ONU, a single MAC instance is used to communicate with each MAC instance at the OLT."

single MAC at ONU communicates with a single MAC at the OLT.

SuggestedRemedy
Remove "each"

Proposed Response *Response Status* **C**
ACCEPT.

C **56** *S* **56.2.1** *P* **126** *L* **54** **#** 459
Pesavento, Gerry   Teknovus

Comment Type **E** *Comment Status* **A**
Parer should be Parser

SuggestedRemedy
Parer should be Parser

Proposed Response *Response Status* **C**
ACCEPT.

C **56** *S* **56.2.1** *P* **127** *L* **27** **#** 458
Pesavento, Gerry   Teknovus

Comment Type **E** *Comment Status* **A**
Conversely is spelled wrong (line 28)
transmission is spelled wrong (line 38)

SuggestedRemedy
Change to Conversely (line 28)
Change to transmission (line 38)

Proposed Response *Response Status* **C**
ACCEPT.

C **56** *S* **56.2.1** *P* **127** *L* **36** **#** 461
Pesavento, Gerry   Teknovus

Comment Type **E** *Comment Status* **A**
Change "..instance Multiplexer.." to "...Multi-Point MAC Control Instance..."

SuggestedRemedy
Change "..instance Multiplexer.." to "...Multi-Point MAC Control Instance..."

Proposed Response *Response Status* **C**
ACCEPT.

C **56** *S* **56.2.1** *P* **127** *L* **49** **#** 460
Pesavento, Gerry   Teknovus

Comment Type **E** *Comment Status* **A**
Change Multi-Point MAC control to Multi-Point MAC Control -- several instances of this throughout document, make changes

SuggestedRemedy
Change Multi-Point MAC control to Multi-Point MAC Control -- several instances of this throughout document, make changes

Proposed Response *Response Status* **C**
ACCEPT.

C **56** *S* **56.2.1** *P* **128** *L* **14** **#** 463
Pesavento, Gerry   Teknovus

Comment Type **E** *Comment Status* **A**
Change "Parser/Multiplexer" to "Multi-Point MAC Control"
Correct spelling of independent on same line

SuggestedRemedy
Change "Parser/Multiplexer" to "Multi-Point MAC Control"
Correct spelling of independent on same line

Proposed Response *Response Status* **C**
ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 9 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56** *S* **56.2.1**

C **56**   *S* **56.2.1**   *P* **128**   *L* **19**   # **464**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**
"It" is unspecified - should it be "Multi-Point MAC Control Instance"
Also in same paragraph line 20 instances is spelled wrong
Also in same paragrap change "Multi-Point control" to "Multi-Point MAC Control"

SuggestedRemedy
"It" is unspecified - should it be "Multi-Point MAC Control Instance"
Also in same paragraph line 20 instances is spelled wrong
Also in same paragrap change "Multi-Point control" to "Multi-Point MAC Control"

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.2.1**   *P* **128**   *L* **25**   # **502**
Jaeyeon Song   Samsung

Comment Type   **E**   *Comment Status*   **A**
The index of Figure 56-4 is not correct. It is the Figure 56-5 below the sentence.

SuggestedRemedy
"As depicted in Figure 56-4..." -->"As depicted in Figure 56-5..."

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.2.1**   *P* **128**   *L* **54**   # **312**
Khansari, Masoud   Centillium Communic

Comment Type   **E**   *Comment Status*   **A**
"Parer" should read "Parser"

SuggestedRemedy
Make the required changes

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.2.1**   *P* **128**   *L* **6**   # **462**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**
Trnsmit - change to Transmit

SuggestedRemedy
Trnsmit - change to Transmit

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.2.1**   *P* **129**   *L* **39**   # **388**
Tae-Whan Yoo   ETRI

Comment Type   **E**   *Comment Status*   **A**
The MAC multiplxer is not defined.

SuggestedRemedy
It would be clear if "MAC multiplexer" is substituted with "Control Multiplxer".

Proposed Response   *Response Status*   **C**
ACCEPT IN PRINCIPLE.
"Multi-Point MAC Control instance"

C **56**   *S* **56.2.1**   *P* **130**   *L* **16**   # **390**
Tae-Whan Yoo   ETRI

Comment Type   **E**   *Comment Status*   **A**
The description from line 15 to line 17 is not clear.

SuggestedRemedy

Proposed Response   *Response Status*   **C**
ACCEPT IN PRINCIPLE.
Change "..while the receive .."
to "..while the receive and transmit operation for the opcode dependent MAC Control
function remains unchanged."

C **56**   *S* **56.2.1**   *P* **130**   *L* **6**   # **389**
Tae-Whan Yoo   ETRI

Comment Type   **E**   *Comment Status*   **A**
Typo error

SuggestedRemedy
Trnsmit -> Transmit

Proposed Response   *Response Status*   **C**
ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 10 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **56.2.1**

C **56**   *S* **56.2.2**   *P* **128**   *L* **33**   # **411**
I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **A**

"The purpose of the Multiplexing Control is to provide arbitration of frames from different MAC Clients at the RS layer and below when multiple clients share a single PHY." is a bit difficult to understand.

SuggestedRemedy

Suggest changing to "The purpose of the Multiplexing Control is to allow only one of the multiple clients to transmit to the RS layer at any one time."

Proposed Response   *Response Status*   **C**

ACCEPT.
E not T

C **56**   *S* **56.2.2**   *P* **128**   *L* **49**   # **412**
I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **A**

Fig 56-7
The caption "Multi-Point Control Service Interfaces" does not reflect the figure shown.

SuggestedRemedy

The caption "Multi-Point Control Service Interfaces" should be changed to "Multiplexing Control Service Interfaces"

Proposed Response   *Response Status*   **C**

ACCEPT.
E not T

C **56**   *S* **56.2.2**   *P* **128**   *L* **53**   # **465**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**

Change "OMP_n" to "Multi-Point MAC Control Instance n"

SuggestedRemedy

Change "OMP_n" to "Multi-Point MAC Control Instance n"

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56**   *S* **56.2.2**   *P* **129**   *L* **11**   # **466**
Pesavento, Gerry   Teknovus

Comment Type   **E**   *Comment Status*   **A**

This Figure 56-8 is nearly identical to Figure 56-5; I recommend combining them to one Figure

SuggestedRemedy

This Figure 56-8 is nearly identical to Figure 56-5; I recommend combining them to one Figure

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Further combine these diagrams into Figure 56-4.
With new Figure 56-4 approved, current Figures 56-5, 56-6 and 56-8 should be removed.

C **56**   *S* **56.2.2**   *P* **129**   *L* **3**   # **413**
I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **R**

Fig 56-8
"MAC Clients" does not reflect both the MAC Client and MAC Control Client.

SuggestedRemedy

Suggest changing it to "Clients" or "MAC and MAC Control Clients"

Proposed Response   *Response Status*   **C**

REJECT.
Figure 56-8 is to be removed as per comment 466.

C **56**   *S* **56.2.2**   *P* **131**   *L* **29**   # **391**
Tae-Whan Yoo   ETRI

Comment Type   **E**   *Comment Status*   **A**

Typo error

SuggestedRemedy

"Multiplexig" -> "Multiplexing"

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56**　　*S* **56.2.2.1.2**　　　*P* **129**　　*L* **52**　　**#** `59`

Kramer, Glen　　　　　　　　　　　Teknovus

Comment Type **E**　　*Comment Status* **A**

TransmitPending is not boolean and cannot be set to "on". It is an eanum with three values.

SuggestedRemedy

Change the sentence to "Setting them to DATA or CONTROL indicates that the selected instance is ready to transmit data of MAC Control frame respectively."

Proposed Response　　　*Response Status* **C**

ACCEPT.

C **56**　　*S* **56.2.2.1.2**　　　*P* **130**　　*L* **17**　　**#** `414`

I2R, Onfig Team　　　　　　　　　Institute For Infocom

Comment Type **T**　　*Comment Status* **A**

The definition "transmission_in_progress" is missing

SuggestedRemedy

Suggest copying the definition from pg 134, clause 56.2.3.1.2

Proposed Response　　　*Response Status* **C**

ACCEPT.
See 315

C **56**　　*S* **56.2.2.1.2**　　　*P* **130**　　*L* **9**　　**#** `60`

Kramer, Glen　　　　　　　　　　　Teknovus

Comment Type **E**　　*Comment Status* **A**

Suggest using consistent naming:

either multipoint_transmit_pending and transmit_pending[j]
or MultipointTransmitPending and TransmitPending[j]

SuggestedRemedy

Change variable names as indicated in the comment

Proposed Response　　　*Response Status* **C**

ACCEPT.

C **56**　　*S* **56.2.2.1.2**　　　*P* **131**　　*L* **50**　　**#** `314`

Khansari, Masoud　　　　　　　　Centillium Communic

Comment Type **T**　　*Comment Status* **R**

Variable transmitPending[j] is defined but not used anywhere in the state diagram (Figure 56-9)

SuggestedRemedy

Remove this variable

Proposed Response　　　*Response Status* **C**

REJECT.
TransmitPending is used to calculate multupoint_transmit_pending and is not redundant

---

C **56**　　*S* **56.2.2.1.3**　　　*P* **130**　　*L* **24**　　**#** `415`

I2R, Onfig Team　　　　　　　　　Institute For Infocom

Comment Type **T**　　*Comment Status* **A**

It seems that there are 2 definition for the select function's return value

SuggestedRemedy

Suggest deleting "The function returns false when the transmitPending array is empty. Thus it allows the selection of an active element from the transmitPending list."

Proposed Response　　　*Response Status* **C**

ACCEPT.

C **56**　　*S* **56.2.3**　　　*P* **132**　　*L* **13**　　**#** `416`

I2R, Onfig Team　　　　　　　　　Institute For Infocom

Comment Type **E**　　*Comment Status* **R**

Fig 56-10
The direction of the arrow is opposite

SuggestedRemedy

Invert it.

Proposed Response　　　*Response Status* **C**

REJECT.
ReceiveFrame is described correctly, one of the paradoxes of Ethernet.
See Figure 2-2 in sub-clause 2.2.2

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause　　　Page 12 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**　　　*S* **56.2.3**

C **56** *S* **56.2.3** *P* **132** *L* **3** # **417**

I2R, Onfig Team Institute For Infocom

Comment Type **T** *Comment Status* **A**

Fig 56-10
MAC Control function activation is not described in 56.2.3

SuggestedRemedy

Please describe it or split the signal into "MAC_CONTROL.indication", "OMP.indication" and "PAUSE.indication"

Proposed Response *Response Status* **C**

ACCEPT.
Text describing function activtion will be addd by editor based on 31.5 as notes to Figure 56-13:
NOTE: The opcode-specifc operation is launched as a parallel process by the MAC Control sublayer, and not as a synchronous function. Progress of the generic MAC Control Receive state machine (as shown in this figure) is not implicitly impeded by the launching of the opcode specific function.

State text to read: Perform opcode-specific operation, per annex.
See note.

C **56** *S* **56.2.3** *P* **132** *L* **32** # **418**

I2R, Onfig Team Institute For Infocom

Comment Type **T** *Comment Status* **A**

"transmission_in_progress[n]" seems to be missing from the diagram

SuggestedRemedy

Add this signal with an outgoing arrow below the TransmitPending[n] signal

Proposed Response *Response Status* **C**

ACCEPT.
See 419

C **56** *S* **56.2.3** *P* **133** *L* **11** # **419**

I2R, Onfig Team Institute For Infocom

Comment Type **T** *Comment Status* **R**

Fig 56-12
"transmission_in_progress" seems to be missing from the diagram

SuggestedRemedy

Add this signal with an outgoing arrow on the right of the Control Multiplexer block

Proposed Response *Response Status* **C**

REJECT.
transmission_in_progress variable is not used in the ONU.
See 418

C **56** *S* **56.2.3** *P* **133** *L* **43** # **393**

Tae-Whan Yoo ETRI

Comment Type **E** *Comment Status* **A**

Typo error

SuggestedRemedy

perfomed -> performed

Proposed Response *Response Status* **C**

ACCEPT.

C **56** *S* **56.2.3** *P* **134** *L* **22** # **503**

Jaeyeon Song Samsung

Comment Type **T** *Comment Status* **A**

In Figure 56-11 and Figure 56-12, Control Multiplexer has three request primitive. But, In case of OMP.request, it is included in the MA_CONTROL.request according to the state diagram.

SuggestedRemedy

Remove the OMP.request primitive from those figures.

Proposed Response *Response Status* **C**

ACCEPT.

C **56** *S* **56.2.3.1.2** *P* **133** *L* **51** # **420**

I2R, Onfig Team Institute For Infocom

Comment Type **T** *Comment Status* **A**

"TXAllow is always true for the OLT, and changes its value according to the state of the Gate Processing functional block." is a bit confusing.

SuggestedRemedy

Suggest changing it to "TXAllow is always true for the OLT but changes its value according to the state of the Gate Processing functional block for the ONUs."

Proposed Response *Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial COMMENT STATUS: D/dispatched A/accepted R/rejected SORT ORDER: Clause, Page, Line, Subclause Page 13 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
C **56** *S* **56.2.3.1.2**

C **56**   *S* **56.2.3.1.2**   *P* **135**   *L* **31**   **#** **319**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

Some of the Variables are only defined in OLT state diagrams and it does not make sense to have default values of them in the case of ONU. For example TXAllow is only used in ONU Multiplexer state diagram (Figure 56-15) and it on uncessary of it to have default value for OLT.

SuggestedRemedy

All the variables defined in this section should be reviewed to make sure that the default values are defined when they are necessary

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.2.3.1.2**   *P* **135**   *L* **39**   **#** **318**
Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

LaserControl is defined but not used in any of the corresponding state diagrams (Figures 56-14, 56-15, 56-16).
This is also true for variable "Master" defined in page 136

SuggestedRemedy

remove the definitions of LaserControl and master variables

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.2.3.1.3**   *P* **136**   *L* **46**   **#** **320**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

Function TransmitFrame() is used in Multiplexer state diagrams of OLT and ONU (Figures 56-14 and 56-15) but not defined.

SuggestedRemedy

Define TransmitFrame() function in subclause 56.2.3.1.3

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.2.3.1.5**   *P* **135**   *L* **9**   **#** **421**
I2R, Onfig Team   Institute For Infocom

Comment Type **T**   *Comment Status* **A**

The definition for MA_CONTROL.request and MA_DATA.request is not copied over from the previous draft.

SuggestedRemedy

Suggest adding them back "MA_CONTROL.request(DA, SA, m_sdu) The service primitive used by a client to request a MAC Control sublayer function with the specified request_operands."and " MA_DATA.request(DA, SA, m_sdu) The service primitive used by a client to a MAC function with the specified request_operands."

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.2.3.1.5**   *P* **137**   *L* **2**   **#** **321**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

The following messages are not defined:
ReceiveFrame
MA_CONTROL_request
MA_DATA_request

but used in the following state diagrams

SuggestedRemedy

Clearly define the above messages.

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.2.3.1.6**   *P* **137**   *L* **8**   **#** **88**
Nitosa, koji   NEC

Comment Type **E**   *Comment Status* **A**
"transmitPending=false" in Figure56-14 sould be "transmitPending=NONE"

SuggestedRemedy

See comment.

Proposed Response   *Response Status* **C**
ACCEPT.

C **56**   *S* **56.2.3.1.6**   *P* **138**   *L* **18**   **#** 422

I2R, Onfig Team   Institute For Infocom

Comment Type **T**   *Comment Status* **R**

Fig 56-15
There is no priority between CONTROL and DATA frames.

SuggestedRemedy

Suggest copying the transmitPending = DATA and transmitPending = CONTROL from fig 56-14 to this figure

Proposed Response   *Response Status* **C**

REJECT.
Multiplexing is not performed in ONU upstream as there is a single LLID instance, therefore it is not required to add signals to interface to multiplexing control in the ONU.

C **56**   *S* **56.2.6.1.6**   *P* **113**   *L* **11**   **#** 99002

Bharati, Barnali   Wipro Technologies

Comment Type **TR**   *Comment Status* **A**   *D1.0*

In 'PERIODIC TRANSMISSION' state should there not be a check if variable 'register == true'? So that no report is sent untill registration is complete or if the ONU has been deregistered.

SuggestedRemedy

Proposed Response   *Response Status* **U**

ACCEPT.
D1.0 #188 discovery

C **56**   *S* **56.3**   *P* **140**   *L* **47**   **#** 322

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

"State Variables" is defined as one of the functions of OMP but is not depicted in Figure 56-4.

SuggestedRemedy

Add "State Variables" to Figure 56-4

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.1**   *P* **139**   *L* **23**   **#** 23

Marris, Arthur   Cadence

Comment Type **T**   *Comment Status* **A**

Replace the word "must" with "shall".

SuggestedRemedy

Replace the word "must" with "shall". also on line 25, and on page 145 line 37

Proposed Response   *Response Status* **C**

ACCEPT.
Editor shall fix other occurances in the text as well.

C **56**   *S* **56.3.1**   *P* **140**   *L* **25**   **#** 506

Maislos, Ariel   Passave

Comment Type **E**   *Comment Status* **A**

therough

SuggestedRemedy

through

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.1**   *P* **141**   *L* **14**   **#** 395

Tae-Whan Yoo   ETRI

Comment Type **E**   *Comment Status* **R**

Once the P2PE is done, the link chracteristic becomes symmetric both in the downstream and in the upstream. It would, therefore, be better to add the gating function in the downstream, too.

SuggestedRemedy

The sentence for item e) is rewritten as follows,

" e) Such gating of transmission is orchestrated through the Gate Processing function in the upstream direction and through Multiplexing Control function in the downstream direction."

Proposed Response   *Response Status* **C**

REJECT.
At the hierarchy were this is defined, there is no problem in the downstream direction as it was previously solved.

C **56**   *S* **56.3.1**   *P* **141**   *L* **25**   *#* **396**
Tae-Whan Yoo   ETRI

Comment Type   **E**   *Comment Status*   **A**
Typo error

SuggestedRemedy
therough -> through

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.3.2**   *P* **140**   *L* **38**   *#* **514**
Maislos, Ariel   Passave

Comment Type   **TR**   *Comment Status*   **D**
All available OLT transceivers require incoming reset signal synchronized with upstream burst.

SuggestedRemedy
change:
An additional interface is exported towards the MAC and Physical layer in order to enable and disable the lasing at the PMD.
to:
Additional interfaces are exported towards the MAC and Physical layer in order to enable and disable the lasing at the PMD, or reseting of the receiver.

Proposed Response   *Response Status*   **Z**
PROPOSED ACCEPT IN PRINCIPLE.
See 99100

C **56**   *S* **56.3.2**   *P* **141**   *L* **38**   *#* **324**
Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**
The service interface to PMD should be clarified (either through explicit interface or layer management variables)

SuggestedRemedy
This issue needs to be clearly defined before going to working group ballet

Proposed Response   *Response Status*   **C**
ACCEPT IN PRINCIPLE.
Editor will draft list of Clause 30 management variables for inclusion prior to ballot.
Interface variables would be included in this list.
See also 520

C **56**   *S* **56.3.3**   *P* **140**   *L* **44**   *#* **507**
Maislos, Ariel   Passave

Comment Type   **E**   *Comment Status*   **A**
5MPCP

SuggestedRemedy
MPCP

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.3.3.4**   *P* **142**   *L*   *#* **130**
Ochiai, Koji   NTT corporation

Comment Type   **T**   *Comment Status*   **A**
There is no description about the ONU processing time between receiving a GATE MPCP and sending a frame to OLT.
If it isn't defined,there are some problems as following.
[Problem:1]ONU couldn't send a frame at the time assigned by OLT,if the ONU processing time is longer than the gap between the Normal Gate timestamp and the start time.
[Problem:2]ONU couldn't send a Resister_Req frame within the Discovery Window has been opening by OLT,if the ONU processing time is longer than the gap between the Discovery Gate timestamp and the start time.

SuggestedRemedy
We need to define the maximum value of processing time in the ONU.

Proposed Response   *Response Status*   **C**
ACCEPT IN PRINCIPLE.
See also presentation hirth_1_0103.pdf option 3.

Editor will add section in compatibility considerations to specify maximal processing time in ONU of 20microSeconds.
Section will also say how OLT is indifferent to this information.

This gives higher bound on penalty to RTT (so we don't exceed 20km too much), while allowing implementation freedom.

C **56**   *S* **56.3.5.1.1**   *P* **141**   *L* **34**   *#* **423**
I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **A**
There is an error in the phrase "… setting the max_time_between_omp timer."

SuggestedRemedy
Suggest changing it to "setting the omp_timer."

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.3.5.1.1**   *P* **142**   *L* **38**   **#** `508`

Maislos, Ariel   Passave

Comment Type **T**   *Comment Status* **R**

Fix maximal timout at 5 seconds.

SuggestedRemedy

Remove note specifiying open issue.

Proposed Response   *Response Status* **C**

REJECT.
Timeout value would be fixed to 1 second.

C **56**   *S* **56.3.5.1.2**   *P* **144**   *L* **1**   **#** `325`

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

Variables "Master" and "local_time" already defined as shared variable in subclause 56.3.4

SuggestedRemedy

Remove these variables from this subclause

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.5.1.3**   *P* **143**   *L* **39**   **#** `509`

Maislos, Ariel   Passave

Comment Type **T**   *Comment Status* **A**

Timers need to be cleaned up based on conventiones of 14.2.3.2.

SuggestedRemedy

Allow editor to change timer conventions for Draft 1.3

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.5.1.5**   *P* **145**   *L* **23**   **#** `504`

Jaeyeon Song   Samsung

Comment Type **E**   *Comment Status* **A**

In interfaces, the Opcode is in front of the Timestamp. It is in wrong order.

SuggestedRemedy

OMP.indication(DA, SA, timestamp, opcode, m_sdu)
-->OMP.indication(DA, SA, opcode, timestamp, m_sdu)

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See technical comments

C **56**   *S* **56.3.5.1.6**   *P* **144**   *L* **11**   **#** `203`

Ken, Murakami   Mitsubishi Electric

Comment Type **T**   *Comment Status* **A**

Figure 56-17
Whenever the MPCPDU including Discovery GATE with the broadcast MAC address is received, the omp_timer is re-invoked in the UPDATE TIMER state as shown in Figure 56-17.
If the ONU_timer[MAC] expires in the Discovery Process at the OLT, the MAC client may issue the MA_CONTROL.request primitive in which the DA is broadcast MAC address not unicast MAC address. In this case, the ONU receives the Discovery GATE with the broadcast MAC address in the REGISTERED WAIT state. According to the current state diagram shown in Figure 56-23, the ONU ignores this message. On the other hand, the omp_timer is re-invoked in the UPDATE TIMER state as shown in Figure 56-17. As a result, the state inconsistency between OLT and ONU cannot be resolved.
If the omp_timer is not re-invoked when the Discovery GATE with the broadcast MAC address is received, the omp_timer will expire and the state of the ONU will be cleared.
This comment relates to the response to comment #706 of D1.1.

SuggestedRemedy

When the Discovery GATE with the broadcast MAC address is received, the omp_timer should not be re-invoked.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Two distinct problems and solutions ensue:
1. When registered, the ONU ignores all Discovery Gates that are sent to it.
2.The OMP watchdog is armed only by normal GATE messages.

C **56**   *S* **56.3.5.16**   *P* **144**   *L* **2528**   **#** `89`

Nitosa, koji   NEC

Comment Type **E**   *Comment Status* **A**

"Subtype==GATE" in Figure56-17 sould be "opcode==GATE"

SuggestedRemedy

See comment.

Proposed Response   *Response Status* **C**

ACCEPT.
See 511

C 56   *S* 56.3.6   *P*   *L*   # **99101**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **R**   gate D1.1 #637

Associated modifications for the extension of the gate message to set thresholds. A presentation, miyoshi_p2mp_exGate.pdf, will be submitted.

SuggestedRemedy

Add the arrow of MA_CONTROL.indication(thresholds) from the Gate processing block in figure56-21 on page 140.

Add the following description in 56.3.6.1.5 Messages.
MA_CONTROL.indication(thresholds)
The service indication issued by the Gate Process to notify the MAC Control client and higher layers that the OLT has requested to set or reset thresholds.

Change "MA_CONTROL.request(grant,local,n,start[4],length[4],discovery,force_report)" to "MA_CONTROL.request(grant,local,n,start[4],length[4],discovery,force_report,thresholds)" in 56.3.6.1.5 Messages.

Add the following statement in the PROGRAM state in figure 56-22 on page 144.
If thresholds <> NULL
MA_CONTROL.indication(thresholds)

Change
"OMP.indicate(n*(start,length),discovery,force_report)" to
"OMP.indicate(n*(start,length),discovery,force_report,thresholds)" in figure 56-22 on page 144.

Proposed Response   *Response Status* **C**

REJECT.
See coment 99103

C 56   *S* 56.3.6   *P* 145   *L* 31   # **90**

Nitosa, koji   NEC

Comment Type **E**   *Comment Status* **A**

"unpsecified" is typo.

SuggestedRemedy

"unpsecified"-->"unspecified"

Proposed Response   *Response Status* **C**

ACCEPT.

C 56   *S* 56.3.6   *P* 147   *L* 26   # **335**

Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

During the Kuaui meeting, Editor promised to add a table for deafult values of discovery window size vs. throughput to ensure stability of the 1-persistent algorithm proposed in the draft. The table currently is missing from this clause and need to added as promised.

SuggestedRemedy

Please make the changes before sending the draft to working ballot.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Table with informative values will be added:
X axis number of ONUs.
Y axis distance variation.
Value is minimal window size required to avoid instability.

C 56   *S* 56.3.6   *P* 148   *L*   # **168**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

Since registration is initiated by ONU, the expression of "MA_CONTROL.request(registration)" in figure 56-19 is only required in ONU discovery process.

SuggestedRemedy

Move MA_CONTROL.request(registration) from figure 56-19 to figure 56-20.

Proposed Response   *Response Status* **C**

ACCEPT.

C 56   *S* 56.3.6.1.1   *P* 149   *L*   # **134**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

There is a lack of constants illustrated in Fig.56-21.

SuggestedRemedy

We need to define the "wait_for_resister_ack" constant. This is used in the Figure 56-21(P.156 L.49).

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
T not E
Editor will add constant definition to text.
Propose value set to 50milliSec

TYPE: TR/technical required   T/technical   E/editorial   COMMENT STATUS: D/dispatched   A/accepted   R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 18 of 55

RESPONSE STATUS: O/open   W/written   C/closed   U/unsatisfied   Z/withdrawn   *C* 56   *S* 56.3.6.1.1

C **56** *S* **56.3.6.1.2** *P* **149** *L* *#* **333**

Khansari, Masoud — Centillium Communic

Comment Type **E** *Comment Status* **A**

The following variables and constants are used in state diagrams decpited in Figures 56-21, 56-22 and 56-23, but are not defined:
TxAllow
LaserControl
IDLE_Time
regsiter_req_length
laser_on_time
laser_off_time
my_MAC

SuggestedRemedy

Make the required changes

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
T not E
Editor will add definitions and references to variables
see 135

C **56** *S* **56.3.6.1.2** *P* **149** *L* **16** *#* **332**

Khansari, Masoud — Centillium Communic

Comment Type **E** *Comment Status* **A**

Variables "local_time" and "Master" are already defined as shared variables in subclause 56.3.4

SuggestedRemedy

Remove these two variables from this clause (56.3.6.1.2)

Proposed Response *Response Status* **C**

ACCEPT.

C **56** *S* **56.3.6.1.2** *P* **150** *L* *#* **124**

Ochiai, Koji — NTT corporation

Comment Type **E** *Comment Status* **R**

There is a lack of variables illustrated in Fig.56-21.

SuggestedRemedy

We need to define the "register_reg_length" variables. This value is used in the Figure 56-21(P.157 L.33).

Proposed Response *Response Status* **C**

REJECT.
Timers for grant_window are not required based on previous comments.

C **56** *S* **56.3.6.1.2** *P* **150** *L* *#* **135**

Ochiai, Koji — NTT corporation

Comment Type **E** *Comment Status* **A**

There are two lacks of variables illustrated in Fig.56-21.

SuggestedRemedy

We need to define the "IDLE_time" variables. This is used in the Figure 56-22(P.157 L.29).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See 333

C **56** *S* **56.3.6.1.3** *P* **148** *L* *#* **82**

Kramer, Glen — Teknovus

Comment Type **TR** *Comment Status* **A**

supported_capability() and check_capability() functions should be defined precisely.

SuggestedRemedy

Expand the functions either as pseudo-code of state diagrams

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Capability vectors are currently neither well defined, nor used.
Proposed that capability vector fields be removed from protocol messgaes.

C **56** *S* **56.3.6.1.3** *P* **150** *L* **20** *#* **334**

Khansari, Masoud — Centillium Communic

Comment Type **E** *Comment Status* **A**

The following functions and variables are used in ONU discovery state diagram (Figure 56-22) but not defined:
accepted_capability,
master_capability,
minimal_capability

SuggestedRemedy

Make the required changes

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Capability vectors are to be removed.
See 82.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 19 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56**   *S* **56.3.6.1.3**

C **56** *S* **56.3.6.1.4** *P* **150** *L* **12** **#** **424**

I2R, Onfig Team   Institute For Infocom

Comment Type **T** *Comment Status* **A**

There is a repeat of the explanation " and thus reduce the probability of invocation of the deferral process, thus lowering the expectency of registration time .."

SuggestedRemedy

Suggest deleting "reduce the probability .. deferral process,"

Proposed Response *Response Status* **C**

ACCEPT.

C **56** *S* **56.3.6.1.4** *P* **151** *L* **47** **#** **331**

Khansari, Masoud   Centillium Communic

Comment Type **E** *Comment Status* **A**

The following timers are used in Slave Discovery processing state machine but not defined:
IDLE_Timer
grant_window

SuggestedRemedy

Make the required changes

Proposed Response *Response Status* **C**

ACCEPT.
T not E
Editor will add definitions for missing timers
see 125

C **56** *S* **56.3.6.1.4** *P* **152** *L* **#** **125**

Ochiai, Koji   NTT corporation

Comment Type **E** *Comment Status* **A**

There is a lack of the definitions about timers illustrated in Fig.56-21.

SuggestedRemedy

We need to define the "grant_window" variables. This is used in the Figure 56-22(P.157 L.33).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See 333

C **56** *S* **56.3.6.1.4** *P* **152** *L* **#** **136**

Ochiai, Koji   NTT corporation

Comment Type **E** *Comment Status* **A**

There is a lack of the definitions about timers illustrated in Fig.56-21.

SuggestedRemedy

We need to define the "IDLE_time" variables. This is used in the Figure 56-22(P.157 L.29).

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See 333

C **56** *S* **56.3.6.1.5** *P* **151** *L* **23** **#** **515**

Maislos, Ariel   Passave

Comment Type **T** *Comment Status* **A**

Adjust interface primitive definitions to allow one opcode per discovery message, gate or report message.

SuggestedRemedy

Follow example in maislos_cmts_3_0103.pdf, adjusting also diagrams to reflect coherence in naming.
Similar approach to be used for Gate and Report processing.
Fix also 56.3.7.1.5 and 56.3.8.1.5 using example as outline for solution.

Proposed Response *Response Status* **C**

ACCEPT.

C **56** *S* **56.3.6.1.5** *P* **151** *L* **46** **#** **65**

Kramer, Glen   Teknovus

Comment Type **T** *Comment Status* **A**

"MA_CONTROL.indication(reset):
The service indication issued by the Discovery Process to notify the client and Layer Management that the OLT has requested that all ports should be reset." What are the ports at ONU?

SuggestedRemedy

MA_CONTROL.indication(reset) is not needed. MA_CONTROL.indication(deregister, SA) does the same function and is sufficient.

Proposed Response *Response Status* **C**

ACCEPT.
MA_CONTROL.indication(reset) is not required, and should be removed.

C **56**   *S* **56.3.6.1.6**   *P* **154**   *L* **1**   # 113

Karasawa, Satoru   Oki Electric Industry

Comment Type   **T**   *Comment Status*   **A**

The state diagrams depicted in Figures 56-21,22 and 23 don't include the case where the ONU is re-regitered (in other words re-discovered).

Using a Register message that has a force_regitration flag, the re-register sequence is as follows;
(1) OLT sends a Register with force_registartion flag.
(2) OLT sends a Discovery gate message with unicast DA.
(3) ONU sends a Register_Ack message.
(4) OLT calculates the RTT with the received Register_Ack.

OLT can know the ONU's laser_on time and so on because it has already dicsovered the ONU successfully.

SuggestedRemedy

Add the re-registraition sequence that is described in the above comment as an example into Figures 56-21,22 and 23.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Sequence will be added to diagrams by editor.
See 431 for exact solution

C **56**   *S* **56.3.6.1.6**   *P* **154**   *L* **1**   # 51

Hirth, Ryan   Terawave Communic

Comment Type   **E**   *Comment Status*   **A**

Figure 56-21 - Flag names are not consistent with definitions of messages.
Deregister, Destruct, Destroy, DeAllocate be consistent where possible.

SuggestedRemedy

Use Destruction for ONU to OLT request.
Use DeAllocate for OLT to ONU request.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Use Deregister ONU<-> OLT for protocol action
Use Deallocate OLT<->ONU for internal layer action

C **56**   *S* **56.3.6.1.6**   *P* **154**   *L* **17**   # 425

I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **A**

fig 56-21
The parameter "length" is missing from the "MA_CONTROL.request function"

SuggestedRemedy

Suggest adding ", length" after the "grant_length" parameter.

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56**   *S* **56.3.6.1.6**   *P* **154**   *L* **20**   # 426

I2R, Onfig Team   Institute For Infocom

Comment Type   **T**   *Comment Status*   **A**

There are additional parameters and wrong "requested_ports, first_flag, destroy_flag" of the function "OMP.indication".

SuggestedRemedy

Suggest deleting "requested_ports, first_flag" and renaming "destroy_flag" to "deallocate_flag" from the function.

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56** *S* **56.3.6.1.6** *P* **155** *L* *#* **431**
I2R, Onfig Team   Institute For Infocom

Comment Type **TR**   *Comment Status* **A**

Figure 56-22
1.There is only one instance, one LLID per ONU, therefore when an LLID is deregistered
or reset, the MAC should not be destroyed, but rather become inactive.
2.The following timers are set but their timeouts are not checked anywhere: IDLE_timer,
grant_window, wait_for_register_msg.
3.When an ONU does not receive REGISTER within max_register_wait, it should
assume collision and wait for next discovery window. In the present state diagram, as long
as the next discovery gate hasn't come, ONU will respond to any delayed REGISTER.
wait_for_register_msg timer is not working.
4.Differences of reregister, Nack and unsupported capability are not shown.
5.When an ONU is asked to reregister at the next discovery window, i.e. Force
registration flag is true, it should immediately go back to wait for next discovery gate rather
than WAIT state.

SuggestedRemedy

1.For states UNICAST DISCOVERY and DEREGISTER, cancel checking of
if(me==Broadcast_ID) and their "false" link to END state.
2.Check timeout(IDLE_timer) before START TX, check timeout(grant_window) before
STOP TX.
3.Let state ARRIVING REGISTER follow STOP TX sequentially, rather than returning to
REGISTERING. If timer wait_for_register_msg times out before receiving a REGISTER,
go back to wait for next discovery window.
4.In ARRIVING REGISTER, check for the following possibilities separately: Force
reregistration, capability not supported, Nack. The responses are shown in dotted box.
5.If ONU is forced reregistration, go to wait for next discovery window.
Please refer to file raymond_cmts_3_0103.pdf. The modified states/paths are highlighted.
(raymond_cmts_4_0103.pdf is not highlighted).

Proposed Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
Plese separate to multiple commetns in the future.

1. ACCEPT

2. ACCEPT IN PRINCIPAL, no need to check grant_window based on previous comments

3. ACCEPT

4. ACCEPT

5. ACCEPT

C **56** *S* **56.3.6.1.6** *P* **155** *L* **1** *#* **336**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

State diagram of the Master's discover processing block as shown in Figure 56-21 can
have only one outstanding discovery window, and it is not possible to have multiple
pending discovery windows. This is an unnecessary limitation

SuggestedRemedy

Please make the required changes to Figure 56-21 such that it is possible to have multiple
pending discovery windows at any given time.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Solution to 338 will also provide for this.

C **56** *S* **56.3.6.1.6** *P* **155** *L* **33** *#* **304**
Nitosa, koji   NEC

Comment Type **T**   *Comment Status* **A**

Terms to exit state "TURN LASER ON" in Figure56-22 should be "timeout(IDLE_timer)

SuggestedRemedy

See comment.

Proposed Response   *Response Status* **C**

ACCEPT.
See 431

C **56** *S* **56.3.6.1.6** *P* **155** *L* **35** *#* **305**
Nitosa, koji   NEC

Comment Type **T**   *Comment Status* **R**

Terms to exit state "REGISTER REQ" in Figure 56-22 should be "timeout(grant_window)"

SuggestedRemedy

See comment.

Proposed Response   *Response Status* **C**

REJECT.
No need for grant_window timer as demonstrated by previous comments

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 22 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56**   *S* **56.3.6.1.6**

C **56**   *S* **56.3.6.1.6**   *P* **155**   *L* **37**   *#* **306**

Nitosa, koji   NEC

Comment Type **T**   *Comment Status* **R**

"Wait_for_register_msg" timer is unnecessary, because "BACKOFF" was deleted.
REGISTER REQ in Figure56-22,
ARRIVING REGISTER in Figure56-22,
ZERO STATE in Fgure56-23,
56.3.6.1.4 Timers

SuggestedRemedy

See comment.

Proposed Response   *Response Status* **C**

REJECT.
Possibility of contention still exists, thus it it is still required to wait for register message with timer.

C **56**   *S* **56.3.6.1.6**   *P* **156**   *L*   *#* **170**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

I don't think that the CHECK DESTRUCT ID block in figure 56-21 is necessary, because the broadcast MAC in OLT never receives packets ("the broadcast MAC can only transmit packets." page 185, line 1).

SuggestedRemedy

Remove this block, and the arrow from the INDICATE DEREGISTER block needs to be directly connected to the FREE LLID block.

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.6.1.6**   *P* **156**   *L*   *#* **169**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

There are inconsistent state flows regarding discovery process between OLT and ONU. On the one hand, there is a case where a slave (ONU) receives the discovery gate with an unicast MAC-DA address as shown in figure 56-22. On the other hand, as can be seen in figure 56-21, master (OLT) sends only the discovery gate with the broadcast address (MA_CONTROL.request(grant, broadcast_id,,,) in the SEND REGISTER WINDOW block).

SuggestedRemedy

"Broadcast_id", the second argument of MA_CONTROL.request() in the SEND REGISTER WINDOW block of figure 56-21, should be replaced to "DA" that is passed from the second argument of MA_CONTROL.request (create_discovery_window,DA,,,).

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.6.1.6**   *P* **156**   *L*   *#* **171**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

According to table 56-5, OLT can send the Register message with Deallocate flag. But no clear description can be found in figure 56-21 regarding under what condition OLT sends this message.
I see two possibilities regarding when OLT sends REGISTER with deallocate. One condition would be when OLT receives REGISTER_REQ with destruction from an ONU, and the other is when a higher layer requests to send the message.

SuggestedRemedy

Please clarify under what circumstances OLT sends REGISTER with deallocate.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Deallocation process would be clarified in text and diagrams based on other more specific comments.

C **56**   *S* **56.3.6.1.6**   *P* **157**   *L*   *#* **174**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

In figure 56-22, the ONU behavior of receiving REGSITER is not clear. The flag field of the register message could take various values, but there is not enough description how ONU reacts in response to each flag value.

SuggestedRemedy

Please add detailed statements (something like below: assuming that OMP.indication conveys the flag field just as it is) in the ARRIVING REGISTER block in figure 56-22.

If (flag == NACK)
    Go to the NACK block
Else If (flag == SUCCESS) and (minimal_capability(accepted_capability)<>0)
    Go to true
Else If (flag == SUCCESS) and (minimal_capability(accepted_capability)==0)
    Go to the NACK block
Else If (flag == FORCE_REGISTRATION)
    Go to ???
Else If (flag == DEALLOCATION)
    Go to ???

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Diagram should be cleaned using this principle.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 23 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **56**   *S*   **56.3.6.1.6**

C **56**   *S* **56.3.6.1.6**   *P* **157**   *L*   # **175**
Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

Since ONU does not have the broadcast MAC ("The ONU only requires one MAC instance..."page 127, line 1), the "if (m==Broadcast ID)" condition in the UNICAST DISCOVERY block in figure 56-22 is not necessary. For the same reason, the "if condition" in the DERGISTER block in figure 56-23 is not needed.

SuggestedRemedy

Remove both "if conditions" from the figures.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Use check of registered flag instead of checking me==Broadcast ID before performing deregistration.

C **56**   *S* **56.3.6.1.6**   *P* **157**   *L*   # **173**
Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

In the current draft, the discovery gate message is passed from the OMP parser to the discovery process in the form of OMP.indication. In this sense, the arrow below the REGISTERING block in figure 56-22 and the REGISTERED WAIT in figure 56-23 should be represented by OMP.indication().

SuggestedRemedy

Change MA_CONTROL.request() to OMP.indication() in the figures.

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.6.1.6**   *P* **158**   *L*   # **172**
Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

There are a couple of unclear points on the state transition of the ONU deregistration in figure 56-23. First, I think the ONU deregistration occurs at the REGISTERED WAIT block when a higher layer requests MA_CONTROL.request (deregister). If this is true, why the ONU discovery process issues MA_CONTROL.indication (deregistered) to the higher layer at the DERGISTER block? For the higher layer, this indication is too obvious, since it initiates this process. Another unclear point I have is why "remove_timer(wait_for_register_msg)" in the ZERO STATE block is required. Finally, I don't know whether it is possible for ONUs to send REGISTER_REQ with deallocate both during discovery window and during normal gate.

SuggestedRemedy

Please clarify the process of the ONU deregistration.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See 72,73 for exact solutions.

C **56**   *S* **56.3.7**   *P*   *L*   # **179**
Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

There is a possibility for OLT to receive two different types of report messages, autonomous report and queue report, which may cause OLT to misinterpret current queue status in ONU.
As can be seen in figure 56-26, the autonomous report is generated by the report processing and never includes queue status, while the queue report is originated by Mac control client and does contain queue status. The queue status conveyed by the queue report, however, may be empty if there is no data to send in the current queue of the ONU. In the current draft, there is no distinction in terms of message format between autonomous report and queue report, thus when OLT receives a report message with empty queue status, OLT can not identify whether queue is really empty or not (the autonomous report always shows empty queue status whether or not the queue in the ONU contains data).

SuggestedRemedy

Why don't we set below definition regarding the number of queue sets field in the report message? In the case of autonomous report, the number of queue sets field always indicates zero, while in the case of queue report, the field represents a non-zero value.

Proposed Response   *Response Status* **C**

ACCEPT.
Autonomous report conveys no information i.e. it does not report on any queue as oposed to a report convaying information that says queue n has 0 bytes.
So autonomous report would have queue sets set to 0.

C **56**   *S* **56.3.7.1.1**   *P* **158**   *L* **22**   # **518**
Maislos, Ariel   Passave

Comment Type **T**   *Comment Status* **A**

Timeout value is not finalized

SuggestedRemedy

Fix timeout value to 50 milisecond. This would be in line with carrier requirements for failover detection.

Proposed Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 24 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **56**   *S* **56.3.7.1.1**

C **56**   *S* **56.3.7.1.2**   *P* **159**   *L* **40**   *#* 344
Khansari, Masoud   Centillium Communic

Comment Type   **E**   *Comment Status*   **A**
"Master" variable is already defined as shared variable in 56.3.4 and there is no need to redefine is here.

SuggestedRemedy
Remove definition of "Master" variable

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.3.7.1.5**   *P* **159**   *L* **16**   *#* 521
Maislos, Ariel   Passave

Comment Type   **T**   *Comment Status*   **A**
RTT should be reported for every indication to allow constant compensation by the OLT

SuggestedRemedy
Add RTT reporting in .indication interface for every incoming REPORT msg.

Proposed Response   *Response Status*   **C**
ACCEPT IN PRINCIPLE.
Add indication of RTT to every .indication following reception of MPCP message at the OLT.

C **56**   *S* **56.3.8**   *P* **163**   *L*   *#* 176
Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type   **T**   *Comment Status*   **A**
Since the gate process never involves with the reception of the discovery gate message, the arrow of MA_CONTROL.request(create_discovery_window) below the GATE Processing block in figure 56-27 is not needed. Also the description of the MA_CONTROL.request(create_discovery_window) in page 166, line 45 is not necessary.

SuggestedRemedy
Get rid of the arrow and the description.

Proposed Response   *Response Status*   **C**
ACCEPT.
See 142

C **56**   *S* **56.3.8.1**   *P* **162**   *L* **25**   *#* 516
Maislos, Ariel   Passave

Comment Type   **E**   *Comment Status*   **A**
last hierarchy is superfluous.

SuggestedRemedy
renumber text to 56.3.8 removing .1 hierarchy

Proposed Response   *Response Status*   **C**
ACCEPT.

C **56**   *S* **56.3.8.1.2**   *P* **162**   *L* **11**   *#* 91
Nitosa, koji   NEC

Comment Type   **E**   *Comment Status*   **A**
DEFAULT VALUE that corresponds to "force_report" doesn't exist in the list.

SuggestedRemedy
Add DEFAULT VALUE for "force_report".

Proposed Response   *Response Status*   **C**
ACCEPT.
T not E
see 141

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 25 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **56.3.8.1.2**

C **56** *S* **56.3.8.1.2** *P* **162** *L* **48** *#* **297**

Dawe, Piers   Agilent

Comment Type **T** *Comment Status* **A**

At the last meeting we learned that too much flexibility is seen as a bad thing by influential industry players. That being so, the granularity of laser_on_time and laser_off_time should be greatly coarsened. The shortest advertised time (which is a maximum: PMDs are free to go faster) should be that below which any extra efficiency in voice-oriented EPONs is not worth fighting for; proposed value is 600 ns. The next shortest advertised time should be AT LEAST double that. Further steps should be on an exponential scale - keep doubling - if that is seen as convenient to implement. The proposed remedy delivers 512, 1024 etc ns. It wastes startup message bits but so what.

Similarly for AGC Settling Time and CDR Lock Time.

SuggestedRemedy

Any entity transmitting these quantities to report a 32 bit unsigned number in which only one bit is set, and the least significant 5 bits are always zero;
Any entity receiving these quantities to ignore all but the most significant bit.
Similarly for AGC Settling Time and CDR Lock Time.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Attempt is made to reconcile also shorter transmission times in order to accommodate faster devices when and if available.
96, 208, 304, 400 ns are permissible.
As representation is in TQ (16 bit times) proposed legal values for the parameters are: 6, 13, 19, 25, etc.
Usage of laser_on and laser_off parameters is to be discontinued.

C **56** *S* **56.3.8.1.2** *P* **163** *L* *#* **347**

Khansari, Masoud   Centillium Communic

Comment Type **E** *Comment Status* **A**

Variable "local_time" is already defined as shared variable in 56.3.4 and should not be redefined

SuggestedRemedy

Remove "local_time" variable from this section

Proposed Response *Response Status* **C**

ACCEPT.

C **56** *S* **56.3.8.1.2** *P* **164** *L* **11** *#* **141**

Ochiai, Koji   NTT corporation

Comment Type **E** *Comment Status* **A**

About "current_grant" variable.
There is a partial lack of initial value of the "current_grant.force_report".

SuggestedRemedy

It might be "DEFAULT VALUE:{FF-FF-FF-FF-FF-FF,00-00-00-00-00-00,false,false}

Proposed Response *Response Status* **C**

ACCEPT.
T not E
See 91

C **56** *S* **56.3.8.1.5** *P* **166** *L* **16** *#* **355**

Khansari, Masoud   Centillium Communic

Comment Type **T** *Comment Status* **A**

Are we still supporting "local" grants???
If not remove this paragraph.

SuggestedRemedy

local variable in MA_CONTROL.request primitive for grant messages is not well-defined and not clear what is its purpose

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Paragraph is to be removed

C **56** *S* **56.3.8.1.5** *P* **166** *L* **45** *#* **143**

Ochiai, Koji   NTT corporation

Comment Type **T** *Comment Status* **A**

The "MA_CONTROL.request(create_discovery_window) message is defined.

SuggestedRemedy

I think of that it should be deleted.

Proposed Response *Response Status* **C**

ACCEPT.
See 176,142

C **56**   *S* **56.3.8.1.6**   *P* **166**   *L*   *#* 432

I2R, Onfig Team   Institute For Infocom

Comment Type **TR**   *Comment Status* **A**

1. If ONU is in WAIT state waiting for timeout(IDLE_timer) while GATE messages keep coming in and being processed, START TX may be delayed. Effective grant length is reduced. In fact it is not necessary to update grants immediately during a grant execution, as long as the next grant is not chosen yet.
2. To choose the earliest grant, Gate processing must go through all existing grants every time. If the grant list is in a sorted order, read/comparison operations will be minimized.
3. Checking whether a grant is valid in state SORT is confusing. It can be simplified.
4. In SORT state, if the chosen grant is outdated, it should be removed from grant_list and then repeat SORT state.
5. If the grant list is empty, ONU should enter WAIT to wait for next incoming gate.
6. Since only normal grants are passed to Gate Processing, it is not necessary to check if (!discovery) in state PROGRAM.

SuggestedRemedy

1. Execute TURN LASER ON, START TX, STOP TX in a sequential order. Grants can be updated while waiting for timeout(grant_start). It would give a clearer view of transmission sequence.
2. insert_list would first compare a new grant with the last grant in list and onwards and insert in a time order. The grant list would then be sorted. The next grant is just the next in the list.
3. In SORT state, check if (local_time < current_grant.start+current_grant.length-laser_on_time-IDLE_time-laser_off_time) would be sufficient to select the next valid grant.
4. In SORT, if the selected grant is not valid, remove it from grant list.
5. If grant list empty, go to WAIT for next incoming gate.
6. Delete if (!discovery) in state PROGRAM.
Please refer to file raymond_cmts_1_0103.pdf.

Proposed Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
Check for discovery flag is redundant and should be removed.
Diagram is to be split to two sub diagrams:
1. control of grant window
2. protocol element

see diagram GATE-protocol.pdf and GATE-grant.pdf

C **56**   *S* **56.3.8.1.6**   *P* **166**   *L* **3**   *#* 519

Maislos, Ariel   Passave

Comment Type **T**   *Comment Status* **A**

Spontaneous generation of MA_CONTROL.indication precedented in 31B.3.6.4

SuggestedRemedy

remove comment, closing issue

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.3.8.1.64**   *P* **168**   *L*   *#* 177

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

I think that in the SORT block of figure 56-29, the remove_list function must be called inside the else condition associated with "if time>laser_on_time + IDLE_time+laser_off_time".

SuggestedRemedy

In the SORT block, add remove_list() as shown below.

...
if time > laser_on_time + IDLE_time+laser_off_time
    set_timer()
else
    remove_list()
    repeat block while !empty()

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.4.1**   *P* **172**   *L* **8**   *#* 427

I2R, Onfig Team   Institute For Infocom

Comment Type **E**   *Comment Status* **A**

Table 56-1
The References table is not updated with the change in headings of the various MPCPDU

SuggestedRemedy

Suggest changing the references to "GATE 56.4.2, REPORT 56.4.3, .. REGISTER_ACK 56.4.6" from "56.3.3 …"

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.4.2**   *P* **146**   *L*   *#* **99102**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *gate D1.1 #634*

When ONU reports multiple boundaries for each queue, and OLT and ONU use different scheduling algorithms for selecting transmission packets, ONU may not decide the bandwidth allocation properly as expected by OLT, which can cause policy violation and/or slot assignment loss.

For example, if we assume that (1) ONU sends a report of QH={300,100} and QL={350,150}, (2) OLT chooses 300 for QH and 150 for QL, and (3) OLT grants 450 (300+150=450) to ONU, there would be no way for the ONU to send packets properly: ONU may interpret 450 as 100 from QH and 350 from QL. In addition, OLT never knows its policy was violated: OLT doesn't know the ONU's decision for selecting transmission packets.

A file, miyoshi_p2mp_qgrant.pdf, is attached for discussion.

SuggestedRemedy

Add an optional field indicating grant length per queue as shown below.

Grant bitmap. This is an 8 bit flag register that indicates which queues are represented in this REPORT MPCPDU.
Queue_grant[i]. Length of the signaled grant for priority queue #i, this is an 16 bit unsigned field. The length is counted in 16 bit time increment.

This mechanism works as follows.
1. Scheduler (MAC Control Client) in OLT creates a GATE message with 8 slot lengths, QUEUE_GRANT[0..7], each indicates grant length for a priority queue, and total grant length.
2. ONU receives the GATE. MPCP will read the TOTAL_GRANT and program aggregated slot. MPCP indicates GATE message to MAC Control Client.
3. MAC Control Client makes sure (optionally) that each queue transmits what is specified by QUEUE_GRANT[i].

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
Mechanisms in MPCP should remain independent of specific DBA algorithms.
Vendors may already use PAD/Reserved fields for exchange of proprietary information.

Motion to approve editor's response
M: Tom Dineen S: Ariel Maislos
Y: 15 N: 8 A: 2

Motion to accept suggested remedy and make appropriate changes to text
M: Hideoki Miyoshi S: Glen Kramer
Y: 7 N: 15 A: 3

C **56**   *S* **56.4.2**   *P* **146**   *L*   *#* **99103**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **R**   *gate D1.1 #636*

Threshold values set in queues in ONU affect upstream bandwidth efficiency. There is, however, no standard mechanism to convey thresholds from OLT to ONU, which can lead to an interoperability issue. I propose a mechanism by extending the gate message.

A presentation, miyoshi_p2mp_exGate.pdf, will be submitted.

SuggestedRemedy

Add the following statements.

Number of thresholds. This field specifies the number of sets of threshold_flag and threshold_value fields in the Gate message.
x) Threshold_flag. The threshold_flag field is an optional 8 bit field that contains information for the threshold as shown below.
Bit 0: action. The action flag field indicates the action, set or reset, for the threshold specified by the queue number and threshold id fields.
Bit 1-3: queue number. The queue number field specifies the queue to which the threshold is set or reset.
Bit 4-7: threshold id. The threshold id field identifies the threshold.
x) Threshold_value. The threshold_value field is an optional 16 bit field that conveys the value of threshold. The granularity of threshold is 2 octets.

Proposed Response   *Response Status* **C**

REJECT.
Mechanisms in MPCP should remain independent of specific DBA algorithms.
Vendors may already use PAD/Reserved fields for exchange of proprietary information.
Also, vendors may use network management to set policy parameters for their ONU, same as weight-fair-queuing or round-robin setup in P2P networks.
Policy setup is out of scope of our TF.

Accept editor's response
Y: 15 N: 4 A: 3 >= 75%
PASS

C **56**   *S* **56.4.2**   *P* **168**   *L* **21**   *#* **204**

Ken, Murakami   Mitsubishi Electric

Comment Type **T**   *Comment Status* **A**

Table 56-2
The description "at the next transmission opportunity" is not suitable.

SuggestedRemedy

Change "at the next transmission opportunity" to "at the corresponding transmission opportunity indicated in this GATE".

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **56.4.2**   *P* **168-169**   *L* **13**   *#* **207**

Lee Ho-Sook   ETRI (Electronics Tel

Comment Type   **T**   *Comment Status*   **R**

line 13 of page 168 (Table 56-2) and line 47 of page 169 (Fig 56-31)
Fig. 56-31, and Table 56-2
1st proposal : Change 1 byte "number of grants/flags" field to 4 bytes
   0-2 bit : # of grants
   3 bit : discovery gate / normal gate
   4-7 bit : flags for forced report
   2 bytes : 4bit flags for vendor specific extension (4bit flags *4 grants info.)
   1 byte : vendor specific information

2nd proposal : Insert 3 bytes of "vendor specific fields" into "Pad/Reserved" field
   2 bytes : 4bit flags for vendor specific extension (4bit flags *4 grants info.)
   1 byte : vendor specific information

SuggestedRemedy

please refer the 8th slide of the hosook_cmts_1_0103.pdf

Proposed Response   *Response Status*   **C**

REJECT.
This comment leads to proprietary protocols with no interoperability in the standard.
This is the oposite of what we attempt to do in the task-force.

C **56**   *S* **56.4.2**   *P* **170**   *L* **1**   *#* **349**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

When force report flag of a grant period is set, does it mean that a report has to be sent during that grant period or it means to send a report message at the first possible oppurtunity? If the latter is meant then it is not clear why every grant period (of the possible 4) has its own force report flag. If two are set and the other two are not, what does ONU is required to do?

SuggestedRemedy

Please clarify the force report mechanism and the responsibility of ONU when it receives a gate message with some of its force report flag set.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Clarification to be added as in comment 204.

C **56**   *S* **56.4.2**   *P* **170**   *L* **44**   *#* **350**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

AGC settling time, CDR lock time values are sent by OLT to ONU by every gate message. Does this really needed as these parameters are negotiated during capability checking of registeration. Would it be possible to dynamically changing these variables without going through re-registeration?

SuggestedRemedy

In the working group ballet draft, it should be clear if dynamic changes of these parameters is allowed and if yes what is the mechanism for it and if it is not allowed what is the need for them to be sent with every GATE message.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
There is no need to send these variables in every gate.
They are present in a discovery gate, otherwise an ONU does not know how to transmit his REGISTER_REQ.
Clarification would be added to this effect in the text.

C **56**   *S* **56.4.3**   *P* **171**   *L*   *#* **180**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type   **T**   *Comment Status*   **A**

Autonomous report is initiated by the report processing (not MAC control client), thus the word "must" in the sentence, "MAC control client must issue REPORT message occasionally", is not appropriate.

SuggestedRemedy

Change "MAC control client" to "ONU" in the sentence.

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56**   *S* **56.4.3**   *P* **171**   *L* **24**   *#* **92**

Nitosa, koji   NEC

Comment Type   **E**   *Comment Status*   **A**

"Number of requests" in Figure56-32 should be "Number of queue sets"

SuggestedRemedy

See comment.

Proposed Response   *Response Status*   **C**

ACCEPT.
See 118

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 29 of 55

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *C* **56**   *S* **56.4.3**

C **56** *S* **56.4.3** *P* **172** *L* **4** # **351**

Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

For interoperability purposes, it should be clear what ONU is reporting when it is sending REPORT messages to inform OLT of the status of its queues. If there is a intent for vendor differentiation, then there should be mechanism for equipment from different vendors to fall back to default mode of operation. This is an absolute must for interoperability

SuggestedRemedy

REPORT message structure and format should be clarified to ensure interoperability before going to working group ballet.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Cleare wording to be added to 56.4.3.c that queue status is specified in word multiples.

C **56** *S* **56.4.4** *P* **172** *L* **8** # **428**

I2R, Onfig Team   Institute For Infocom

Comment Type **T**   *Comment Status* **A**

Table 56-4
The table is not updated with the change in the the "REGISTER_REQ description".

SuggestedRemedy

Suggest deleting the row "1 Initial registration First registration following reset" and renaming "Destruction" to "Deallocate"

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See also 178

C **56** *S* **56.4.4** *P* **174** *L* # **178**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **E**   *Comment Status* **A**

I think that "Initial registration" should be just "Registration", because "initial registration" is a particular word used for multiple LLID per ONU environment.

SuggestedRemedy

Change the word to "Registration."

Proposed Response   *Response Status* **C**

ACCEPT.
See 119

C **56** *S* **56.4.6** *P* **175** *L* # **81**

Kramer, Glen   Teknovus

Comment Type **TR**   *Comment Status* **D**

"Supported Capabilities. This is a 64 bit capability vector that is passed during the registration process between the higher-layer entities. This field is not parsed by MPCP. It holds the OLT capabilities supported and acknowledged by the ONU."

Capability vector should be clearly defined. Without doing so, interoperability cannot be achieved.

SuggestedRemedy

Suggest making capability vector a list of field-codes that ONU and OLT supports in the GATE and REPORT messages.

Proposed Response   *Response Status* **Z**

PROPOSED ACCEPT IN PRINCIPLE.
Capability vector intended as vehicle for use by higher layers.
If higher layer protocols can not use this fields, then interoperability is better served by removing capability vector fields.

C **56** *S* **56.4.6** *P* **176** *L* **6** # **429**

I2R, Onfig Team   Institute For Infocom

Comment Type **TR**   *Comment Status* **R**

The "Success" flag in this page is not necessary. Because for the simplification of the discovery process, when the ONU's registration is denied by OLT, the OLT don't need to send a GATE to the ONU for the transmission of the REGISTER_ACK . That is to say when the ONU is informed by the REGISTER message that its registration is denied for whatever reasons it does not need to send any REGISTER_ACK message to OLT.

SuggestedRemedy

Take out the "Success" flag field in the REGISTER_ACK MPCPDU and delete the sentence of OMP.REQUEST (SA,DA,opcode=REGISTER_ACK,success=false) in line 7-8 of figure 56-22 in page 155 correspondingly.

Proposed Response   *Response Status* **U**

REJECT.
Success=1 flag informs OLT that registration is complete fr the ONU.
Success=0 flag informs OLT that in spite of sucessful REGISTER, ONU is NACKing the registration.

C **56**   *S* **58.2.4**   *P* **184**   *L* **7**   **#** 99043

Dawe, Piers   Agilent

Comment Type **TR**   *Comment Status* **A**   *TIME D1.0 #333 Refer*

Signal detect: it's universal at present in continuous-mode receivers (point to point) but the everyday signal detect approach in clause 38 won't be fast enough to detect individual bursts in a head end burst mode receiver. Further, if EFM is to aspire to a first mile in a consumer market, every pin and mW needs to be scrutinised and possibly jettisoned, especially in the continuous-mode CPE receiver. See GR-253 for how PMD signal detect need not be mandatory. The standard does not have enough reason for demanding that the function be implemented in the PMD (although implementers may choose to use it), nor that the signal detect status be reported in duplicate, though a physical pin and through a management interface. Signal detect is not the primary way of detecting breaking links; these are detected by noting a "run of zeroes" (coding violation). However, an optional signal detect may be useful in near-term mid-price equipment and even for confirming cabling failures between the head end and the splitter in a PON. In the suggested remedy I have assumed that 1000BASE-PX will use Clause 45 MDIO.
Also it's nice if signal detect operates below sensitivity.
I wonder if clause 36 is compatible with PON operation. If the bursts cause SD chatter, will this foul up the PCS?

SuggestedRemedy

Check that 36 as modified is compatible with the following. I think the state machine Figure 36-9 and 36.2.5.1.4 (signal_detectCHANGE) will work with (a conceptual, non-existent, cheap) SD hard wired to OK.
Check that clause 36 is compatible with PON operation. If the bursts cause SD chatter, will this foul up the PCS?
Suggested text for 59.2.4:
The signal detect function is traditionally implemented in the transceiver, although it may be implemented elsewhere, e.g. in association with the PMA, or not implemented. If implemented within the PMD, the PMD Signal Detect status shall be reported either or both of two ways. The PMD Signal Detect function may report to the PMD service interface, using the message PMD_SIGNAL.indicate(SIGNAL_DETECT) which is signaled continuously. PMD_SIGNAL.indicate is intended to be an indicator of optical signal presence. Or the status may be reported via the management interface. If the MDIO interface is implemented, the value of SIGNAL_DETECT may contribute to the latching link status register bit 1.2 described in 22.2.4.2.13.

If implemented, the value of the SIGNAL_DETECT parameter shall be generated according to the conditions defined in Table 60-1. If signal detect is not implemented, the value of the SIGNAL_DETECT parameter conveyed to the upper layers and management functions shall be "OK". The PMD receiver is not required to verify whether a compliant signal is being received. This standard imposes no response time requirements on the generation of the
SIGNAL_DETECT parameter. It is preferable for the signal detect thresholds to be below the rated sensitivity of the receiver; they must be below the Receiver sensitivity (max) in this standard.

As an unavoidable consequence of the requirements for the setting of the SIGNAL_DETECT parameter, implementations must provide adequate margin between the input optical power level at which the SIGNAL_DETECT parameter is set to OK, and the inherent noise level of the PMD due to cross talk, power supply noise, etc.

Various implementations of the Signal Detect function are permitted by this standard, including implementations that generate the SIGNAL_DETECT parameter values in response to the amplitude of the modulation of the optical signal and implementations that respond to the average optical power of the modulated optical signal. Full Ethernet implementations which do not use a PMD signal detect, or which do not use any signal detect, must avoid noise, chatter or crosstalk creating a bogus signal with the characteristics of a real signal, which is not otherwise identified as bogus.

Proposed Response   *Response Status* **Z**

ACCEPT IN PRINCIPLE.

Comment is refered to Ariel Maislos for consideration within P2MP. PMD group would like requirements (or lack of) for Signal Detect: For instance, speed (fast vs.slow), optional/mandatory etc.

Jan. 6/03: redirected to Clause 56.

C **56**   *S* **Figure**   *P* **146**   *L*   **#** 326

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

The caption for this figure should read "OMP Parser State Diagram"

SuggestedRemedy

Make the required changes

Proposed Response   *Response Status* **C**

ACCEPT.
Chage Figure 56-17 to OMP Parser State Diagram
Chage Figure 56-18 to OMP Multiplexer State Diagram

C **56**   *S* **Figure 56-15**   *P* **140**   *L* **10**   **#** 129

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In the Fig.56-15.
At the "INIT" block.
The "transmit_in_progress == false" semms an erroneous description.

SuggestedRemedy

I think of that the "transmission_in_progress == false" might be an exact description.

Proposed Response   *Response Status* **C**

ACCEPT.
Duplicate 128

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 31 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn   *C* **56**   *S* **Figure 56-**

C **56** *S* **Figure 56-22** *P* **155** *L* **#** 68

Kramer, Glen   Teknovus

Comment Type **E**   *Comment Status* **A**

There is no need to split the Slave discovery processing state diagram into two pages.

SuggestedRemedy

the state diagram with changes layout that fits on one page is submitted to the editor

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
T not E
See file kramer_cmts_1_0103.pdf
Submitted diagram introduces many changes assumed by other comments, and thus can not be accepted independently.

New diagram to be used in Draft 1.3 will use this diagram together with all fixes as instructed by comments.

C **56** *S* **Figure 56-10** *P* **134** *L* **13** *#* 126

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **R**

In Fig.56-10.
Under the "Control Parser" block.
The direction of the arrow that leads to the "ReceiveFrame" is not correct.

SuggestedRemedy

The direction of the arrow might be opposite.

Proposed Response   *Response Status* **C**

REJECT.
See 416

C **56** *S* **Figure 56-10** *P* **134** *L* **16** *#* 394

Tae-Whan Yoo   ETRI

Comment Type **E**   *Comment Status* **R**

The direction of the arrow indicating ReceiveFrame is wrong.

SuggestedRemedy

The direction should be reversed.

Proposed Response   *Response Status* **C**

REJECT.
See 416

C **56** *S* **Figure 56-11** *P* **108** *L* **#** 99007

Bharati, Barnali   Wipro Technologies

Comment Type **TR**   *Comment Status* **A**   *D1.0*

State 'CHECK DESTRUCT ID' can appear before 'INDICATE DEREGISTER', otherwise it might lead to unnecessary indication.

SuggestedRemedy

Proposed Response   *Response Status* **U**

ACCEPT.
D1.0 #185

C **56** *S* **Figure 56-11** *P* **108** *L* **#** 99006

Bharati, Barnali   Wipro Technologies

Comment Type **TR**   *Comment Status* **A**   *D1.0*

OMP indication REGISTER_ACK can arrive in the 'INSIDE REGISTER WINDOW' state before timeout of 'register_window_size'. This is missing.

SuggestedRemedy

Arrival of REGISTER_ACK in the 'INSIDE REGISTER WINDOW' state, should trigger a state change to 'COMPLETE DISCOVERY'

Proposed Response   *Response Status* **U**

ACCEPT.
See #181
D1.0 #182 discovery

C **56** *S* **Figure 56-11** *P* **108** *L* **25** *#* 99008

Bharati, Barnali   Wipro Technologies

Comment Type **TR**   *Comment Status* **A**   *D1.0*

ONU_timer[SA] can expire in the 'INSIDE REGISTER WINDOW' state.

SuggestedRemedy

On expiry of 'ONU_timer' in state 'INSIDE REGISTER WINDOW', state can change to IDLE state.

Proposed Response   *Response Status* **U**

ACCEPT.
Comment is valid.
Solution confuses IDLE state which is an OLT state (performing discovery or not) with the ONU state goverened by the timer.
Should consider adding additional state-machine with ONU perspective
D1.0 #181 discovery

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 32 of 55

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *C* **56**   *S* **Figure 56-1**

C **56**   *S* **Figure 56-11**   *P* **108**   *L* **35**   # **99009**

Bharati, Barnali   Wipro Technologies

Comment Type   **TR**   *Comment Status*   **A**   *D1.0*

If OLT ever receives an OMP.indication (subtype=REGISTER_REQ, destruct_flag=true, SA=broadcast_ID), OLT need not call END function. As this would require a reset of the state machine.

SuggestedRemedy

OLT can just ignore the indication and transit to 'IDLE' state.

Proposed Response   *Response Status*   **U**

REJECT.
This is exactly what happens in state CHECK DESTRUCT ID in figure 56-11
D1.0 #184

C **56**   *S* **Figure 56-11**   *P* **134**   *L*   # **317**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

Transmission_in_progress[n] output is missing from this diagram

SuggestedRemedy

Add this output

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56**   *S* **Figure 56-12**   *P* **156**   *L*   # **338**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

When a REGISTER_REQ message is received outside of the discovery window (direct transition from IDLE state to INSIDE REGISTER WINDOW), OLT after checking this messge will send a REGISTER message and wait in INSIDE REGISTER WINDOW state and cannot get back to IDLE state as there is no "register_window_size" timer to be expired. Therefore, when it recieves an acknowledgement for its REGISTER message from ONU, it does not know what to do.

SuggestedRemedy

This flaw needs to be fixed before going to working group ballet.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Probably comment meant Figure 56-21, not 56-12.
This is a deadlock situation in the discovery diagram.

Editor proposes to split diagram to two sub diagrams:
Diagram 1 - setting up of discovery windows.
Diagram 2 - dealing with register_req/register_ack messages.

Diagram 1 will raise a flag saying "in window/out of window", while Diagram 2 will do the discovery protocol.
Editor believes this will significantly simplify the discovery diagram.

If this is sucessful, we can do this also for the ONU.

See also 336

C **56**   *S* **Figure 56-14**   *P* **139**   *L*   # **323**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

There are two states with the same name "SIGNAL".

SuggestedRemedy

Either combine them into one state or use different name for them.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Change names to SIGNAL DATA and SIGNAL CONTROL.
States can not be removed to show precedence of control over data.

C **56**   *S* **Figure 56-14**   *P* **139**   *L* **7**   *#* **128**

Ochiai, Koji   NTT corporation

Comment Type   **E**   *Comment Status*   **A**

In the Fig.56-14.
At the "INIT" block.
The "transmit_in_progress == false" seems an erroneous description.

SuggestedRemedy

I think of that the "transmission_in_progress == false" might be an exact description.

Proposed Response   *Response Status*   **C**

ACCEPT.

C **56**   *S* **Figure 56-15**   *P* **138**   *L*   *#* **62**

Kramer, Glen   Teknovus

Comment Type   **TR**   *Comment Status*   **A**

ONU Control multiplexor should check if the frame it is about to transmit fits into the remaining grant.

SuggestedRemedy

(a) Suggest differentiating "GATE processing" from "grant processing"
"GATE processing" is parsing of GATE messages, verifying grants, and creating sorted list of grants. "Grant processing" is enabling and disabling transmissions at right times.

(b) Suggest moving "grant processing" from GATE processing state diagram to ONU Multiplexor state diagram. Control Multiplexor will be responsible for taking next grant from the (already) sorted list and verifying that frames fit in the grant before transmitting them.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Add remaining_time variable, similar in behavior to local_time.
Variable is updated based oncalculated end of grant by Gate Processing.
Variable is used to all of frame transmission.
See attached diagram for suggested solution.
If formula: (sizeof(m_sdu)+30<=remaining_time)
30 is 8 preamble + 6 DA + 6 SA + 4 FCS + 6 /T/R/R/.

Y: 13 N: 1 A: 3

C **56**   *S* **Figure 56-16**   *P* **141**   *L*   *#* **63**

Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **A**

Interface to OMP Parser/Multiplexor (Figure 56-16) does not correspond to Control Parser interface.

Control Parser (Figure 56-10) has interface called "MAC Control function activation", but it is connected to OMP's interface called "MA_CONTROL.indication"

SuggestedRemedy

Use MA_CONTROL.indication for both

Proposed Response   *Response Status*   **C**

ACCEPT.
See also 510

C **56**   *S* **Figure 56-17**   *P* **140**   *L* **28**   *#* **123**

Ochiai, Koji   NTT corporation

Comment Type   **E**   *Comment Status*   **A**

In the Fig. 56-17.

On the connection line between "PARSE TYPE" and "PASS TO DISCOVEY PROCESSING"
The "subtype == GATE" seems an erroneous description.

SuggestedRemedy

I think of that the "opcode == GATE" might be an exact description.

Proposed Response   *Response Status*   **C**

ACCEPT.
See 511,89

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 34 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-1**

C **56**   *S*   **Figure 56-17**   *P* **144**   *L*   # **64**

Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **A**

Upon reception of an MPCP frame, ONU will update its local clock.
If this clock is updated during frame transmission, it may happen that a new slot_end is
earlier than it was when when the frame was admitted for transmission. That will lead to
either ONU's tranmitting past the grant boundary, or laser turning off during frame
transmission.

SuggestedRemedy

Suggest to put additional test as following:

If(abs(timestamp - local_time) > guard_threshold)
  stop transmission immediately
else
{
  finish transmitting current frame (if any in transmission)
  update local clock
}

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Guard band should accommodate all clock jitters except for errors.
Also the MAC service interface does not support abortion of transmission once initiated
(see Figure 2-2 in sub-clause 2.2.2), and when transmission is terminated early. Only
option is to turn off the laser.

Thus behavior should follow error state and not normal operation:
If(abs(timestamp - local_time) > guard_threshold)
  timestamp_error = true
update local clock

Where timestamp_error feeds new ERROR state in ONU where gating is disabled, and
ONU is deregistered.

C **56**   *S*   **Figure 56-17**   *P* **145**   *L* **28**   # **511**

Maislos, Ariel   Passave

Comment Type   **E**   *Comment Status*   **A**

Subtype

SuggestedRemedy

opcode

Proposed Response   *Response Status*   **C**

ACCEPT.
See 89

C **56**   *S*   **Figure 56-17**   *P* **146**   *L*   # **328**

Khansari, Masoud   Centillium Communic

Comment Type   **E**   *Comment Status*   **R**

In state "PARSE INDICATION", it should read
m_sdu=m_sdu[8:48] and not m_sdu=m_sdu[8:47]

SuggestedRemedy

make the required changes

Proposed Response   *Response Status*   **C**

REJECT.
Numbering is 0 to 47, not 1 to 48

C **56**   *S*   **Figure 56-17**   *P* **146**   *L*   # **327**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **R**

In state "UPDATE TIMER" needs to remove the current timer before starting a new timer.

SuggestedRemedy

Define a new "remove_timer" function and remove the old timer before starting a new timer.

Proposed Response   *Response Status*   **C**

REJECT.
No need to remove timer.
Setting timer automatically resets it.

C **56**   *S*   **Figure 56-17**   *P* **146**   *L* **25**   # **131**

Ochiai, Koji   NTT corporation

Comment Type   **E**   *Comment Status*   **A**

In the Fig. 56-17.

On the connection line between "PARSE TYPE" and "PASS TO GATE PROCESSING",
The "subtype == GATE" seems an erroneous description.

SuggestedRemedy

I think of that the "opcode == GATE" might be an exact description.

Proposed Response   *Response Status*   **C**

ACCEPT.
See 511

C **56**   *S* **Figure 56-18**   *P* **147**   *L*   # 329

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

The caption for this Figure should read:
"OMP Multiplexer State Diagram"

SuggestedRemedy

Make the required changes

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **Figure 56-19**   *P* **148**   *L*   # 353

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

MA_CONTROL.indication(reset) is not explained in the OLT state machine discovery.

SuggestedRemedy

Should it be "MA_CONTROL.indication(deregister)?

Proposed Response   *Response Status* **C**

ACCEPT.
T not E

C **56**   *S* **Figure 56-19**   *P* **148**   *L* **13**   # 132

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

The "MAC_CONTROL_request(registration)" in Fig.56-19 is an erroneous description.

SuggestedRemedy

It does not need for Fig.56-19,but need for Fig.59-20.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor will clean operands in interfaces in diagrams and text

---

C **56**   *S* **Figure 56-2**   *P* **126**   *L*   # 308

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

MAC Control for EPON system is not optional and in fact its implementation is mandatory.

SuggestedRemedy

Remove optional from the MAC Control layer in Figure 56-2

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
T not E
MAC Control is optional in the Ethernet stack, it however mandatory for an EPON implementation. Same as OAM is optional but mandatory when used in access.

Add text to read as following:
Implementation of Multipoint MAC Control is mandatory for subscriber access devices containing point-to-multipoint physical layer devices defined in Clause 58, and optional for all other IEEE 802.3 devices.

C **56**   *S* **Figure 56-20**   *P* **148**   *L*   # 330

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

Why do we need to have explicit function for GATE messages as: "GATE.request(grant)" when there is OMP.request message? Also if this function is needed then it has to be defined in subclause 56.3.6.1.5

SuggestedRemedy

Make the required changes

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
T not E
see proposed cleaning of interfaces

C **56**   *S* **Figure 56-20**   *P* **148**   *L* **42**   # 133

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

The "GATE.request(grant)" in Fig.56-20 is an erroneous description.
And the direction of the "GATE.request(grant)" arrow is not correct.

SuggestedRemedy

I think of that the "MA_CONTROL.request(GATE) might be correct, thus the direction of the arrow will be oppsite.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See interface naming convention

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 36 of 55

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-2**

C **56** *S* **Figure 56-21** *P* **154** *L* *#* 67
Kramer, Glen   Teknovus

Comment Type **T** *Comment Status* **A**

In transition from IDLE state to SEND REGISTER WINDOW, remove check for Master == true, since this is already diagram for Master

SuggestedRemedy

Remove "Master == true"

Proposed Response *Response Status* **C**

ACCEPT.
Check for Master variable should be removed from all OLT only or ONU only diagrams.
A note should be added that selection of OLT/ONU diagram is based on contents of Master register.
See 76

C **56** *S* **Figure 56-21** *P* **154** *L* *#* 66
Kramer, Glen   Teknovus

Comment Type **E** *Comment Status* **A**

All state diagram captions use ONU and OLT except discovery processing, which uses Master and Slave.

SuggestedRemedy

change captions to Figures 56-21 through 56-23 to "OLT Discovery Processing state diagram" and "ONU Discovery Processing state diagram" rather than using Master and Slave. That will make naming consistenth thoughout the document.

Proposed Response *Response Status* **C**
ACCEPT.

C **56** *S* **Figure 56-21** *P* **156** *L* *#* 356
Khansari, Masoud   Centillium Communic

Comment Type **T** *Comment Status* **A**

what is the first_flag variable in REGISTER_REQ message that takes IDLE to CHECK_DESTRUCTOR state. Also it is not clear what is requested_ports in the same OMP.indication message

SuggestedRemedy

Please clarify and make the required changes

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Requested_ports is legacy and should be removed.
First_flag is meant to read initial_registration, fixed to registration in comments 178,119
Editor will clean parameters based on agreed convention.

C **56** *S* **Figure 56-21** *P* **156** *L* *#* 339
Khansari, Masoud   Centillium Communic

Comment Type **E** *Comment Status* **A**

In REGISTER_NACK state OMP.request(DA,SA,...) should read OMP.request(SA,my_MAC,...)

SuggestedRemedy

Make the required changes

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
T not E
See proposal for revised interfaces

C **56** *S* **Figure 56-21** *P* **156** *L* *#* 337
Khansari, Masoud   Centillium Communic

Comment Type **T** *Comment Status* **A**

Checking for the value of Master variable is not needed (going from IDLE to SEND REGISTER WINDOW state) as this is Master state diagram and by default Master = true

SuggestedRemedy

remove Master==true from this transition

Proposed Response *Response Status* **C**

ACCEPT.
See also 67

C **56** *S* **Figure 56-21** *P* **156** *L* *#* 340
Khansari, Masoud   Centillium Communic

Comment Type **E** *Comment Status* **A**

Transition from "CHECK DESTRUCT ID" to "IDLE" state should read as "false" and not "else".

SuggestedRemedy

Make the rquired changes

Proposed Response *Response Status* **C**

ACCEPT.
T not E

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 37 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56** *S* **Figure 56-2**

C **56**   *S* **Figure 56-21**   *P* **156**   *L* **20**   **#** **122**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In Fig.56-21.
The "OMP.indication(...requested_ports...) is an erroneous description.

SuggestedRemedy

The "requested_ports" does not need,thus it is to be deleted.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor will clean operands in interfaces in diagrams and text

---

C **56**   *S* **Figure 56-21**   *P* **156**   *L* **30**   **#** **137**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

Comparing with Draft 1.1,the "first_flag" is disappeared within the OMP.indication(...).

SuggestedRemedy

The exact description is
"OMP.indication(DA,SA,opcode=RESISTER_REQ,first_flag,deallocate_flag,...)".

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Fix usage of flags in diagram 56-21 also in line 21

C **56**   *S* **Figure 56-21**   *P* **156**   *L* **9**   **#** **397**

Tae-Whan Yoo   ETRI

Comment Type **T**   *Comment Status* **A**

The process to send GATE and the process to check if the Register_Ack is received in time with the time-window allowed by the GATE are not shown in Figure 56-21.

SuggestedRemedy

Modify the state diagram as shown in yoo_cmts_1_0103.pdf.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Propose to separate diagram to two sub diagrams:
1. gate setup for discovery and register_ack transmission
2. dealing with discovery protocol elements
this will simplify state diagrams and allow setup and checking as required by comment

---

C **56**   *S* **Figure 56-22**   *P* **155**   *L*   **#** **75**

Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

What does it mean if after "is_unicast(DA)==true" we have "me == broadcast_ID" also true? That makes no sense.

SuggestedRemedy

Remove "UNICAST DISCOVERY" state from Figure 56-22.
MA_CONTROL.indication(reset) is a duplicate of MA_CONTROL.indication(deregister) and is already indicated to the client.

check "me==broadcast ID" doesn't make sense since ther is only one LLID per ONU.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Check "me==broadcast ID" is intended to guard against deallocation of broadcast LLID, as this MAC always exist for subsequent re-registration.
Agree that UNICAST-discovery and Deregister-flag in REGISTER message are redundant.
Suggest use unicast only to skip random delay process.

C **56**   *S* **Figure 56-22**   *P* **155**   *L*   **#** **70**

Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

grant_window timer is not used

SuggestedRemedy

Remove "set_timer(grant_window, register_req_length)" from START TX state

Proposed Response   *Response Status* **C**

ACCEPT.
It is possible to block progress of the state machine by pending on the completion of the OMP.request primitive.
Therefore there is no need to setup a timer and wait for the timer expiration.
Editor would remove use of grant_window timer.

See also 342

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   **Page 38 of 55**
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-2**

C **56**   *S* **Figure 56-22**   *P* **155**   *L*   # 74
Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **R**

default ID (LLID) should not be the same as broadcast ID (LLID).
Since only one LLID is allowed per ONU, it can be either broadcast or unicast LLID.

SuggestedRemedy

Suggested the following changes:
(a) when ONU boots up, it automatically initializes its LLID to default LLID. After discovery,
when a unicast (or broadcast) LLID is assigned, the ONU will deallocate its default LLID. If
ONU is deregistered or re-booted, it will go to default LLID.

This mechanism will ensure that only one LLID existes per ONU.

Proposed Response   *Response Status*   **C**

REJECT.
Comment suggest model where OLT has N+2 LLID: N for ONUs, 1 for SCB, 1 for
registration.
This is not required, and differs from baseline N+1 model.
At ONU, support for broadcast is always available, and LLID registered in discovery is
private to ONU.

See 313

C **56**   *S* **Figure 56-22**   *P* **155**   *L*   # 69
Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **A**

transition from TURN LASER ON to START TX should occur on "timeout(IDLE_timer)"

SuggestedRemedy

replace "UCT" by "timeout(IDLE_timer)"

Proposed Response   *Response Status*   **C**

ACCEPT.
See 431

C **56**   *S* **Figure 56-22**   *P* **157**   *L*   # 343
Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

From ONU discovery state diagram is not clear what happens if "wait_for_register_msg"
expires before ONU actually receives a REGISTER message from OLT.

SuggestedRemedy

Add a transition from REGISTERING state when timeout(wait_for_register_mag) happens.
This needs to be fixed before going to working group ballet.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
On timeout, an additional register_req should be sent, as well as an indication given to the
client.
Use of intermediate state can be used.
See diagram.

C **56**   *S* **Figure 56-22**   *P* **157**   *L*   # 342
Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **R**

Transition from "REGISTER REQ" to "STOP TX" should happen when grant_window timer
expires (timeout(grant_window)).

SuggestedRemedy

Make the required changes

Proposed Response   *Response Status*   **C**

REJECT.
See 70 for alternative solution

C **56**   *S* **Figure 56-22**   *P* **157**   *L*   # 354
Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

Transition from "NACK" to "WAIT" state is not defined.

SuggestedRemedy

Define this transition

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
UCT transition is required

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 39 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
                                                                                                   C **56**   *S* **Figure 56-2**

C **56**   *S* **Figure 56-22**   *P* **157**   *L*   *#* **341**

Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

Transition from "TURN LASER ON" to "START TX" state should happen when IDLE_timer
expires (timeout(IDLE_timer)) and not UCT.

SuggestedRemedy

Make the required changes

Proposed Response   *Response Status* **C**

ACCEPT.
See 69

C **56**   *S* **Figure 56-22**   *P* **157**   *L* **12**   *#* **139**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In Fig.56-22.
Between "RESISTERING" block and "CHECK UNICAST" block.
The "MA_CONTROL.request(...)" is an erroneous description.

SuggestedRemedy

The "OMP.indication(...)" is an exact description.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor will clean operands in interfaces in diagrams and text

---

C **56**   *S* **Figure 56-22**   *P* **157**   *L* **14**   *#* **140**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In Fig.56-22.
Between "WAIT" block and "RESISTORING" block.
The "MA_CONTROL.request(register)" is an erroneous description.

SuggestedRemedy

The "MA_CONTROL.request(registration)" is an exact description.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor will clean operands in interfaces in diagrams and text

---

C **56**   *S* **Figure 56-22**   *P* **157**   *L* **34**   *#* **138**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In Fig.56-22.
At the "RESISTER_REQ" block.
There are no description about flag of the REGISTER_REQ MPCPDU in the
"OMP.request(...)".

SuggestedRemedy

It might be the "OMP.request(RESISTER=REQ, resistration == true, Capability,
Capability_vector)"

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor will clean operands in interfaces in diagrams and text

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C **56**   *S* **Figure 56-23**   *P* **156**   *L*   *#* **72**

Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

remove_timer(wait_for_register_mag) is already removed in ARRIVING REGISTER state

SuggestedRemedy

remove "remove_timer(wait_for_register_mag)" from ZERO STATE

Proposed Response   *Response Status* **C**

ACCEPT.

C **56**   *S* **Figure 56-23**   *P* **156**   *L*   *#* **73**

Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

Transitions from REGISTERED WAIT should be MA_CONTROL.indications(...), not
MA_CONTROL.requests(...)

SuggestedRemedy

change "request" to "inication"

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Two conditions exist at registered wait:
1. MAC Control Client at ONU decides to leave the network.
This is performed by MA_CONTROL.request
2. OLT decides to de-register ONU, this is currently performed by a unicast-discovery sent.

Propose to remove unicast-discovery based on comment 75, would change 2 to read:
2. OLT decides to de-register ONU. This is performed by
MA_CONTROL.indication(register, deregister_flag=true)
Subsequently, transitions should occur based on both .indication and .request.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 40 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-2**

C **56**　　*S* **Figure 56-23**　　*P* **157**　　*L* **30**　　**#** 517

Maislos, Ariel　　　　　　　　　　Passave

Comment Type **T**　　*Comment Status* **A**

Figure has orphan states

SuggestedRemedy

Unify with Figure 56-22 for a more coherent diagram, and the resplit if necessary to two diagrams along alternate split lines in order to make diagram more legible.

Proposed Response　　*Response Status* **C**

ACCEPT.
See also 174, 68

C **56**　　*S* **Figure 56-26**　　*P* **160**　　*L*　　**#** 76

Kramer, Glen　　　　　　　　　　Teknovus

Comment Type **T**　　*Comment Status* **A**

This diagrame for ONU only. Remove the check "Master == false" in PERIODIC TRANSMISSION state

SuggestedRemedy

Remove the check "Master == false" in PERIODIC TRANSMISSION state

Proposed Response　　*Response Status* **C**

ACCEPT.
Check for Master variable should be removed from all OLT only or ONU only diagrams.
A note should be added that selection of OLT/ONU diagram is based on contents of Master register.
See 67

C **56**　　*S* **Figure 56-26**　　*P* **160**　　*L*　　**#** 77

Kramer, Glen　　　　　　　　　　Teknovus

Comment Type **T**　　*Comment Status* **A**

When ONU is just registered, the periodic REPORT transmission will not start until MAC Control Client generates first REPORT.

SuggestedRemedy

Consider moving "periodic timer" to OMP multiplexor, so that timer is set/reset on every MPCP message, not on REPORTs only.

Proposed Response　　*Response Status* **C**

ACCEPT IN PRINCIPLE.
Transition based on registered flag solves issue.
See solution in attached diagram.

C **56**　　*S* **Figure 56-26**　　*P* **162**　　*L*　　**#** 346

Khansari, Masoud　　　　　　　　Centillium Communic

Comment Type **T**　　*Comment Status* **R**

In "SEND REPORT" state before starting a new timer "periodic_timer", the old running timer should be removed.

SuggestedRemedy

Define remove_timer() function and remove periodic_timer before starting a new one.

Proposed Response　　*Response Status* **C**

REJECT.
No need to remove timer before reseting.
See 327

C **56**　　*S* **Figure 56-26**　　*P* **162**　　*L*　　**#** 345

Khansari, Masoud　　　　　　　　Centillium Communic

Comment Type **E**　　*Comment Status* **A**

In "PERIODIC TRANSMISSION" state, it is checked to see if "Master == false". As this is ONU report processing state diagram there is not need to check to this.

SuggestedRemedy

Make the required changes

Proposed Response　　*Response Status* **C**

ACCEPT.
T not E

C **56**　　*S* **Figure 56-27**　　*P* **163**　　*L* **19**　　**#** 142

Ochiai, Koji　　　　　　　　　　NTT corporation

Comment Type **T**　　*Comment Status* **A**

In Fig.56-27.
There is a description about MA_CONTROL.requeste(create_discovery_window).

SuggestedRemedy

It does not need in Fig.56-27.

Proposed Response　　*Response Status* **C**

ACCEPT.
See 176

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause　　　Page 41 of 55

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**　　*S* **Figure 56-2**

C **56**   *S* **Figure 56-28**   *P* **165**   *L*   # **78**
Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

If REPORTs in ONU have periodic timer, so should the GATEs in the OLT. Otherwise, if REPORT timeouts, the protocol wouldn't know whether it si due to ONU being down, or due to the OLT not issuing the GATE in a timely manner.

SuggestedRemedy

Add periodic timer to Figure 56-28. If timeout expires without client requesting sending the gate, a default GATE should be generated with a minimum grant size (for REPORT only).

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Automatic issueing of GATEs is not possible with real grant, as allocation is responsibility of higher layer
Propose to add auto sending of null gate on timer expiration in OLT identical to report transmission in ONU.

C **56**   *S* **Figure 56-29**   *P* **166**   *L*   # **80**
Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

GATE processing diagram currently includes two distinct processes: GATE message processing and grant processing.

SuggestedRemedy

a) Suggest differentiating "GATE processing" from "grant processing"
"GATE processing" is parsing of GATE messages, verifying grants, and creating sorted list of grants. "Grant processing" is enabling and disabling transmissions at right times.

(b) Suggest moving "grant processing" from GATE processing state diagram to ONU Multiplexor state diagram. Control Multiplexor will be responsible for taking next grant from the (already) sorted list and verifying that frames fit in the grant before transmitting them.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See 432

C **56**   *S* **Figure 56-29**   *P* **166**   *L*   # **79**
Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **A**

Local time is represented by a 32-bit counter. The value of grant start can be smaller than the value of local_time if the grant starts after the counter wraps around.

SuggestedRemedy

Remove check for (start[i] > local_time)

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Editor will add function for comparison under wrap around conditions to be used instead of > symbol.

C **56**   *S* **Figure 56-29**   *P* **168**   *L*   # **348**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

Discovery gate messages are not sent to GATE processing block but are sent to Discovery processing block as such there is no need to check if the received GATE message is discovery or not (e.g. as is done in PROGRAM state).

SuggestedRemedy

Remove discovery variable and do not check if the GATE message is discovery or not. When the GATE message gets to gate processing block, it is not a discovery message.

Proposed Response   *Response Status* **C**

ACCEPT.
See 432

C **56**   *S* **Figure 56-29**   *P* **168**   *L* **30**   # **145**
Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In Fig.56-29.
At the "SORT" block.
The "time=min(...,max(...),0)" semms be a typo.

SuggestedRemedy

The "time=min(...,max(...,0))" is an exact description.

Proposed Response   *Response Status* **C**

ACCEPT.
T not E

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 42 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56**   *S* **Figure 56-2**

C **56**   *S* **Figure 56-29**   *P* **168**   *L* **8**   # `144`

Ochiai, Koji   NTT corporation

Comment Type   **T**   *Comment Status*   **R**

In Fig.56-29.
At the "TURN LASER ON" block.
The "if current_grant..." belonged to the "PROGRAM" block in the Draft 1.1.
Why was it moved here?

SuggestedRemedy

It might belong to "PROGRAM" block instead of "TURN LASER ON" block as same as the Draft 1.1.

Proposed Response   *Response Status*   **C**

REJECT.
Function was moved to this block so that force report may be activated per grant, to issue report for that grant.

C **56**   *S* **Figure 56-32**   *P* **173**   *L* **24**   # `118`

Ochiai, Koji   NTT corporation

Comment Type   **E**   *Comment Status*   **A**

In Fig.56-32.
On the left arrow.
The "...by Number of requests" is an erroneous description.

SuggestedRemedy

The "...by Number of queue sets" is an exact description.

Proposed Response   *Response Status*   **C**

ACCEPT.
See 92

C **56**   *S* **Figure 56-33**   *P* **175**   *L* **26**   # `120`

Ochiai, Koji   NTT corporation

Comment Type   **E**   *Comment Status*   **A**

In Fig.56-33.
The "Pad/Reserved 2" is an erroneous description.

SuggestedRemedy

The "2" might be a typo.

Proposed Response   *Response Status*   **C**

ACCEPT.
Duplicate 121

C **56**   *S* **Figure 56-35**   *P* **179**   *L* **24**   # `121`

Ochiai, Koji   NTT corporation

Comment Type   **E**   *Comment Status*   **A**

In Fig.56-35.
The "Pad/Reserved 2" is an erroneous description.

SuggestedRemedy

The "2" might be a typo.

Proposed Response   *Response Status*   **C**

ACCEPT.
Duplicate 120

C **56**   *S* **Figure 56-4**   *P* **126**   *L* **41**   # `510`

Maislos, Ariel   Passave

Comment Type   **T**   *Comment Status*   **A**

internal interfaces are not defined for OMP block

SuggestedRemedy

use XXX:MA_DATA.indication and XXX:MA_DATA.request primitives to signal transfr of frames internally between the different sub blocks.
Where XXX identifies the unique link between the subblocks.
Using GATE, DISCOVERY, REPORT for for interaction with OMP block, and DSG for interaction from GATE to DISCOVERY blocks.
Also correct in other figures and text.
See maislos_cmts_2_0103.pdf for one correction.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Clean MA_CONTROL .indication and .request as in maislos_cmts_2_0103.pdf.
Functions to be used internally inside Multi-point MAC Control are also to be defined.

C **56**   *S* **Figure 56-4**   *P* **127**   *L*   # `309`

Khansari, Masoud   Centillium Communic

Comment Type   **E**   *Comment Status*   **A**

"Multiplexing MAC Control instance n" should read "Multipoint MAC Control instance n"

SuggestedRemedy

Make the changes

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
See kramer_cmts_3_0103.pdf for exact solution

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 43 of 55

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-4**

C **56**   *S* **Figure 56-4**   *P* **127**   *L* **35**   **#** **386**

Tae-Whan Yoo   ETRI

Comment Type **E**   *Comment Status* **R**

The arrow between the control parser and the MAC layer in Figure 56-4 is not correctly drawn.

SuggestedRemedy

The direction of the arrow mentioned in the comment should be reversed.

Proposed Response   *Response Status* **C**

REJECT.
See 416

C **56**   *S* **Figure 56-4**   *P* **127**   *L* **35**   **#** **127**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **R**

In Figure 56-4.
The direcrion of the "RecieveFrame(...)" arrow between the "Control Parser" block and the "MAC" block is not correct.

SuggestedRemedy

The direction of the arrow might be opposite.

Proposed Response   *Response Status* **C**

REJECT.
See 416

C **56**   *S* **Figure 56-4**   *P* **128**   *L* **9**   **#** **387**

Tae-Whan Yoo   ETRI

Comment Type **E**   *Comment Status* **A**

The block named Multi-Point is not in Fig 56-4.

SuggestedRemedy

It is recommended that the name of "Multiplexing MAC Control instance" be changed to "Multi-Point MAC Control instnace".

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See kramer_cmts_3_0103.pdf for exact solution

C **56**   *S* **Figure 56-5**   *P* **128**   *L*   **#** **313**

Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

The relationship of the port associated with Single Copy Broadcast "SCB" in the Mutipoint MAC Control layer is not clear. I beleive there is a separate MAC/port associated with SCB. Do this MAC also interact with MAC Control layer and there is a separate instantiation of OMP block for it or not?

Same also goes to Figure 56-6 (ONU MAC Control)

In general, the description of SCB in this draft is not clear and needs considerable improvement.

SuggestedRemedy

Have a separate subsection describing SCB and its relation with MAC Control layer and specifically OMP block

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
SCB is the same port in the ONU, per the baseline document.
Editor will work with volunteer to draft section on SCB under "Compatibility Requirements"

C **56**   *S* **Figure 56-8**   *P* **100**   *L* **11**   **#** **99010**

Bharati, Barnali   Wipro Technologies

Comment Type **TR**   *Comment Status* **A**   *D1.0*

In state 'OMP TIMEOUT', the condition 'if not (Master and me == broadcast_ID)' would force OLT to go to ERROR state in case only one ONU was present and this ONU has sent a REGISTER_ACK with destroy flag set. So no more messages would come from the ONU. This would result in timeout of omp_timer and OLT would transit to ERROR STATE. Not desirable (I presume, variable 'me' would have proper MAC address)

SuggestedRemedy

Could 'me == broadcast_ID' be removed from the condition?

Proposed Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
Change UCT transition to True, change else transition to False
Condition is required as OLT would not terminate it's broadcast-llid where is performs discovery. All other LLIDs are currently terminated.
Under proposed layering models, END state would be replaced with 'return to available LLID pool' state
D1.0 #177 discovery

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 44 of 55

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-8**

C 56   **S**   **Figure 56-8**   **P** 132   **L** 19   **#** 392

Tae-Whan Yoo   ETRI

Comment Type   **E**   *Comment Status*   **R**

The direction of the arrow indicating Receive_Frame in Figure 56-8 is wrong again.

SuggestedRemedy

The direction of the arrows indicating the Receive_Frame should be reversed, or just erase it since it is not in transmit path.

Proposed Response   *Response Status*   **C**

REJECT.
See 416

C 56   **S**   **Figure 56-9**   **P** 131   **L**   **#** 61

Kramer, Glen   Teknovus

Comment Type   **TR**   *Comment Status*   **A**

Comment #735 from Kauai meeting prescribed particular modifications to Multiplexing Control state diagram. However, the actual modifications are different.

SuggestedRemedy

Revert the diagram to the accepted form. If additional modifications are necessary, additional comments may be submitted.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Editor will revert diagram to accepted form plus an changes resulting form comments issued.

C 56   **S**   **Figure 56-9**   **P** 133   **L**   **#** 316

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

Checking multipoint_transmission_in_progress variable to be flase when going from "INIT" state to "SELECT" state is redundant. This is the case since only one frame is transmitted at a time and when entering INIT state "multipoint_transmission_in_progress" is always flase.

SuggestedRemedy

Remove chekcing "multipoint_transmission_in_progress" when going from INIT to SELECT state.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Multipoint_transmission_in_progress is reset by the MAC Control instance when transmission in the instance is finished. It is defined as OR(transmission_in_progress[i])

As meny comments raise this issue, Editor suggests that for clarity,
use of multipoint_transmission_in_progress be dropped, and
OR(transmission_in_progress[i]) be used instead.
This will reduce commenting on this issue in the future.

C 56   **S**   **Figure 56-9**   **P** 133   **L**   **#** 315

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **A**

Variable transmit_in_progress[j] is not defined in 56.2.2.1.2 Section but used in the state diagram

SuggestedRemedy

Define transmit_in_progress[j] in subclause 56.2.2.1.2

Proposed Response   *Response Status*   **C**

ACCEPT.
See 414

C 56   **S**   **Figure56-16**   **P** 134   **L** 5   **#** 99104

OGURA, Yasuo   NTT

Comment Type   **T**   *Comment Status*   **A**   *discovery D1.1 #703*

When OLT receive a REGISTER_REQ, it calculate a RTT. But there is not calculate a RTT when it receivea REGISTER_ACK.

SuggestedRemedy

In the next line of the "if(state= find_state(SA))<>null", there should be the "state.RTT = timestamp - localtime".Please check the attached file:"ogura-21e.ppt".

Proposed Response   *Response Status*   **C**

ACCEPT.
Updated diagrams will fix and clarify.

C 56   **S**   **Table 56-4**   **P** 174   **L**   **#** 352

Khansari, Masoud   Centillium Communic

Comment Type   **E**   *Comment Status*   **A**

Use the term "Deallocate" instead "Dealocate" to be consistent with the rest of the draft

SuggestedRemedy

Make the required changes

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.
Does commentor mean Deallocate instead of destroy?

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 45 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C 56   *S*   **Table 56-4**

C **56**   *S* **Table 56-4**   *P* **174**   *L* **8**   # **119**

Ochiai, Koji   NTT corporation

Comment Type **E**   *Comment Status* **A**

In Table 56-4.
At the value "1" row.
The "initial registration" is an erroneous description.

SuggestedRemedy

The just "registration" seems to be an exact description.

Proposed Response   *Response Status* **C**

ACCEPT.
See 178

C **57**   *S*   *P*   *L*   # **99**

Tetsuya, Yokomoto   FUJITSU ACCESS LI

Comment Type **E**   *Comment Status* **A**

There are 8 bit=1octet expression and 8 bit=1btye expression.

SuggestedRemedy

Should unify into 8 bit=1octet expression.

Proposed Response   *Response Status* **C**

ACCEPT.

C **57**   *S*   *P* **188**   *L* **18**   # **100**

Tetsuya, Yokomoto   FUJITSU ACCESS LI

Comment Type **E**   *Comment Status* **A**

Spelling error: "symnol","eqauls"

SuggestedRemedy

Change to "symbol","equals"

Proposed Response   *Response Status* **C**

ACCEPT.

C **57**   *S*   *P* **190**   *L* **4**   # **101**

Tetsuya, Yokomoto   FUJITSU ACCESS LI

Comment Type **E**   *Comment Status* **A**

Spelling error: "subayer"

SuggestedRemedy

Change to "sublayer"

Proposed Response   *Response Status* **C**

ACCEPT.

C **57**   *S* **1.3.2.2**   *P* **188**   *L* **19**   # **551**

Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **A**

Replacing both octets of LLID with preamble octets is applicable to both the OLT and the ONU instance of this sublayer.

SuggestedRemedy

Move the last sentence of the last paragraph to its own paragraph.

Proposed Response   *Response Status* **C**

ACCEPT.

C **57**   *S* **1.3.2.2**   *P* **188**   *L* **9**   # **550**

Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**

wrong word(s)

SuggestedRemedy

Line 9 - replace both "forwarded" and "transmitted" with "transferred"
Line 19 - replace "forwarded" with "transferred"

Proposed Response   *Response Status* **C**

ACCEPT.

C **57**   *S* **2.1**   *P* **18**   *L* **47**   # **554**

Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**

change wording

SuggestedRemedy

Replace
"The FEC ads to the Ethernet frame additional data (parity bytes) that"
with
"The FEC appends to the Ethetner frame additional data that"

Proposed Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 46 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **57**   *S* **2.1**

C **57** *S* **2.1** *P* **188** *L* **41** *#* 552
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **A**
What does MLM stand for?

SuggestedRemedy
Add a definition of MLM

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Multi-longitudinal mode (MLM) lasers

C **57** *S* **2.1** *P* **188** *L* **44** *#* 553
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
This paragraph adds nothing to the clause.

SuggestedRemedy
Remove it

Proposed Response   *Response Status* **C**
ACCEPT.

C **57** *S* **2.1** *P* **188** *L* **50** *#* 555
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
Change structure

SuggestedRemedy
Remove the last line of the 3rd paragraph.
Remove the fourth paragraph.
Append to the 3rd paragraph:
"The MAC layer performs rate adaptation, stretching the IPG to provide the necessary space at the end of the Ethernet frame for the parity bytes."

Proposed Response   *Response Status* **C**
ACCEPT.

C **57** *S* **2.1** *P* **189** *L* **1** *#* 556
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
Modify the first sentence

SuggestedRemedy
Replace "coding, adds the parity bits instead of the additional IPG time, and" with "coding, replaces some of the stretched IPG with parity bytes, and"

Proposed Response   *Response Status* **C**
ACCEPT.

C **57** *S* **2.1** *P* **189** *L* **6** *#* 557
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
Move and modify this paragraph

SuggestedRemedy
Move this paragraph before the previous one. Replace "PMA, with a" with "PMA and may be implemented with a"

Proposed Response   *Response Status* **C**
ACCEPT.

C **57** *S* **2.1.** *P* **189** *L* **13** *#* 558
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
Modify subclause

SuggestedRemedy
Remove bullets. Add another sentence: "Additionally, 1000BASE-X PHYs operating in FEC mode and those not operating in FEC mode may still exchange packets."

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

See resolution to comment #360.

C **57** *S* **2.1.2** *P* **189** *L* **52** *#* 559
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
This paragraph adds nothing that hasn't already been said.

SuggestedRemedy
Remove it.

Proposed Response   *Response Status* **C**
ACCEPT.

C **57** *S* **2.2** *P* **190** *L* **18** # 562
Brown, Benjamin AMCC

Comment Type **E** *Comment Status* **A**
spelling/wording

SuggestedRemedy
Replace "symnol size eqauls one byte (8 bits)" with "symbol size equals one octet."

Proposed Response *Response Status* **C**
ACCEPT.

C **57** *S* **2.2.1** *P* **190** *L* **3** # 560
Brown, Benjamin AMCC

Comment Type **E** *Comment Status* **A**
From section 11 of the style guide: Clauses and subclauses shall be divided into further subclauses only when there is to be more than one subclause.

SuggestedRemedy
Remove the 57.2.2.1 header.

Proposed Response *Response Status* **C**
ACCEPT.

C **57** *S* **2.3** *P* **190** *L* **25** # 563
Brown, Benjamin AMCC

Comment Type **E** *Comment Status* **A**
This sentence would work better if it came as part of 57.2.3 rather than 57.2.3.1

SuggestedRemedy
Move this sentence to before 57.2.3.1 and fix spelling of "herin"

Proposed Response *Response Status* **C**
ACCEPT.

C **57** *S* **2.3.1** *P* **190** *L* **27** # 564
Brown, Benjamin AMCC

Comment Type **T** *Comment Status* **A**
It would be helpful to mention what is the first byte of the first 239 byte FEC frame

SuggestedRemedy
Replace the second sentence with "The data is partitioned into 239 symbol frames (FEC frames), with the first frame beginning with the first symbol after the /S_FEC/ ordered_set and the last frame ending with the last symbol before the /T_FEC/ ordered_set."

Proposed Response *Response Status* **C**
ACCEPT.

C **57** *S* **2.3.1** *P* **190** *L* **29** # 565
Brown, Benjamin AMCC

Comment Type **E** *Comment Status* **A**
spelling

SuggestedRemedy
replace "asscoiated" with "associated"

Proposed Response *Response Status* **C**
ACCEPT.

C **57** *S* **2.3.2** *P* **190** *L* **39** # 566
Brown, Benjamin AMCC

Comment Type **T** *Comment Status* **A**
Less buffering and latency would be required in the transmit direction if the zeros padding came at the end of the last FEC frame, rather than the beginning.

SuggestedRemedy
Replace "beginning" with "ending"

Proposed Response *Response Status* **C**
ACCEPT IN PRINCIPLE.

Zeros at the beginning of the frame (virtual or real) don't affect the calculation results of the encoder. Zeros at the end do affect the encoder. Keeping them at the beginning is the same as not needing to spend the time running them through the encoder at all. An implementation can simply stop at the end of the shortened frame and the results are the same.

Get notes from Lior for editorial changes.

P.188 L.12

The code is the systematic form of the code

L.15:
a is equal to 0x02H

L.19:b
A code word of the systematic code is presented by:

Where:
D(x) is the data vector - $D(x)=D238X254+...+ D0X16$.   D238 is the first data octet coming and D0 is the last.
P(x) is the parity vector - $P(x)=P15X15+...+P0$.   P15 is the first parity octet coming and P0 is the last.

P.188 L.39:
At a shortened frame in the length of r symbols - D0 to Dr-1 a valid data. Dr to D238 are zeros.

C **57**   *S* **2.3.3**   *P* **191**   *L* **16**   # **570**
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **A**
There needs to be 2 different kinds of /T_FEC/, one for odd ending alignment and 1 for even ending alignment

SuggestedRemedy
Replace the 2 /T_FEC/ lines with:

   -- /T_FEC_E/ - end of FEC coded packet with even alignment - /T/R/I/T/R/
   -- /T_FEC_O/ - end of FEC coded packet with odd alignment - /T/R/R/I/T/R/

Proposed Response   *Response Status* **C**
ACCEPT.

C **57**   *S* **2.3.3**   *P* **191**   *L* **5**   # **567**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
wrong word

SuggestedRemedy
Replace "that" with "than"

Proposed Response   *Response Status* **C**
ACCEPT.

C **57**   *S* **2.3.3**   *P* **191**   *L* **5**   # **568**
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **A**
What is "d" in "d/2 errors"

SuggestedRemedy
Define "d"

Proposed Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

See response to comment #435.

C **57**   *S* **2.3.3**   *P* **191**   *L* **9**   # **569**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
modify wording

SuggestedRemedy
Replace "and, when the match has less that d/2 errors, sync is considered to have been achieved" with "with fewer than d/2 errors"

Proposed Response   *Response Status* **C**
ACCEPT.

C **57**   *S* **2.4**   *P* **191**   *L* **28**   # **572**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
spelling

SuggestedRemedy
Replace "functionalit" with "functionality"

Proposed Response   *Response Status* **C**
ACCEPT.

C **57**   *S* **2.4.1**   *P* **191**   *L* **32**   # **573**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **A**
Lots of wording changes to the paragraph

SuggestedRemedy
Replace entire paragraph with:

At transmission, the FEC sublayer receives the packets from the PCS, performs the FEC coding, appends the parity bytes in place of the stretched IPG and sends the data to the PMA. At reception, the FEC sublayer receives the data from the PMA, performs byte alignment, detects the Start FEC Framing Sequence, decodes the FEC code, correcting data where necessary and possible, replaces the parity bytes with IDLE and sends the data to the PCS.

Proposed Response   *Response Status* **C**
ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 49 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **57**   *S* **2.4.1**

C **57**   *S* **57.1**   *P* **182**   *L* **2**   **#** **205**
Ken, Murakami   Mitsubishi Electric

Comment Type **E**   *Comment Status* **A**

Name of sublayer "Multiplexing MAC Control" is not suitable.
It should be consistent with Clause 56.

SuggestedRemedy

Change "Multiplexing MAC Control" to "Multipoint MAC Control".

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

"Multi-Point MAC Control"

C **57**   *S* **57.1.1**   *P* **182**   *L* **53**   **#** **106**
Daido, Fumio   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **A**

The descriptions regarding the broadcast MAC are inconsistent with clause 57 and clause 56. On line 53, page 182 in clause 57, it is stated that "In an OLT, there actually exists two MACs for each assigned LLID value: a unicast MAC and a broadcast MAC.". This sentence shows the number of the broadcast MAC is same as the number of the unicast MAC. While, on line 50, page 124 in clause 56, it is stated that "An additional MAC is instanciated to communicate to all ONUs at once", this sentence shows the number of the broadcast MAC is only one. Which sentence is correct?

And the llid parameter of the broadcast MAC should be defined correctly. In this draft the broadcast MAC uses the same value as the llid of the unicast MAC. On line 29, page 183, it is stated that "Only a MAC[j,u] and a MAC[j,b] shall share a common llid value. In this case, the ONU associated with the j can not receive the packet sent from MAC[j,b], because the received llid value matches the own llid, please refer to line 15 of page 186 as receive condition for ONU.

SuggestedRemedy

The consistent description is needed regarding the broadcast MAC. The llid value of the broadcast MAC should be modified based on the definition of the broadcast MAC.

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

There are actually 2N+1 MACs:
  N Unicast MACs,
  N Multicast MACs
  1 Broadcast MAC.

Broadcast MAC always uses all 1's LLID.
Unicast & Multicast MACs use assigned LLIDs.

C **57**   *S* **57.1.1**   *P* **184**   *L* **51**   **#** **357**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **A**

In the text, it is mentioned at there is a separate broadcast port associated with each ONU. In other words, for N ports there are 2N ports where half of them corresponding to point-to-point and half correspond to broadcast ports.
This is in contrast with Clause 56 where there is only one broadcast port for all ONU to support Single Copy Broadcast (SCB).

SuggestedRemedy

Both in Clauses 56 and 57, SCB is not well-defined and at times ambigious. May be a separate subclause needed to clarify issues regrading SCB

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #106

C **57**   *S* **57.1.2.1**   *P* **185**   *L* **29**   **#** **358**
Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **A**

All through this clause lower case is used to refer to LLID.

SuggestedRemedy

Replace all "llid" with "LLID"

Proposed Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

My attempt was to use uppercase when referring to the generic LLID function and to use lowercase when referring to the actual parameter passed through the MPC_LLID primitive.

Replace lowercase "llid" parameter with "logical_link_id"

Check consistency with existing parameters for underscore

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 50 of 55
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
                 C **57**   *S* **57.1.2.1**

C **57**　　*S* **57.1.3.2**　　　*P* **186**　　*L* **43**　　# **359**

Khansari, Masoud　　　　　　　Centillium Communic

Comment Type **T**　　*Comment Status* **A**

In the receive path, before replacing the preamble with new fields, CRC check should be done to ensure the integrity of the peramble.

SuggestedRemedy

move (e) to (b)

Proposed Response　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

This will require additional changes in the order of descriptions in 57.1.3.2.x as well as a description of the buffering required to support the CRC check first.

C **57**　　*S* **57.2**　　　　*P* **187**　　*L* **30**　　# **512**

Maislos, Ariel　　　　　　　Passave

Comment Type **T**　　*Comment Status* **R**

Efficiancy of FEC coding can be improved

SuggestedRemedy

Modify behavior of FEC to include bursting operation as described in presentation made for FEC Bursting Baseline maislos_0103.pdf

Proposed Response　　*Response Status* **C**

REJECT.

C **57**　　*S* **57.2**　　　　*P* **187**　　*L* **47**　　# **513**

Maislos, Ariel　　　　　　　Passave

Comment Type **E**　　*Comment Status* **A**

spurious coloration and strikethrough styles.

SuggestedRemedy

Proposed Response　　*Response Status* **C**

ACCEPT.

C **57**　　*S* **57.2.1.1**　　　*P* **187**　　*L* **12**　　# **360**

Lynskey, Eric　　　　　　　UNH-IOL

Comment Type **T**　　*Comment Status* **A**

Objectives need to be improved upon.

SuggestedRemedy

The following are the objectives of FEC:
a) Keep frame format compliance to 1000BASE-X PCS
b) Support optional functionality
c) Allow backwards compatibility with legacy 1000BASE-X devices
d) Support BER objective of 10e-12 at PCS
e) Support BER objective of 10e-4 at FEC sublayer

Proposed Response　　*Response Status* **C**

ACCEPT.

C **57**　　*S* **57.2.1.2**　　　*P* **187**　　*L* **22**　　# **361**

Lynskey, Eric　　　　　　　UNH-IOL

Comment Type **E**　　*Comment Status* **A**

CSMA/CS PCS is incorrect.

SuggestedRemedy

Replace sentence with: The FEC sublayer is architecturally positioned between the PCS and PMA sublayers of the Physical Layer of the ISO/IEC OSI reference model as shown in Figure 57-3.

Proposed Response　　*Response Status* **C**

ACCEPT.

C **57**　　*S* **57.2.2.1**　　　*P* **188**　　*L* **18**　　# **362**

Lynskey, Eric　　　　　　　UNH-IOL

Comment Type **E**　　*Comment Status* **A**

Incorrect spelling of symbol, equals, and missing punctuation at end of line.

SuggestedRemedy

Replace "symnol" with symbol, "eqauls" with equals, and add period at end of sentence.

Proposed Response　　*Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial　COMMENT STATUS: D/dispatched A/accepted R/rejected　SORT ORDER: Clause, Page, Line, Subclause　　Page 51 of 55

RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **57**　　　　*S* **57.2.2.1**

C **57**   *S* **57.2.3.3**   *P* **189**   *L* **12**   **#** **435**

Lynskey, Eric   UNH-IOL

Comment Type   **T**   *Comment Status*   **A**

Requiring a non-FEC PCS to go through the False_Carrier_Sense mode to receive FEC
frames may not be the best way to maintain backwards compatibility. Putting the non-FEC
PCS through the FALSE_CARRIER state in order to receive a frame makes the conditions
under which it may receive a frame harsher than was originally intended in Clause 36
PCS. When forced into the FALSE_CARRIER state the PCS is required to receive a
/K28.5/ that doesn't have any errors before it will leave this state. This means that when
receiving the pattern of /K28.5/D/S/, both the /K28.5/ and /S/ need to be received without
errors before the frame will be processed.

Under normal (legacy) conditions, the PCS would receive this /K28.5/ in the IDLE_D state.
This state allows for the /K28.5/ to be received with up to one bit error through the
carrier_detect function. So, you could potentially still receive the frame (provided the /S/
was valid) if the /K28.5/ had an error in it.

By forcing entry into the FALSE_CARRIER state it makes it harder to receive the frame
and causes traditionally ignorable errors to not allow the frame throgh.

SuggestedRemedy

Do not force the non-FEC PCS to go through the FALSE_CARRIER state. This can only
be done by changing the definition of /S_FEC/. I recommend that you use:

S_FEC = /K28.4/R/K28.4/R/K28.4/R/S/ or something similar that does not force the PCS
into FALSE_CARRIER.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Replace S_FEC with

/K28.5/D6.4/K28.5/D6.4/S/

This provides a "d" of 16 from

/K28.5/D16.2/K28.5/D16.2/S/

Other "d" to calculate:

config words, idle without S, I1, etc.

C **57**   *S* **57.2.3.3**   *P* **189**   *L* **16**   **#** **94**

Nitosa, koji   NEC

Comment Type   **E**   *Comment Status*   **A**

"(after the parity bytes)-/T/R/I/T/R/" sould be "(before the parity bytes)-/T/R/I/T/R/"

SuggestedRemedy

See comment.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

There doesn't need to be different T_FECs before and after, only even and odd to correct
alignment.

See resolution to comment #570.

C **57**   *S* **57.2.3.3**   *P* **189**   *L* **16**   **#** **436**

Lynskey, Eric   UNH-IOL

Comment Type   **T**   *Comment Status*   **A**

Two /T_FEC/ code-groups are listed here. These should be renamed to differentiate the
two of them and it should be made clear which one is before the parity bytes and which
one is after the parity bytes, currently both are listed as before.

SuggestedRemedy

/T_FEC1/ - end of FEC coded packet (before the parity bytes)...
/T_FEC2/ - end of FEC coded packet (after the parity bytes)...

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

There doesn't need to be different T_FECs before and after, only even and odd to correct
alignment.

See resolution to comment #570.

C **57** *S* **57.2.3.3** *P* **189** *L* **17** **#** **95**

Nitosa, koji   NEC

Comment Type **E** *Comment Status* **A**

Symbol "/T/D21.2/T/D21.2/I/" described in 57.2.3.3 are different from the one used in Figure57-9.

SuggestedRemedy

Use the same symbol in 57.2.3.3 and Figure57-9.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

There doesn't need to be different T_FECs before and after, only even and odd to correct alignment.

See resolution to comment #570.

C **57** *S* **57.2.3.3** *P* **189** *L* **19** **#** **107**

Daido, Fumio   Sumitomo Electric Ind

Comment Type **T** *Comment Status* **A**

The minimum time of inter frame gap between the STOP and the START should be defined to perform rate adaption at the MAC layer.

SuggestedRemedy

The minimum gap should be defined in claulse 57.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The minimum IPG between the STOP and START should be 96 bit times. Rate adaptation in Clause 4 should be specified to support this.

Ensure that the stretched IPG accomodates enough IDLE to regain sync after the packet has completed.

C **57** *S* **57.2.3.3** *P* **189** *L* **2** **#** **93**

Nitosa, koji   NEC

Comment Type **E** *Comment Status* **A**

"framoing" is typo.

SuggestedRemedy

"framoing"-->"framing"

Proposed Response *Response Status* **C**

ACCEPT.

C **57** *S* **57.2.3.3** *P* **189** *L* **5** **#** **363**

Lynskey, Eric   UNH-IOL

Comment Type **T** *Comment Status* **A**

Need to define value for d/2. It is not clear what "d" is supposed to be. This happens in two places, line 5 and line 9.

I'm not sure what the value should be here. The marker sequence is 6 bytes long, so it takes up 60 bits on the fiber. How many of these bits to we want to allow in error? Do we want to specify this or leave it up to the implementer? I think it needs to be specified. Since I'm not sure about the value, I'll provide a starting point for discussion.

SuggestedRemedy

Specify d/2 to equal 3 errors.

Proposed Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #435.

C **57** *S* **57.2.4** *P* **189** *L* **27** **#** **206**

Ken, Murakami   Mitsubishi Electric

Comment Type **E** *Comment Status* **A**

Typo

SuggestedRemedy

Change "functionalit" to "functionality".

Proposed Response *Response Status* **C**

ACCEPT.

C **57** *S* **57.2.4** *P* **189** *L* **28** **#** **364**

Lynskey, Eric   UNH-IOL

Comment Type **E** *Comment Status* **A**

Spelling error

SuggestedRemedy

Replace "functionalit" with "functionality"

Proposed Response *Response Status* **C**

ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 53 of 55

RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **57** *S* **57.2.4**

C **57**   *S*   **57.2.4.3.3**   *P* **194**   *L* **10**   **#** 96

Nitosa, koji   NEC

Comment Type   **E**   *Comment Status*   **A**

"btyes" is typo.

SuggestedRemedy

"btyes"-->"bytes"

Proposed Response   *Response Status*   **C**

ACCEPT.

C **57**   *S*   **57.2.5.2.1**   *P* **171**   *L* **46**   **#** 99105

Brown, Benjamin   AMCC

Comment Type   **T**   *Comment Status*   **A**   *D1.1 #385*

It is customary to provide a reference (Clause 3's MAC CRC) or a shift register
implementation (Clause 49's scrambler & descrambler) when specifying a polynomial

SuggestedRemedy

Add an implementation shift register figure to show how the preamble bits get passed
through and the CRC-8 gets generated.

Proposed Response   *Response Status*   **U**

ACCEPT IN PRINCIPLE.

Attempt to create a figure based on suzuki_2_0901.pdf, slide 9, referencing an ITU
document.

C **57**   *S*   **Figure 56-22**   *P* **155**   *L*   **#** 71

Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **A**

what happens when "wait_for_register_msg" timer expires? There is no associated
transition.

SuggestedRemedy

From "STOP TX" there should be "UCT" transition to "WAIT FOR REGISTER".
From "WAIT FOR REGISTER" there should be "timeout(wait_for_register_msg)" transition
to "REGISTER" and "OMP.indication(...)" transition to "ARRIVING REGISTER"

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See resolution to comment #575

C **57**   *S*   **Figure 57-1**   *P* **184**   *L* **20**   **#** 549

Brown, Benjamin   AMCC

Comment Type   **E**   *Comment Status*   **A**

There doesn't need to be 2 arrows from Multiplexing MAC Control to Reconciliation

SuggestedRemedy

Remove the arrow and * from the left side of this diagram
Same thing applies to Figure 57-3
Should these be combined into a single figure?

Proposed Response   *Response Status*   **C**

ACCEPT.

C **57**   *S*   **Figure 57-4**   *P* **191**   *L* **21**   **#** 571

Brown, Benjamin   AMCC

Comment Type   **T**   *Comment Status*   **A**

Add /S_FEC/ and /T_FEC_x/ to figure

SuggestedRemedy

Change drawing to look something more like:

```
--------------------------------------------------------------------
| /S_FEC/ | PREAMBLE |  FRAME  | FCS | /T_FEC_x/ | PARITY | /T_FEC_E/ |
--------------------------------------------------------------------
```

Add a note to say: "Between the FCS and the PARITY fields, either /T_FEC_E/ or
/T_FEC_O/ may be required. After the PARITY field, only /T_FEC_E/ is necessary."

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Include changes necessary to describe I1 or I2 usage in second T_FEC.

C **57**   *S*   **Figure 57-6**   *P* **193**   *L* **5**   **#** 574

Brown, Benjamin   AMCC

Comment Type   **T**   *Comment Status*   **A**

The state machine is much easier if this block diagram showed that all data is 8B/10B
decoded first then re-encoded afterwards.

SuggestedRemedy

Move 8B/10B decoder above split to other processes.
Move 8B/10B encoded below selector.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Keep the line into the packet boundary detector coming from the 10B domain. This is how
the search for the S_FEC & T_FECs work.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 54 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **57**   *S*   **Figure 57-6**

C **57**   *S* **Figure 57-9**   *P* **197**   *L* **1**   *#* 575

Brown, Benjamin   AMCC

Comment Type   **T**   *Comment Status*   **A**

The state diagrams in figures 57-9, 57-10 & 57-11 need significant work.

SuggestedRemedy

Replace figures 57-9 & 57-10 with those in brown_cmts_1_0103.pdf
I intend to bring a Figure 57-11.pdf to the January meeting but I do not have it available at this time.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Include the RX state machine, also.

C **57**   *S* **Figure57-6,57-7,57-8**   *P* **193**   *L*   *#* 194

Yajima, Yusuke   Hitachi Communicatio

Comment Type   **T**   *Comment Status*   **A**

There are no descriptions or notes for each block diagrams in Figure57-6, 57-7, 57-8, and it is not clear how they work.

SuggestedRemedy

add descriptions or notes for Figure57-6, 57-7, 57-8 to clarify the action of each block diagrams especialy for conditions of switching selectors.

Proposed Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Lior will provide the editor with the descriptive text for these block diagrams.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 55 of 55
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **57**   *S* **Figure57-6**