C **56** *S*   *P* **107**   *L*   # **149**
Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **D**   *general*

(At editor's discretion the designation of this comment may be changed to Editorial)

Any sublayer located above (G)MII (media-independent interface) is media-independent.
In the title of clause 56 "Optical Multi-Point" the reference to a particular media type is inappropriate.

SuggestedRemedy

1. Rename the clause 56 to "Multi-Point Control"
2. Change all references from Optical Mult-Point (OMP) to Multi-Point Control (MPC)

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Although media independence is true in theory, in practice PON control is explicitly tuned to gating of transmission by activation and deactivation of a laser at the end station.
Thus Optical Multi-Point explains the goals achieved by the layer.

Following the paradigm of Clause 43 we receive:
Optical Multi-Point <-> Link Aggregation
Optical Multi-Point Control <-> Link Aggregation Control
Optical Multi-Point Control Protocol (MPCP) <-> Link Aggregation Control Protocol (LACP)
This leaves "Control" out of the Clause name.

For purity of form the clause name to be changed to "Multi-Point"

C **56** *S*   *P* **113**   *L* **3**   # **754**
Dolors, Sala   Broadcom

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

The MAC control frames initiated at teh MAC control client have the client interface enabled. Therefore, this sentence is only applicable to MAC control frames initiated in the multiplexing control.

See my earlier comment on line 2.

SuggestedRemedy

Elimante the sentence. It is not correct.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change Client to MAC Client to make sentence correct.

C **56** *S*   *P* **116**   *L*   # **764**
Dolors, Sala   Broadcom

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

the definition of the variable multipoint_transmission_in_progress is an AND operation of all TransmitEnables

The state diagram in Figure 56-7 never resets de variables.

The transmitDone coming from the MAC j should disable the TransmitEnable j

SuggestedRemedy

It is very difficult to describe in an isolated state diagram this operation. This should be incorporated in the state diagram of transmit a frame.

TransmitPending is generated by MA_control or MA_DATA
TransmitEnable is set to on by a scheduler

multipoint_transmission_in_progress = AND(TransmitEnable[1..n])

TransmitEnable is turn off by the end of frame transmission signal given by the corresponding MAC.

The process can be put in a state diagram.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See $172
multipoint_transmission_in_progress should be OR(transmission_in_progress[1..n])
Remove multipoint_transmission_in_progress from Figure 56-7.
When and how to turn on and off the TransmitEnable signal is depending upon scheduler, which is implementation dependent and out of EPON scope

---

C **56** *S*   *P* **117**   *L*   # **765**
Dolors, Sala   Broadcom

Comment Type **E**   *Comment Status* **D**   *general*

What is the OMP service interface in figure 56-8

Service interfaces are defined by interlayer communication. Within a layer we should define functions or signals.

SuggestedRemedy

Rename OMP.indication to specific signals and for consistency with other boxes show the arrows to the left side of the box to indicate they are output of this box.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Arrows out os sides are variables affected (left - in, right - out), not service interfaces which are top and bottom (bottom - in, top - out).

C **56** *S*   *P* **119**   *L*   # **767**
Dolors, Sala   Broadcom

Comment Type **E**   *Comment Status* **D**   *multiplex*

Figure 56-10 shows an input signal called "register"

According to later definition it seems it should say "registered"

SuggestedRemedy

replace "register" by "registered"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
See #893
Change the input signal called "register" in figure 56-10 to "registered".

C **56** *S*   *P* **119**   *L*   # **768**
Dolors, Sala   Broadcom

Comment Type **E**   *Comment Status* **D**   *multiplex*

The arrows below without touching the box are confusing.

SuggestedRemedy

TransmitEnable and multipoint_tx_progress are inputs so I would suggest to put them in the right side of the box as the other inputs.

The transmitPending is an output. I would put this at the right side of the box as output

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Relocate the TransmitEnable[j] to the left side of the box in the figure 56-10.
Relocate the transmitPending signal to the right side of the box.
And, eliminate multipoint_transmission_in_progress signal from the figure 56-10 since it is generated by OR(transmission_in_progress[1..n]).

C **56** *S*   *P* **119**   *L*   # **766**
Dolors, Sala   Broadcom

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

The laser control signal is a global variable that the parser/multiplexer does not need to know.

The laser control belongs to the Multiplexing control, and the parser uses the TransmitEnable variable to know if it can transmit.

SuggestedRemedy

Eliminate Laser control signal in all section 2.4.1 including the figures and move it to section 56.2.2

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
LaserControl is driven by Gate processing block at ONU, not by multiplexing control.
However, the laser control is not needed in OLT, but it is needed in ONU.
Make two separate state diagrams for OLT and ONU.
Remove LaserControl from OLT state diagram.

C **56** *S*   *P* **119**   *L* **47**   # **769**
Dolors, Sala   Broadcom

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

The local time is a global variable. It should be moved to Multiplexing control.

Still it can be accessed by all MACs. But this avoids confusion on mismatch of updates of the multiple copies if there is one per MAC.

SuggestedRemedy

Move local time from this section to section 56.2.2

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T and not TR

C **56** *S*   *P* **120**   *L* **1**   # **770**
Dolors, Sala   Broadcom

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

Master is a global variable. It should be moved to Multiplexing control.

Having more than one can create confusion on errors because different MACs could potentially have it differently.

SuggestedRemedy

Move Master from this section to section 56.2.2

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T and not TR

C **56** *S*   *P* **120**   *L* **29**   **#** **771**

Dolors, Sala   Broadcom

Comment Type **T**   *Comment Status* **D**   *multiplex*

The transmission in progress variable is not needed. The way to detect that the transmission is done is by the signal returned by the MAC transmit done.

If there is a TransmitEnable means there is a transmission in progress. And it finishes by this indication of the MAC.

In figure 56-11 the transmission in progress is set but not used. It seems it can be eliminated

SuggestedRemedy

eliminate the variable

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
The multiplexing control must have a way of determining when the selected instance finishes the transmission before it enables other instance for the transmission. According to Figure 31B-1 in Annex31B, PAUSE operation TX state diagram also checks the transmission_in_progress signal before it starts another tranmission.

C **56** *S*   *P* **120**   *L* **34**   **#** **772**

Dolors, Sala   Broadcom

Comment Type **E**   *Comment Status* **D**   *multiplex*

Multipoint_transmission_progress is not used in this block

SuggestedRemedy

eliminate it

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
See #771

C **56** *S*   *P* **121**   *L*   **#** **774**

Dolors, Sala   Broadcom

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

Fig 56-11 should only deal with TransmitEnable instead of laser control. This state diagram describes the transmission of a frame when the interface is enabled.

SuggestedRemedy

Eliminate states Laser on and gated and all connecting arrows.

Connect wait and signal states with :

(MA_DATA.request or MA_Control.request) AND TransmitEnablej

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
Functions are used for correct operation by the ONU.

C **56** *S*   *P* **121**   *L*   **#** **775**

Dolors, Sala   Broadcom

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

Figure56-11 state send OMP frame sets the time stamp but doesn't uses it

SuggestedRemedy

Add a function to timestamp the Msdu:
timestamp(msdu, local_time)

the definition is:

timestamp(msdu, local_time){
    msdu[1..n]=local_time
}

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T and not TR

C **56** *S*   *P* **125**   *L* **16**   **#** **779**

Dolors, Sala   Broadcom

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

the OMP.inidication(Error) seems to be a management alarm variable instead of a service interface.

SuggestedRemedy

Make this a variable and make the communication to the client through management

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T and not TR

C **56** *S*   *P* **128**   *L* **2**   **#** 781
Dolors, Sala   Broadcom

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

this definitions still need to be modified to avoid the need of more opcodes as agreed on.

SuggestedRemedy

Please add editor's comment indicating pending to modify

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T and not TR

C **56** *S*   *P* **129**   *L* **8**   **#** 782
Dolors, Sala   Broadcom

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

The local time is a global variable. It should be moved to Multiplexing control.

Still it can be accessed by all MACs. But this avoids confusion on mismatch of updates of the multiple copies if there is one per MAC.

SuggestedRemedy

Move local time from this section to section 56.2.2

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment T and not TR

C **56** *S*   *P* **132**   *L* **50**   **#** 785
Dolors, Sala   Broadcom

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

There is an indication to the MAC client for every message sent into the wire. Therefore the client can know with these indications if the ONU is registered. There is no need of more messages.

In general, the entire discovery process has too many new messages. But since the state diagrams still need to be split I will not describe all because it will change any one. This one is just an example.

SuggestedRemedy

Eliminate this MAC_control indicate

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Upon break-up of diagrams, editor will determine which message indicators are necessary.

C **56** *S*   *P* **139**   *L* **10**   **#** 786
Dolors, Sala   Broadcom

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

There is no requirement of periodicity of REPORT messages. The requirement is the periodicity of MPCP control messages. The timer should be reset everytime a MPCP frame is sent.

Therefore, this means option 2 in this editor's is more appropriate

SuggestedRemedy

when state diagrams are modified incorporate option 2

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The mechanism supports steady state operation. As the steady state does not include REGISTER_REQ/REGISTER_ACK pairs, only REPORT remains for periodic generation and timouting.

C **56** *S*   *P* **149**   *L* **32**   **#** 720
OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *report*

"A report frame may hold .....": This description is a part of "d) Number of requests." so that there should be a single paragragh and itemize "e)" should be the next description:"Pad/Reserved".

SuggestedRemedy

@It will be a single paragraph from "d) Number of requests." to "as specified in the Number of requests fields".
@Current itemize "e)" should be deleted.
@The next itemize "f)" should be change into the itemize "e)".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **???**   *P* **???**   *L* **???**   # **911**

Tom Murphy   Infineon

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

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* **W**

BIG ITEM FOR DISCUSSION
Currently gating mechanism at OLT does not hold memory.
Accepting this comment would make OLT similar to ONU in that it now requires remembring outstanding grants in a grant table.
Furthermore this would require state of RTT for such table for proper compensation.

C **56**   *S* **1.1**   *P* **108**   *L* **39**   # **749**

Dolors, Sala   Broadcom

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

Since agreement was reached that only one LLID is used per ONU, then the multiple MACs and clients only are allowed at OLT. Hence it should be specific that this only applies to OLT.

SuggestedRemedy

replace sentence by:

Support of multiple MACs and MAC clients at the OLT

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T and not TR

C **56**   *S* **1.1**   *P* **108**   *L* **40**   # **750**

Dolors, Sala   Broadcom

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

There is no need for dynamic binding between MACs and ports. This is implementation dependent and can be "set" at development time.

A particular implementation supports a fixed number of MACs, and no more.

Something different is the assignment of an LLID number to these MACs.

I think this sentence tries to say: Support of dynamic binding of LLID number to MACs. But I think this is an implementation issue and there is no need to say it.

SuggestedRemedy

Eliminate sentence

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **1.2**   *P* **109**   *L*   # **748**

Dolors, Sala   Broadcom

Comment Type **E**   *Comment Status* **D**   *layering*

Figure 56.1 shows the general layer stack with the MAC control layer and indicating that it is an optional layer. Since this figure represents just the layering of the PON system, I think it will be more useful to indicate the layering of PON and hence call this Multipoint MAC control and eliminate the optional comment.

SuggestedRemedy

Add Multipoint in the Mac control layer box
Eliminate the word optional in the same box

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**　　*S* **1.2**　　　　　*P* **110**　　*L*　　　　# 751
Dolors, Sala　　　　　　　Broadcom

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

Figure 56-2 needs explanation. We have to give guidelines of why these multiple MACs are needed and how many are needed.

I did write this part but not all the text made it to the draft.
The suggested text below was submitted to the editor.
I do not know why it was not incorporated in the draft, I think it is needed.

SuggestedRemedy

Add the following text:

As depicted in Figure 56-2, the layered system may instantiate multiple MAC entities, using a single physical layer. A different MAC instance is used at the OLT to communicate with an ONU. The individual MAC instances offer a Point-to-point emulation service between the OLT and the ONU. An additional MAC is instanciated to communicate to all ONUs at once. This instance takes maximum advantage of the broadcast nature of the downstream channel by sending a single copy of a frame and this frame is being received by all ONUs. This MAC instance is referred to as Single Copy Broadcast (SCB). The total number of MAC instances and clients an OLT supports is N+1 where N is the total number of ONUs in the network.

The ONU only requires one MAC instance since frame filtering operations are done at the RS layer before reaching the MAC. Therefore, MAC and layers above are Emulation agnostic at the ONU.

Editor's note: To be removed prior to publication. The ONU layer specification is pending on confirmation from the group of defining one LLID per ONU.

Proposed Response　　*Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Supplied text with additional clarifications should be added.

C **56**　　*S* **113**　　　　*P* **2**　　*L*　　　　# 753
Dolors, Sala　　　　　　　Broadcom

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

MPCP can generates frames without MAC control intervention.

Therefore we need to decide if the MPCP message has priority over a MAC control client frame.

For more tighter reaction of MPCP, I suggest to give multiplexing MAC control frames priority over MAC control client frames.

SuggestedRemedy

Change sentence in line 2-3

"Frames generated... MA_DATA primitive."

by the paragraph:

Frames generated in the Multiplexing MAC control without client intervention (i.e. empty reports) are given priority over MAC control client frames (i.e. Pause), this is, the MAC control initiated frame must be the next frame to be transmitted after completing the trasnmission currently in progress, if any. For the trasnmission of this frame, the Multiplexing control instructs the multiplexer to enable the corresponding MAC interface but not the Client interface. Therefore, no client interface is enabled.

Proposed Response　　*Response Status* **W**

PROPOSED REJECT.
MAC Control Client does not generate frames, the Client activates primitives inside MAC Control that in turn generate fames.

C **56**　　*S* **2**　　　　　*P* **112**　　*L*　　　　# 150
Kramer, Glen　　　　　　　Teknovus

Comment Type **E**　*Comment Status* **D**　　　*multiplex*

Throughout the text "Multiplexing MAC Control", "Multi-Point MAC Control", and "Multipoint MAC Control" is used interchangeably.

SuggestedRemedy

Change all occurances of "Multiplexing MAC Control", "Multipoint MAC Control", to "Multi-Point MAC Control".

Proposed Response　　*Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **2**   *P* **112**   *L* **18**   # **758**
Dolors, Sala   Broadcom

Comment Type   **TR**   *Comment Status*   **D**   *multiplex*
This OMP is in the MAC instance. Therefore it can perform the MPCP operations that are MAC instance specific.

SuggestedRemedy
Change definition for the following one:

This block is reponsible for handling the MPCP MAC dependent operations

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT IN PRINCIPLE.
Change text to read "This block is reponsible for handling the MPCP in the context of the MAC."

C **56**   *S* **2**   *P* **112**   *L* **4**   # **759**
Dolors, Sala   Broadcom

Comment Type   **TR**   *Comment Status*   **D**   *general*
MPCP has global control operations. Since this is the only global block they will need to be defined here.

SuggestedRemedy
Add the following sentence at the end of this paragraph:

In addition, it also performs the MPCP control operations that are global and not MAC dependent

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT.
Comment is T and not TR

C **56**   *S* **2**   *P* **112**   *L* **51**   # **752**
Dolors, Sala   Broadcom

Comment Type   **T**   *Comment Status*   **D**   *multiplex*
line 51 and 52 use the word assertion instead of enabled.

Even if this functions/interfaces are asserted the frame cannot passed if it is not allowed.

SuggestedRemedy
Replace "assertion" by "enabling"

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT IN PRINCIPLE.
Interfaces are enabled, however signals are asserted. Text intended to read as "signal indicating primitive was activated".
Text to be modified for grater clarity.

C **56**   *S* **2**   *P* **115**   *L* **32**   # **320**
Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **D**   *multiplex*
Select function should reset transmitPending[j] before passing the index value to Enable State

SuggestedRemedy
TransmitPending[j] variable is defined but not used in State diagram of Multiplexing Control state machine. Make the require changes in state diagram and description of select() function.

Proposed Response   *Response Status*   **W**
PROPOSED REJECT.
TransmitPending is reset in state TRANSMIT READY in Figure 56-11

C **56**   *S* **2.1**   *P* **113**   *L* **21**   # **756**
Dolors, Sala   Broadcom

Comment Type   **TR**   *Comment Status*   **D**   *general*
For consistency with MAC control notation "subtype" should be called "opcode". This is not a new field but it is the opcode defined in MAC control

SuggestedRemedy
change "subtype" for "opcode" in this line and everywhere referring the same thing.

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT.
Comment is E and not TR

C **56**   *S* **2.1**   *P* **113**   *L* **29**   # **757**
Dolors, Sala   Broadcom

Comment Type   **TR**   *Comment Status*   **D**   *general*
Not all MAC control frames are generated by a previous MA_Control.request.

An example is a report that doesn't contain a request but it has to be sent to meet timing sync requirements

SuggestedRemedy
Add at the end of sentence c):

or as a result of an MPCP event that generates a frame

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT.
Comment is T and not TR

C **56**   *S* **2.1**   *P* **113**   *L* **50**   *#* **760**
Dolors, Sala   Broadcom

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

MAC handler has not been used so far. For clarity it should use the same description as used so far. For consistency on the description so far this should say MAC interface

SuggestedRemedy

Modify line 50 from : "it enables.... any frames"

to the following:

"It enables the transmission of only one MAC interface such that all other interfaces cannot transmit any frame."

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT.

C **56**   *S* **2.1**   *P* **113**   *L* **6**   *#* **755**
Dolors, Sala   Broadcom

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

For clarity of the operation of the interfaces, the process to guarantee one frame at a time with multiple interfaces is needed.

SuggestedRemedy

Add the text between first and second paragraph in this page (at line 6)

The reception of a frame in MACi enables the ReceiveFrame interface of MACi. Note that only one receive MAC interface will be enabled at any given time since there is only one PHY interface. If the received frame is a data frame the MA_DATA.indication interface of client i interface is enabled. If it is a control frame the MA_CONTROL.indication is enabled. The forwarding of the receiving frame from the enabled MAC interface to the enabled Client interface follows the normal procedures of the MAC control specification. Data frames are directly passed to the enable client interface. Control frames are processed by the MAC control and the corresponding control function is performed before passing the indication to the client.

Proposed Response   *Response Status*   **W**
PROPOSED REJECT.
There is no contention in the receive path, contention only exists in transmit path.

C **56**   *S* **2.2**   *P* **113**   *L*   *#* **773**
Dolors, Sala   Broadcom

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

This section should describe the mechanism that avoids fragmentation. In other words the multiplexing control should enable an interface if the frame can be completely transmitted because it fits in the remaining of the grant.

in fact this is the gate function description in section 3.6

SuggestedRemedy

Move gate operation (section 3.6) in here

Proposed Response   *Response Status*   **W**
PROPOSED REJECT.
Multiplexing different MACs at OLT is a different task than gating the ONU.
Many comments so far request separate descriptions, unifying these different blocks is counter productive.
Fix the overlab between gate operation and multiplexing control in ONU.
In OLT, the multiplexing control is not related to the gate operation.

C **56**   *S* **2.2**   *P* **113**   *L* **53**   *#* **761**
Dolors, Sala   Broadcom

Comment Type   **T**   *Comment Status*   **D**   *multiplex*

The sharing of a PHY is not only for P2PE. SCB also shares a PHY with P2PE.

SuggestedRemedy

Replace last sentence of this paragraph with the following:

The purpose of the multiplexing control is to avoid collision of frames from different MAC clients at the RS layer and below when multiple clients share a single PHY.

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT.

C **56**   *S* **2.2**   *P* **114**   *L*   *#* **763**
Dolors, Sala   Broadcom

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

Figure 56-5 has inverted the multipoint_transmission_in_progress and transmission_in_progress sides. The multipoint version is the output of this block and not the input.

SuggestedRemedy

Reverse side of this two variables in the block.

Proposed Response   *Response Status*   **W**
PROPOSED ACCEPT IN PRINCIPLE.
transmission_in_progress[j] should be the input signal.
The multipoint_transmission_in_progress is also input and generated by transmission_in_progress[1..n]

C **56**   *S* **2.2**   *P* **114**   *L*   **#** **762**
Dolors, Sala   Broadcom

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

The transmit enable and transmit in progress variables must be duplicated to have one per data and one per control.

The mutliplexing control does not have enough information in knowing there is a frame ready in client i. It needs to know if it is a MAC control or data frame.

This can be extended two ways.

1) add another variable FrameType which indicates what type of frame is ready. If both are ready, the control frame will be indicated following the MAC control priority.

2) duplicate the function and have one for data and one for control for each instance.

Since both are just flags anyway. Option 2 gives more information. So I would recommend to add a signal for each interface.

SuggestedRemedy

Have a TransmitPendingData and a TransmitPendingControl for each instance.
Following MAC control priority, the TransmitEnable does not need to be duplicated.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
The transmitPending is true if instance is ready to transmit any frame.
Priorization is not handled by multiplexing block, let's leave this to the load balancer function that is implementation dependant.
MAC Control precedence over normal frames is guaranteed per MAC, not across MACs.

C **56**   *S* **3.3**   *P* **122**   *L* **46**   **#** **152**
Kramer, Glen   Teknovus

Comment Type **E**   *Comment Status* **D**   *layering*

OMP Parser/Multiplexor is not a sublayer but a functional block.

SuggestedRemedy

Change "sublayer" to "functional block"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
This change should be done in this line and in all references of this block.

C **56**   *S* **3.4**   *P*   *L*   **#** **789**
Dolors, Sala   Broadcom

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

The capability vector is used on the decision flow of discovery operation. But it is not defined and interpreted by the client. Information can be passed to the client without specification. But if it is involved in the operation decision it must define.

SuggestedRemedy

To guarantee the capability vector must either be defined or eliminated of the decision flow.

Temporarily it should be add an editor's note. And eventually a decision needs to be made on this.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Definition of capability vector left intentionaly vague to allow exchange of 'out-of-band & out-of-scope' information during registration.
Editor will place note in text.

C **56**   *S* **3.4**   *P* **127**   *L*   **#** **780**
Dolors, Sala   Broadcom

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

The concept "end stations" has a meaning of stations behind the ONU. MPCP does not deal with registration of devices behind ONUs.

For consistency of the entire clause "end-stations" should be "ONUs"

SuggestedRemedy

replace "end-station" for "ONU"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Editor will make appropriate changes.

C **56**   *S* **3.4.1**   *P* **131**   *L* **48**   **#** 784

Dolors, Sala   Broadcom

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

An editor's note saying that the contention resolution was still under study was supposed to be added somewhere in the discovery section.

But it is no there.

This note should be maintained until a motion deciding on the contention resolution is passed.

SuggestedRemedy

Add an editor note:

the contention resolution is under study.

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT.
Editor will make appropriate changes.

C **56**   *S* **3.4.1.4**   *P* **131**   *L* **39**   **#** 783

Dolors, Sala   Broadcom

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

there is no need than one timer per ONU. Since this is already in a MAC instance, there is no needed of an array of SA.

SuggestedRemedy

Elimanate [SA] reference of this timer

Proposed Response   *Response Status*   **W**

PROPOSED REJECT.
Section is dealing with an OLT which has need for multiple timers.
Each timer is associated with an ONU attemptimng to register, so this occurs prior to assigning a MAC instance.

C **56**   *S* **3.4.1.6**   *P* **134**   *L*   **#** 156

Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **X**   *discovery*

Discovery Processing Slave State Diagram I (Fig. 56-17) employs two contention resolution mechanisms: random delay and binary exponential backoff. Simulation-based analysis revealed that this combination always results in performace worse than just random delay method.

Simulation results were posted on the reflector.

SuggestedRemedy

Remove DEFERRAL state from the Discovery Processing Slave State Diagram I.

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.
Pending group decision on which method to use, editor will make appropriate changes.
Additional cleaning of text required as well.

C **56**   *S* **3.6**   *P*   *L*   **#** 787

Dolors, Sala   Broadcom

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

The gate processing is a global operation and not MAC specific. It should be moved to Multiplexing Control block section 2.2

SuggestedRemedy

move gate operation to section 2.2

Proposed Response   *Response Status*   **W**

PROPOSED REJECT.
Gating is performed per MAC and is not global.

C **56**   *S* **4**   *P* **152**   *L*   # **325**

Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **X**   *discovery*

Destruct option in the flag field of REGISTER_REQ MPCPDU is not sufficiently explained.
For example, it is not clear if OLT has to acknowledge this message and if yes how.

Similarly Forced registration option in the flag field of REGISTER MPCPDU. Is it
necessary for ONU to acknowledge this? What if ONU never receives this message? Does
OLT retransmit another REGISTER message?

SuggestedRemedy

Verify all the corner cases in the case of Destruct and Forced registeration options and
include them in the state diagrams of Figure 56-16 and 56-17.

Figures 5-16, 5-17, 5-18 regarding the master's and slave's discovery procedure requires a
major over-hual. At moment, it is not clear that we have covered all the corner cases and
the presentation of these diagrams make this even more difficult.

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.
Editor will make appropriate changes to text and diagrams to clarify.
For the record, deregistration does not rewuire acknowledgement, as the OLT unilaterally
stops gating the LLID following deregistration. In case messgae is not received, action
through error state due to lack of gates will reset the ONU.

C **56**   *S* **4.2**   *P* **146**   *L*   # **154**

Kramer, Glen   Teknovus

Comment Type   **T**   *Comment Status*   **D**   *gate*

The standard currently presents an inconsistent view on the MPCP. On the one hand STF
made sure that scheduling algorithm remain vendor-specific. On the other hand formats of
GATE and REPORT messages are fixed and do not allow any algorithm-specific
information to be passed between scheduler (OLT) and consumers (ONUs). Unavoidably,
once and again new proposals would appear calling for custom fields to be included in the
message format.

That inconsistency must be resolved.

SuggestedRemedy

I see two options.

1. Allow custom fields to be included in the message format. The fields would have Type-
Length-Value format. Type should be unique (use vendor ID?)

2. Allow OLT and ONUs by mutual agreement to switch to custom message format.
This option would require a "format ID" or "rev ID" field in the message.

(This is not a specific solution. Provided that the STF has a chance to discuss this issue
and identify better approach, the commenter may/will withdraw this comment and resubmit
a new one with only one solution)

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 635
We are not dealing with proprietary protocols, rather with a standard protocol. Thus option
2 as described is not relevant to this group.
In order to allow custom fields to be exchanged in a standadized fashion, a TLV
mechanism is to be defined.
Mechanism requires:
1) Vendor identification during discovery sequence (TBD)
2) 1 byte type/length field to be interpreted as:
4 most significant bits - type
4 least significant bits - length
type value definitions:
0 - no field present, always paired with 0 length
0-7 reserved
63 extend, first byte of payload is extension of type (to values 16 - 271)
8 - 14 to be interpreted according to vendor
15 extend, first byte of payload is extension of type (to values 272 - 527) to be interpreted
according to vendor

C **56**   *S* **4.2**   *P* **146**   *L*   *#* **153**
Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **X**   *gate*

For protocol robustness GATE and REPORT messages should be symmetrical. If the
REPORT reports 8 queue lengths, so should the GATE be able to assign transmission
lengths for 8 queues.

THERE IS NO LAYERING VIOLATION IN DOING SO!

Here is the suggested mechanism:
1. Scheduler (MAC Control Client) in OLT creates a GATE message with 8 slot lengths -
LENGTH[0..7] and a total length TOTAL_LENGTH

TOTAL_LENGTH = LENGTH[0] + ...+ LENGTH[7]

2. ONU receives the GATE. MPCP will read the TOTAL_LENGTH and program
aggregated slot. MPCP indicates GATE message to MAC Control Client.

3. MAC Control Client makes sure (optionaly) that each queue i transmits what is specified
by LENGTH[i].

As one can see, queue assignemnt and selection is done in the MAC Control Client.
GATE message is only a transport for this information, similarly to REPORT transporting it
in the opposite direction.

What if it is not done? Then either ONU's algorithm should be standardized, so that OLT
knows exactly what ONU will do (i.e, priority queueing, wighted fair queueing, deficit-based
queueing, etc.). Or else both the OLT and ONU should be SLA-aware to make sure that (a)
OLT grants a proper slot to the ONU, and (b) ONU divides it between queues according to
SLAs.

SuggestedRemedy

Modify GATE format to include slot_lengths for up to 8 queues and the total length.

GATE format slide will be submitted to the STF editor.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
There is no symmetry between GATE and REPORT operation.
MAC layer opens and closes transmitter, it is responsibility of higher layers to implement
QoS. Negotiation of SLA parameters are clearly outside the scope of this standard.
Gating function is simple and consistant with Baseline and all discussions leading to
Baseline.
Proposals of incorporating QoS into the MAC layer have caused great pain in the past,
luckily we are over them.
Further, packing of multiple grants into a single GATE would not be possible, greatly
increasing overheads and reducing efficiancy.

C **56**   *S* **4.5**   *P* **153**   *L* **6**   *#* **788**
Dolors, Sala   Broadcom

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

The MAC should not be destroyed when an LLID is de-registered. It just becomes inactive.
The mac still exists. This simplies the description and does not change functionality.

Why is this destruct indication defined? this seems to be a unregister operation. It would be
helpful to change the name destruct for unregister or something similar to describe the
functionality.

SuggestedRemedy

Eliminate the sentence "subsequently the MAC is destroyed.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"Destroy" terminology to be changed to "Deallocated" terminology.

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* **107**   *L* **1**   *#* **918**
Tom Mathey   Independent

Comment Type **T**   *Comment Status* **D**   *general*

The Optical Multi-Point clause is completely missing a system level topology clause.

SuggestedRemedy

Add. See existing 802.3 topology clauses for guidance. Include such items as number of
splices, splice location vs link length, db losses, start-up and turn-off limitations, test
parameters, min/max distances between splices and/or groups of splices, etc. Include test
criteria.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Need volunteer to draft topology sub clause

_C_ **56**   _S_ **56.1**   _P_ **111**   _L_ **53**   # **700**
OGURA, Yasuo   NTT

Comment Type   **T**   _Comment Status_   **D**   _layering_

It is hard for me to understand how OLT and ONU process a Discovery, Gate and Report.

SuggestedRemedy

How about add some "Sequence chart"s which is written in Baseline document .
For example, make a new chapter:"56.1.5 Sequence Chart".

Proposed Response   _Response Status_   **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text describing the protocol functionality is needed at beginning.
Please supply text if you have it.

_C_ **56**   _S_ **56.1 &2**   _P_   _L_   # **994**
Ajung Kim   Samsung Elec

Comment Type   **T**   _Comment Status_   **D**   _layering_

Most of the confusion and misinterpretations arise from explaining two different systems
(OLT, ONU) by one universal model and diagram.
For example, the objective b) in 56.1.1 applies only to OLTs, and it was neither an
objective, nor in draft 1.0.

SuggestedRemedy

Split the state and block diagrams for ONU and OLT, reflecting the facts that;
- the objective b) is supposed to be 1LLID/ONU as a result of the Sep. meeting.
- LaserControl is applicable only to ONUs, as OLT PMD has no interface for the
LaserControl.
- The parts referring to 'multiple clients and underlying MACs' in Muliplexing MAC control
can apply only to OLTs.

Proposed Response   _Response Status_   **W**

PROPOSED ACCEPT.

_C_ **56**   _S_ **56.1.1**   _P_ **108**   _L_ **39**   # **598**
Bemmel, Vincent   Alloptic

Comment Type   **T**   _Comment Status_   **D**   _layering_

Please refer to Draft 1.0 comment #515. It was agreed to rewrite the objective:
    "b) Support multiple LLID per physical ONU"
in order to reflect a single LLID per ONU.

However, the new text:
    "b) Support multiple MAC and MAC Clients"
does NOT address the desired objective. The issue at hand is the # LLIDs per ONU.

SuggestedRemedy

Per the Draft 1.0 review, please modify the text to reflect a single LLID per ONU.

Replace
"b) Support multiple MAC and MAC Clients"

with:
"b) support a single LLID per ONU"

Proposed Response   _Response Status_   **W**

PROPOSED ACCEPT IN PRINCIPLE.
It was agreed to support a single LLID per ONU but there is still the need of a multiple
MACs and MAC clients at the OLT

Suggest to modify b) to "Support multiple MAC and MAC Clients at the OLT"
And add "support a single LLID per ONU" as a new item in the list

---

_C_ **56**   _S_ **56.1.2**   _P_ **110**   _L_ **4**   # **599**
Bemmel, Vincent   Alloptic

Comment Type   **T**   _Comment Status_   **D**   _layering_

ONU model is missing

SuggestedRemedy

Add ONU Layered system diagram

Proposed Response   _Response Status_   **W**

PROPOSED ACCEPT IN PRINCIPLE.
The ONU layer model is the same as OLT. What varies is the number of MACs in the
ONU. And this is just a special case of the picture given. However, it should explicitly say
that the ONU only require one MAC.

This comments is also addressed in comment

Suggestion: Add text.
Propose use text recommended in comment 751.

C **56**   *S* **56.1.3**   *P*   *L*   *#* **936**
Jaeyeon Song   Samsung

Comment Type **T**   *Comment Status* **D**   *multiplex*

Figure 56-3, the interface of MAC Control Client and Control multiplexeris not clear.
It is related to Control multiplexer state diagram(56.2.4.1), too.

SuggestedRemedy

Clarify the interface and show in the diagram

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.1.3**   *P* **111**   *L* **30**   *#* **950**
Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *layering*

Most of the important functions in generating grants, or using grants is all performed
aggregate for all links. This holds true in OLT and ONU(when ONU has multiple MAC
instances)
So OMP should better be represented as a common block for all instantiated emulated
links. not many instantiation.

SuggestedRemedy

represent the functional block diagram of optical multipoint as a single entity with many
instantiated service interfaces up and down.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
Having a single istance for each MAC simplifies the document structure.

C **56**   *S* **56.1.3**   *P* **111**   *L* **4**   *#* **597**
Bemmel, Vincent   Alloptic

Comment Type **T**   *Comment Status* **D**   *layering*

It is not very clear how/whether the different functions shown in figure 56-3 apply to the
OLT vs. the ONU.

The behavior is different and needs to be explicitely discussed in the context of OLT vs.
ONU.

SuggestedRemedy

Throughout Clause 56, add OLT vs. ONU clarifications whenever a function is being
discussed.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Please suggest locations and text.

C **56**   *S* **56.1.4**   *P* **111**   *L* **45**   *#* **392**
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *general*

This section describes what conventions are used for the state machines. I recommend
these conventions be reviewed and the state machines cleaned up accordingly.

SuggestedRemedy

Clean up the state machines according to the conventions cited.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Ben can you point out where state machines deviate from conventions?

C **56**   *S* **56.1.4**   *P* **111**   *L* **46**   *#* **388**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *layering*

"is comprised of" doesn't make sense

SuggestedRemedy

Replace all instances of "is comprised of" with "comprises"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.2**   *P* **112**   *L*   *#* **606**
Bemmel, Vincent   Alloptic

Comment Type **T**   *Comment Status* **D**   *layering*

Please clarify the operation at the ONU as well. E.g., it is not clear from the text that at the
ONU the number of parsers/mux instances is equal to one.

SuggestedRemedy

Add under the paragraph of line 23 the following:

"At the ONU, a single MAC instance is used to communicate with each MAC instance at
the OLT. In that case, the Multiplexing MAC Control contains only one instance of the
Parser/Multiplexer function."

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

_C_ **56**   _S_ **56.2**   _P_ **112**   _L_ **10**   **#** **390**
Brown, Benjamin   AMCC

Comment Type **T**   _Comment Status_ **D**   _multiplex_

Is there 1 copy of Multiplexing MAC Control or 1 per MAC? Figure 56-4 makes it look like just 1 copy but the text makes it sound like there is 1 copy per MAC.

SuggestedRemedy

Please clarify

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT IN PRINCIPLE.
See the line 22, page 112 "... the layered system may instantiate multiple MAC entities, using a single Multiplexing MAC Control"

_C_ **56**   _S_ **56.2**   _P_ **112**   _L_ **14**   **#** **391**
Brown, Benjamin   AMCC

Comment Type **E**   _Comment Status_ **D**   _layering_

The description for bullet b (by the way, the bullet numbering/lettering needs to be cleaned up) isn't a proper sentence, or at least I can't understand it.

SuggestedRemedy

Please clean up the sentence.

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT.

_C_ **56**   _S_ **56.2**   _P_ **112**   _L_ **6**   **#** **389**
Brown, Benjamin   AMCC

Comment Type **E**   _Comment Status_ **D**   _layering_

What is a handler?

SuggestedRemedy

Define what a handler is to those of us not accustomed to software terms.

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT IN PRINCIPLE.
Replace "MAC handlers" by "MACs"

_C_ **56**   _S_ **56.2.1**   _P_   _L_   **#** **937**
Jaeyeon Song   Samsung

Comment Type **E**   _Comment Status_ **D**   _multiplex_

In Figure56-3, Figure 56-4, Figure 56-6, 'multiplexing MAC Control' in the title.

SuggestedRemedy

Not multiplexing MAC Control , but multipoint MAC Control

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT.
The multipoint MAC Control is proper.

_C_ **56**   _S_ **56.2.1**   _P_ **112**   _L_ **20**   **#** **732**
OGURA, Yasuo   NTT

Comment Type **E**   _Comment Status_ **D**   _multiplex_

In the "Multiplexing Control", there is not the mention when multiple transmit request happen at the same time.

SuggestedRemedy

How about add following description.
"Scheduling algorism is out of scope of 802.1ah in the case of multiple transmit request happen at the same time".

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT IN PRINCIPLE.
"Scheduling algorithmm is implementation dependant, and is not specified for the case where multiple transmit request happen at the same time".

_C_ **56**   _S_ **56.2.1**   _P_ **113**   _L_ **2**   **#** **600**
Bemmel, Vincent   Alloptic

Comment Type **E**   _Comment Status_ **D**   _layering_

Typo:
"Frames generated at the MAC Control are given priority..."

SuggestedRemedy

"Frames generated at the MAC Control Client are given priority..."

Proposed Response   _Response Status_ **W**

PROPOSED REJECT.
MAC Control client does not generate frames, it only invokes primitives at the MAC Control layer which in turn generate frames.

C **56**   *S* **56.2.1**   *P* **113**   *L* **20**   *#* 393
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *multiplex*
bullet b) the frame should be parsed according to the DA as well as the length/type

SuggestedRemedy
Add DA into this description

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56**   *S* **56.2.2**   *P*   *L*   *#* 938
Jaeyeon Song   Samsung

Comment Type **E**   *Comment Status* **D**   *multiplex*
OMP_n function block communicates with the Multi point Gating Control using...

SuggestedRemedy
OMP_n function block communicates with the Multiplexing Control using...

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56**   *S* **56.2.2**   *P* **114**   *L* **17**   *#* 900
Sio Peng GOI   Institute for Communi

Comment Type **E**   *Comment Status* **D**   *multiplex*
In Figure 56-6, the blocks are Instance n and Multiplexing Control. And they communicate with transmitEnable and transmitPending.

SuggestedRemedy
Change to :Multiplexing MAC Control instance n communicates with the Multiplexing Control using transmitEnable[j] and transmitPending[j] state variables...

Proposed Response   *Response Status* **W**
PROPOSED REJECT.
This is just one to one mapping between each instance and transmitEnable / transmitPending signals.

C **56**   *S* **56.2.2**   *P* **114**   *L* **17**   *#* 734
OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *multiplex*
In the description,"transmitEnable[j] and transmission_in_progress[j]" should be a "transmitEnable[n] and transmission_in_progress[n]".Because they are used by OMP_n block.

SuggestedRemedy
How about change "transmitEnable[j] and transmission_in_progress[j]" into "transmitEnable[n] and transmission_in_progress[n]"?

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.
Use of same index makes text clearer.

C **56**   *S* **56.2.2.1.2**   *P* **115**   *L* **1**   *#* 394
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *general*
Using separate sections for Variables/Constants/Functions etc. can lean to redundancy.

SuggestedRemedy
Combine all the Variables/Constants/Functions etc. for each group of state machines.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Grops for joint definition: Control Parser + Control Multiplexer

---

C **56**   *S* **56.2.2.1.2**   *P* **115**   *L* **10**   *#* 395
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *general*
Mixing ON/OFF and TRUE/FALSE

SuggestedRemedy
Pick the values for a variable and be consistent with them

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 16 of 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **56.2.2.1.2**

C **56** *S* **56.2.3.1.6** *P* **95** *L* **13** *#* **99001**

Jonathan Thatcher   World Wide Packets

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

Logic needs to be completely specified. For example, to the left of the "PARSE" block there must be Length_Type == MAC Control and !(subtype in (GATE,REPORT,...

Better to explicitly describe the logic than use "else."

SuggestedRemedy

Scrub and fix all state diagrams

Proposed Response *Response Status* **U**

ACCEPT. Same as #174
D1.0 #697

C **56** *S* **56.2.4** *P* *L* *#* **939**

Jaeyeon Song   Samsung

Comment Type **E** *Comment Status* **D** *multiplex*

Figure 56-8 Control parser/multiplexer service interface
Figure 56-10 Control parser/multiplexer service interface
Control Parser and multiplexer is divided into 2 diagrams ; fig56-8, fig 56-10

SuggestedRemedy

-Figure 56-8 Control parser/multiplexer service interface
--> Figure 56-8 Control parser service interface
-Figure 56-10 Control parser/multiplexer service interface
--> Figure 56-10 Control multiplexer service interface

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See #894 #895

C **56** *S* **56.2.4** *P* **118** *L* **33** *#* **903**

Sio Peng GOI   Institute for Communi

Comment Type **E** *Comment Status* **D** *multiplex*

Message from MAC Control client is MA_CONTROL.request.

SuggestedRemedy

Given multiple MA_DATA.request from MAC Client, and MA_CONTROL.request from the MAC Control Client,...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
MAC Control functions eventually perform TransmitFrame procedures, it is the intent to demonstrate that here.
Better wording is sought.

C **56** *S* **56.2.4** *P* **119** *L* **10** *#* **893**

Sio Peng GOI   Institute for Communi

Comment Type **E** *Comment Status* **D** *multiplex*

The variable "register" in Figure 56-10 is not consistent with that defined in Clause 56.2.4.1.2

SuggestedRemedy

Rename the variable "register" in Figure 56-10 to "registered"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See #767

C **56** *S* **56.2.4.1** *P* **119** *L* **24** *#* **741**

OGURA, Yasuo   NTT

Comment Type **E** *Comment Status* **D** *multiplex*

SuggestedRemedy

The title:"Control Parser/Multiplexer state diagram" of the section 56.3.3.1, it should be a "Control Multiplexer state diagram".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Should be 56.2.4.1

C **56** *S* **56.2.4.1.6** *P* *L* *#* **940**

Jaeyeon Song   Samsung

Comment Type **T** *Comment Status* **D** *multiplex*

Figure 56-11, it seems to be a GATED state if TxAllowed signal would be true. In other words, TxAllowed signal can decide GATED or not-GATED. It will give a confusion of meaning.
In addition, the definition of GATE state is not clear.

SuggestedRemedy

Remove of the GATE state, TxAllowed signal.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Can not remove states as they are requied for ONU.
Will add clarifying text.
See #973

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 17 of 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56**   *S* **56.2.4.1.6**

C **56** *S* **56.2.4.1.6** *P* *L* # 941
Jaeyeon Song   Samsung

Comment Type **T**   *Comment Status* **D**   *multiplex*
Figure 56-11, the location of 'transmitPending=false' is not correct.

SuggestedRemedy
it should be in CLEAN state. In other words, changing the value after transmission is better.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.2.4.1.6** *P* **121** *L* **Figure 56-** # 972
Jin Kim   Samsung Electronics

Comment Type **T**   *Comment Status* **D**   *multiplex*
Since the laser is always on in OLT, OLT does not have to have a LaserControl.

SuggestedRemedy
Separate Figure 56-11 into OLT and ONU, and remove LaserControl from OLT state diagram.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.2.4.1.6** *P* **121** *L* **Figure 56-** # 973
Jin Kim   Samsung Electronics

Comment Type **T**   *Comment Status* **D**   *multiplex*
It seems like TXAllowed and transmitEnable are duplicated signals.

SuggestedRemedy
Remove TXAllowed signal.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
TXAllowed is used in ONU
transmitEnable in OLT
signals derived from different locations and serve different purposes.
Work required to clarify.
See #940

C **56** *S* **56.2.4.1.6** *P* **121** *L* **Figure 56-** # 974
Jin Kim   Samsung Electronics

Comment Type **T**   *Comment Status* **D**   *multiplex*
The multipoint_transmission_in_progress should be determined by state of all transmission_in_progress[j] signals. Therefore, there is no necessary of checking both multipoint_transmission_in_progress and transmission_in_progress signals in CLEAN state.

SuggestedRemedy
Remove transmission_in_ progress signal in CLEAN state.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Remove multipoint_transmision_in_progress in CLEAN state

C **56** *S* **56.2.4.1.6** *P* **121, 119** *L* **Figure 56-** # 975
Jin Kim   Samsung Electronics

Comment Type **T**   *Comment Status* **D**   *multiplex*
It is not clear how each instance know that there is transmit pending in the MAC Client.

SuggestedRemedy
Remove transmitPending signal and SIGNAL state.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Each instance is aware by receiving MA_DATE.request primitives.
Text should be added to clarify

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* **122** *L* **3** # 776
Dolors, Sala   Broadcom

Comment Type **TR** *Comment Status* **D** *layering*
There is common control operation and state in MPCP. This was approved in the baseline and ratified with the refined layer model.

SuggestedRemedy
take out the sentence in line 3

replace the "may be" in line 2 for "is"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
Comment is T and not TR

C **56** *S* **56.3** *P* **122** *L* **3** # 396
Brown, Benjamin   AMCC

Comment Type **T** *Comment Status* **D** *layering*
This section describes how the mechanism for coordinating the synchronization of multiple MACs using the OMP procedures is outside the scope of the document. Isn't this function integral to the success of P2MP?

SuggestedRemedy
Am I missing something here?

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Similar to the load balancer function for Link Aggregation that is an integral part of a functioning device, th efunciton itself is not defined in a standard.
Thus the bandwidth allocation function fo allocation of bandwidth between subscribers is not defined.

C **56** *S* **56.3.1** *P* **122** *L* **10** # 601
Bemmel, Vincent   Alloptic

Comment Type **T** *Comment Status* **D** *multiplex*
This section mixes OLT and ONU functions which makes it confusing. It is e.g., not clear whether 'MAC gating' is done within the OLT, or between ONUs (TDMA). Different functions have different interpretations in the OLT vs. ONU.

SuggestedRemedy
Rewrite section to clearly identify what is at the ONU vs OLT.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.3.1** *P* **122** *L* **25** # 397
Brown, Benjamin   AMCC

Comment Type **T** *Comment Status* **D** *layering*
What is a network feeder?

SuggestedRemedy
Add a description for "network feeder" or use a different term.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Will add a picture of a PON and show the components in Annex 64A. Term will be clarified.

C **56** *S* **56.3.1** *P* **122** *L* **28** # 696
Diab, Wael William   Cisco Systems

Comment Type **TR** *Comment Status* **D** *layering*
The specification calls for a constant delay through the MAC and Phy to maintain the correctness of the timestamping mechanism.

This is a valid requirement, however, a more numeric treatment of the meaning of "constant" is needed.

SuggestedRemedy
Add a section that deals with the numerical accuracy of "constant delay". This would be helpful to the reader and would allow for compliance testing.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
A section describing the ranging process and the need of this constant delay will clarify the meaning.

C **56** *S* **56.3.1** *P* **122** *L* **48** # 777
Dolors, Sala   Broadcom

Comment Type **TR** *Comment Status* **D** *multiplex*
the network is only maintain in one place. The global place is multiplexing control.

SuggestedRemedy
Eliminate sentence in line 48 and move it to section 2.2. Another comment already relates to this.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
When moving the timer to a global site, parsing of MPCP is still performed by OMP block thus description is correct and text should not be changed.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
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C **56** *S* **56.3.1**

C **56**   *S* **56.3.3**   *P* **124**   *L* **1**   *#* **778**

Dolors, Sala   Broadcom

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

The indications OMP.request and OMP.indication interact with a client. Therefore they
have to follow exact definition of clause 2 service interface.

I am not sure why they are not exactly the clause 2 interface.

SuggestedRemedy

Please clarify.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
See #151
OMP interfaces are not client interfaces rather an abstraction of an internal interface.
Comment is T and not TR

C **56**   *S* **56.3.3.1.3**   *P* **124**   *L* **30**   *#* **398**

Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *general*

These functions aren't required if the timer conventions of 14.2.3.2 are used, as stated in
56.1.4.

SuggestedRemedy

Remove these functions and use the conventions of 14.2.3.2.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.3.3.1.6**   *P*   *L*   *#* **942**

Jaeyeon Song   Samsung

Comment Type **T**   *Comment Status* **D**   *multiplex*

Figure 56-13, in PARSE INDICATION state, the order and fields assignment is not correct ;
Timestamp is in front of opcode?

SuggestedRemedy

-subtype=m_sdu[0:1]
-timestamp=m_sdu[2:5]
-m_sdu=m_sdu[6:50]

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.3.3.1.6**   *P* **126**   *L* **9**   *#* **951**

Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *multiplex*

the case where the keep alive time out is not important is when it is for OLT or when the
ONU is not registered yet. (here we assume that me == broadcast_ID means that the ONU
is not yet registered)

SuggestedRemedy

how about changing it to
if not (Master or me == boardcast_ID). it should be 'or' not 'and'.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
For the OLT timeout is performed per port to discover ONUs that have disappeared.

C **56**   *S* **56.3.4**   *P* **127**   *L* **25**   *#* **399**

Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *discovery*

Discovery appears (based on the 3 pages of state diagrams) to be a fairly complicated
process. It deserves significantly more text description than is currently available

SuggestedRemedy

Add text description for Discovery.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
New text and updated diagrams will be added.

C **56**   *S* **56.3.4.1**   *P* **128**   *L* **25**   **#** **592**
Murakami, Ken   Mitsubishi Electric Co

Comment Type **T**   *Comment Status* **D**   *discovery*

The definition of length parameter in MA_CONTROL.request from Discovery Process to Gate Process at the TX side is not clear.

SuggestedRemedy

On the OLT side, not only the length of allocated discovery window but also the length of discovery gate should be indicated by the client.
Two types of MA_CONTROL.request (create_discovery_window) should be specified. One is for OLT, another is for ONU.
MA_CONTROL.request (create_discovery_window) primitive for the OLT should have additional parameter grant_length which indicates the length of the discovery gate in time_quanta. This parameter is mapped into length parameter in A_CONTROL.request primitive in SEND REGISTER WINDOW state.
The client calculates the length of the discovery gate based on the length of allocated discovery window, the round trip propagation delay of the farthest ONU, and the length of REGISTER_REQ including IPG and preamble.
Besides MA_CONTROL.request (create_discovery_window), MA_CONTROL.request primitive in SEND REGISTER WINDOW state should be defined.
Please see the attatched file.
The file name is murakami_1_1102.pdf.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56**   *S* **56.3.4.1**   *P* **133**   *L* **33**   **#** **593**
Murakami, Ken   Mitsubishi Electric Co

Comment Type **T**   *Comment Status* **D**   *discovery*

The following processes are not clear in D1.1.
 - RX of REGISTER indicating Nack
 - TX of REGISTER_ACK indicating Failure
 - RX of REGISTER_ACK indicating Failure

SuggestedRemedy

Add the flag check process in Figure 56-17.
Add the process to issue OMP.request of REGISTER_ACK indicating failure in NACK state in Figure 56-17.
Add the process to receive REGISTER_ACK indicating failure in COMPLETE DISCOVERY state in Figure 56-16.
Add the definition of MA_CONTROL.indication which indicates denied discovery process in section 56.3.4.1.5.
Please see the attatched file.
The file name is murakami_2_1102.pdf.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56**   *S* **56.3.4.1.1**   *P* **128**   *L* **42**   **#** **952**
Chan Kim   ETRI

Comment Type **E**   *Comment Status* **D**   *discovery*

"register_msg timer" was mistakenly placed in the text.

SuggestedRemedy

remove "register_msg timer".

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56**   *S* **56.3.4.1.2**   *P* **129**   *L* **51**   **#** **953**
Chan Kim   ETRI

Comment Type **E**   *Comment Status* **D**   *discovery*

To use the term "sublayer" like in "Discovery Processing sublayer" might not be adequate. There are several instances in the document.

SuggestedRemedy

how about using "discovery processing block" ?

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.
Editor will find better terminology and make appropriate changes.

C **56**   *S* **56.3.4.1.2**   *P* **141**   *L* **14**   **#** **744**
OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *gate*

In the description of grant_list, although the statement of insertion is written, there is no statement of deletion.

SuggestedRemedy

How about add a following statement.
"Each time a grant window starts, the current grant element is removed from the list."

Proposed Response   *Response Status* **W**
PROPOSED REJECT.
Deletion is performed by function remove_list

C **56** *S* **56.3.4.1.3** *P* **129** *L* **51** *#* **954**
Chan Kim   ETRI

Comment Type **E**   *Comment Status* **D**   *discovery*
exponent correct?

SuggestedRemedy
how about using exp(base,exponent)?

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.
Although exponent is correct, exp is shorter and holds same degree of intelligibility

C **56** *S* **56.3.4.1.3** *P* **130** *L* **28** *#* **701**
OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *discovery*
I heard of that there was an idea that ONU and OLT will auto-negociate a timing in ONU using a "CapabilityVector". It's value means the time between receiving Grant until being able and being send a Ethernet Packet in the ONU.There is no description of this "negociation mehcanism".

SuggestedRemedy
If this topic is out of scope of EFM, how about add some description to explain this mechanism in the tail of "56.3.4.1.3 FunctionsÅFSuported_Capabilities()".

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Negoriation of these parameters is performed using Turn On Delay, Turn Off Delay, AGC Settling Time, and CDR Lock Time parameters.
Text will be added to describe interaction, volunteers are welcome.

C **56** *S* **56.3.4.1.4** *P* **131** *L* **42** *#* **955**
Chan Kim   ETRI

Comment Type **E**   *Comment Status* **D**   *discovery*
to arrival => since arrival
whom must => who must

SuggestedRemedy
as shown in comment

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.3.4.1.4** *P* **131** *L* **53** *#* **956**
Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *discovery*
since the grant duration includes the idle period and laser turn on,off time, the maximum random delay should consider those values.

SuggestedRemedy
it should read,
discovery window size less the REGISTER_REQ MPCPDU frame size less the idle period and laser turn on and off time.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.3.4.1.5** *P* **132** *L* **34** *#* **957**
Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *discovery*
what if we don't know the MAC address of the ONU before registration?
so the DA parameter should be removed. and it can be extracted later from the register_req message.

SuggestedRemedy
remove the DA argument from the MA_CONTROL.request(create_discovery_window,..).

Proposed Response   *Response Status* **W**
PROPOSED REJECT.
ONU MAC address is NEVER known prior to registration.
DA is multicast address used for MAC Control.
Further all Ethernet frames contain a Destination Address (DA).

C **56** *S* **56.3.4.1.5** *P* **133** *L* **13** *#* **958**
Chan Kim   ETRI

Comment Type **E**   *Comment Status* **D**   *discovery*
used only in ONU. the service interface diagram of Fig.56-15 might better be divided for OLT and ONU.

SuggestedRemedy
divide the service interface for OLT and ONU.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Diagrams will be split.

C **56** *S* **56.3.4.1.6** *P* **134** *L* **13** *#* **959**
Chan Kim   ETRI

Comment Type **T** *Comment Status* **D** *discovery*
do we really need to specify this 'and me = broadcast ID'?
It's either that the master has always the broadcast ID or it has any value(less probable)

SuggestedRemedy
specify that OLT have 'FFFF' as LLID or OLT has no LLID.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Me variable holds context of MAC in Multipoint MAC Control, it can hold any LLID when associated with a P2PE port.

C **56** *S* **56.3.4.1.6** *P* **134** *L* **16** *#* **960**
Chan Kim   ETRI

Comment Type **T** *Comment Status* **D** *discovery*
In SEND_REGISTER WINDOW state, own_id should be replaced with broadcast LLID and the DA should contain later-specified special multicast ID.(link constrained)

SuggestedRemedy
change own_id to broadcast_ID. and add a DA which value will be fixed later.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Text needs to clarify OLT-ID and Broadcast-ID.

C **56** *S* **56.3.4.1.6** *P* **134** *L* **34** *#* **961**
Chan Kim   ETRI

Comment Type **T** *Comment Status* **D** *discovery*
In the CHECK DESTRUCT ID state, it reads "if me != broadcast_ID". why do we check my ID when register_req with destruct flag?

SuggestedRemedy
change 'me' to 'received LLID'
and regardless of the result of this check, the state should go to the idle state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Transition to END would be changed to transition to state where LLID is freed.
Updated diagrams will clarify.

C **56** *S* **56.3.4.1.6** *P* **134** *L* **40** *#* **962**
Chan Kim   ETRI

Comment Type **T** *Comment Status* **D** *discovery*
In REGISTER state, the list of items temporally latched from the received REGISTER_REQ doesn't go with the message definition. There is not number of requested ports now.

SuggestedRemedy
fix it for the changed format.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.3.4.1.6** *P* **134** *L* **48** *#* **963**
Chan Kim   ETRI

Comment Type **T** *Comment Status* **D** *discovery*
the first flag means that the ONU is requesting registratoin In FIRST OR ADDITIONAL state, the current diagram shows that the state transition is different accorindg to the first_flag checking. But the first_flag shows the the registration is the first one of an ONU. So, it has nothing to do with whether we'll have another REGISTER_REQ messages coming from others ONUs or not.

SuggestedRemedy
change the diagram so that it jumps to INSIDE REGISTER WINDOW' state in either case.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
First_flag is to be removed due to support of single registration per ONU.

C **56** *S* **56.3.4.1.6** *P* **136** *L* **47** *#* **964**
Chan Kim   ETRI

Comment Type **T** *Comment Status* **D** *discovery*
The 'DEREGISTER' state is entered from two states. But when it is entered after receiving the REGISTER message with fail indication, the ONU doesn't have to send the REGISTER_REQ with deregister flag.

SuggestedRemedy
make the arrow for choise 2 of the switch statement of ARRIVING REGISTER 2 state go to the initial WAIT state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

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 49
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C **56** *S* **56.3.4.1.6**

C **56**　　*S* **56.3.5**　　　　　　*P* **137**　　*L* **1**　　　# 400
Brown, Benjamin　　　　　　　　　AMCC

Comment Type **T**　　*Comment Status* **D**　　　　　　　*report*

While not as complicated as Discovery, this section also deserves more text description than is currently available.

SuggestedRemedy

Add text description for Report Processing.

The same thing applies to Gate Processing

Proposed Response　　　*Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
more description will help, input required

C **56**　　*S* **56.3.5**　　　　　　*P* **137**　　*L* **6**　　　# 702
OGURA, Yasuo　　　　　　　　　NTT

Comment Type **T**　　*Comment Status* **D**　　　　　　　*report*

When OLT receive a REPORT MPCPDU, in the higher layer, it should re-calculate a RTT with the timestamp of the REPORT MPCPDU.

SuggestedRemedy

As a statement of "Report processing", there should be a description the need of RTT recalculation with REPORT MPCPDU.
For example, how about add a following description?
"In the higher layer, OLT should calculate a RTT with the timestamp of the REPORT MPCPDU and update it automatically."

Proposed Response　　　*Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
RTT vigilance monitoring should be performed in OMP block modifying Figure 56-13 and accompanying text in state UPDATE TIMER for the OLT case, as this is symmetrical to the local time setting performed by the ONU

C **56**　　*S* **56.3.6**　　　　　　*P*　　　　*L*　　　# 637
Miyoshi, Hidekazu　　　　　　　　Sumitomo Electric Ind

Comment Type **T**　　*Comment Status* **D**　　　　　　　*gate*

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* **W**

Pending presentation

C **56**　　*S* **56.3.6**　　　　　　*P* **139**　　*L* **38**　　　# 965
Chan Kim　　　　　　　　　　　ETRI

Comment Type **T**　　*Comment Status* **D**　　　　　　　*gate*

rather than directly describing state diagram, explaining the essential ideas in words might be helpful.
for example, whether the gate convers the idle period and laser on/off time or not is not indicated. (it is assumed that the gate covers all transmission of an ONU including idle period and laser on/off time. but parts of the state diagram seems to be confused in this.)

SuggestedRemedy

clearly indicate whehter the gate covers idle pattern transmission time and laser turn-on and off time for ONU or not.

Proposed Response　　　*Response Status* **W**

PROPOSED 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 49
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C **56**　　　*S* **56.3.6**

C **56** *S* **56.3.6.1** *P* **126** *L* **13** *#* **99003**
Jonathan Thatcher World Wide Packets

Comment Type **TR** *Comment Status* **A** *D1.0*
There are a number of references to a phantom "higher-layer-entity" within the clause.

SuggestedRemedy
Unmask the phantom. Describe, reference, or otherwise expose this "entity."

Proposed Response *Response Status* **U**
ACCEPT.
Naming convention would be made consistent using "MAC Client" or "MAC Control Client"
D1.0 #689

C **56** *S* **56.3.6.1.2** *P* **141** *L* **6** *#* **949**
Tae-Whan Yoo ETRI

Comment Type **T** *Comment Status* **D** *gate*
There are various ways to realize multiple MAC and MAC Control layers. Specifyng the
recipient of the grant with the destination MAC address DA, which is ONU's MAC address,
could restrict the implemenation freedom.

SuggestedRemedy
We suggest that the 48-bit subfield "DA" in the structure of current_grant be replaced with
the 16-bit "LLID".

Proposed Response *Response Status* **W**
PROPOSED REJECT.
This mechanism is not used to realize multiple MACs.
It holds the DA that was received in the GATE that arrived, as it is derived information it is
not restrictive in any way.
The DA is then used to distinguish between a unicast grant, and a multicast grant.
Further the state is held inside a context of a single LLID.

C **56** *S* **56.3.6.1.2** *P* **142** *L* **12** *#* **708**
OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *gate*
Until "IDLE_timer" has been expired, there is a description that ONU should transmit an
IDLE pattern only.But there is no description in the "56.3.6.1.2 Variables:laser_off_time".

SuggestedRemedy
How about add the following description after the end of the description of "laser_off_time".
"During the laser_off_time, any data patterns can be transmitted."

Proposed Response *Response Status* **W**
PROPOSED REJECT.
During the laser_off_time the MAC is inactive, therefore the PCS transmits IDLE
sequences. It is not permited to the MAC to transmit arbitrary data patterns.

C **56** *S* **56.3.6.1.2** *P* **142** *L* **4** *#* **707**
OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *gate*
In the "56.3.6.1.4 Timers:IDLE_timer", there is description that:"when oly IDLE symbol-
pairs are transmitted".But there is no description in the "56.3.6.1.2 Variables:IDLE_time".

SuggestedRemedy
How about add the following description after the end of the description of "IDLE_time".
"During the IDLE_time, only IDLE patterns can be transmitted."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.3.6.1.6** *P* **144** *L* **1** *#* **602**
Bemmel, Vincent Alloptic

Comment Type **T** *Comment Status* **D** *gate*
use seperate OLT vs. ONU diagrams

SuggestedRemedy
use seperate OLT vs. ONU diagrams

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.3.6.1.6** *P* **144** *L* **37** *#* **967**
Chan Kim ETRI

Comment Type **T** *Comment Status* **D** *gate*
In the state 'SORT'. it checks if the time left until the start time can conver the required idle
time and turn-on/off time. But,
why do we need to check this? haven't we decided that the grant duration includes the idle
period and turn-on.off delay?

SuggestedRemedy
remove the line for checking the time left.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
The check is performed to ensure that there is enough time to turn on and off the laser

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 49
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_ **144**   _L_ **5**   # **966**
Chan Kim   ETRI

Comment Type   **T**   _Comment Status_   **D**   _gate_

The statemachines of OMP are generally unnecessarrily not-easy-to-understand. rather than having one state, expressing in several sequention states would be better. The gate processing should be divided for receiving and consuming. Because receiving a gate from the OLT, and using the received gate can occur at the same time. The two processes should have separate state space.

SuggestedRemedy

separate the state diagram of Gate Processing to ones for OLT and ONU. Also, receiving the gate and consuming the gate can be separated for ONU.

Proposed Response   _Response Status_   **W**

PROPOSED ACCEPT.

_C_ **56**   _S_ **56.3.6.1.f++**   _P_ **126**   _L_ **25**   # **99004**
Jonathan Thatcher   World Wide Packets

Comment Type   **TR**   _Comment Status_   **A**   _D1.0_

Description of "Assigned Ports List" (per Figure 56-22) is missing.
Also, suggest dropping the "s" off of "Ports" everywhere.

SuggestedRemedy

Add description

Proposed Response   _Response Status_   **U**

ACCEPT.
D1.0 #690

_C_ **56**   _S_ **56.3.7.1**   _P_ **128**   _L_ **33**   # **99005**
Jonathan Thatcher   World Wide Packets

Comment Type   **TR**   _Comment Status_   **A**   _D1.0_

Validation of correct registration is an appropriate goal of the registration process. Registration data sent in the "Registration PDU" should be returned in the "Registration Ack" PDU.

Note, the frequency of registration should not be sufficient to impact overall performance. Saving a few bytes is not worth not being able to validate correct reception.

SuggestedRemedy

Add Capability vector, Assigned port list, etc.

Proposed Response   _Response Status_   **U**

ACCEPT.
D1.0 #688

_C_ **56**   _S_ **56.4**   _P_ **144**   _L_   # **635**
Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type   **T**   _Comment Status_   **D**   _gate_

Since the size of MPCP messages is fixed to 64 Byte, information which can be conveyed through MPCP messages is limited. However various types of data may need to be exchanged via MPCP messages for higher efficiency, QoS policy and/or other reasons. In this sense, it would be significant benefits for us to allow MPCP messages to exchange diverse data as additional information.

A file, miyoshi_p2mp_addInfo.pdf, is attached for discussion.

SuggestedRemedy

Define the additional information fields in MPCP messages as optional.

Following is one possible definition of the field.
1: The Number of additional field (8 bits) indicates the number of sets of the code_length field and the add_data field.
2: Bit 0-3 of the code_length field (8 bits) identifies the specific data type embedded in the add_data field. Bit 4-7 of the code_length field specifies the size of the add_data field in byte.
3: The add_data field conveys various types of data identified by the code field.

All MPCP messages may hold multiple sets of the code_length and add_data fields as indicated by the number of additional field. This is an optional field, and a peer may ignore this field.

Proposed Response   _Response Status_   **W**

PROPOSED ACCEPT IN PRINCIPLE.
See #154
In order to allow custom fields to be exchanged in a standadized fashion, a TLV mechanism is to be defined.
Mechanism requires:
1) Vendor identification during discovery sequence (TBD)
2) 1 byte type/length field to be interpreted as:
4 most significant bits - type
4 least significant bits - length
type value definitions:
0 - no field present, always paired with 0 length
0-7 reserved
63 extend, first byte of payload is extension of type (to values 16 - 271)
8 - 14 to be interpreted according to vendor
15 extend, first byte of payload is extension of type (to values 272 - 527) to be interpreted according to vendor

---

C **56**   *S* **56.4.2**   *P* **146**   *L*   # **636**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *gate*

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* **W**

Pending presentation

C **56**   *S* **56.4.2**   *P* **146**   *L*   # **634**

Miyoshi, Hidekazu   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *gate*

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.
See #153

C **56**   *S* **56.4.2**   *P* **146**   *L* 36   # **746**

OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *gate*

SuggestedRemedy

In the item "a)", "GRANT MPCPDU" should be a "GATE MPCPDU".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.4.2**   *P* **146**   *L* **37**   # **603**

Bemmel, Vincent   Alloptic

Comment Type **E**   *Comment Status* **D**   *gate*

'GRANT MPSPDU' should be 'GATE MPCPDU'

SuggestedRemedy

Replace 'GRANT MPSPDU' with 'GATE MPCPDU'

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.4.2**   *P* **147**   *L* **24**   # **968**

Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *report*

The force_report flag is to ask the ONU to issue a REPORT message at the corresponding grant period

SuggestedRemedy

is it after the grant period or at the begining of the grant period? We have to decided. It is not clearly expressed.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text better describing force_report behaviour would be added.
In general, it is the Client's responsibility to generate REPORTs, as such their behavior may or may not be synchronized with the Gating process.

C **56**   *S* **56.4.2**   *P* **147**   *L* **25**   # **718**

OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *gate*

There is no description when ONU will not send a REPORT MPCPDU in the "GATE description".

SuggestedRemedy

How about add the following description.
"If ONU has no traffic in the buffer and force_report_flag == 1, it will send a REPORT MPCPDU with empty content. If force_report_flag == 0, ONU may send a REPORT MPCPDU, but it should send IDLE symbol pairs when not sending a REPORT MPCPDU."

There is some detail proposals in the attached file:"ogura-51e.ppt".

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
REPORT generation is the responsibility of the higher layers, even when force_report == 1. It is not possible for MPCP to know how to generate a valid report.
Further queue population is not known to MPCP and thus it can not make decisions based on queue population.
Further proposal to transmit IDLEs whenever not sending a REPORT, in effect reserving the location of a REPORT inside the grant, wastes bandwidth.

C **56**   *S* **56.4.2**   *P* **147**   *L* **25**   # **729**

OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *report*

There is no description in the case of "Force Report flag = 0". I think of that ONU can decide it send a REPORT MPCPDU or not.

SuggestedRemedy

For example,how about add the following description the end of the description:"the Force report flag fields".
"When 'Force Report flag = 0' is set, ONU may send a REPORT MPCPDU or not."

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Please not that the Client may send REPORT arbitrarily, as REOPRTs are neither generated nor blocked by the MAC Control

---

C **56**   *S* **56.4.2**   *P* **147**   *L* **26**   # **969**

Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *gate*

how about explicitly specifying that the grant length includes the idle period and turn-on/off time? Because it's so simple and clear.

SuggestedRemedy

specify if the grant time contains the idle period and laser turn-off/on time.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Additional text would explicitly state the composition of the grant includes the laser on/off delay and required idle period in addition to the period allocated for PDU transmission.

C **56**   *S* **56.4.2**   *P* **147**   *L* **26**   # **745**

OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *gate*

When OLT will pack multiple grants int a GATE MPCPDU, it will set them with time-sequencial order. I feel the behavier simple.

SuggestedRemedy

In the description "d) Grant#n Start Time", how about add the following statement. "According to the value of the Start Time, OLT should set Grant#1...4 with time-sequencial order."

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
GATEs are generated outside of MCP, and arenot controlled by it. It might be beneficial to the GATE generation algorithm not to work sequentially.

C **56**   *S* **56.4.2**   *P* **147**   *L* **26**   # 970

Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *gate*

how about putting a reserved byte after number of grants/flags?
This will make the boundaries of the fields 16 bit aligned.

SuggestedRemedy

put a reserved byte after the "number of grants/flags" field of GATE message.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
Ethernet protocols do not require alignment for mandatory fields, reserved fields waste limited frame size.

C **56**   *S* **56.4.2**   *P* **147**   *L* **40**   # 897

Sio Peng GOI   Institute for Communi

Comment Type **E**   *Comment Status* **D**   *gate*

The Pad/Reserved field length differs from that in Figure 56-24

SuggestedRemedy

Change the length of the Pad/Reserved field to varies in length from 11 to 33 accordingly

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
Comment is T not E

C **56**   *S* **56.4.3**   *P* **149**   *L* **30**   # 604

Bemmel, Vincent   Alloptic

Comment Type **E**   *Comment Status* **D**   *report*

The term "Number of Requests" is confusing. This is still ONE request, containing multiple reported queue sets. We could use a better name.

SuggestedRemedy

"Number of Queue Sets"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change Fig. 56-25, as well.

C **56**   *S* **56.4.3**   *P* **149**   *L* **31**   # 719

OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *report*

d) "This field specifies the the number of requests" :The first "the" should be deleted.

SuggestedRemedy

After being modified, "d) Number of requests. This field specifies the number of ....."

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.4.3**   *P* **149**   *L* **34**   # 721

OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *report*

P.149 L.34   f)"Pad/Reserved2" : "2" should be deleted.

SuggestedRemedy

After being modified, "f) Pad/Reserved. This is an empty field .....".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **56.4.3**   *P* **149**   *L* **36**   # 722

OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *report*

"Length from 7 0 to 39": The number should be a "0 -39" so that "7" should be deleted.

SuggestedRemedy

After being modified, "and accordingly varies in length 0 to 39."

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.
The value of padding length in Table 56-25 should correspond to the value given in p. 149 line 36.

C **56**   *S* **56.4.4**   *P* **152**   *L* **14**   # 971

Chan Kim   ETRI

Comment Type **T**   *Comment Status* **D**   *discovery*

how about putting a reserved byte after the flags in register_req message to make them 16 bit aligned?

SuggestedRemedy

put a reserved byte after the Flags field of REGISTER_ACK message.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
Ethernet protocols do not require alignment, reserved fields waste limited frame size.

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **56.4.4**

C **56** *S* **56.4.5** *P* **153** *L* **30** *#* **724**
OGURA, Yasuo   NTT

Comment Type **E** *Comment Status* **D** *discovery*
In the item "I)", "Echoed urn off delay" should be a "Echoed turn off delay".

SuggestedRemedy
After being modified, "I) Echoed turn off delay.".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56.4.5** *P* **153** *L* **6** *#* **605**
Bemmel, Vincent   Alloptic

Comment Type **T** *Comment Status* **D** *discovery*
Table 56-5 has the following definition: "'Destruct' is a request to destroy the port and free the LLID. Subsequently, the MAC is destroyed"

Notice that the REGISTER is sent from the OLT to the ONU upon receiving a REGISTER_REQUEST. At this point the ONU is not registered yet, and hence this definition is not correct.

SuggestedRemedy
Remove "Destruct" from table 56-5

Proposed Response *Response Status* **W**
PROPOSED REJECT.
REGISTER message with destruct flag is sent when ONU is registered.

C **56** *S* **56.4.6** *P* **154** *L* **52** *#* **725**
OGURA, Yasuo   NTT

Comment Type **E** *Comment Status* **D** *discovery*
In the item "a)", "REGISTER MPCPDU" should be a "REGISTER_ACK MPCPDU".

SuggestedRemedy
After being modified, "a) Opcode. The opcode for the REGISTER_ACK MPCPDU is 00-06".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **56-16** *P* **134** *L* *#* **905**
Sio Peng GOI   Institute for Communi

Comment Type **T** *Comment Status* **D** *discovery*
timer ONU_timer is set in REGISTER state but not cleared anywhere.

SuggestedRemedy
in COMPLETE DISCOVERY state, add:remove(ONU_timer[MAC])

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **Figure 56-1** *P* **109** *L* *#* **899**
Sio Peng GOI   Institute for Communi

Comment Type **E** *Comment Status* **D** *layering*
GMII not shown in Figure 56-1. P2MP not mentioned.

SuggestedRemedy
Remove GMII=.... Add P2MP=Point-to-Multipoint.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Add a GMII pointer in the figure the same as MDI
P2MP is not mentioned in the figure. So I do not see the need of adding it.

C **56** *S* **Figure 56-10** *P* **119** *L* **12** *#* **894**
Sio Peng GOI   Institute for Communi

Comment Type **E** *Comment Status* **D** *multiplex*
Figure 56-10 should be Control Multiplexer

SuggestedRemedy
Change all Control Parser/Multiplexer to Control Multiplexer

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

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

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 30 of 49
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* **#** **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

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* **121** *L* **#** **317**
Khansari, Masoud   Centillium Communic

Comment Type **T** *Comment Status* **D** *multiplex*
Variable "transmitEnable" is never reset to FALSE.

SuggestedRemedy
Clearly identify this in the state diagram and definition of "transmitEnable" in Page 120. One solution is to set this variable FALSE in the "CLEAN" state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See #172

C **56** *S* **Figure 56-11** *P* **121** *L* **#** **318**
Khansari, Masoud   Centillium Communic

Comment Type **T** *Comment Status* **D** *multiplex*
Variable TXAllowed is not defined in the list of variables for this state diagram

SuggestedRemedy
Clearly define TXAllowed in 56.2.4.1.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
see #173

C **56** *S* **Figure 56-11** *P* **121** *L* **#** **321**
Khansari, Masoud   Centillium Communic

Comment Type **E** *Comment Status* **D** *multiplex*
requst should read "request" in GATED--> SIGNAL and TRANSMIT READY-->SEND DATA FRAME state transitions

SuggestedRemedy
Make the appropriate changes

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **Figure 56-11** *P* **121** *L* **16** *#* **173**
Bharati, Barnali   Wipro Technologies

Comment Type **E** *Comment Status* **D** *multiplex*
TXAllowed is missing from the variable list.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See #318

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56** *S* **Figure 56-1**

P802.3ah Draft 1.1 Comments

C **56**   *S* **Figure 56-11**   *P* **121**   *L* **25**   # **172**

Bharati, Barnali   Wipro Technologies

Comment Type **T**   *Comment Status* **D**   *multiplex*

Once transmitEnable[j] is set to 'On' in multiplexing control state diagram so that only one MAC controller instance may be able to transmit, it needs to be reset to flase (or off) in fig 56-11.

SuggestedRemedy

transmitEnable needs to be set to flase (or off) in 'CLEAN' state in Fig 56-11

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure 56-12**   *P* **123**   *L*   # **906**

Sio Peng GOI   Institute for Communi

Comment Type **T**   *Comment Status* **D**   *multiplex*

In Figure 56-3, OMP Parser and Multiplexer are 2 separate blocks while here it is still in 1 block.

SuggestedRemedy

Split into a OMP Parser and a OMP Multiplexer, just like Control Parser and Control Multiplexer.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure 56-13**   *P* **126**   *L*   # **322**

Khansari, Masoud   Centillium Communic

Comment Type **E**   *Comment Status* **D**   *multiplex*

Transition OMP TIMEOUT -> ERROR STATE should read "true" instead of "UCT"
Transition OMP TIMEOUT -> WAIT FOR RECEIVE should read "flase" instead of "else"

SuggestedRemedy

Make the appropriate changes.

There are many instances within state diagrams that "else" is used instead of "false", etc. e.g. in Figure 56-16 transition from CHECK DESTRUCT ID to IDLE should read "false" and not "else". Please clean up the state diagrams.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure 56-13**   *P* **126**   *L*   # **904**

Sio Peng GOI   Institute for Communi

Comment Type **T**   *Comment Status* **D**   *multiplex*

State WAIT FOR RECEIVE exit trigger:timeout() should have a timer as input, not a constant

SuggestedRemedy

Change timeout(max_time_between_omp) to timeout(omp_timer)

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure 56-13**   *P* **126**   *L* **20**   # **174**

Bharati, Barnali   Wipro Technologies

Comment Type **T**   *Comment Status* **D**   *multiplex*

Rather than set_timer, it would be more appropriate to call this function reset_timer. So that old timer made to reset rather than creating a fresh timer all the time.

SuggestedRemedy

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
Timer functions to be rewritten using conventions of 14.2.3.2

C **56**   *S* **Figure 56-17**   *P* **135**   *L*   # **155**

Kramer, Glen   Teknovus

Comment Type **T**   *Comment Status* **D**   *discovery*

Transition from state REGISTERING to state CHECK UNICAST should be marjed as MA_CONTROL.indication, rather than MA_CONTROL.request

SuggestedRemedy

Change "indication" to "request"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

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 49
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
C **56**   *S* **Figure 56-1**

C **56**   *S* **Figure 56-18**   *P* **136**   *L* **12**   **#** **175**
Bharati, Barnali   Wipro Technologies

Comment Type **T**   *Comment Status* **D**   *discovery*
Upon reception of OMP.indication (subtype=REGISTER, destruct_flag=true), transition from 'ARRIVING REGISTER 2' to 'DEREGISTER' state is triggered (see 2 true). This will send another REGISTER_REQ with destruct_flag set to true, instead of an REGISTER_ACK

SuggestedRemedy
May create a new state 'DEREGISTER_ACK' and actions in this new states are:
1) OMP.request (SA, DA, subtype=REGISTER_ACK, destruct_flag = true)
2) Registered = flase

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Will fix in updated diagrams as state ARRIVING REGISTER 2 is to be removed due to support of single registration per ONU.

C **56**   *S* **Figure 56-18**   *P* **136**   *L* **30**   **#** **176**
Bharati, Barnali   Wipro Technologies

Comment Type **T**   *Comment Status* **D**   *discovery*
Actions in both 'ACK' and 'SUBSEQUENT ACK' states are same.

SuggestedRemedy
There is not need of two different states. State 'SUBSEQUENT ACK' can be removed

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.
Will fix in updated diagrams, state SUBSEQUENT ACK is to be removed due to support of single registration per ONU.

C **56**   *S* **Figure 56-18**   *P* **136**   *L* **47**   **#** **177**
Bharati, Barnali   Wipro Technologies

Comment Type **T**   *Comment Status* **D**   *discovery*
Currently if additional registration is deregistered, states moves from 'REGISTERED WAIT' to 'DEREGISTER' to 'ZERO STATE 2', and variable 'registered' is set to flase. This should not be done unless all registration (first and the additional) has been deregistered.

SuggestedRemedy
There should be a mechanism of knowing if all registrations has been deregistered

Proposed Response   *Response Status* **W**
PROPOSED REJECT.
Mechanism is to support only a single registration per ONU.

C **56**   *S* **Figure 56-2**   *P* **110**   *L* **3**   **#** **386**
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *layering*
Where is the reference to Figure 56-2?

SuggestedRemedy
Add a reference to this figure and some descriptive text.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See comment 751 for suggested text

C **56**   *S* **Figure 56-20**   *P* **139**   *L*   **#** **323**
Khansari, Masoud   Centillium Communic

Comment Type **T**   *Comment Status* **D**   *multiplex*
There is no need for "Master == flase" condition checking in PERIODIC TRANSMISSION state.

SuggestedRemedy
periodic_timer is only set when transmitting a REPORT, which happens when Master == flase.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Addition of check for Master == True required in Report processing to make sure OLT does not send REPORT

C **56**   *S* **figure 56-22**   *P* **64**   *L* **34**   **#** **818**
Maislos, Ariel   Passave

Comment Type **TR**   *Comment Status* **D**   *gate*
SORT block does not calculate correctly the required offset until the start of grant, and condition check does not correctly compensate for elapsed time and overheads.

SuggestedRemedy
Change text of SORT block to:
current_grant = min_extract(start, grant_list)
time = min(current_grant.length, max(current_grant.start - local_time+current_grant.length), 0))
if time > laser_on_time + IDLE_time + laser_off_time
  set_timer(grant_start, max(current_grant.start - local_time, 0))
else repeat block while !empty(grant_list)

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 33 of 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**   *S* **Figure 56-3**   *P* **111**   *L*   **#** **898**

Sio Peng GOI   Institute for Communi

Comment Type **E**   *Comment Status* **D**   *multiplex*

Messages are sent from the OMP Multiplexer to clients

SuggestedRemedy

There should be a link from OMP Multiplexer to the MAC Control Clients to reflect this.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
All function blocks issue MA_CONTROL primitives as shown by arrows in upper left corner of Figure 56-3
The interface should be clarified.

C **56**   *S* **Figure 56-3**   *P* **111**   *L* **4**   **#** **387**

Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *multiplex*

The arrow from the Control Parser to the MAC should point towards the MAC - see Figure 2-1b.

SuggestedRemedy

Change direction of arrow from Control Parser to MAC.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure 56-5**   *P* **114**   *L*   **#** **901**

Sio Peng GOI   Institute for Communi

Comment Type **T**   *Comment Status* **D**   *multiplex*

transmission_in_progress is not output of Multiplexing Control block, instead it determines Multiplexing Control input multipoint_transmission_in_progress.

SuggestedRemedy

Remove transmission_in_progress[1..n].

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
See #768
The transmission_in_progress is the input of multiplexing control block and is required to determine the multipoint_transmission_in_progress signal.

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

C **56**   *S* **Figure 56-8**   *P* **117**   *L*   **#** **902**

Sio Peng GOI   Institute for Communi

Comment Type **T**   *Comment Status* **D**   *multiplex*

Control Parser's output to OMP Parser/Multiplexer should be MA_CONTROL.indication rather than OMP.indication

SuggestedRemedy

Remove OMP.indication

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
See #151
The MA_CONTROL.indication should be the interface to the MAC Control Client.

C **56**   *S* **Figure 56-8**   *P* **117**   *L*   **#** **895**

Sio Peng GOI   Institute for Communi

Comment Type **E**   *Comment Status* **D**   *multiplex*

Figure 56-8 should be Control Parser

SuggestedRemedy

Change Control Parser/Multiplexer to Control Multiplexer in caption

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

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 49

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* **117** *L* **#** | 151 |

Kramer, Glen   Teknovus

Comment Type **T** *Comment Status* **D** *layering*

Control Parser belongs to an opcode-independent part of Multi-Point MAC Control (see analogy with clause 31.5). As such, it should only generate MA_DATA and MA_CONTROL indications, but not OMP.indication.

SuggestedRemedy

Remove OMP.indication from the Fig. 56-8

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
OMP.indication is a place-holder for internal communication with the MPCP block.
Change the name and description of OPM.indication to something that resembles a function or signal name. The OPM.indication is not a service primitive.

C **56** *S* **Figure 5-9** *P* **118** *L* **#** | 319 |

Khansari, Masoud   Centillium Communic

Comment Type **T** *Comment Status* **D** *multiplex*

Transition from "WAIT FOR RECEIVE" to "PARSE" states should be clarified

SuggestedRemedy

Transition occurs when "ReceiveFrame" signal of MAC service interface is set.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add "ReceiveFrame" signal of MAC service interface.

C **56** *S* **Figure56-10** *P* **119** *L* **12** **#** | 740 |

OGURA, Yasuo   NTT

Comment Type **E** *Comment Status* **D** *multiplex*

SuggestedRemedy

The center of the block:"Control Parser/Multiplexer" of the Figure56-10, it should be a "Control Multiplexer".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

C **56** *S* **Figure56-10** *P* **119** *L* **22** **#** | 739 |

OGURA, Yasuo   NTT

Comment Type **E** *Comment Status* **D** *multiplex*

SuggestedRemedy

The title:"Control Parser/Multiplexer Service Interface" of the Figure56-10, it should be a "Control Multiplexer Service Interface".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

C **56** *S* **Figure56-11** *P* **121** *L* **24** **#** | 735 |

OGURA, Yasuo   NTT

Comment Type **T** *Comment Status* **D** *multiplex*

There is a description it turn "transmitEnable" ON, but no description it turn "transmitEnable" OFF.

SuggestedRemedy

In the top of the block:"CLEAN", how about add "transmitEnable = OFF".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See #172

TYPE: TR/technical required T/technical E/editorial   COMMENT STATUS: D/dispatched A/accepted R/rejected   SORT ORDER: Clause, Page, Line, Subclause   Page 35 of 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56** *S* **Figure56-1**

C **56** *S* **Figure56-13** *P* **126** *L* **28** # 713

OGURA, Yasuo NTT

Comment Type **T** *Comment Status* **D** *discovery*

In the D1.1, ONU will turn the Laser ON everytime when the "start_time" has come.Even if it would not send a "REGISTER_REQ" because of it's "Backoff_wait".It is very bad specification when multiple ONUs are going to do AutoDiscovery at the same time.All ONUs will turn it's Laser ON at the same time, OLT may not be able to process Discovery successfully so that it will detect collisions everytime.

SuggestedRemedy

OLT can trun Laser ON/OFF Only in the "GateProcess state Diagram", so that OLT can not tunr Laser OFF when it deside not sending a REGISTER_REQ in the "DiscoveryProcess state Diagram".
I think of that it is good way to solve this problem that:

@Discovery GATE:
How about treat it in the only "DiscoveryProcessing state diagrm".
"DiscoveryGATE" --> OLT send to "DiscoveryProcess", while
"NormalGATE" --> OLT send to "GateProcess" in the OMP parser.

There is some detail proposals in the attached file:"ogura-49e.ppt".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Based on ogura-49e2.pdf and additional compensation for laser turn on delay, editor will appropriately fix diagrams.

C **56** *S* **Figure56-15** *P* **128** *L* **19** # 709

OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *gate*

There is an arrow which name is "Gate.request(grant)".
This comment has already been acceptted in the D1.0-No.192.

SuggestedRemedy

I think of that this arrow is "MA_Control.request(gate)" and the direction of arrow should be inverse.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

C **56** *S* **Figure56-16** *P* **134** *L* **27** # 704

OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *discovery*

In the center of this figure, there is an arrow:" OMP.indication(DA,SA, subtype= REGISTER_REQ, requested_port, ...).

SuggestedRemedy

How about delete "requested_port"?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Updated diagrams will fix and clarify.

C **56** *S* **Figure56-16** *P* **134** *L* **5** # 703

OGURA, Yasuo NTT

Comment Type **T** *Comment Status* **D** *discovery*

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* **W**

PROPOSED ACCEPT.
Updated diagrams will fix and clarify.

C **56** *S* **Figure56-17** *P* **135** *L* **12** # 710

OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *discovery*

In the block of the "DEFFERAL",there is "Backoff = max(max_defferal, Backoff+1)".I think of that Backoff is almost equal "10", and the value of Backoff_wait is between 0 and 2^10, so that this equation cannot limit the each value of "Backoff" and "Backoff_wait".
This comment has already been accepted in the D1.0-No.169.

SuggestedRemedy

How about change to following equation.
"Backoff = min(max_defferal, Backoff+1)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **56** *S* **Figure56-1**

C 56   *S* **Figure56-17**   *P* **135**   *L* **35**   # 714
OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *discovery*

In the D1.1, ONU will turn the Laser ON everytime when the "start_time" has come.Even if it would not send a "REGISTER_REQ" because of it's "Backoff_wait".It is very bad specification when multiple ONUs are going to do AutoDiscovery at the same time.All ONUs will turn it's Laser ON at the same time, OLT may not be able to process Discovery successfully so that it will detect collisions everytime.

SuggestedRemedy

OLT can trun Laser ON/OFF Only in the "GateProcess state Diagram", so that OLT can not tunr Laser OFF when it deside not sending a REGISTER_REQ in the "DiscoveryProcess state Diagram".
I think of that it is good way to solve this problem that:

@Laser Control:
How about control from the "DiscoveryProcessing" and "GateProcessing".
Only NormalGATE:OLT turn on/off from "GateProcessing", and
DiscoveryGATE: OLT turn on/off from "DiscoveryProcessing".

There is some detail proposals in the attached file:"ogura-49e.ppt".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Based on ogura-49e2.pdf and additional compensation for laser turn on delay, editor will appropriately fix diagrams.

C 56   *S* **Figure56-18**   *P* **136**   *L*   # 706
OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *discovery*

In the Baseline document descriptions, I think of that ONU will process following behavior.

ONU send a REGISTER_ACK MPCUDU. --> It receive a Normal-Gate MPCPDU as the 1st GATE. : It means a success of AutoDiscovery process.
ONU send a REGISTER_ACK MPCUDU. --> It receive a Disovery-GATE MPCUDU as the 1st GATE. : It is a failure of AutoDiscovery process.

But there is no description in the Figure56-18;"Discovery Processing Slave State Diagram2".

SuggestedRemedy

How about check and update the Figure56-18.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.
In case of failure 2 methods are used:
1) OMP timeouts at the ONU as no MPCP messages are sent to the ONU's LLID
2) A unicast REGISTER might be sent by the OLT before timeout expires.

C 56   *S* **Figure56-18**   *P* **136**   *L* **30**   # 705
OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *discovery*

There is the block:"ADDITIONAL REG".I heard of that it is deleted to add some LLIDs after registration has finished.

SuggestedRemedy

How about delete the block:"ADDTIONAL REG"?

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C 56   *S* **Figure56-18**   *P* **136**   *L* **50**   # 728
OGURA, Yasuo   NTT

Comment Type **E**   *Comment Status* **D**   *discovery*

In the block of "ACK", there is a "OMP.request()".
The 4th parameter:"accepted_capability", it seems starnge for me. Is it "suportted_capability"?

SuggestedRemedy

After being modified, "OMP.request(SA, DA, subtype=REGISTER_ACK, supportted_capability(master_capability),)".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C 56   *S* **Figure56-2**   *P* **110**   *L* **8**   # 736
OGURA, Yasuo   NTT

Comment Type **T**   *Comment Status* **D**   *layering*

There is a "Multipoint MAC Control" in the Figure56-2. But there is a "Multiplexing MAC Control" in the Figure56-6.Are they same meaning?
I think it is Yes. Because there is a "Operation of the Multiplexing MAC Control sublayer, and the OMP sublayer ......" in the body of Draft1.1, it's location is P.110 L1.

SuggestedRemedy

If they are the same meaning, how about change words "Multipoint MAC Control" into "Multiplexing MAC Control"?

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
There is no consistency naming the blocks.
Fig 56-4 and 56-6 and corresponding text should replace "multiplexing MAC control" for "Multipoint MAC control"
(The multipoint MAC control does more than multiplexing.)

C **56**　　*S* **Figure56-22**　　*P* **144**　　*L* **13**　　# 715
OGURA, Yasuo　　　　　　　NTT

Comment Type **T**　　*Comment Status* **D**　　　　　　　*gate*

In the D1.1, ONU will turn the Laser ON everytime when the "start_time" has come.Even if it would not send a "REGISTER_REQ" because of it's "Backoff_wait".It is very bad specification when multiple ONUs are going to do AutoDiscovery at the same time.All ONUs will turn it's Laser ON at the same time, OLT may not be able to process Discovery successfully so that it will detect collisions everytime.

SuggestedRemedy

Only NormalGATE:OLT should turn on/off from "GateProcessing", and DiscoveryDATE:OLT should turn on/off from "DiscoveryProcessing".

If this idea will come true, we should delete some descriptions about DiscoveryGATE from the Figure56-22.In the block of "START_TX", there is "if" statement:" if (current_grant.discovery) MA_CONTROL.request(.....)".
I think of that it should be deleted.

Proposed Response　　*Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Requires review of interaction between discovery/gating block for backoff.

C **56**　　*S* **Figure56-22**　　*P* **144**　　*L* **14**　　# 727
OGURA, Yasuo　　　　　　　NTT

Comment Type **E**　　*Comment Status* **D**　　　　　　　*gate*

In the bottom of the block:"START_TX", there is "GRANT.indication()".

This comment has already been accepted in the D1.0-No.195.

SuggestedRemedy

It should be "MA_CONTROL.indication()", I suppose.

Proposed Response　　*Response Status* **W**

PROPOSED ACCEPT.

C **56**　　*S* **Figure56-22**　　*P* **144**　　*L* **31**　　# 717
OGURA, Yasuo　　　　　　　NTT

Comment Type **T**　　*Comment Status* **D**　　　　　　　*gate*

From WAIT to PROGRAM, "MA_CONTROL.request() with local=true": I cannot understand when and how to use this primitive.In the "56.3.5.1.5 Messages" there is "the grants are intended for local consumption", but I cannot have any images how to use it.

SuggestedRemedy

Proposed Response　　*Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Local gating is to be removed for Draft 1.2

C **56**　　*S* **Figure56-22**　　*P* **144**　　*L* **37**　　# 711
OGURA, Yasuo　　　　　　　NTT

Comment Type **T**　　*Comment Status* **D**　　　　　　　*gate*

In the baseline document:"haran_1_0302.pdf", there is a description that OLT may overlap the end of ONU1-grant and the head of ONU2-grant.If these grants are allocated to the same ONU1.
Can OLT allocate grants with overlaping?

If they are overlapping, there is not so much margin between two grants, so that the condition:"if time > laser_on_time + IDLE_time + laser_off_time" will not be true.

SuggestedRemedy

In the SORT block, we should consider the condition of "if" statement.
If two grants are overlapping, it seems difficult to make a inequation with some parameters such as laser_on_time, IDLE_time , laser_off_time.

How about check the margin is greater than IPG(inter packet gap).

Proposed Response　　*Response Status* **W**

PROPOSED REJECT.
The mechanism described in the SORT block deals with the ONU and not the OLT.

C **56**　　*S* **Figure56-22**　　*P* **144**　　*L* **38**　　# 716
OGURA, Yasuo　　　　　　　NTT

Comment Type **T**　　*Comment Status* **D**　　　　　　　*gate*

In the D1.1, ONU will turn the Laser ON everytime when the "start_time" has come.Even if it would not send a "REGISTER_REQ" because of it's "Backoff_wait".It is very bad specification when multiple ONUs are going to do AutoDiscovery at the same time.All ONUs will turn it's Laser ON at the same time, OLT may not be able to process Discovery successfully so that it will detect collisions everytime.

SuggestedRemedy

Only NormalGATE:OLT should turn on/off from "GateProcessing", and DiscoveryDATE:it should turn on/off from "DiscoveryProcessing".

If this idea will come true, we should delete some descriptions about DiscoveryGATE from the Figure56-22.In the block of "START_TX", there is "if" statement:" if (!discovery) MA_CONTROL.indication(.....)".
I think of that it should be deleted.

Proposed Response　　*Response Status* **W**

duplicate #715

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **56**　　*S* **Figure56-2**

C **56**   *S* **Figure56-22**   *P* **144**   *L* **39**   **#** 712
OGURA, Yasuo   NTT

Comment Type   **E**   *Comment Status*   **D**   *gate*

Inside of the state:"PROGRAM", ther is a variable:"if request_report".

This comment has already been accepted in the D1.0-No.196.

SuggestedRemedy

I think of that it should be a "if force_report".

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure56-24**   *P* **148**   *L*   **#** 747
OGURA, Yasuo   NTT

Comment Type   **E**   *Comment Status*   **D**   *gate*

On Figure56-24:"GATE MPCPDU", there is the octet-length on the right-side of each field.For example, Grant#1 Start time --> 2, Grant#1 Length --> 4.
But the length is wrong.Start time should be 4 octets and Length should be 2 octets, so that Grant#1 - Grant#4, Number of octets is inverted "Start time" and "Length".

SuggestedRemedy

Grant#1:   "Start time" should be "4" and "Length" should be "2".
Grant#2...4: "Start time" should be "0/4" and "Length" should be "0/2".

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure56-25**   *P* **150**   *L* **35**   **#** 723
OGURA, Yasuo   NTT

Comment Type   **E**   *Comment Status*   **D**   *report*

On Figure56-25:"REPORT MPCPDU", there is the octet-length on the right-side of each field.There is the number of bytes of "Pad/Reserved" as "0-38". It should be "0-39".

SuggestedRemedy

"Pad/Reserved" --> "0-39".

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT.
See # 722

C **56**   *S* **Figure56-28**   *P* **156**   *L* **25**   **#** 726
OGURA, Yasuo   NTT

Comment Type   **E**   *Comment Status*   **D**   *discovery*

On the Figure56-28, "Pad/Reserved2": The character "2" should be deleted.

SuggestedRemedy

After being modified, "Pad/Reserved".

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure56-5**   *P* **114**   *L* **9**   **#** 742
OGURA, Yasuo   NTT

Comment Type   **E**   *Comment Status*   **D**   *multiplex*

On figure 56-5, even though multiplexing control reads and writes the "multipoint_transmission_in_progress" variable, the arrow of the variable has only one direction (input).

SuggestedRemedy

The arrow of "multipoint_transmission_in_progress" should be changed to both directions (input and output).

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT.

C **56**   *S* **Figure56-5**   *P* **114**   *L* **9**   **#** 733
OGURA, Yasuo   NTT

Comment Type   **T**   *Comment Status*   **D**   *multiplex*

I think of that the vector:"transmission_in_progress[1..n]" should be deleted from this figure. Because each instance does not use for comunication in the figure 56-6.

SuggestedRemedy

How about delete the vector:"transmission_in_progress[1..n]" from Figure 56-5:"Multiplexing Control Service Interfaces"?

Proposed Response   *Response Status*   **W**

PROPOSED REJECT.
Transmission_in_progress is used in Figure 56-11
Add transmission_in_progress[1..n] signal in figure 56-6.

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 49
RESPONSE STATUS: O/open   W/written   C/closed   U/unsatisfied   Z/withdrawn

C **56**   *S* **Figure56-5**

C **56** *S* **Figure56-6** *P* **114** *L* **30** *#* **743**
OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *multiplex*

On figure 56-6, multiplexing control interfaces with instance n. The related variables of the interface are not only "transmitPending[n]" and "transmitEnable[n]", but also "multipoint_transmission_in_progress".

SuggestedRemedy

Add the arrow indicating "multipoint_transmission_in_progress" between multiplexing control and each instance 1..n.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Diagram intended to be simplified for clarity.
As it causes confusion instead, it will be modified for correctness.
The multipoint_transmission_in_progress is generated by the OR function of transmission_in_progress[1..n] signals.

C **56** *S* **Figure56-6** *P* **117** *L* **25** *#* **737**
OGURA, Yasuo NTT

Comment Type **T** *Comment Status* **D** *multiplex*

There is a "Multipoint MAC Control" in the Figure56-2. But there is a "Multiplexing MAC Control" in the Figure56-6.Are they same meaning?
I think it is Yes. Because there is a "Operation of the Multiplexing MAC Control sublayer, and the OMP sublayer ......" in the body of Draft1.1, it's location is P.110 L1.

SuggestedRemedy

If they are the same meaning, how about change words "Multipoint MAC Control" into "Multiplexing MAC Control"?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See #150

C **56** *S* **Figure56-8** *P* **117** *L* **17** *#* **738**
OGURA, Yasuo NTT

Comment Type **E** *Comment Status* **D** *multiplex*

SuggestedRemedy

The title:"Control Parser/Multiplexer Service Interface" of the Figure56-8, it should be a "Control Parser Service Interface".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **Table 56-2** *P* **147** *L* *#* **324**
Khansari, Masoud Centillium Communic

Comment Type **T** *Comment Status* **D** *gate*

It is possible to send GATE MPCPDU with zero number of Grants.
It is not clear from the text why there is a need for such function.

SuggestedRemedy

If it is intended as a keep-alive, Grants with zero duration achieve the same functionality.
If zero grant GATE messages are allowed then make the required changes in Figure 56-24 (e.g. Pad/Reserved bytes should read 11-39 and also Grant #1 Start time and Length becomes optional).
In general, we need to have a coherent approach to issues regarding keep-alive messages. There are many ways to do that at many layers, and we need to address this in the next draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
GATE messages with zero grants are not allowed.
Text will be changed to read 1 to 4.

C **56** *S* **Table 56-2** *P* **147** *L* **7** *#* **896**
Sio Peng GOI Institute for Communi

Comment Type **E** *Comment Status* **D** *gate*

The value of number of grants field in Table 56-2 is not consistent with that illustrated in Figure 56-24

SuggestedRemedy

Change the value of number of grants from 0-4 to 1-4

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **56** *S* **Table56-4** *P* **151** *L* **14** *#* **730**
OGURA, Yasuo NTT

Comment Type **T** *Comment Status* **D** *discovery*

There should be a description when flag is Reserved.I think of that OLT(or ONU) should discard these received packet with Reserved flag because they will be transmitted from future OLT(or ONU), so that current OLT(ONU) adoptted to D1.1 cannot understand how to treat these packtes.

SuggestedRemedy

In the case of "flag == Reserved", how about add this sentence: "Packet is discarded." in the cell of "comment".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text to be changed to clearly state that reserved fields are ZERO on transmission and IGNORE on reception

---

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 49
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
C **56** *S* **Table56-4**

C **56**   *S*   **Table56-5**   *P* **153**   *L* **13**   **#** **731**
OGURA, Yasuo   NTT

Comment Type   **T**   *Comment Status*   **D**

There should be a description when flag is Reserved.I think of that OLT(or ONU) should discard these received packet with Reserved flag because they will be transmitted from future OLT(or ONU), so that current OLT(ONU) adoptted to D1.1 cannot understand how to treat these packtes.

SuggestedRemedy

In the case of "flag == Reserved", how about add this sentence: "Packet is discarded." in the cell of "comment".

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text to be changed to clearly state that reserved fields are ZERO on transmission and IGNORE on reception

---

C **57**   *S*   *P* **163**   *L* **1**   **#** **329**
Khansari, Masoud   Centillium Communic

Comment Type   **E**   *Comment Status*   **D**   *p2pe*

In the entire clause, sometimes PLS service interface is used with index j, e.g. Figure 57-2, and sometimes it is used without the index. Please be consistent.

SuggestedRemedy

Make the required changes all through Clause 57.

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.

See resolution to comment #164.

C **57**   *S*   **1**   *P* **164**   *L* **16**   **#** **790**
Dolors, Sala   Broadcom

Comment Type   **TR**   *Comment Status*   **D**   *p2pe*

this RS layering support a general filtering of frames allowing to support P2PE, SE and SCB services as desired.

SuggestedRemedy

Add text at teh end of sentence k)

" and the emulation service (P2PE, SE, SCB) desired".

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.

What are SE and SCB emulation services? If this filtering mechanism does indeed support these services, and it is the intention of this clause to aertise that fact, then we should include the above text.

C **57**   *S*   **1.3**   *P* **164**   *L* **32**   **#** **791**
Dolors, Sala   Broadcom

Comment Type   **TR**   *Comment Status*   **D**   *p2pe*

This clause supports more things than P2PE. It differs from clause 22 in that it extends it to transmit and process information in the preamble.

SuggestedRemedy

replace "without P2PE" for "without preamble extension"

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.

Is this clause in existence to support P2PE or preamble extension? Comment #790 suggests that this clause supports other types of emulation services as well. For this reason, perhaps we should also change the name of the clause to simply advertise the fact that it enables preamble extensions for the purpose of supporting various emulation services.

C **57**   *S*   **2**   *P* **168**   *L* **39**   **#** **328**
Khansari, Masoud   Centillium Communic

Comment Type   **T**   *Comment Status*   **D**   *p2pe*

ID-m, ID-n, Mode-m and Mode-n needs to be clarified and defined precisely.
Does Mode-m corresponds to the Mode of the port receiving the frame with (Mode-n, ID-n)? Can the same port processes both P2P and broadcast frames? Or broacast packets are processed through separate port.

SuggestedRemedy

Please re-write this section and make the required clarifications.

Proposed Response   *Response Status*   **W**

PROPOSED ACCEPT IN PRINCIPLE.

I fully agree that this concept has not been introduced sufficiently for the reader to understand it. Text is being considered for inclusion.

_C_ **57**   _S_ **2.2**   _P_ **168**   _L_   **#** 792

Dolors, Sala   Broadcom

Comment Type **TR**   _Comment Status_ **D**   _p2pe_

I assume this clause is the general filtering of frames. However, I find it very difficult to interpret.

it seems to be comparing the fields of two tags (n and m). One could be receiving frame and the other the actual LLID of the received MAC. However, I do not understand why the mode comparison.

SuggestedRemedy

Please clarify. It would be helpful using the notation that we have used so far.

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT IN PRINCIPLE.

I've learned the following:

m - index referring to the received LLID
n - index referring to the node's provisioned LLID

mode bit - 0 = unicast address, 1 = broadcast address
ID - when mode = 0, it indicates the destination ID. when mode = 1, it indicates the source ID so the source of the frame can choose to ignore it.

I fully agree this needs clarification in the document.

_C_ **57**   _S_ **2.2**   _P_ **169**   _L_   **#** 793

Dolors, Sala   Broadcom

Comment Type **TR**   _Comment Status_ **D**   _p2pe_

Figure 57-3 should add the filtering operation just after the preamble state and before the SFD. To know if this frame should be received or discarded.

SuggestedRemedy

Add state in between Preamble and SFD to decide whether to accept or reject frame as defined by filtering rules.

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT IN PRINCIPLE.

I'm guessing that was the idea behind the CRC(preamble) function in the PREAMBLE state and the "bad CRC or lookup failed" condition on the transition to the ERROR/WAIT state. However, without a description of the state diagrams, this is not easily determined. This state diagram description, as well as bringing the state diagrams into conformance with 21.5, is underway.

_C_ **57**   _S_ **57**   _P_ **161**   _L_ **1**   **#** 618

Bemmel, Vincent   Alloptic

Comment Type **E**   _Comment Status_ **D**   _p2pe_

Title contains a page break and is split between 2 pages 161 and 162

SuggestedRemedy

fix it

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT.

_C_ **57**   _S_ **57**   _P_ **163**   _L_   **#** 919

Tom Mathey   Independent

Comment Type **T**   _Comment Status_ **D**   _p2pe_

This clause provides additions to Clause 35, but the additions are not well identified. This clause needs to delete half-duplex text and specifically identify such deletions.

SuggestedRemedy

Develop some editorial method to:
    identify text which is added,
    identify text which is changed,
    identify text which is deleted, such as half-duplex.

Proposed Response   _Response Status_ **W**

PROPOSED ACCEPT IN PRINCIPLE.

I agree that there needs to be some straightforward means for a reader to determine the differences between 57 and 35. I'm working on this. Ideas would be gladly accepted.

_C_ **57**   _S_ **57.1**   _P_ **163**   _L_ **27**   **#** 614

Bemmel, Vincent   Alloptic

Comment Type **T**   _Comment Status_ **D**   _p2pe_

PLS is not shown in the figure, but referred to later in the text (e.g., 57.1.1 k). Refer to Figure 35-1 for an example.

SuggestedRemedy

Add PLS to figure 35-1, or remove reference to this as a layer

Proposed Response   _Response Status_ **O**

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
_C_ **57**   _S_ **57.1**

C **57**   *S* **57.1**   *P* **163**   *L* **6**   *#* **613**

Bemmel, Vincent   Alloptic

Comment Type **T**   *Comment Status* **D**   *p2pe*

Figure 57-1 applies to the OLT. Please clarify that, and how this is done at the ONU.

SuggestedRemedy

1. Modify Line 5 to :
"Figure 57-1 shows the reationship of the Reconciliation sublayer and GMII to the ISO/IEC OSI reference model at the OLT"

2. Add a note under Figure 57-1

3. Clarify that the ONU model colapses to a single stack above the RS layer

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Doesn't that mean that an ONU would use Clause 35 in regards to how the stack looks? Or, perhaps another way to look at it is that even the OLT's version of this stack collapses to a single MAC above the RS for the case of when there's only 1 ONU attached. Does this need to be mentioned, too?

C **57**   *S* **57.1**   *P* **163**   *L* **8**   *#* **165**

Daido, Fumio   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *p2pe*

I believe clause 57 supports only 1000BASE-PX defined in clause 58 as PMD. So the Figure 57-1 should show that explicitly. And I believe that the carrier extension and half duplex are not supported in the clause 57, the current description associated with the carrier extension and half duplex of clause 57 makes reader confusing.

SuggestedRemedy

Replace "1000 Mb/s" in Figure 57-1 with "1000BASE-PX".

 Delete the sentence associated with the copper, the carrier extension and half duplex throughout this clause. For example, the line 27 of page 164 contains "the copper".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **57**   *S* **57.1**   *P* **163**   *L* **8**   *#* **164**

Daido, Fumio   Sumitomo Electric Ind

Comment Type **E**   *Comment Status* **D**   *p2pe*

The AUI, MII, MAU and PLS don't exist in the block diagram of Figure 57-1. It seems that the abbreviations of those are redundant for Figure 57-1.

SuggestedRemedy

The Abbreviations of AUI, MII, MAU and PLS in Figure 57-1 should be deleted.

 And the sentences comprising those words need to be deleted throughout this clause. For example, the line 44 of page 164 in "57.1.4 Allocation of functions", the sentence which contains AUI and PLS should be deleted. If this sentence will not be deleted, please replace "Physical Signaling (PLS)" with "Physical Layer Signaling (PLS)".

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove the Abbreviations from Figure 57-1.

Remove 57.1.4 completely.

C **57**   *S* **57.1.1**   *P* **164**   *L* **15**   *#* **34**

Yajima, Yusuke   Hitachi Communicatio

Comment Type **E**   *Comment Status* **D**   *p2pe*

Typo.

SuggestedRemedy

Change 'extrcted' to 'extracted'.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

C **57**   *S* **57.1.1**   *P* **164**   *L* **16**   *#* **374**

Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *p2pe*

misspelling

SuggestedRemedy

Bullet j) Replace "extrcted" with "extracted"

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn

C **57**   *S* **57.1.1**

C **57** *S* **57.2.1** *P* **165** *L* **11** **#** 616
Bemmel, Vincent | Alloptic

Comment Type **T** *Comment Status* **D** *p2pe*
Not clear how Figure 57-2 applies to an ONU

SuggestedRemedy
add note to clarify how Figure 57-2 applies to an ONU

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #613.

C **57** *S* **57.2.1.1.3** *P* **166** *L* **#** 132
Yoshimura, Minoru | NEC

Comment Type **T** *Comment Status* **D** *p2pe*
Variable transmit_PLS used in 57.2.1.1.3 and receive_PLS used in 57.2.1.2.3, 57.2.1.3.3, 57.2.1.4.3, 57.2.1.7.3 are not defined in this clause.

SuggestedRemedy
Add definition.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #164

C **57** *S* **57.2.1.1.3** *P* **166** *L* **5** **#** 375
Brown, Benjamin | AMCC

Comment Type **T** *Comment Status* **D** *p2pe*
missing index

SuggestedRemedy
Replace "MAC sublayer" with MAC j sublayer"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **57** *S* **57.2.1.2.3** *P* **166** *L* **35** **#** 166
Daido, Fumio | Sumitomo Electric Ind

Comment Type **T** *Comment Status* **D** *p2pe*
The description of the first sentence is not appropriate for this clause, because this primitive is not generated to all MAC sublayer entities in case of the P2MP system.

SuggestedRemedy
I would like to show the example as the modified paragraph below.

"This primitive is generated by the Reconciliation sublayer to MAC j while RX_DV is asserted. Each octet transferred on RXD<7:0> will result in the generation of eight PLS_DATA[j].indicate transactions."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

C **57** *S* **57.2.1.3** *P* **166** *L* **35** **#** 615
Bemmel, Vincent | Alloptic

Comment Type **T** *Comment Status* **D** *p2pe*
PLS_DATA_[j].indicate is generated to all MAC sublayer entities in the network. Not clear how this works in the PON.

SuggestedRemedy
Clarify

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #166.

C **57** *S* **57.2.1.3** *P* **166** *L* **48** **#** 376
Brown, Benjamin | AMCC

Comment Type **T** *Comment Status* **D** *p2pe*
PLS_CARRIER is a half-duplex signal only. I didn't think half-duplex was supported for P2MP EFM so why bother changing this?

SuggestedRemedy
Remove 57.2.1.3

The same thing applies to 57.2.1.4. Remove it as well.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See resolution to #165.

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **57** *S* **57.2.1.3**

C **57**   *S* **57.2.2**   *P* **168**   *L* **45**   **#** 377
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *p2pe*
iff isn't defined

SuggestedRemedy
Replace "iff" with "if and only if"

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **57**   *S* **57.2.2**   *P* **168**   *L* **46**   **#** 167
Daido, Fumio   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *p2pe*
The definition of Mode and ID is not written here. And the relationship to "lookup failed" of Figure 57-3 is not clear.

SuggestedRemedy
The sentences to explain those need to be added in 57.2.2.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolutions to #792 & #793.

C **57**   *S* **57.2.2**   *P* **168**   *L* **46**   **#** 617
Bemmel, Vincent   Alloptic

Comment Type **T**   *Comment Status* **D**   *p2pe*
Not clear what 'Mode-m' really is. Since LLID number is 'n' and interface number is 'm', what does Mode-n=Mode-m = 0/1 really means?

SuggestedRemedy
Clarify or correct this.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #792.

C **57**   *S* **57.2.2**   *P* **168**   *L* **4648**   **#** 378
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *p2pe*
Describe Mode-x and ID-x before using them. This is a brand new concept and the fundamentals need some description.

SuggestedRemedy
Add a description/definition for Mode-x and ID-x.

Also, on line 48, replace <> with the sign for not equal from Table 21-1.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolutions to #792 & #793.

C **57**   *S* **57.2.3**   *P* **169**   *L*   **#** 133
Yoshimura, Minoru   NEC

Comment Type **T**   *Comment Status* **D**   *p2pe*
Function 'CRC( )' is not defined in this clause.

SuggestedRemedy
Add definition that clarifies the process of CRC-check.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

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 49
RESPONSE STATUS: O/open   W/written C/closed   U/unsatisfied Z/withdrawn
C **57**   *S* **57.2.3**

C 57   *S* 57.2.3   *P* 169   *L* 1   # **168**

Daido, Fumio   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *p2pe*

I can't understand what does "control registers" in the title of 57.2.3 stand for. I would like to change the title name and split 57.2.3 and add definition of state variables, such as lookup failed, to make reader easy to understand.

SuggestedRemedy

The following is my suggestion of change of name and structure for 57.2.3 subclause.

57.2.3   State variables
57.2.3.1 Constants
57.2.3.2 Variables
57.2.3.3 Functions
57.2.3.4 Messages

57.2.4   State diagrams
57.2.4.1 Receive
57.2.4.2 Transmit

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT.

Also, see resolution to #793.

C 57   *S* 57.2.3   *P* 169170   *L*   # **134**

Yoshimura, Minoru   NEC

Comment Type **T**   *Comment Status* **D**   *p2pe*

Variables and functions used on figure57-3, 57-4 are not defined.

SuggestedRemedy

Add definition.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See resolutions to #793 & #168.

C 57   *S* 57.2.4.2.1   *P* figure 56-1   *L*   # **99011**

Jaeyeon Song   Samsung Electronics

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

In table 56-1 "preamble definition" tell us the 2 bytes of preamble is allocated to LLID. In baseline we agreed the LLID consist of a mode- bit and PHY_ID fields. The mode-bit represents the two mode, broadcast and unicast, not multicast.
In EPON, no protocol of supporting multicast traffic exists. But, multicast traffic will be in the EPON, and we should distinguish multicast traffic from broadcast.

SuggestedRemedy

We should define multicast LLID. In addition, multicast LLID don't have to be allocated through the auto-discovery process. It remains in high layer protocol. we just define the hook of supporting multicast traffic.

The possible solution is : Using the multicast address in MAC, we can make the multicast LLID by hash function or direct mapping. It is simple, no burden to MAC and RS layer filtering is possible like other LLIDs.

I will prepare presentation about it.

Proposed Response   *Response Status* **C**

REJECT.

Multicast MAC address filtering is performed by higher layers.

C 57   *S* 57.2.5.2   *P* 171   *L* 33   # **594**

Murakami, Ken   Mitsubishi Electric Co

Comment Type **T**   *Comment Status* **D**   *p2pe*

The preamble may be 7 or 8 octets long on the transmission side because of the PCS function. The PCS performs with 2 octets timing.
In both case, SOP code substitute for the first byte.
In case of 8 octets long, SFD can be transparently transferred to the receiving side.
However, in case of 7 octets long, SFD is overwritten with SOP code. As a result, there is no delimiter which can indicate start of preamble.
Please see the attatched file.
The file name is murakami_3_1102.pdf.

SuggestedRemedy

SFD should be 3 octets long.
Peamble CRC should be calculated over the range from 3rd to 7th octets in preamble. 1st and 2nd octets should be excluded.
Please see the attatched file.
The file name is murakami_3_1102.pdf.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

I haven't yet seen the proposal but I agree with the concepts you've outlined here.

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 49
RESPONSE STATUS: O/open   W/written   C/closed   U/unsatisfied   Z/withdrawn

C 57   *S* 57.2.5.2

C **57**   *S* **57.2.5.2.1**   *P* **171**   *L* **29**   **#** 169
Daido, Fumio   Sumitomo Electric Ind

Comment Type **E**   *Comment Status* **D**   *p2pe*
Typo

SuggestedRemedy
Replace "fortransition" with "for transition". The space needs to be inserted between two words.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Replace with "for transmission"

C **57**   *S* **57.2.5.2.1**   *P* **171**   *L* **29**   **#** 381
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *p2pe*
bad word(s)

SuggestedRemedy
Replace "fortransition" with "for transmission"

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT.

C **57**   *S* **57.2.5.2.1**   *P* **171**   *L* **46**   **#** 385
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *p2pe*
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* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Looking for suitable representation from earlier presentations.

C **57**   *S* **57.2.5.2.2**   *P* **172**   *L* **17**   **#** 170
Daido, Fumio   Sumitomo Electric Ind

Comment Type **T**   *Comment Status* **D**   *p2pe*
The order of bid transmission for the LLID and the preamble CRC in a octet is not clear. In case of the MAC frame, I believe the order of bit transmission is least significant bit (LSB) first except the FCS, only the FCS is most significant bit (MSB) first in a octet. Please see the 3.2.8, 3.3 in 802.3-2002.pdf.

And the procedure to calculate CRC 8 bits is not sufficient. At this moment only polynomial is shown in this clause. It is not clear the complement to calculate CRC is needed or not.

SuggestedRemedy
The sentence to explain the order of bit transmission of LLID and CRC needs to be added in this subclause and the location of bit 15 and bit 0 of LLID, and bit 7 and bit 0 of preamble CRC are shown in Table 57-3.

The procedure to calculate the preamble CRC 8 bits should be added in this clause like "3.2.8 Frame Check Sequence (FCS) field" in 802.3-2002.pdf.

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #385.

C **57**   *S* **57.2.5.2.2**   *P* **172**   *L* **34**   **#** 35
Yajima, Yusuke   Hitachi Communicatio

Comment Type **E**   *Comment Status* **D**   *p2pe*
The Third Note (C) for Table 57-3 should be changed from 'First octet of SPD' to 'Second octet of SPD'.

SuggestedRemedy

Proposed Response   *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change to "Third octet of SPD"

See resolution to #594.

C **57**　　*S* **57.2.5.2.2**　　　*P* **172**　　*L* **42**　　# **384**
Brown, Benjamin　　　　　　　　　AMCC

Comment Type **T**　　*Comment Status* **D**　　　　　　*p2pe*

What happens when the first byte of preamble is discarded by the TX PCS in order to align to even? How does the receive RS find the the LLID/CRC-8? I know the first byte is assumed to exist for the purpose of calculating the CRC-8.

SuggestedRemedy

Describe exactly how these fields are located by the receive RS. In case there is no clean way to do this, perhaps I can suggest a special value used in octet 4 to tell the receive RS that the LLID follows. That way, the receive RS simply looks for this octet then takes the LLID and CRC-8 from the next 3 bytes.

Proposed Response　　　*Response Status* **W**

PROPOSED REJECT.

See resolution to #594.

C **57**　　*S* **Figure 57-3**　　　*P* **169**　　*L*　　# **326**
Khansari, Masoud　　　　　　　　Centillium Communic

Comment Type **E**　　*Comment Status* **D**　　　　　　*p2pe*

Variables, functions of the receive and transmit state diagrams in Figures 57-3 and 57-4 needs to be spelled out!

SuggestedRemedy

Be consistent in using state-machine and state diagram. Clause 56 uses state diagram where as Clause 57 uses state-machine.

Proposed Response　　　*Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

C **57**　　*S* **Figure 57-3**　　　*P* **169**　　*L* **1**　　# **921**
Tom Mathey　　　　　　　　　　Independent

Comment Type **T**　　*Comment Status* **D**　　　　　　*p2pe*
State diagram uses terms not defined by 802.3 in Figure 1-2 or extensions of 21-5.

SuggestedRemedy

Do not use such terms as "==", use assignment within a block.
Do use "=" for exit conditions from a block.
Scrub entire clause for conformance to state diagram requirements.

Proposed Response　　　*Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

C **57**　　*S* **Figure 57-3**　　　*P* **169**　　*L* **1**　　# **920**
Tom Mathey　　　　　　　　　　Independent

Comment Type **T**　　*Comment Status* **D**　　　　　　*p2pe*

Many variables such as receive_PLS, lookup, CRC(preamble), are used in the state diagram without a definition and/or supporting text.

SuggestedRemedy

ADD.

Proposed Response　　　*Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

C **57**　　*S* **Figure 57-3**　　　*P* **169**　　*L* **1**　　# **922**
Tom Mathey　　　　　　　　　　Independent

Comment Type **T**　　*Comment Status* **D**　　　　　　*p2pe*

Exit from block COLLECT seems strange. One exit from block COLLECT is labeled UCT, another is labeled RX_DV == true. This can not be.

SuggestedRemedy

Resolve.

Proposed Response　　　*Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

C **57**　　*S* **Figure 57-4**　　　*P* **170**　　*L*　　# **327**
Khansari, Masoud　　　　　　　　Centillium Communic

Comment Type **T**　　*Comment Status* **D**　　　　　　*p2pe*
CRC calculation function of the preamble bytes should be added in the PREAMBLE state.

SuggestedRemedy

Please make the appropriate changes.

Proposed Response　　　*Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

TYPE: TR/technical required T/technical E/editorial　　COMMENT STATUS: D/dispatched A/accepted R/rejected　　SORT ORDER: Clause, Page, Line, Subclause　　Page 48 of 49
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
C **57**　　*S* **Figure 57-4**

C **57** *S* **Figures 57-3 & 4** *P* **169** *L* **1** *#* `379`
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *p2pe*

Before jumping into the state machines, declarations and descriptions of variables and general flow is customary. At least there ought to be some text that references the figures.

SuggestedRemedy

Add descriptive text for state machines. Also, make sure they follow the conventions of 21.5 and any timers follow the conventions of 14.2.3.2 or be thorough about describing new conventions.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #793.

C **57** *S* **General** *P* *L* *#* `373`
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *p2pe*

Isn't this clause simply an extension of 35? I think it would be a lot easier to determine the variations from 35 if it was part of 35. Isn't the current Clause 35 a special case of 1 MAC to 1 PHY, where this new Clause 35 the case of X MACs to 1 PHY?

SuggestedRemedy

Merge this into Clause 35.

Proposed Response   *Response Status* **W**

PROPOSED REJECT.

Desire is to keep P2MP extensions outside general flow of GE.

C **57** *S* **Table 57-1** *P* **171** *L* **39** *#* `382`
Brown, Benjamin   AMCC

Comment Type **T**   *Comment Status* **D**   *p2pe*

Why are 16 bits used for the 2 octet SPD field but only 8 bits for the 3 octet reserved field?

How does the LLID field map to LLID[15:0] from Table 57-2?

SuggestedRemedy

Rather than use a table for this section, perhaps an example LLID & CRC-8 could be generated along with a full binary representation of the transmit data as in page 171, line 23.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #594.

C **57** *S* **Table 57-1** *P* **171** *L* **42** *#* `923`
Tom Mathey   Independent

Comment Type **T**   *Comment Status* **D**   *p2pe*

A bit more work is needed for the CRC.

SuggestedRemedy

Include test to completely describe the crc operation, such as initial state.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #385.

C **57** *S* **Table 57-3** *P* **172** *L* **18** *#* `924`
Tom Mathey   Independent

Comment Type **T**   *Comment Status* **D**   *p2pe*

Text states "First octet of SPD that might not be received".

SuggestedRemedy

Add text to standard to provide some clue to implementators for how to determine if the first octet is present or missing.

Proposed Response   *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See resolution to #594.

C **57** *S* **Table 57-3** *P* **172** *L* **30** *#* `383`
Brown, Benjamin   AMCC

Comment Type **E**   *Comment Status* **D**   *p2pe*

The 3rd column of bit values should use a value of 0 for RXD7.

SuggestedRemedy

Fix this entry.

Proposed Response   *Response Status* **O**

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 49
RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

C **57** *S* **Table 57-3**