The comments have discussed during the Q12/15 meeting and their resolution and text changes to G.8110.1 draft have been agreed by those present including ISOC representatives.

The table below was constructed after completion of the editing of the text of G.8110.1 and therefore does not provide a complete record of all the discussions.

1.	Page/section/para	Comment	Proposed new text	Type	Context info	Resolution
2.	Page 2/summary/1st	Typo – deined -> defined	defined			Accepted
3.	Page 2/summary/1st	It may be useful to describe why it is important to have consistent description	No new text proposed	?		The following text has been added to the draft: to simplify integration with other transport technologies.
4.	Page 2/summary/2nd	Should be comply also with the OAM survivability framework	No text proposed	?	See comment 5	Text has been changed to: This Recommendation complies with the transport profile of MPLS Architecture as defined by the IETF ~~in [IETF tp-fw] and [IETF tp-dp]~~.
5.	Page 2/summary/2nd	The reference to "RFCs" in the paragraph is potentially ambiguous.	Proposed new text: "This Recommendation complies with the transport profile of MPLS Architecture as defined by the IETF in [IETF tp-fw] and [IETF tp dp]. In the event of a difference between this or other ITU-T Recommendation and the set of IETF MPLS-TP RFCs, the RFCs will take precedence." Alternative new text: "This Recommendation complies with the transport profile of MPLS	E		Text has been changed to: In the event of a difference between this ITU-T Recommendation and any of the normatively referenced IETF RFCs, the RFCs will take precedence.

			Architecture as defined by the IETF in [IETF tp-fw] and [IETF tp dp]. In the event of a difference between this ITU-T Recommendation and any of the IETF RFCs referenced in this Recommendation, the RFCs will take precedence."			
6.	Page 2/summary/3rd	Add "in this document"	Proposed new text: "In this document the architecture of MPLS-TP forwarding, OAM and survivability is modelled from a network-level viewpoint."	E		Text has been changed to: ~~The~~ In this Recommendation the architecture …
7.	Page 2/summary/last	Typo: "IETF RFC 5532" should be "IETF RFC 5332" Note: this typo occurs in several places, for example, it also occurs at the top of page 6 and in the fourth paragraph on page 13. It would be a good idea to look for RFC 5532 throughout the Draft Recommendation and consider replacing 5532 with 5332 in each case."	Proposed new text: "IETF RFC 5332"	E		All the references to RFC5532 have been changed to refer RFC5332
8.	Page 5/1 Scope/2nd	The reference to "RFCs" in the paragraph is potentially ambiguous.	Same comment and same resolution as in comment 5.	E		See resolution of comment 5 – Text has been changed to:

							In the event of a difference between this ITU-T Recommendation and <u>any of</u> the normatively referenced IETF RFCs, the RFCs will take precedence.
9.	Page 6 /Scope / para 2	The text says: "As MPLS-TP is a profile of MPLS, this Recommendation uses the applicable functional components provided in the MPLS Layer Network Architecture of [ITU-T G.8110] and extends them with additional capabilities (e.g. OAM and protection) that are not modelled in [ITU-T G.8110]." Comment: "It is our understanding that G.8110 places TTL as part of the CI, but CI is unchanged client information. This is incorrect. Since G.8110.1 inherits G.8110 as a result of this statement there needs to be text that corrects this."		T		G.8110.1 is consistent with G.8110. Further review to confirm and explain the TTL model in G.8110 is required. Contributions have been requested to ITU-T experts to resolve this before consent of G.8110.1.
10.	Page 6/Scope/3rd	Existing text: "MPLS-TP is a connection-oriented packet-switched transport layer	Proposed new text: "MPLS-TP is a connection-oriented packet-switched			No text has been changed

		network technology that uses MPLS-TP LSPs and PWs."	transport layer network technology based on MPLS Label Switched Paths (LSPs) and pseudowires (PWs)."			
11.	Page 6/Scope/3rd	There might be further dependencies. E.g. if a CP is present we can use protection mechanisms that depend on the CP). The proposal is to say that full operation of the MPLS-TP network is possible independently the way the network is configured and managed	New text: "The full operation of an MPSL based transport network operation is possible independently of the way the network is configured and managed."	T		Text has been changed to: Its operation is also independent of the mechanisms ~~(management plane or control plane)~~ used for configuration and management.
12.	Page 6/Scope/4th	Add client service.	The new text will be: "This version of this Recommendation only provides the G.805 based functional components and the architectural models for Ethernet as a client service over a SS-PW over a hierarchical co-routed bi-directional LSP."	?	The comment aims to clarify the text.	Text has been changed to: This version of this Recommendation only provides those functional components (based on G.805) and architectural models required to model an Ethernet service carried by ...
13.	Page 6/Scope/4th	Should we always expect hierarchical LSPs?	No new text proposed, but one way to resolve this would be to say "…	T	It seems that this paragraph	Text has been changed to: SS-PW over ~~hierarchical~~ co-routed bi-directional

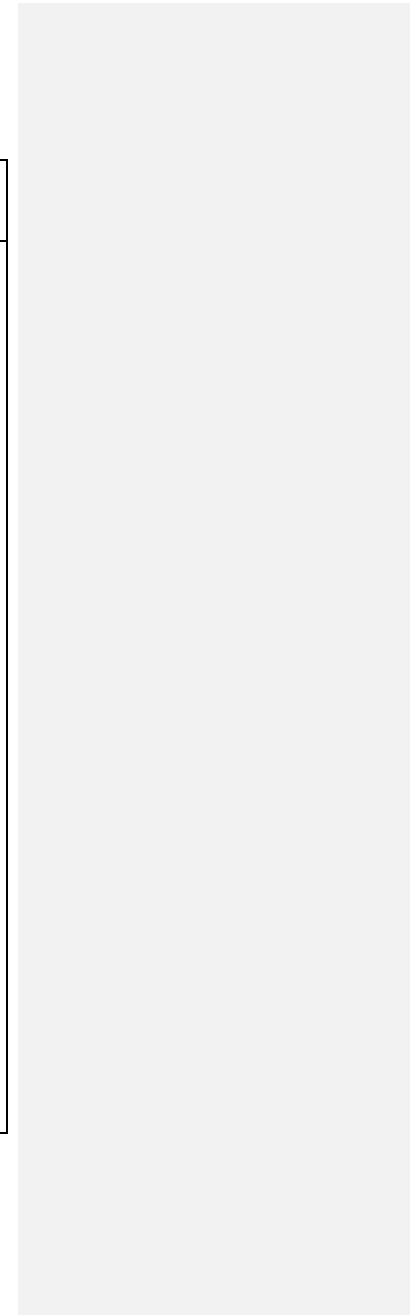|						
			potentially hierarchical…"		could be taken to indicate that all LSPs are hierarchical, which is true is the hierarchy can have just one level.	LSPs, which may be hierarchical.
14.	Page 6/Scope/4th	The rest of the document mentions that uni-directional LSP is supported as well. What about associated bi-directional LSPs?	… and the architectural models for Ethernet as a client service over a SS-PW over a hierarchical co-routed bi-directional, associated bi-directional and uni-directional LSP."	T		The following text has been added: It also provides functional component (based on G.805) and architectural models required to model point-to-point and point-to-multipoint unidirectional LSPs.
15.	Page 6 /References / general	There is quite a bit of work to do to fix comments throughout the document.		E	General comment	No text has been changed
16.	Page 8/References/first reference	The citation here uses "tp-identifier", while at other places it it "tp-ident", e.g. page 13 first paragraph, page 16 section 6.2 first paragraph and section 8.1.3 first paragraph. Also in appendix A.	Suggestion use "tp-identifier" everywhere.	E	Maybe less important since the reference to the actual RFC will be available in due	The reference to "tp-ident" is now used everywhere

						time.	
17.	Page 8/ References / second reference	The citation tp-oam-req is now available as RFC5860		E			All the references to "tp-oam-req" have been replaced with references to RFC5860
18.	Page 8 / definitions	Sometimes terms are introduced, but not any acronyms and later the acronym id used	Introduce acronyms as necessary				Done
19.	Page 9 / definitions/	In "This Recommendation uses the following terms defined in [IETF RFC 3032]" Bottom of stack bit is excluded	Introduce the s-bit.				S-bit added to the acronym list
20.	Page 9 / sections 3.35 to 3.42	The ordering principle in all other subsection of the terminology section seems to be alphabetic; it should be so in these sections also.		E			Order fixed
21.	Page 9 / section 3.37	Please not that the term "experimental use" is no longer in use. A second comment on this: Section 3.37 - "experimental use" is no longer strictly applicable and should not be used as defined in RFC 3032 (see RFC 5462). This is reflected in section 3.41. The Draft Rec. should be	There are two alternatives for the proposed new text 1. Remove the entry 2. Reference section 3.41	E			The definition "experimental use" has been removed

		checked to ensure that "experimental use" is not used and the Draft authors may want to remove this definition."				
22.	Page 10/footnote and 3.59	Both Pseudowire and Pseudo-wire is used on this page. The referenced source is even worse it uses Pseudo Wire, Pseudowire and Pseudo-wire. Further comment: The acronym PSN is used, but not expanded or in the acronym list.	Use Pseudowire as in the mpls-tp framework. Include PSN in the Acronyms.	E		The definition "Pseudowire" is used as in the mpls-tp framework The PSN acronym is no more used
23.	Page 10 / section 4	Section 4 (Abbreviations): Does not include "HO" and "LO" as first used on page 14. "PST" is also used on page 14, but without expansion, so I cannot easily determine if it is first used there. This is also not included in the list of abbreviations." Further comments on section 4. "Abbreviations: ECC, MCC, SCC are used in section 8 and are not	Update Abbreviations list. However there are further comments on the sue of PST, please consider. Include: ECC Embedded Communication Channel MCC Management Communication Channel SCC Signaling Communication Channel In the abbreviations.	E		The terms "HO" and "LO" are no more used. "PST" has been replaced with "PSME" The ECC acronym has been added.

		included in the abbreviations section. ECC Embedded Communication Channel MCC Management Communication Channel SCC Signaling Communication Channel				
24.	Page 12 / section 6	The comment is: "Section 6: The editors note at the bottom of page 13: "in order delivery", as described earlier on the same page, is an invariant for MPLS-TP assuming the following about the meaning and intent of the descriptions: 1) "class of service" has the same meaning as traffic class in the context of an MPLS-TP LSP and 2) "normal operations" means at a steady-state condition with respect to the MPLS-TP PW/LSP (excluding specifically transitions associated with protection and recovery). I have some concerns about section 6.2.3.1				Text changed as: In normal operations, all packets with the same class of service sent over an MPLS-TP connection with the same class of service are delivered in orderorder; see [IETF tp-fw]. See comment 9

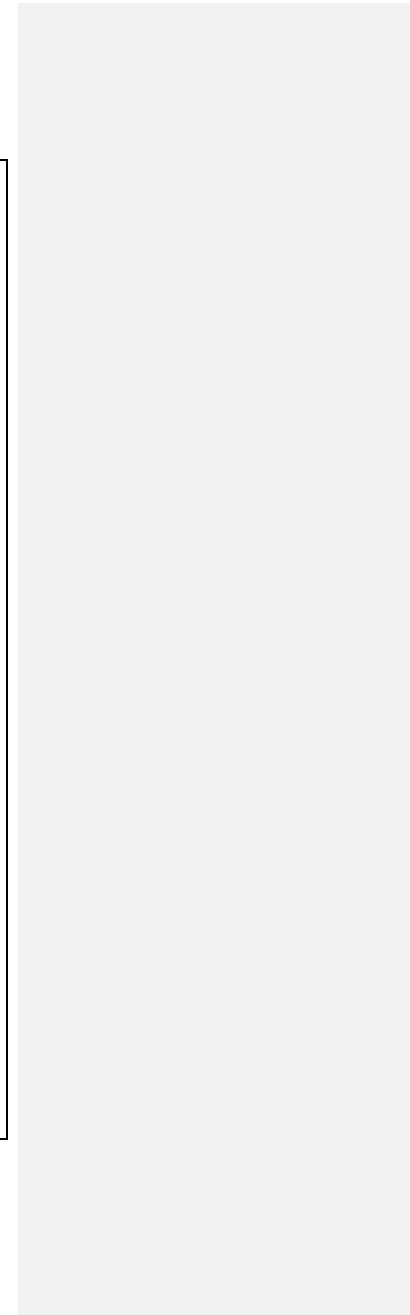|		where the 8-bit TTL field is said to be extracted by the trail termination sink. Specifically, I am concerned that there may be an implicit assumption that the value in this field might have some necessary meaning or significance in all cases to the trail termination sink. Section 6.5.2, second paragraph refers to the use of "label space" in determining the context for a label lookup - as defined in "clause 3.4" of RFC 3031. This is most likely meant to refer to 3.14 (instead of 3.4).				The reference has been changed to clause 3.14.
25.	Page 13/ first paragraph	The mpls-tp survivability architecture is based on on both G.808.1 and the IETF Survivability framework.	Include reference to that effect.	?		No text has been changed
26.	Page 13/ third paragraph	As the IETF p2mp documents are still under definition, it should be mentioned that a future version of the document may be updated to comply with the future p2mp related documents.	Proposed new text: "Further details on p2mp MPLS-TP LSPs and PWs are under definition in IETF and a future version of this document will be updated to include the	E		Text has been changed to: Further details on p2mp MPLS-TP LSPs and PWs are under definition in IETF and future versions of this Recommendation may be updated to include this new material.

			result of this work."			
27.	Page 15 / paragraph 4 and 5	The two paragraph says: "The current version of this Recommendation only provides those functional components (based on G.805) and architectural models required to model Ethernet carried by a SS-PW over hierarchical co-routed bi-directional LSPs in the network scenario provided in annex A.

MPLS-TP supports other clients for LSPs (e.g. IP) and PWs, multi-segment PW (MS-PW) and non-DiffServ Traffic Engineered (TE) LSPs as described in [IETF tp-fw]. Models for these clients and other modes of operations will be added to future versions of this Recommendation."

Further comment on | This should start with the general, and then proceed to the special i.e. state the clients that are supported by MPLS-TP technology. It would perhaps be best to draw on text in the draft-ietf-mpls-tp-framework. Then the Rec should note the subset of the genaral that this version describes. | | | No text has been changed |

		this: There is a paragraph that states: "... And non-DiffServ Traffic Engineered (TE) LSPs as described in the tp-fw..." The TP frameworks states: " MPLS-TP supports Quality of Service capabilities via the MPLS Differentiated Services (DiffServ) architecture [RFC3270]. Both E-LSP and L-LSP MPLS DiffServ modes are supported." That needs to be reconciled. That text is not consistent with section 10 either." Further comment on this: "For co-routed bi-directional LSPs the definition given in RFC5654 (TP Requirements) should referenced."				
28.	Page 13/ paragraph 6	The document says	No proposed new text.			Text has been changed to:

| | | "MPLS-TP conformant equipment may support additional MPLS features.

There are two comments on this text

1. Please indicate "additional MPLS-TP capabilities that are not modelled in this version of the document.

2. MPLS or MPLS-TP?

Further comment: The text says: MPLS-TP conformant equipment may support additional MPLS features. A carrier may deploy some of those additional features in the MPLS-TP layers of their transport network. These additional MPLS features are outside the scope of MPLS-TP and of this Recommendation.

The comment is: "They may be outside the scope of this | | | | MPLS-TP conformant equipment may support additional MPLS features. ~~A carrier may deploy some of those additional features in the MPLS-TP layers of their transport network.~~ These additional MPLS features are outside the scope of ~~MPLS-TP and of~~ this Recommendation. |

		recommendation, are they really out-of scope for MPLS-TP?"				
29.	Page 13 /section 6.1 / para 3	The text says: "The MPLS-TP layer network may be employed recursively to provide an MPLS-TP hierarchy implemented as a label stack. This is described by the use of sub-layering as defined in clause 8.1 of [ITU-T G.8110]. PWs in MPLS-TP can only be carried over MPLS-TP LSPs."	This should have a reference to draft-ietf-mpls-tp-framework.			Text has been changed to: The MPLS-TP layer network may be ~~employed~~ deployed recursively to provide an MPLS-TP hierarchy implemented as a label stack as per [IETF tp-fw]. ~~This~~ In this Recommendation, this is described by the use of sub-layering as defined in clause 8.1 of [ITU-T G.8110]. PWs in MPLS-TP can only be carried over MPLS-TP LSPs.
30.	Page 13 /section 6.1 / para 3	Same text as in 29.	Employed vs. deployed?	E		Text has been changed to "deployed"
31.	Page 13 / section 6.1 / par 4	The text says: This padding is not removed at the Server/MPLS-TP sink adaptation function, but at the adaptation of the non-MPLS client. The comment is: "Should be clarified and written in the positive, e.g. "This padding is removed by				Text has been changed to: This padding is ~~not~~ removed ~~at the Server/MPLS-TP sink adaptation function, but~~ at the adaptation sink of the non-MPLS client.

		…"				
32.	Page 13 / section 6.1 / para 5	Existing text: "In normal operations, all packets sent over an MPLS-TP connection with the same class of service are delivered in order. This means that, under normal conditions, all the packets sent over a PW or E-LSP within the same class of service are delivered in order and that all the packets sent over an L-LSP are delivered in order (because L-LSPs support only a single class of service)."	Proposed new text: ""In normal operations, all packets sent over an MPLS-TP connection with the same class of service are delivered in order. This means that, under normal conditions, all the packets sent over a PW or E-LSP within the same ordered aggregate are delivered in order and that all the packets sent over an L-LSP are delivered in order (because L-LSPs support only a single class of service)."	T	see Sec. 3.1.1 of draft-ietf-mpls-tp-data-plane and RFC 3270.	See comment 24
33.	Page 14 / para 1	The text says: "In G.805 terms, the server of a client/server relationship in one domain might be a client in the adjacent domain. An example of this in SDH are the roles of High Order and Low Order in [ITU-T G.803], where a VC-3 in one domain might have the	It would probably be better to use a packet domain example to clarify the point. You might do this by omitting this example and continuing to the following text.	E/T		The example has been removed.

		role of LO and continue in an adjacent domain as a HO."				
34.	Page 14 / paragraph 2	The document uses the acronym PST, this should be changed to SPME according to an earlier agreement.	Change PST to SPME.	E		Done
35.	Page 14 / paragraph 2	The text says: "Within MPLS-TP the instantiation of a PST is creating a new sub-layer but does not change its role with respect to the MPLS-TP connection the PST is associated with." The first comment is: "Apart from the change in terminology from PST to SPME, this text is not clear; suggest reworking or omitting it. Bear in mind the relationship between SPMEs and sections/LSPs. In discussions of layering and LSP hierarchy you probably want to speak only in terms of sections and LSPs." The second comment is:	No new text proposed.			Text has been changed to: ~~Within~~ In MPLS-TP the instantiation of a ~~PST~~ SPME for an LSP ~~is creating~~ creates a new sub-layer but does not change ~~its~~ the role of the LSP with respect to the MPLS-TP connection the ~~PST~~ SPME is associated with.

		"In general, this document should discuss the notion of an MPLS-TP section and its role in hierarchy, as ocumented in draft-ietf-mpls-tp-data-plane." The third comment is: "This document does not mention the MPLS-TP Transport Layers and Service Interfaces described in Sections 3.4.2 and 3.4.3 of draft-ietf-mpls-tp-framework. It may be helpful to incorporate these notions."			
36.	Page 14 / para 2	Same para as for 34 and 35.	The usage of the term PST is currently an unresolved issue in the joint IETF/ITU-T MPLS-TP project. It would be better to reword this text to avoid the term. Otherwise G.8110.1 needs to hold pending joint agreement on the correct term.		Note: The comments seems to disagree on the state of the PST/SPME terminology, though the advice in this comment seems to be well taken.	The draft has been updated to use the term "SPME" as per draft-ietf-mpls-tp-framework

37.	Page 14 / sect 6.1.1 / 1st	The text says: "The MPLS-TP layer network adapted information is a flow of MT_AI traffic units (MT_AI_D) accompanied by the MT_AI_PHB, MT_AI_TSD and MT_AI_TSF signals." The comment is "Please indicate what these signals refer to"	Please add information as needed.			No text has been changed – all these signals are described in section 6.1.1
38.	Page 15 / sect 6.1.1 / 2nd	The MPLS payload field carries either the encapsulated client information or the encapsulated information from communication channels that are associated with the MPLS-TP trail (e.g. SCN or APS channels). The comment is "IETF documents did not define APS channel. Please give another example"	Proposed new text: "…from communication channels that are associated with the MPLS-TP trail (e.g. SCN or DCN channels)."	E		Text has been changed to: (e.g. SCN or APS channels)
39.	Page 15 / para 3	The text says: " (e.g. the Ethernet Service Payload with the Control Word, in case of an Ethernet	No new text proposed.			Text has been changed to: in case of an Ethernet client utilizing the G-ACh

		client)," The comment is "Control word is needed only if ACH is used."				
40.	Page 15 / para 3, same as 39	The text says: "The encapsulated client information is either a PW encapsulated client information (e.g. the Ethernet Service Payload with the Control Word, in case of an Ethernet client), when the client layer network is a PW client, or, in case of MPLS-TP sub-layering, a labelled packet as defined in [IETF RFC 3031]. " The comment is: "This is not aligned with draft-ietf-mpls-tp-framework."	No new text proposed.			The following note has been added: NOTE – Other clients are not prohibited and are for further study.
41.	Page 15 / para 4	The text says: "The MT_AI_PHB signal supports the Diff-Serv Architecture as described in clause 10". The comment is: "What	No new text proposed.			The following note has been added to section 10: NOTE - The MPLS-TP architecture also supports the data plane for DiffServ-TE, as defined in [b-IETF RFC 4124]. The TC processing for Diff-Serv and DiffServ-TE is the

		about Diffserv-TE?"				same. The data planes of Diff-Serv and of the variants of DiffServ-TE differ in the implementation of the queuing process within the Server/MT_A functions. These details are outside the scope of this Recommendation.
42.	Page 15 / sect 6.1.2/ para 2	The text says "…extended with an MT_CI header containing the TTL field…" The comment is: "Usually CI is handled only at the endpoints of the LSP/PW, but TTL is examined and processed at each node. Why is it part of the CI?" There is a second independent comment: "TTL is surely part of the server layer and not part of the CI, since TTL changes hop by hop."	No new text proposed.	T		See comment 9
43.	Page 15 / last para	The text says: "… and optional MT_CI_APS signals." The comment is "The APS is not defined by IETF yet.	Pleae remove the reference to APS.	T		The following footnote has been added to the abbreviation section when APS is defined: The IETF has not yet selected a term for this set of functions
44.	Page 16 / 3rd para	The text says: "The	Please remove the			No text has been changed

		MT_CI_APS is needed to support linear protection switching mechanisms as defined in [IETF tp-surv-fw]. The comment is: "Tp-surviv does not refer to APS specifically. it is a coordination protocol which will be defined in linear protection. Please use more abstract terms to describe the signal."	paragraph.			
45.	Page 17 / first para	The text says: ". When LSPs are nested the server trail in **Error! Reference source not found.** will be another MPLS-TP trail." The comment is: "Isn't it that the existence of the trail depends on the need to monitor the connection? Cannot we have a case where the section and LSP and the end-to-end client service are monitored and the PW connection is not	No new text proposed.			No text has been changed

		monitored?"				
46.	Page 18 / section 6.2.3.2 / para 1	The text mentions CP/FP. The comment is: "We cannot find an expansion or definition of this term"				CP was defined. FP definition added to the abbreviations section
47.	Page 18 / section 6.2.3.2 / para 1	The text says: "For the case the packet clients need to be forwarded to different destination" The comment is: "... you cannot forward a client in this technology"	Proposed new text: "For the case when the client packets need to be forwarded to different destination"			Text has been changed to: For the case when the packet clientsclient packets need to be forwarded to different destinations
48.	Page 18 / section 6.2.3.2 / para 1	The text says: For the case the packet clients need to be forwarded to different destination (based on configuration or on destination information in the client layer packets), the client traffic unit is delivered to different CP/FP in the client layer network. The selection of the client layer CP/FP is in the scope of the client layer network and outside the	Delete paragraph?			Text has been changed to: (based for example on configuration or on destination information in the client layer packets)

		scope of this Recommendation." The comment is: "This implies that only the selection mechanism is out of scope. Surely the whole case is out of scope, since deliverly to a destination based on a charateristic of the packet happens at the client later, not the MPLS-TP layer."				
49.	Page 18 / section 6.2.3.2 / para 2	The text says: "For the case of packet clients that include QoS information in each frame the adaptation function may support more than one access point. The access point is selected per frame based on the QoS information contained in the client layer. The QoS information is passed across the access point as AI_PHB parameter." The comment is: "This implies that the MPLS-TP server inspects the client packet content. This seems to be out of scope for MPLS-TP"	Delete paragraph?			Text has been changed to: For the case of packet clients that include QoS information in each frame the MT/client adaptation function may support more than one access point.

50.	Page 19 / first bullet	The text says: "different PWs (one per each class of service of the client layer transport entity) where each of them is carried by different L-LSPs supporting the same CoS as the carried PW: in this case the MT/Client_A function has different APs (one per CoS) and the MT/MT_A function has one AP;" The comment is: "This is supported, but surely by mapping the PW to and LSP with a particular TC, rather than by looking at the PW packet to determine the TC. Indeed the TC mapping itself may be different between the PW and the LSP."		T		Text has been changed to: For example, as defined in [IETF RFC 4448], it is possible that the traffic sent on a single client CP/FP is delivered to: 1) different PWs (one per each class of service of the client layer transport entity) where each of them is carried by different L-LSPs supporting the same CoS as the carried PW: in this case the MT/Client_A function has different APs (one per CoS) and the MT/MT_A function has one AP;
51.	Page 19 / second bullet	The text says: "one PW, supporting all the classes of service of the client layer transport entity, that is then carried over an E-LSP supporting at least all the classes of service of the carried PW: in this case both the MT/Client_A and the MT/MT_A functions				See comment 50

		have a single AP;" The comment is: "Similar problem as in 50.				
52.	Page 19 / section 6.2.1.4	The text says: "A MPLS-TP access group is a group of collocated MPLS-TP trail termination functions that are connected to the same MPLS-TP subnetwork or MPLS-TP link." The comment is the same as for comment 45.	No new test proposed.			No text has been changed
53.	Page 19 /last paragraph/ second bullet	The text says: "point-to-point unidirectional " The comment is: "This is not mentioned at the summary at the beginning of the document"	This is an inconsistency in the document. To mention : "point-to-point unidirectional " LSPs here is correct, by the "Scope" section should be updated to also include them.			See comment 14
54.	Page 19 /last paragraph/ any bullet	The text does not mention associated p2p bi-dirctional LSPs. The comment is: "What	No new text proposed.			Text in the scope changed as: Other clients for LSPs (e.g. IP) and PWs and modes of operation (e.g. MS-PW, associated bi-directional LSPs) as described in [IETF tp-fw] are supported as

		about associated bi-directional LSPs?"				defined in [IETF <mark>tp-fw</mark>] but are not modelled in this version of the Recommendation. Models for other clients will be added in future versions of this Recommendation.
55.	Page 23 / section 7.1.2.	The text says that a couple of technology adaptations "For further study". The comment is: "What about TDM, ATM, etc?"	This is more of a discussion point " Should we included e.g. ATM and TDM in the list for further study? No new text proposed.			Sections 7.1.1 and 7.1.2 has been removed.
56.	Page 24 /section 7.1.3/	The text says: "Multiplex the MT_AI traffic units coming from all the MT_APs. The comments are: - Is it really multiplexing or de-multiplxing? - Isn't it the sink? It is coming from the PW.	No new trext proposed. The question needs to be answered.			It is multiplexing (see section 6.2.3.2 for details)
57.	Page 24 / section 7.1.3	The comment is: "The general PW case needs to be referenced."				No text has been changed
58.	Page 24 /section 7.2 / bullet 1 and 2	The text says: "The MT/MT adaptation	The resolution depends on how the question is answered.			The text has been changed as:

		source (MT/MT_A_So) performs the following processes between its input and its output. – Forwarding or blocking client signal depending on the administrative state; – Generation of OAM maintenance signals for Lock indication;" The comment is: "Please confirm that Lock is the only OAM signal proceeed at this interface, or a list of all OAM signals that need to be processed."				– Generation of OAM maintenance signals for Lock indication; – Generate ~~APS~~ OAM signal to ~~transport~~ <u>indicate</u> the CI_APS information (for the case when the MT/MT is used within an SNC/S protection switching scheme); – Insert MCC and SCC ~~OAM~~ packets <u>from the MCN and SCN</u>;
59.	Page 24 /section 7.2 / bullet 3	– The text says: Generate APS OAM signal to transport the CI_APS information (for the case when the MT/MT is used within an SNC/S protection switching scheme); The comments is: The same as for other places where APS has been mentioned.	Please remove the bullet.			See comment 58

| | | There is a further comment on this: "Please confirm that the APS OAM frame the only OAM frame processed at this point, or list all OAM frames to be processed.

Also please align the terminology (APS) with the terminology in the IETF documents.

Similar possible issue related to section 7.3 | | | | |
|---|---|---|---|---|---|---|
| 60. | Page 25 /the bulleted list towards the of the page and onto page 26 | The text does not mention TLL.

The comment is "What about TTL? " | Introduce TTL handling. | T | | No text has been changed |
| 61. | Page 25 / MT/MT Adaptation sink | The test says:
– generation of OAM maintenance signals for alarm suppression;
– forwarding or blocking client signal depending on the administrative state;
– generation of OAM maintenance signals for Lock indication.
The comment is: "Please confirm that these are the only OAM actions | | | | The text has been changed to:

– ~~Extracts~~ Derives the ~~CI~~ APS ~~OAM frame and retrieves the~~ APS information ~~to~~ from the OAM packets carrying it ~~forward it as CI_APS~~ (for the case when the MT/MT is used within an SNC/S protection switching scheme);
– Extract MCC and SCC ~~OAM~~ packets and deliver them to the MCN and SCN; |

| | | performed at this protocol interface or add the complete set of OAM actions.

Similar possible issue related to section 7.3" | | | | |
|---|---|---|---|---|---|---|
| 62. | Page 27 / section 8.1.1 / first para | The text says: "(MCC and SCC) as described in [ITU-T G.7712].

The comment is "Why not to refer to RFC5718?"
Further comment on this: Section 8.1.1:

In MPLS-TP documents we don't use the term ECC (Embedded Communication Channel) we use CCh. Is it appropriate to reference the nm-framework here and point out the different in terminology? | Please reference both documents, and align terminology with the RFC. | E | | Done |
| 63. | Page 27 / section 8.1.3 / first para | The text says: "The structure of the identifiers for the MEG, MEP and MIP are defined in [IETF tp-ident]."

The comment is "Whilst | Change reference to informative. | | | No text has been changed |

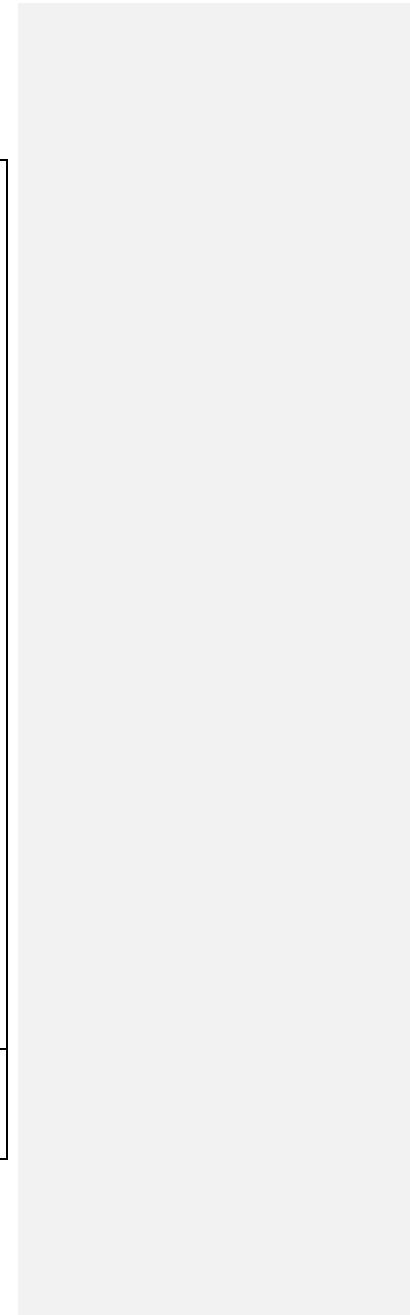|						
		this statement is true, it is unclear that a normative reference is needed in this document, since the structure does not seem to be used. Please change this to an informational reference."				
64.	Page 27 / section 8.1.3 / second para	He test says: "MPLS-TP OAM supports a single maintenance entity group (MEG) for network connection monitoring, an arbitrary number of maintenance entity groups (MEGs) for tandem connection monitoring and one maintenance entity group (MEG) for link connection monitoring. The comment is: "Ietf refer to this as SPME (former PST), and this allows 1:N mapping between the NCs and the SPME. 1:N cannot be precluded. 1:1 mapping is a special case. The document should refer	Please align with the IETF terminology,			The following note has been added: NOTE – This Recommendation models SPME with 1:1 association (in order to implement tandem connection monitoring). SPMEs with 1:n association are not precluded but their model is for further study.

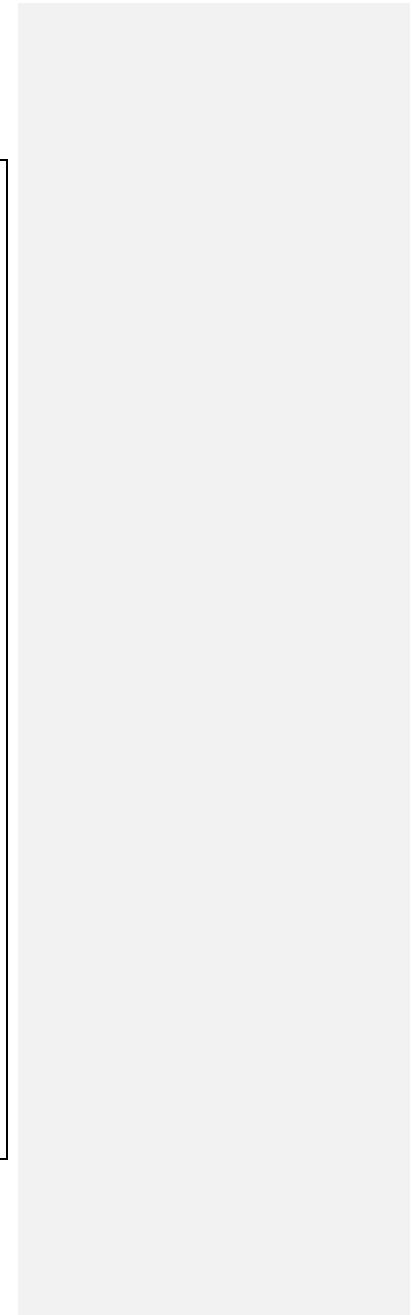|		to SPME and can focus in this version of the document on the sub-case of 1:1 mapping."				
65.	Page 27 / section 8.1.3 / second para	The text says:" The maintenance entity for tandem connection monitoring monitors the MPLS-TP tandem connection between any arbitrary pair of MPLS-TP connection points." The comment is the same as for 64.	Please align with the IETF terminology.			See comment 64
66.	Page 27 / section 8.1.3 / para 5	The text says: "MEGs can be used when the MPLS-TP layer network contains multiple administrative domains: e.g., service provider and one or more network operator domains. In this case, the interconnection between two administrative domains is always done via an MPLS-TP link	Resolution depends on how the question is answered.			In the G.805 architectural model this is achieved by showing a link inside the node.

		connection." The comment is more of a question: "Can we have a case where there is a node that interconnects between the domains? "				
67.	Page 29 / para 1	The text says: "protection switching/restoration"	Porposed new text "protection-switching/restoration"	E		Text has been changed to: protection switching/ or restoration
68.	Page 29 / section 8.2	Section 8.2: I'm a bit confused by the layout of this section. The opening paragraphs states that G.805 defines four types of monitoring techniques, yet there are six subsections. G.805 defines: Sublayer monitoring, Inherent monitoring, Non-intrusive monitoring, and Intrusive monitoring. A clean up of the organization of the section would make the text easier to follow.	Clean up section.			Section 8.2.6 has been renumbered as section 6.3 Text has been changed in section 8.2. In particular: [ITU-T G.805] defines trail monitoring and four types of connection monitoring techniques for maintenance entity groups.
69.	Page 29 / section 8.2.4 / para 1	The text says: "OAM is added to the adapted information such that the network. The comment is: "So	Please update section 7.	E		Text has been changed to: The MT_TT adds OAM is added to the adapted information

		why it is not mentioned in section 7?"				
70.	Page 29 / section 8.2.4 / para 1	"With this technique, all parameters can be tested directly." The comment is: "What does it mean on the MIP? Does it look at the adapted information?"	Resolution depends on how the questions is answered.	T		No text has been changed
71.	Page 29 / section 8.2.4 / para 1	The text says: "MPLS-TP LSP network connections are monitored by inserting G-ACh packets using the GAL and the ACH as defined in [IETF RFC 5586]. The comment is: "These are not G-ACh packets. These are OAM packets in which the G-Ach mechanism is used to multiplex the various packet types. Similar problem with the next para."	Update the paragraph.	T		The term "OAM packets" has been used instead of "G-ACh packets"
72.	Page 30 / section 8.2.4.1 / para	The text says: ". Devices supporting these methods interoperate without updating the MPLS equipment to support the CW based	The resolution depends on how the comment is responded to.			Example removed in section 8.2.4.1. Text added: A detailed description of the interoperability is for further study.

| | | methods.

The comment is:

"It should be described how this can be achieved, especially as only SS-PW is considered in this version. Please provide more information or remove this example. "

And

"There are much more considerations that need to be taken into account when talking about interoperability…and of course the deployment scenario needs to be considered to see if aspects such as mpls cp, arp messages, etc. need to be handled. I think this document should not touch it without providing the complete picture. It is even more appropriate first to describe it in the IETF." | | | | |
|---|---|---|---|---|---|---|
| 73. | Page 30 / section 8.2.5 | The text says: "Tandem connection monitoring is implemented by first creating a hierarchical | Align terminology. | | | Text in section 8.2.5 has been changed. |

| | | LSP that has a 1:1 association with the LSP segment that is to monitored." and "Figure 8-4 below describes an example of Tandem Connection Monitoring setup between nodes B and D to monitor a segment of an end-to-end LSP from node A to node D." and "MPLS-TP LSP tandem connections are monitored by inserting G-ACh packets using the GAL and the ACH as defined in [IETF RFC 5586] within the sub-layer." and "MPLS-TP PW tandem connection monitoring is outside the scope of this version of the Recommendation." The comment is: "Please align terminology with | | | | |

		the IETF documents".				
74.	Page 30 / section 8.2.5 / para 2	The text says: Tandem connection monitoring is implemented by first creating a hierarchical LSP that has a 1:1 association with the LSP segment that is to monitored. The first comment is the same as for Tandem Connection Monitoring in other places. The second comment points out that the hierarchical LSP is now called SPME. The third comment says: "This (1:1) is a very specific case. Please mention the general case and indicate that this version of the document discusses te sub-case of 1:1". Further comment: Text says: "...the LSP segment that is to	The resolution depends on how the comment is responded to. Proposed new text: "...the LSP segment that is to be monitored."			See comment 73

		monitored_				
75.	Page 30 / section 8.2.5 / para 2 (same as the previous comment).	Existing text: "Tandem connection monitoring is implemented by first creating a hierarchical LSP that has a 1:1 association with the LSP segment that is to monitored."	Proposed new text: " Tandem connection monitoring for a segment of a given LSP is implemented by creating a new LSP which spans the corresponding segment of the network and supports the original LSP over this network segment as a client. This new TCM LSP thus exists at the server sub-layer with respect to the original LSP."			See comment 73
76.	Page 30 / section 8.2.5 / para 3	Existing text: " As described in [IETF tp-oam-fw], the DiffServ uniform model for TC processing (see section 10.1.3) is used to preserve the QoS information of the end-to-end MPLS-TP connection. Note that the pipe model for TTL handling is used to support the MIP addressing mechanism, based on TTL expiration, as defined in [IETF tp-oam-fw]." Comment: "There is an outstanding comment				The following note has been added: NOTE – Using different models for DiffServ and TTL processing on an SPME, for other than TCM purposes, as defined in [IETF tp-oam-fw] is not precluded.

		on the OAM Framework related to the prescription of the Uniform model and the mixing of different DiffServ/TTL models for the same LSP. This text should be aligned with the resolution of that comment."				
77.	Page 31 / Figure 8-4 /figure text	The figure text says: "**Error! Reference source not found.** below describes an example of Tandem Connection Monitoring setup between nodes B and D to monitor a segment of an end-to-end LSP from node A to node D."	TCM is now SPME, please correct throughout the document.			Text has been changed to: Figure 8-4 below describes an example of ~~Tandem Connection Monitoring~~TCM setup
78.	Page 32 / section 8.3 / first para	This compound function is used to model a per-interface MIP as defined in [IETF tp-oam-fw]. The comment is: Why cannot it be also per-node?	The resolution depends on how the comments is responded to.			Text has been changed to: In order to model a per-interface MIP, as defined in [IETF tp-oam-fw]. ~~The~~ the MPLS-TP MIP functional component is defined to be able to respond to on-demand MPLS-TP OAM signals received from both directions (**Error! Reference source not found.**). ~~This compound function is used to model a per-interface MIP as defined in [IETF tp-oam-fw].~~
79.	Page 32 / after figure 8-	The test says: "A variant	The resolution depends			Text has been changed to:

	5 /	of the MPLS-TP MIP functional component is the half MIP (MTDi) that is able to respond to on-demand MPLS-TP OAM signals received only from one direction (**Error! Reference source not found.**). This compound function is used to model a per-node MIP as defined in [IETF tp-oam-fw]." The comment is the same as for 78	on how the comments is responded to.			In order to model a per-node MIP, as defined in [IETF tp-oam-fw], A a variant of the MPLS-TP MIP functional component is the half MIP (MTDi) that is able to respond to on-demand MPLS-TP OAM signals received only from one direction (**Error! Reference source not found.**). This compound function is used to model a per-node MIP as defined in [IETF tp-oam-fw].
80.	Page 33 / section 9	The text says : "Restoration can be performed by a NMS system or by a control plane." The comment is: "How and where is it defined?"	Please insert reference.			Text has been changed to: Restoration can be performed by a NMS system or by a control plane as defined in [ITU-T G.8080] and [IETF tp-surv-fw].
81.	Page 26 / 12 security aspects	Comment: "Align with current Security Considerations section of the MPLS-TP Framework."				No text has been changed
82.	Page 37/ Appendix A/ first bullet	─Text says: "It is a CO-PS technology and	Delete bullet	T		Text moved before the description of the default mode of operation.

Formatted: Bullets and Numbering

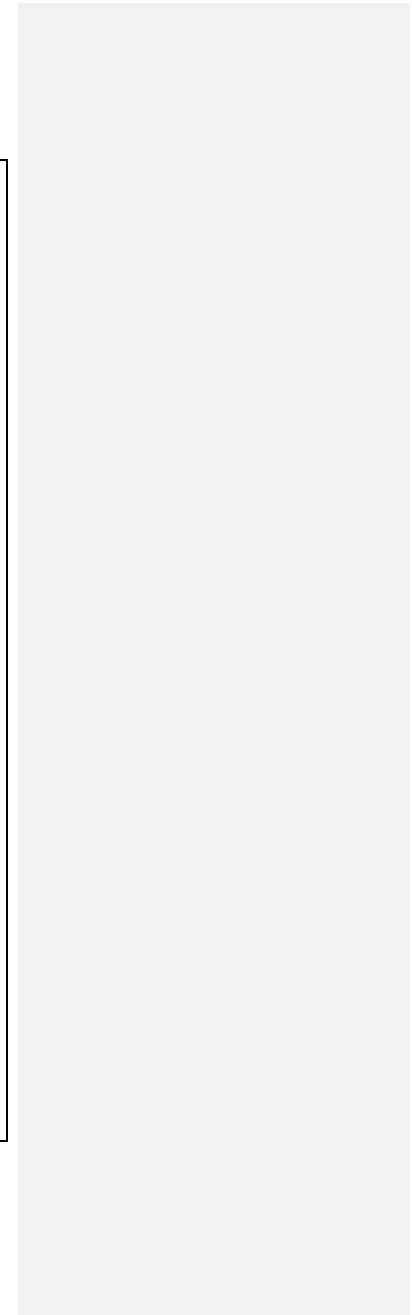|						
		therefore can be modelled using [ITU-T G.805]. The comment is: "This is not a default mode of operation. It is fundamental to MPLS-TP. It should be deleted."				
83.	Page 37/ Appendix A/ bullet 6	The text says: "The ITU-T format option for transport entities and OAM entities identifiers, as defined in [IETF tp-ident], is selected." The comment is: "Please align this with the text in draft-ietf-mpls-tp-identifiers."				No text has been changed
84.	Page 37/ Appendix A/ third bullet from the	The text says: "Non MPLS-TP Server layer networks are configured not to cause reordering of packets sent over an MPLS-TP connection (PW or LSP)." The comment is: "This needs a reference to "normal operation""	Add text to refer to "normal operation".	T		Text has been changed to: – Non MPLS-TP Server layer networks are configured not to cause ~~reordering ofreordering of~~ reordering of packets sent over an MPLS-TP connection (PW or LSP) in normal operations.
85.	Page 37/ Appendix A/ second bullet from the	The text says:	New proposed text: "ECMP is not applicable			Text moved before the description of the default mode of operation and changed to:

	end of page	ECMP is not applicable to point-to-point and point-to-multipoint LSPs The comment is: "Maybe supported" A second comment is: "Please align with the text in draft-ietf-mpls-tp-dataplane"	to point-to-point and point-to-multipoint LSPs"			ECMP is not used with point-to-point and point-to-multipoint LSPs as described in [IETF tp-dp].	
86.	Page 37 / Annex A / last bullet	–The text says: By default the data plane (forwarding plane, OAM and resiliency) is operated and configured without any IP forwarding capability in the data plane as per requirement 36 of [IETF tp-req].	Proposed new text: "The data plane (forwarding plane, OAM and resiliency) can be operated and configured without any IP forwarding capability in the data plane as per requirement 36 of [IETF RFC5654]."			Text changed to: – By default tThe data plane (forwarding plane, OAM and resiliency) is operated and configured without any IP forwarding capability in the data plane as per requirement 36 of [IETF tp-reqRFC 5654].	Formatted: Bullets and Numbering
87.	Page 38 / first bullet	The text says: "The data plane (forwarding plane, OAM and resiliency) is separated from the control and management plane as per requirements 15 and 16 of [IETF tp-req]."	Proposed new text: "The data plane (forwarding plane, OAM and resiliency) can be logically and/or physically separated from the control and management plane as per requirements 15 and 16 of [IETF RFC5654]."			Text changed to: – The data plane (forwarding plane, OAM and resiliency) is logically and/or physically separated from the control and management plane as per requirements 15 and 16 of [IETF tp-reqRFC 5654].	
88.	Page 39 / appendix 1 / first para	The text says: "When two IP/MPLS LSRs are				Appendix I has been removed	

		connected via e.g., 802.3 interfaces to a MPLS-TP network, the MPLS-TP network can provide an Ethernet service between these two LSRs to establish an IP/MPLS link between them. The comment is: "Or as MPLS client service"				
89.	Page 39 / appendix I / para 2	The text says: "This network scenario is described in [b-IETF mpls-trans] when the client PSN is an IP/MPLS network and the server PSN is an MPLS-TP network." The comment is: But here the proposed client is Ethernet. Isn't it?	Please verify that the mpls-tp Pseudowire client is Ethernet.			Appendix I has been removed
90.	Page 39 / appendix I / para 5	The text says: "PHP can be enables on the…" The comment is "Typo".	Proposed new text: "PHP can be enabled on the…"			Appendix I has been removed
91.	Page 39 / text before	The text says: "PHP can	Please remove this			Appendix I has been removed

| | last figure | be enables on the IP/MPLS link flows and link connections: a signalling session that requests PHP on these link flows/connections is between LSR CE1 and LSR CE2. PHP is not enabled within the MPLS-TP network."

The comment is : In this scenario there are much more things that need to be considered and discussed and without it the whole picture has no meaning. Aspects such as (end-to-end) MPLS control-plane, ARP messages, etc. Please remove this appendix or provide the complete description which needs a deep review by the IETF experts.

In which transport scenario you consider interoperability with IP/MPLS? And by the way what is it IP/MPLS?

I think this is a very important scenario that need to be described, | section. | | | |

		but I propose to do it in the context of the IETF.				
92.	Page 40 /appendix II / first para	The text says: "network instances (or, in other words, MPLS-TP supports an arbitrary label stacking depth). The comment is: "Propose to remove this explanation because some of the labels can be of the MPLS clients services which are transmitted over MPLS-TP transport paths."	Remove the paranthesis.			Done
93.	Page 40 /appendix II / second para	The texts says: This technology can be used …" The comment is: "It is unclear which technology 'this' refers to".	Please clarify.			Text has been changed to: This MPLS-TP technology can be used
94.	Page 40 /appendix II / para 5	The text says: "The PW layer network instance	Remove the last part of the sentence.			Done

		provides the transport service layer as defined in [IETF tp-req]; a PW connection carries a single instance of the client service." The comment is: "A PW can carry more than one instance of the client service"				
95.	Page 40 /appendix II / para 5	The text says: "The PW layer network instance provides OAM for inherent monitoring of the client service." The comment is: "This is not monitoring of the client service. It is a monitoring to network client service instance."	Update text accordingly.			Text changed to: The PW layer network instance provides OAM for inherent monitoring of the network connection that supports the client service.
96.	Page 40 /appendix II / para 6	The text says: "The LSP layer network instance provides OAM for trunk monitoring." The comment is: "What is it a trunk?"	Comment editor note: "This comment is unclear, needs to get it clarified.!"			The sentence has been removed

97.	Page 41 / figure at top	The comment is: "This version of the document discusses Ethernet client services only. P2P Ethernet services are always bi-directional services, so how can we support unidr p2p service? What about multipoint services? This comment refers to the client service box in the figure.	No changes to the figure proposed.			No text has been changed
98.	Page 41 / 2 nd para under figure	The text says: "It is possible to support carrier's applications at any of the MPLS-TP layer network instances. The MPLS-TP network of one operator (B) may carry any one of the MPLS-TP layer network instances of another operator (A) as a client layer service. Alternatively the MPLS_TP network of one operator (B) may emulate a physical interconnection	Remove!			No text has been changed

		between the MPLS-TP devices of another operator (A) and carry the full stack, including the PHY information as a client layer service. The comment is: "But this version of the document discusses ONLY Ethernet client services. So how can we have MPLS(-TP) client services? Please remove."				
99.		The text says; "MPLS-TP networks provide uni-/bidirectional point-to-point MPLS-TP and unidirectional point-to-multipoint MPLS-TP connections. Within the PW layer network instance, those connections support point-to-point and point-to-multipoint services." The first comment are: "Add Bi-directional "	First: Change "… those connections support …" To "… those bidirectional connections support …" Second: If point to multipoint is within scope of the document then we need much more descriptive text. Remove?			Text has been changed to: MPLS-TP networks provide both ~~uni~~unidirectional ~~/~~ and bidirectional point-to-point ~~MPLS-TP~~ and unidirectional point-to-multipoint MPLS-TP connections. Within the PW layer network instance, those connections support bidirectional point-to-point and unidirectional point-to-multipoint services.
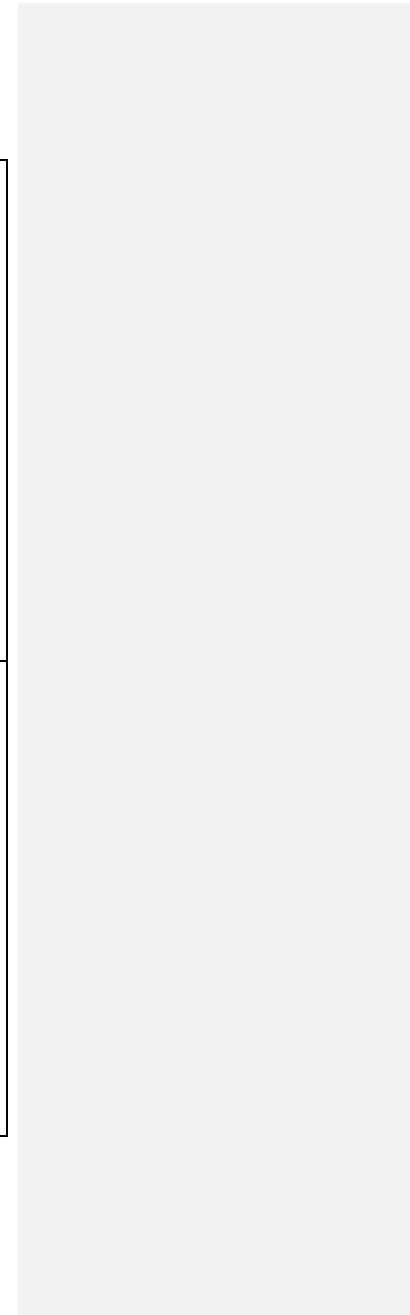
100	Fig 11-5 and Fig 11-6 and Fig 11-7	Comment: In the PW case on left - typo - S should be S(1)				All the Figures have been updated to fix the typo
101						
102						
103						
104						
105						