PROPOSED DISPOSITION OF BALLOT COMMENTS ON

IEEE *Draft* P802.1ag/D4.1

Draft Standard for
Local and Metropolitan Area Networks —

Virtual Bridged Local Area Networks — Amendment 5: Connectivity Fault Management

Sponsor

LAN MAN Standards Committee of the IEEE Computer Society

Prepared by: **Norman Finn, Project Editor**

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Commentary:

This Disposition of Ballot Comments has been prepared to document the ballot comments received in the task group ballot on P802.1ag/D4.1, and to record the resolutions of those ballot comments, as agreed during the interim meeting of 802.1 held in Garden Grove, California, September, 2005. The document contains:

1) A table of responses received.
2) A listing of comments on Draft 3.0 and 4.0 held over in Annex Z of P802.1ag/D4.1.
3) A listing of editorial comments on Draft 4.1, each accompanied by a proposed disposition,.
4) A listing of technical comments on Draft 4.1, each accompanied by a proposed disposition.

This document will constitute a record of the Instructions to the Editors for the preparation of P802.1ag/D5.0.

Note that multiple comments that affect the same text may be proposed by the editor for acceptance, in case their conflict does not involve substantial technical issues. The editor will resolve any conflicts in such cases, or this is not possible, will hold such comments over to the next balloting cycle.

1. Table of Responses

The following table indicates the status of each ballot response received in the P802.1ag/ D4.1 ballot. Where comments have been received without an accompanying ballot, this is indicated in the ***Comments*** column. The Status column indicates the voting status of the responder. ***Voting*** indicates 802.1 voting member at the start of the ballot period. ***Liaison*** indicates liaison member with voting status. ***Comment*** indicates a contributor without voting status at the start of the ballot period. ***N/A*** indicates that membership status does not apply, for example in a Task Group ballot. The ***Vote*** column indicates the vote cast; Y=Approve, N=Disapprove, T=Abstain due to lack of time, E=Abstain due to lack of expertise, O=Abstain for other reasons, C=Comments only.

Table 1—Table of responses

STATUS	VOTE	NAME	COMMENTS
	Y	Paul Amsden	N
	E	Mike Borza	N
	N	Paul Bottorff	Y
	E	Jim Burns	N
	N	Dirceu Cavendish	Y
	E	Frank Chao	N
	T	Paul Congdon	N
	N	Linda Dunbar	Y
	Y	Anush Elangovan	N
	Y	David Elie-Dit-Cosaque	N
	N	Norman Finn	Y
	Y	David Frattura	N
	T	Don Fredyk	N
	N	Anoop Ghanwani	Y
	E	Ken Grewal	N
	E	Stephen Haddock	N
	Y	Ran Ish-Shalom	N
	Y	Tony Jeffree	Y
	T	Hal Keen	N
	Y	Yannick Le Goff	N
	N	David W. Martin	Y
	N	Dinesh Mohan	Y
	N	Glenn Parsons	Y
	Y	Ken Patton	N

Table 1—Table of responses

STATUS	VOTE	NAME	COMMENTS
	E	Karen Randall	N
	E	Allyn Romanow	N
	N	Dan Romascanu	Y
	Y	Jessy V Rouyer	N
	N	Panagiotis Saltsidis	Y
	Y	Sam Sambasivan	N
	N	John Sauer	Y
	N	Mick Seaman	Y
	E	Curtis Simonson	N
	E	Larry Stefani	N
	Y	Muneyoshi Suzuki	Y
	N	Bob Sultan	Y
	Y	Francois Tallet	N
	E	Geoff Thompson	N
	E	John Viega	N
	E	Dennis Volpano	N
	Y	Manoj Wadekar	N

Table 2—Results

CATEGORY	TOTAL	PERCENTAGE
Yes	13	50
No	13	50
Abs. Time	3	7
Abs. Expertise	12	29
Abs. Other	0	0
No. of Voters	N/A	
Voters responding	N/A	
No. of Liaisons	N/A	
Liaisons responding	N/A	
Number of held-over comments	2	
Number of new comments	363	37

2. Comments held over from P802.1ag Rev 4.1 Annex Z

*Comment 4.1-Z-150*Dan Romascanu

COMMENT TYPE: TR
CLAUSE: 17.3
PAGE: 41
LINE: 20
COMMENT START:
The Security Consideration section cannot remain unchanged. A different comment - if accepted will lead to read-write objects in the MIB, which are considered security hazards because of the possibility of mis-consideration, activation of malicious traffic, perturbation of network functionality. Even read-only objects can contain privacy-sensitive information, like Linktrace information for specific admin domains. For what the Security consideration section needs to include, see for reference http://www.ietf.org/internet-drafts/draft-ietf-ops-mib-review-guidelines-04.txt, Section 3.4: 'Each specification that defines one or more MIB modules MUST contain a section that discusses security considerations relevant to those modules. This section MUST be patterned after the latest approved template (available at http://www.ops.ietf.org/mib-security.html). In particular, writeable MIB objects that could be especially disruptive if abused MUST be explicitly listed by name and the associated security risks MUST be spelled out; similarly, readable MIB objects that contain especially sensitive information or that raise significant privacy concerns MUST be explicitly listed by name and the reasons for the sensitivity/privacy concerns MUST be explained.'
COMMENT END:
SUGGESTED CHANGES START:
As the MIB module becomes available - see previous comment - amend section 17.3 with the information that describes the security hazards related to writeable objects and lists readable MIB objects that may raise privacy concerns, so that a customer that deploys this MIB module applies the corresponding security measures to protect the security sensitive MIB views.
SUGGESTED CHANGES END:

Proposed disposition of comment 4.1-Z-0

Accept.

*Comment 4.1-Z-190*Paul Congdon

COMMENT TYPE: T
CLAUSE: 12.3.6
PAGE: 32
LINE: 32
COMMENT START:

There needs to be an enable/disable for this filtering function. I'm guessing it is a per-port capability, or perhaps MEP/MIP?
COMMENT END:
SUGGESTED CHANGES START:
Add the capability to enable/disable a filtering function. If this is a per-port function, then inputs should be port number.
SUGGESTED CHANGES END:

Proposed disposition of comment 4.1-Z-0

Accept in principle. The distinction between instantiation and enabling is not clear. This should become clear with the introduction of a MIB.

3. Editorial and General ballot comments on Draft 4.1

Comment 1 Norman Finn

COMMENT TYPE: E
CLAUSE: 18.2.1, 18.7.1
PAGE: 94, 110
LINE:
COMMENT START:
Both subclauses provide introductions to the CCM function.
COMMENT END:
SUGGESTED CHANGES START:
Combine them.
SUGGESTED CHANGES END:

Proposed disposition of comment 1

Accept in Principle, subject to being overridden by other accepted comments.

Comment 2 Norman Finn

COMMENT TYPE: E
CLAUSE: 18.2.2, 18.7.2
PAGE: 94, 112
LINE:
COMMENT START:
Both subclauses provide introductions to the LBM/LBR function.
COMMENT END:
SUGGESTED CHANGES START:
Combine them.
SUGGESTED CHANGES END:

Proposed disposition of comment 2

Accept in Principle, subject to being overridden by other accepted comments.

Comment 3 Norman Finn

COMMENT TYPE: E
CLAUSE: 18.2.3, 18.7.3
PAGE: 94, 112
LINE:
COMMENT START:
Both subclauses provide introductions to the LTM/LTR function.
COMMENT END:

SUGGESTED CHANGES START:
Combine them.
SUGGESTED CHANGES END:

Proposed disposition of comment 3

Accept in Principle, subject to being overridden by other accepted comments.

Comment 4 Norman Finn

COMMENT TYPE: E
CLAUSE: 18.2.4, 18.7.4
PAGE: 95, 112
LINE:
COMMENT START:
Both subclauses provide introductions to the AIS function.
COMMENT END:
SUGGESTED CHANGES START:
Combine them.
SUGGESTED CHANGES END:

Proposed disposition of comment 4

Accept in Principle, subject to being overridden by other accepted comments.

Comment 5 Mick Seaman

COMMENT TYPE: ER
CLAUSE: 18
PAGE: 89-114
LINE:
COMMENT START:
There is a lot in this clause so it has become hard to navigate and see the wood for the trees, particularly as it is overdependent on subclause nesting to express its structure. Over half the entire clause is to be found in subclause 18.4. This makes it very hard for a reviewer to check for completeness--that what needs to be said in the clause and the document as a whole is actually being said. This difficulty is compounded by the fact that a lot of the exposition is 'bottoms up'-- 'this is what it does now figure out what that is meant to achieve'--and written as a commentary on a solution that is presumably described elsewhere rather than as a standard. The above state of affairs is not surprising at this stage in the development of the draft, but needs to be fixed (and the fix reviewed) prior to WG ballot.
In general the editorial style in .1Q, .1ad, and .1D is to begin each major clause with an introduction to what the reader can expect to find in the clause. That helps a great deal in establishing a logical flow of ideas through the clause, and greatly facilitates the completeness check. It also means, by allowing the structure of the clause to be explicitly

declared, that there is much less need to rely on numbering levels to hint at the structure. This makes navigation, particularly when using PDF bookmarks, a lot easier.

This comment proposes introductory text to go directly under the Clause 18 heading, renumbering of existing subclauses, and additional subclauses to contain information that appears to be missing at present. The current clause 18.1 is far too detailed (with valuable detail) to serve as the introduction to the clause. A prior comment, written while preparing this one, suggests breaking up this clause. This comment supports that with detail, in particular the clause numbering suggested in references aligns with the prior comment.

The initial part of the introductory text is a simple recap of text that has previously appeared several times already in this amendment. The point of providing this text again is that those prior instances are either going to disappear or become a lot less visible when .1ag gets folded into .1Q. At that time the .1Q reader who arrives at clause 18 is going to need a reminder of what it is about (possibly just to skip the clause and look elsewhere in the document).

This introduction serves not only to structure clause 18, but also (as befitting a general principles of operation) to inform the reader of what is to be found where throughout the clause that compose the CFM specification. While repeating (yet again) some of the discussion about how things work it should be sufficient to outline the ‘big idea’ and has been deliberately kept brief on some points. This, as always, means that some inaccuracy and omission has to be tolerated--it isn’t true (for example) that CFM functions map one for one onto supporting protocols, just that one protocol does most of the job for each function.

The introduction is deliberately worded to cover some current gaps in the statement of requirements: decomposition of the CFM task into protocols in a way that imposes an acceptable load on network resources, scaling of resources usage in a way that is not worse than proportional to the value delivered as the network grows etc. An alternative would have been to shorten the introduction and create an 18.1 section to capture these requirements. However since they are truly a function of what has been found to be possibly it is just as valid to leave them in the introduction as an explanation of why the solution is as it is and meeting the clause advertised purpose (paragraph 3) of providing the necessary context to understand the protocols and architectural elements. That is probably a less bulky alternative.

Note that there clearly is a problem with MIPs at the moment where service multiplexing is to be performed. It is not satisfactory for an operator that provides service and a MEP to have to be able to support extraordinarily large numbers of MIPs for the customer, nor indeed for the customer to declare to the operator what multiplexing is going on over the purchased service. This is very bad at the moment for 4096 VLANs, and completely untenable for some of the formats proposed to support .1ah (whether I agree with those formats or not). The introduction says that a single MIP participates in multiple MAs when multiplexing is going on, and that is the nature of the solution we have to construct. The alternative is that each MIP contains no per MA data, and in fact any data that it does contain is held by the CFM Entity that is hosting the MIP. This alternative is clearly equivalent to having a single MIP.

Fault recovery has been omitted from the CFM introduction, since the current draft says that nothing is done about it. Including fault recovery, then, presupposes that some other unreferenced document owns the task of deciding what CFM is, which I don’t believe is

true. Someone else may have declared what transport fault management is, but I believe CFM is that which is being defined in .1ag. This doesn't mean we can't discuss fault recovery options, they are just not inside CFM, though they may make use of its functionality.

COMMENT END:

SUGGESTED CHANGES START:

Add the following introductory text following the Clause 18 Principles of Connectivity Fault Management Operation heading:

"Connectivity Fault Management (CFM) comprises capabilities for detecting, verifying, and isolating connectivity failures in Virtual Bridged Local Area Networks. These capabilities can be used in networks operated by multiple independent organizations, each with restricted management access to each other's equipment.

CFM is designed to be transparent to the customer data transported by a network and to be capable of providing maximum fault coverage. Accordingly CFM Entities (Clause 21) are specified as shims that make use of and provide the ISS (6.4) or EISS (6.6) at service access points (SAPs) within the network. They can be added between any of the media-independent protocol entities that compose a Bridge Port, without requiring changes to those entities. Customer data is forwarded transparently by CFM Entities while CFM PDUs are generated and processed as specified in clause 19.

This clause provides the context necessary to understand each of the CFM protocols, and how CFM Entities in bridges are selected and configured as Maintenance Points (MPs, <21.x>) to participate in and operate those protocols.

CFM introduces the following concepts to support multiple independent operators each supporting Service Instances for multiple independent customers:

a) A Maintenance Domain (18.1) is a part of network that is controlled by a single operator and used to support connectivity between the Domain Service Access Points (DSAPs) that bound the domain.

b) A Maintenance Association (MA, 18.2) is created by configuring CFM Entities that support an individual Service Instance's DSAPs as Maintenance End Points (MEPs), and is used to monitor connectivity provided by that instance through the Maintenance Domain.

c) A Maintenance Association Level (MA Level, 18.3) carried in CFM PDUs allows each of an operator's customers also to use CFM and to function as an operator if desired, multiplexing provided Service Instances over its own connectivity.

Maintenance Point (<21.x>) configuration of CFM Entities supports the hierarchical nesting of Maintenance Domains. The DSAPs for a given Service Instance are Intermediate Service Access Points (ISAPS) for MAs monitoring connectivity through a superior enclosing domain. When a MEP is configured, a Maintenance Intermediate Point (MIP) is also configured at the appropriate level for its immediately superior enclosing domain.

The information about individual Service Instances that is configured and recorded within a network to support CFM is entirely associated with MEPs, and thus scales linearly with the number of service access points provided to customers. The transmission of CFM PDUs is stimulated by state machines associated with MEPs as are actions taken that require recording information from received PDUs. MIPs can add, check, and respond to information in received PDUs, thus supporting discovery of paths between MEPs and location of faults along those paths. Each MIP can participate in CFM for many Service

Instances, thus ensuring that the number of MIPs scales linearly with the size of the network, and is thus a constant function of the ability of the network to support those MIPs, rather than being a product of the number of Service Instances supported. In contrast each MEP is associated with a service access point that provides access to a single Service Instance.

To support rapid detection of faults and accurate fault isolation without excessive consumption of network resources CFM functions (18.4) are partitioned as follows:

-- Fault detection

-- Fault verification

-- Fault isolation

-- Fault notification

Fault detection (18.5) uses the Continuity Check protocol (19.1) to detect both connectivity failures and unintended connectivity between Service Instances. Once an MA is configured, Connectivity Check Messages (CCMs) can be transmitted at a high rate, but are simply forwarded as data within the network and thus do not impose a processing load on MIPs. CCMs are multicast, and unacknowledged so the resources dedicated to their origination are proportional to the number of MEPs and thus to the number of service access points provided to customers.

Fault verification (18.6) and isolation (18.7) are administrative actions, usually performed after automatic detection of a fault or receipt of some other error report. Fault verification is also used to confirm successful restoration or initiation of connectivity. Fault verification uses the acknowledged Loopback protocol (19.2) to allow the administrator of a MEP to verify its connectivity to a specific MIP or MEP. Each Loopback Message (LBM, <20.v>) and Reply (LBR, <20.w>) is unicast to avoid imposing upon MEPs and MIPs not participating in the protocol exchange.

Fault isolation uses the Linktrace protocol (19.3) to determine the path, through MIPs, from one MEP to another. Each Linktrace Message (LTM, <20.x>) is sent to a multicast address to allow it to be readily intercepted by the MIPs on the path to the destination MP that return unicast Linktrace Replies (LTR, <20.y>).

Fault notification (18.8) is provided by a MEP that has detected, possibly through use of the Continuity Check protocol, a connectivity fault through in its Maintenance Domain. Fault notification uses the Alarm Indication Signalling protocol (19.4). Each multicast Alarm Indication Signal message (AIS, <20.z>) can be used as an early indication of failure by MEPs responsible for monitoring connectivity through the immediately superior enclosing Maintenance Domain, and also to suppress subsequent related alarms that might otherwise overwhelm administrative capabilities."

Add a definition of shim: a protocol entity that uses the same service as it provides (within this standard protocol shims make use of the ISS or EISS) to Clause 3. Definitions.

Delete the current heading 18.1 Introduction to Connectivity Fault Management, and renumber 18.1.1 as 18.1, and 18.1.2 as 18.2.

Combine the text of the current 18.1.3 with that of the current 18.3 as 18.3 Maintenance Association Levels.

Renumber 18.2 Connectivity Fault Management Protocol Usage Overview as 18.4 Connectivity Fault Management Functions. The text of this subclause should be that of the introductory material directly under the 18.2 heading, possibly with a few additions that expand on the requirement for/benefit of the functional partitioning described.

Renumber 18.2.1 as 18.5, 18.2.2 as 18.6, 18.2.3 as 18.7, and 18.2.4 as 18.8.
SUGGESTED CHANGES END:

Proposed disposition of comment 5

Discuss.

Comment 6 Mick Seaman

COMMENT TYPE: E
CLAUSE: 18.1.3
PAGE: 91
LINE:
COMMENT START:
The figure which is currently Figure 18-18 would be very usefully positioned just after the text introducing MA Levels (I have proposed elsewhere that this be consolidated into 18.3). The Figure has surprisingly little preconditions for its understanding. The proposed introductory text to clause 18 is sufficient to allow the definition of the IFF, EFF, and CFF symbols in clause 18.1 (Maintenance Domain). All that needs to be said is that MEPs conduct certain protocol exchanges within the domain that they monitor, the state machines and variables that participate in those exchanges compose the Interior Facing Function (IFF) of the MEP, contrariwise they can signal to the user of a Service Instance using state machines and variables that compose the Exterior Facing Function of the MEP. Each MIP functions symmetrically with respect to service interfaces provided by its containing CFM Entity, its state machines and variables compose two identical MIP Half Functions. A CFM Entity that does not provide MIP or MEP functionality, but is configured to prevent unwanted CFM PDUs from leaving the domain implements the CFM Filtering Function (CFF) for that domain. No discussion of which CFM protocols have state machines in which of these xFFs or anything else is required, so illustrating MA Levels with Figure 18-18 does not involved recursively moving the entire document forward.
COMMENT END:
SUGGESTED CHANGES START:
Add the following text to the end of clause 18.1.2 Service Instances and Maintenance Associations (will become 18.2 if prior comments are accepted).
The CFM protocol state machines and variables (see Clause 19) used by MEPs to conduct protocol exchanges within a Maintenance Domain and an MA compose the MEP's Interior Facing Function (IFF, <21.x>), while those used to report the status of an MA to the user of the associated Service Instance compose the Exterior Facing Function (EFF, <21.y>). Each MIP functions symmetrically with respect to the service access points of its containing CFM Entity, and is modelled as comprising two MIP Half Functions (MHF). Figure <18-x> specifies symbols for IFFs, EFFs, MHFs, and the CFM Filtering Function (CFF, <21.z>) that is used to prevent CFM PDUs from leaving their domain.
Add the referenced Figure 18-x.
Add the following text, or something similar to the end of clause 18.3 (proposed as a unification of current 18.1.3 and 18.3).

Figure <18-y> illustrates the use of MA Levels to allow the use of CFM by a user of connectivity provided by two bridged domains, and by the operators of each of those domains.
Move the current Figure 18-18 forward to become the referenced Figure 18-y.
SUGGESTED CHANGES END:

Proposed disposition of comment 6

Discuss.

Comment 7 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 3.3
PAGE: 5
LINE: 14
COMMENT START:
The definition does not seem to be referred from anywhere in the document
COMMENT END:
SUGGESTED CHANGES START:
Erase
SUGGESTED CHANGES END:

Proposed disposition of comment 7

Accept.

Comment 8 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 3.6
PAGE: 5
LINE: 27
COMMENT START:
The definition of DSAP is elusive as it coincides with the SAP definition.
COMMENT END:
SUGGESTED CHANGES START:
Suggested definition “A DSAP is a member in a set of SAPs at which the Maintenance Domain is capable of or intended to offer connectivity to systems outside the Maintenance Domain. In a Bridge, each DSAP is an instance either of the EISS or of the ISS.
SUGGESTED CHANGES END:

Proposed disposition of comment 8

Accept.

Comment 9 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 3.6
PAGE: 5
LINE: 50
COMMENT START:
The definition of ISAP (Intermediate SAP) is missing.
COMMENT END:
SUGGESTED CHANGES START:
Provide the definition of the ISAP.
SUGGESTED CHANGES END:

Proposed disposition of comment 9

Accept in Principle.

Comment 10 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 3.6
PAGE: 7
LINE: 41
COMMENT START:
There is no reference to Clause 6.6 for the EISS
COMMENT END:
SUGGESTED CHANGES START:
Change sentence from “... as defined in Clause 6.4 of ...” to “... as defined in Clause 6.4 or Clause 6.6 of ...”
SUGGESTED CHANGES END:

Proposed disposition of comment 10

Accept.

Comment 11 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 12.3.2.3.2
PAGE: 30
LINE: 53
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “a)” -> “b)”

SUGGESTED CHANGES END:

Proposed disposition of comment 11

Accept.

Comment 12 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.1.3
PAGE: 92
LINE: 38-39
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “the heavy diagonal hatched” with “the white”
SUGGESTED CHANGES END:

Proposed disposition of comment 12

Comment 13 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.2
PAGE: 93
LINE: 42
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “. fault” with “. Fault”
SUGGESTED CHANGES END:

Proposed disposition of comment 13

Comment 14 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.4
PAGE: 96
LINE: Figure 18-7
COMMENT START:
The Figure depicts the DSAP to be located between the IFF and EFF in a MEP. Throughout the rest of the document and in forthcoming figures the DSAP is placed always above the EFF (in the case that the EFF exists)

COMMENT END:
SUGGESTED CHANGES START:
Either update this figure or the text for consistency.
SUGGESTED CHANGES END:

Proposed disposition of comment 14

Accept.

Comment 15 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.4
PAGE: 97
LINE: 22
COMMENT START:
Figures 18-10 and 18-11 do not depict any MIPs.
COMMENT END:
SUGGESTED CHANGES START:
Erase the reference to Figure 18-8.
SUGGESTED CHANGES END:

Proposed disposition of comment 15

Accept.

Comment 16 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.4.2
PAGE: 101
LINE: 42-43
COMMENT START:
Confusing since the inward- and outward-facing directions are defined with respect to the MAC relay entity which is not depicted in the picture
COMMENT END:
SUGGESTED CHANGES START:
Erase the lines or give reference to the location of the MAC relay entity.
SUGGESTED CHANGES END:

Proposed disposition of comment 16

Accept in Principle.

Comment 17 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.4.7.2
PAGE: 107
LINE: 42
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Erase the line and replace with “Identical to the MP Multiplex Function described in sub-clause 18.4.2.2 on page 103.”
SUGGESTED CHANGES END:

Proposed disposition of comment 17

Accept.

Comment 18 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.5
PAGE: 109
LINE: 25-26
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “. there ...” with “. There” and “Clause 19” with “Clause 19.”
SUGGESTED CHANGES END:

Proposed disposition of comment 18

Accept.

Comment 19 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.7.2
PAGE: 112
LINE: 4
COMMENT START:
A MEP is attached to an MA
COMMENT END:
SUGGESTED CHANGES START:
Replace “Maintenance Domain” with “Maintenance Association”

SUGGESTED CHANGES END:

Proposed disposition of comment 19

Accept.

Comment 20 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.8
PAGE: 113
LINE: 49
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “Figure 18-20” with “Figure 18-18”
SUGGESTED CHANGES END:

Proposed disposition of comment 20

Reject. 18-20 is correct.

Comment 21 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 18.8
PAGE: 113
LINE: 53
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “... is be ...” with “... is to be ...”
SUGGESTED CHANGES END:

Proposed disposition of comment 21

Accept.

Comment 22 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.1
PAGE: 115
LINE: 10

COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “consist” with “consists”
SUGGESTED CHANGES END:

Proposed disposition of comment 22

Accept.

Comment 23 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.2
PAGE: 115
LINE: Table 19-3
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Move the devisor line between the Version and MA Level fields to the right in order to depict more accurately their actual lengths
SUGGESTED CHANGES END:

Proposed disposition of comment 23

Accept.

Comment 24 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.2.8
PAGE: 117
LINE: 23
COMMENT START:
The length of the Time Originated field is missing
COMMENT END:
SUGGESTED CHANGES START:
Provide the length of the Time Originated field in the same manner as the one used in the previous subclauses.
SUGGESTED CHANGES END:

Proposed disposition of comment 24

Accept.

Comment 25 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.7.4
PAGE: 122
LINE: 22
COMMENT START:
The last field in the header is the Time Originated field
COMMENT END:
SUGGESTED CHANGES START:
Replace the “Transaction Identifier / Sequence Number” with the “Time Originated”.
SUGGESTED CHANGES END:

Proposed disposition of comment 25

Accept.

Comment 26 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.9.2
PAGE: 123
LINE: 43-44
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Erase either of the “shall” or “should”
SUGGESTED CHANGES END:

Proposed disposition of comment 26

Accept.

Comment 27 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.10
PAGE: 125
LINE: 38
COMMENT START:
The Continuity Check Message Extension can be a subclause of 19.9
COMMENT END:
SUGGESTED CHANGES START:
Renumber 19.10 to 19.9.4 and 19.10.1 to 19.9.4.1
SUGGESTED CHANGES END:

Proposed disposition of comment 27

Accept in Principle; this is likely to be overridden by restructuring.

Comment 28 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.11.1
PAGE: 126
LINE: 28
COMMENT START:
The sentence is elusive
COMMENT END:
SUGGESTED CHANGES START:
Replace "...optional TLVs are to be included, ..." with "...optional data are to be included in the Data TLV, ..."
SUGGESTED CHANGES END:

Proposed disposition of comment 28

Accept in principle, subject to other comments that may change the message format.

Comment 29 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.11.1
PAGE: 126
LINE: 30-31
COMMENT START:
As the MAI TLV is included in all the CFM messages, the sentence is not needed.
COMMENT END:
SUGGESTED CHANGES START:
Erase the sentence.
SUGGESTED CHANGES END:

Proposed disposition of comment 29

Accept.

Comment 30 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.11.2
PAGE: 126
LINE: 45
COMMENT START:

Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “... contents any ...” with “... contents of any ...”
SUGGESTED CHANGES END:

Proposed disposition of comment 30

Accept.

Comment 31 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.11.6
PAGE: 127
LINE: 53
COMMENT START:
The sentence is elusive since the Time Originated field is always in the header
COMMENT END:
SUGGESTED CHANGES START:
Replace “If ...” with “Since ...”
SUGGESTED CHANGES END:

Proposed disposition of comment 31

Accept.

Comment 32 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.12.1
PAGE: 128
LINE: 28
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “LBM” with “LTM”
SUGGESTED CHANGES END:

Proposed disposition of comment 32

Accept.

Comment 33 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.15.3.5
PAGE: 139
LINE: 6
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Erase the line and replace with “g) rMEPmacAddress (19.15.3.5.6)”
SUGGESTED CHANGES END:

Proposed disposition of comment 33

Accept.

Comment 34 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.15.3.7
PAGE: 140
LINE: 50
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Erase the line and replace with “b) rAISreceived (19.15.3.7.2); c) terminalCCMrcvd (19.15.3.7.3); and” and update the last index accordingly.
SUGGESTED CHANGES END:

Proposed disposition of comment 34

Accept.

Comment 35 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.15.3.10.1
PAGE: 141
LINE: 49
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “... validates ...” with “... validate ...”

SUGGESTED CHANGES END:

Proposed disposition of comment 35

Accept.

Comment 36 Panagiotis Saltsidis

COMMENT TYPE: E
CLAUSE: 19.15.3.15.2
PAGE: 145
LINE: 40
COMMENT START:
Typo
COMMENT END:
SUGGESTED CHANGES START:
Replace “receiveLTR()” with “recvdLTR”
SUGGESTED CHANGES END:

Proposed disposition of comment 36

Accept.

Comment 37 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 3.23
PAGE: 6
LINE: 27
COMMENT START:
Replace “An” with “A.”
COMMENT END:
SUGGESTED CHANGES START:
Do as suggested above.
SUGGESTED CHANGES END:

Proposed disposition of comment 37

Accept.

Comment 38 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 3.31
PAGE: 7
LINE: 2

COMMENT START:
"...both the Maintenance Points..."
COMMENT END:
SUGGESTED CHANGES START:
It seems like there could be more than 2 MPs interested in a CFM frame, so the above should be changed to "...all of the Maintenance Points."
SUGGESTED CHANGES END:

Proposed disposition of comment 38

Accept in principle. The word "both" refers to the number of things determined, not the number of MPs. Text will be corrected if better words can be found.

Comment 39 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 3.35
PAGE: 7
LINE: 18
COMMENT START:
Definition for MPLS is not good.
COMMENT END:
SUGGESTED CHANGES START:
Change to - A standard for label-based forwarding in an IP network. The standard is specified in several RFCs. (See...)
SUGGESTED CHANGES END:

Proposed disposition of comment 39

Accept in principle. Wording should be changed.

Comment 40 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 5.4
PAGE: 11
LINE: 17
COMMENT START:
Not clear why this should be 7 MEPs since we support 8 MA levels.
COMMENT END:
SUGGESTED CHANGES START:
Would be nice to have some clarification for this.
SUGGESTED CHANGES END:

Proposed disposition of comment 40

Accept.

Comment 41 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 8.15.11
PAGE: 19
LINE:
COMMENT START:
Why do LTM and non-LTM messages have different bits for the same MA-level?
COMMENT END:
SUGGESTED CHANGES START:
Would be nice to have some clarification for this.
SUGGESTED CHANGES END:

Proposed disposition of comment 41

Accept in principle. This is likely to change.

Comment 42 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 18
PAGE: 89
LINE: 51
COMMENT START:
“This standard...and suggests a third.” This is a bit confusing to read. I thought it would be easier if this statement were moved to after the bullets and modified to say that the first two methods are covered by the standard, but the third is not.
COMMENT END:
SUGGESTED CHANGES START:
Do as suggested.
SUGGESTED CHANGES END:

Proposed disposition of comment 42

Accept in principle. Something should change, here.

Comment 43 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 18.2.1
PAGE: 94
LINE: 9

COMMENT START:
"unrecovarable" should be "irrecoverable."
COMMENT END:
SUGGESTED CHANGES START:
Change as suggested.
SUGGESTED CHANGES END:

Proposed disposition of comment 43

Accept.

Comment 44 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 18.2.1
PAGE: 94
LINE: 29
COMMENT START:
'n' is not defined. Big-oh should be used, not little-oh.
COMMENT END:
SUGGESTED CHANGES START:
o(n) should be O(N).
SUGGESTED CHANGES END:

Proposed disposition of comment 44

Accept.

Comment 45 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 18.2.1
PAGE: 94
LINE: 32
COMMENT START:
Use big-oh.
COMMENT END:
SUGGESTED CHANGES START:
o(N^2) should be O(N^2).
SUGGESTED CHANGES END:

Proposed disposition of comment 45

Accept.

Comment 46 Anoop Ghanwani

COMMENT TYPE: E
CLAUSE: 19.7.2
PAGE: 121
LINE: 16
COMMENT START:
"version n receiving version n-m (n>=m)" This is a bit confusing, although correct (as long as m > 0). Instead say: "version n receiving version m (n >= m >= 0)," or "version n receiving version n-m (0 <= m <= n)."
COMMENT END:
SUGGESTED CHANGES START:
Change to one of the above suggestions for clarity.
SUGGESTED CHANGES END:

Proposed disposition of comment 46

Accept.

Comment 47 John Sauer

COMMENT TYPE: E
CLAUSE: 8.15.11
PAGE: 19
LINE: 35
COMMENT START:
Replace Table Note says column 3. There is no column 3.
COMMENT END:
SUGGESTED CHANGES START:
I believe it should read column 2.
SUGGESTED CHANGES END:

Proposed disposition of comment 47

Accept.

Comment 48 Tony Jeffree

COMMENT TYPE: E
CLAUSE: Front cover & title pages
PAGE: 1, 9
LINE: 2nd line of Abstract
COMMENT START:
"transport fault management" -> "connectivity fault management"
COMMENT END:
SUGGESTED CHANGES START:

Do it.
SUGGESTED CHANGES END:

Proposed disposition of comment 48

Accept.

Comment 49 Tony Jeffree

COMMENT TYPE: E
CLAUSE: General
PAGE:
LINE:
COMMENT START:
Lots of blank pages. Apart from Clause 1, not necessary to have clauses start on a right hand page. Also, would be better to number all pages from 1 so they match the PDF, rather than starting from i and then restarting from 1 at Clause 1.
COMMENT END:
SUGGESTED CHANGES START:
Do it.
SUGGESTED CHANGES END:

Proposed disposition of comment 49

Accept.

Comment 50 Tony Jeffree

COMMENT TYPE: E
CLAUSE: 3.2
PAGE: 21
LINE: 12
COMMENT START:
The stuff in parentheses should not be part of the definition. Actually, not clear to me why this should be a definition at all, rather than just an abbreviation in Clause 4.
COMMENT END:
SUGGESTED CHANGES START:
Delete 3.2, and attach the two web references as a footnote to the expansion of ATM in Clause 4.
SUGGESTED CHANGES END:

Proposed disposition of comment 50

Accept.

Comment 51 Tony Jeffree

COMMENT TYPE: E
CLAUSE: 3.11 (and elsewhere)
PAGE: 21
LINE: 42
COMMENT START:
MAID should be spelled out as this is the first occurrence of the acronym in the document (i.e., Maintenance Association Identifier (MAID)). Probably need to check that this is done for other acronyms too.
Also, any cross references to other parts of the document (3.2.3, 3.2.4 in this case) should be moved to a NOTE following the definition and should not appear in the body of the definition. (Definitions eventually get munged into the IEEE dictionary of terms, so need to be capable of being extracted from this clause without having to be edited).
COMMENT END:
SUGGESTED CHANGES START:
Fix as suggested.
SUGGESTED CHANGES END:

Proposed disposition of comment 51

Accept.

Comment 52 Tony Jeffree

COMMENT TYPE: E
CLAUSE: 3.14
PAGE: 21
LINE: 53
COMMENT START:
Similar comment to one earlier on 3.2 - this isn't really a definition, so all we need is the acronym in Clause 4. Also applies to other defs such as 3.35.
COMMENT END:
SUGGESTED CHANGES START:
Delete 3.4, and attach the web reference as a footnote to the expansion of ITU-T in Clause 4. Do similar for any other instances, such as 3.35.
SUGGESTED CHANGES END:

Proposed disposition of comment 52

Accept.

Comment 53 Tony Jeffree

COMMENT TYPE: E
CLAUSE: 3.24

PAGE: 22
LINE: 32, 33
COMMENT START:
The sentence beginning "The exact form..." shouldn't be part of the definition (because presumably this will be determined by the time we publish this).
COMMENT END:
SUGGESTED CHANGES START:
Move that sentence to an Editor's Note after the definition, or simply delete it.
SUGGESTED CHANGES END:

Proposed disposition of comment 53

Accept.

Comment 54 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 5.4
PAGE: 11
LINE: 5.4.e)
COMMENT START:
Shouldn't MEP CCM database be more appropriately called CFM database?
COMMENT END:
SUGGESTED CHANGES START:
Replace CCM database with CFM database. If comment is accepted, the changed should be performed throughout the document.
SUGGESTED CHANGES END:

Proposed disposition of comment 54

Reject. There is an optional MIP CCM database, which is different than the MEP CCM database.

Comment 55 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 12.1.2
PAGE: 27
LINE: c) 4)
COMMENT START:
Issue trains of PATH trace query-relay-response…
COMMENT END:
SUGGESTED CHANGES START:
Replace with "Issue trains of link trace…
SUGGESTED CHANGES END:

Proposed disposition of comment 55

Accept.

Comment 56 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 12.3.2
PAGE: 29
LINE:
COMMENT START:
"… all Maintenance Association Managed Objects associates with that…"
COMMENT END:
SUGGESTED CHANGES START:
Replace "associates" with "associated"
SUGGESTED CHANGES END:

Proposed disposition of comment 56

Accept.

Comment 57 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 18.1.3
PAGE: 91
LINE: First paragraph
COMMENT START:
Text refers to inferior/superior MDs. Difficult to understand from Fig. 18-4
COMMENT END:
SUGGESTED CHANGES START:
Make at least reference to fig. 18-18.
SUGGESTED CHANGES END:

Proposed disposition of comment 57

Accept in principle, though inferior/superior may go away, if other comments are accepted.

Comment 58 Dan Romascanu

COMMENT TYPE: E
CLAUSE: 3, 4
PAGE: 5
LINE: 1
COMMENT START:

The term and abbreviation ISS is widely used in this section, but is never defined.
COMMENT END:
SUGGESTED CHANGES START:
Include ISS definition in section 3 and abbreviation expansion in Section 4
SUGGESTED CHANGES END:

Proposed disposition of comment 58

Accept.

Comment 59 Dan Romascanu

COMMENT TYPE: E
CLAUSE: 3.35
PAGE: 7
LINE: 18
COMMENT START:
MPLS is defined as the collection of documents defining MPLS, instead of providing some more meaningful definition
COMMENT END:
SUGGESTED CHANGES START:
Change the text in 3.35 to: 'Multiprotocol Label Switching (MPLS) is a data-carrying mechanism, operating at a sub-layer below IP, designed to provide a unified data-carrying service for both circuit-based clients and packet-switching clients which provide a data-gram service model. MPLS is being defined by a series of RFCs and Internet-Drafts from the IETF MPLS Working Group (see http://www.ietf.org/html.charters/mpls-charter.htms) and ITU-T Recommendations (see http://www.itu.int/ITU-T/)
SUGGESTED CHANGES END:

Proposed disposition of comment 59

Accept.

Comment 60 Dan Romascanu

COMMENT TYPE: E
CLAUSE: 12.3
PAGE: 27
LINE: 46
COMMENT START:
The editorial comment about inserting section 12.14 here seems to be out of context
COMMENT END:
SUGGESTED CHANGES START:
Delete the editorial comment or move to the appropriate place or other clarification
SUGGESTED CHANGES END:

Proposed disposition of comment 60

Accept.

Comment 61 Linda Dunbar

COMMENT TYPE: ER
CLAUSE: 18.1.3
PAGE: 91
LINE: 50
COMMENT START:
It is not clear if the statement “unmarked SAP” refers to the unmarked SAP within Operator A and Operator B? or unmarked SAP within Provider A?
COMMENT END:
SUGGESTED CHANGES START:
State it explicitly if it is unmarked SAP within Operator A/B or Provider A.
SUGGESTED CHANGES END:

Proposed disposition of comment 61

Accept.

Comment 62 Linda Dunbar

COMMENT TYPE: ER
CLAUSE: 18.2.1
PAGE: 94
LINE: 29
COMMENT START:
Is “o(n)” an type error?
COMMENT END:
SUGGESTED CHANGES START:
SUGGESTED CHANGES END:

Proposed disposition of comment 62

Accept.

Comment 63 David W. Martin

COMMENT TYPE: E
CLAUSE: 3.11
PAGE: 5
LINE: 42
COMMENT START:

Not sure if the term "Fully-Qualified MAID" is appropriate. A "Fully-Qualified MAID" = [MAID + MEPID].
COMMENT END:
SUGGESTED CHANGES START:
Consider another name / acronym which makes the MEPID portion more obvious.
SUGGESTED CHANGES END:

Proposed disposition of comment 63

Accept.

Comment 64 David W. Martin

COMMENT TYPE: E
CLAUSE: 3.24
PAGE: 6
LINE: 32-33
COMMENT START:
Since the format isn't finalized, there should be a flag (like an Editor's Note) so it gets updated later.
COMMENT END:
SUGGESTED CHANGES START:
Add an Editor's Note following clause 3.24 indicating that the format is TBD.
SUGGESTED CHANGES END:

Proposed disposition of comment 64

Accept in principle. This is not the place for the format, hence not the place to state that the format is TBD.

Comment 65 David W. Martin

COMMENT TYPE: E
CLAUSE: 8.14
PAGE: 18
LINE: 44
COMMENT START:
Missing word.
COMMENT END:
SUGGESTED CHANGES START:
Change "8-8 illustrates an example" to "Figure 8-8 illustrates an example".
SUGGESTED CHANGES END:

Proposed disposition of comment 65

Accept.

Comment 66 David W. Martin

COMMENT TYPE: E
CLAUSE: 8.15.11
PAGE: 19
LINE: 35
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Change “bits as in column 3” to “bits as in column 2”.
SUGGESTED CHANGES END:

Proposed disposition of comment 66

Accept.

Comment 67 David W. Martin

COMMENT TYPE: E
CLAUSE: 8.15.11
PAGE: 20
LINE: 22
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Change “bits as in column 3” to “bits as in column 2”.
SUGGESTED CHANGES END:

Proposed disposition of comment 67

Accept.

Comment 68 David W. Martin

COMMENT TYPE: E
CLAUSE: 12.3
PAGE: 27
LINE: 51
COMMENT START:
Re-word.
COMMENT END:
SUGGESTED CHANGES START:
Change “In Provider Service applications” to “In Service Provider applications”.
SUGGESTED CHANGES END:

Proposed disposition of comment 68

Accept.

Comment 69 David W. Martin

COMMENT TYPE: E
CLAUSE: 12.3
PAGE: 27
LINE: 50
COMMENT START:
An object hierarchy sketch would be useful here.
COMMENT END:
SUGGESTED CHANGES START:
Add an object hierarchy sketch (a suggestion is added to this email as a ppt file "CFM_object_hierarchy").
SUGGESTED CHANGES END:

Proposed disposition of comment 69

Accept.

Comment 70 David W. Martin

COMMENT TYPE: E
CLAUSE: 17.3
PAGE: 47
LINE: 23
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Change "makes no changes to clause 17.2" to "makes no changes to clause 17.3".
SUGGESTED CHANGES END:

Proposed disposition of comment 70

Accept.

Comment 71 David W. Martin

COMMENT TYPE: E
CLAUSE: 18.1.3
PAGE: 92
LINE: 39-40
COMMENT START:

The text refers to “the heavy diagonal hatched Service Instance at the Provider MA level, and the gray Service Instance at the Operator MA Level.” In Figure 18-5. On my screen and printout I don’t see any hatching.
COMMENT END:
SUGGESTED CHANGES START:
Consider some other means of identifying the two SIs / MEPs in Figure 18-5.
SUGGESTED CHANGES END:

Proposed disposition of comment 71

Accept in principle. It is white.

Comment 72 David W. Martin

COMMENT TYPE: E
CLAUSE: 18.4.2.3
PAGE: 103
LINE: 28
COMMENT START:
Typo?
COMMENT END:
SUGGESTED CHANGES START:
Check what was intended by the following “(see subclause 12.3.4.1.3, point t and point t)”. It would appear that one reference to “point t” is appropriate. Not sure whether the second is a duplicate or whether a different letter was intended.
SUGGESTED CHANGES END:

Proposed disposition of comment 72

Accept.

Comment 73 David W. Martin

COMMENT TYPE: E
CLAUSE: 18.4.2.5
PAGE: 103
LINE: 50
COMMENT START:
Wording suggestion.
COMMENT END:
SUGGESTED CHANGES START:
Change “The CCR maintains one example of” to “The CCR maintains one instance of”.
SUGGESTED CHANGES END:

Proposed disposition of comment 73

Accept.

Comment 74 David W. Martin

COMMENT TYPE: E
CLAUSE: 18.4.7
PAGE: 107
LINE: Figure 18-16
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
At the output (LHS) of the Loopback Forwarder block, change "(LBM)" to "(LBR)".
SUGGESTED CHANGES END:

Proposed disposition of comment 74

Accept.

Comment 75 David W. Martin

COMMENT TYPE: E
CLAUSE: 18.8
PAGE: 113
LINE: 47
COMMENT START:
Wording change.
COMMENT END:
SUGGESTED CHANGES START:
Change "may use the AISs to condition suppress the reporting" to "may use the AISs to condition the reporting".
SUGGESTED CHANGES END:

Proposed disposition of comment 75

Accept.

Comment 76 David W. Martin

COMMENT TYPE: E
CLAUSE: 19.6
PAGE: 119
LINE: 44
COMMENT START:

Typo.
COMMENT END:
SUGGESTED CHANGES START:
Change “Organizational User Identifier” to “Organizationally Unique Identifier”.
SUGGESTED CHANGES END:

Proposed disposition of comment 76

Accept in principle. Organization Unique Identifier.

Comment 77 David W. Martin

COMMENT TYPE: E
CLAUSE: 19.6
PAGE: 119
LINE: 44
COMMENT START:
Add appropriate footnote reference for obtaining an OUI.
COMMENT END:
SUGGESTED CHANGES START:
Change “obtainable from the IEEE” to “obtainable from the IEEE1”. Add the following associated footnote “Interested applicants should contact the IEEE Standards Department, Institute of Electrical and Electronics Engineers, http://standards.ieee.org/regauth/index.html, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, USA.” That text was used in P802.3ah EFM OAM for the same purpose.
SUGGESTED CHANGES END:

Proposed disposition of comment 77

Accept.

Comment 78 David W. Martin

COMMENT TYPE: E
CLAUSE: 19.9.2
PAGE: 123
LINE: 43-44
COMMENT START:
Typo.
COMMENT END:
SUGGESTED CHANGES START:
Change “A receiving IFF should shall ignore” to “A receiving IFF shall ignore”.
SUGGESTED CHANGES END:

Proposed disposition of comment 78

Accept.

Comment 79 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 18.2
PAGE: 93
LINE: 7th from bottom
COMMENT START:
"fault notification mechanism can be used…"
COMMENT END:
SUGGESTED CHANGES START:
"Fault notification mechanism can be used…"
SUGGESTED CHANGES END:

Proposed disposition of comment 79

Accept.

Comment 80 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 18.4.2.3
PAGE: 103
LINE: a)
COMMENT START:
"…see subclause 12.3.4.1.3, point t and point t)"…! Point t mentioned twice…
COMMENT END:
SUGGESTED CHANGES START:
Fix it…
SUGGESTED CHANGES END:

Proposed disposition of comment 80

Accept.

Comment 81 Dirceu Cavendish

COMMENT TYPE: E
CLAUSE: 18.8
PAGE: 113
LINE: last line of page
COMMENT START:
"This information is [be] transmitted in the CCMs.

COMMENT END:
SUGGESTED CHANGES START:
Drop [be]
SUGGESTED CHANGES END:

Proposed disposition of comment 81

Accept.

Comment 82 Bob Sultan

COMMENT TYPE: E
CLAUSE: global
PAGE:
LINE:
COMMENT START:
There appears to be no rule throughout the document as to when acronyms are, or are not expanded.
COMMENT END:
SUGGESTED CHANGES START:
Remedy: Modify document consistent with the rule that the first use of an acronym within a clause shows the expansion, followed by the acronym in parentheses. Subsequent use within the clause just shows the acronym.
SUGGESTED CHANGES END:

Proposed disposition of comment 82

Accept.

Comment 83 Bob Sultan

COMMENT TYPE: E
CLAUSE: global
PAGE:
LINE:
COMMENT START:
Lists throughout the document have numbering/lettering continued when they should be restarted.
COMMENT END:
SUGGESTED CHANGES START:
Fix throughout.
SUGGESTED CHANGES END:

Proposed disposition of comment 83

Reject. List numbering is in IEEE format to enable unambiguous references to "subclause 18.4.3.2 point b)".

Comment 84 Bob Sultan

COMMENT TYPE: E
CLAUSE: 8.15.11
PAGE: 19
LINE: 32
COMMENT START:
Would be helpful to provide note explaining why no level 7.
COMMENT END:
SUGGESTED CHANGES START:
Provide explanation
SUGGESTED CHANGES END:

Proposed disposition of comment 84

Accept in principle. There will be a level 7.

Comment 85 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.1.1
PAGE: 89
LINE: 44
COMMENT START:
wording improvement.
COMMENT END:
SUGGESTED CHANGES START:
Change "has a" to "is assigned a".
SUGGESTED CHANGES END:

Proposed disposition of comment 85

Accept.

Comment 86 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.1.3
PAGE: 92
LINE: 42
COMMENT START:

Too many MAs.
COMMENT END:
SUGGESTED CHANGES START:
Change to "Customer MA Level"
SUGGESTED CHANGES END:

Proposed disposition of comment 86

Accept.

Comment 87 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.2.3
PAGE: 94
LINE: 51
COMMENT START:
Severe run-on sentence.
COMMENT END:
SUGGESTED CHANGES START:
Replace paragraph with "A Linktrace Message (LTM) carrying a target MAC address is multicast by a MEP to MPs within the MD. A receiving MP sends a unicast Linktrace Reply (LTR) to the source if it finds the destination address in the local FDB and the source address in the local FDB associated with the bridge port on which the LTM was received. The LTR is an indication that the sender of the reply is on the path from the source to the destination. The LTR contains the identity of the port on which a data frame, bound for the specified destination, would be forwarded. The collection of such replies, received at the source, provides sufficient information to construct the sequence of MPs that would be traversed by a frame sent to the destination.
SUGGESTED CHANGES END:

Proposed disposition of comment 87

Accept in principle.

Comment 88 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.4.1
PAGE: 100
LINE: 47
COMMENT START:
"Controlled Port" is not defined in the text.
COMMENT END:
SUGGESTED CHANGES START:
Provide definition of controlled port.

SUGGESTED CHANGES END:

Proposed disposition of comment 88

Accept in Principle. Reference will be supplied.

Comment 89 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.4.2
PAGE: 101
LINE: 39
COMMENT START:
'for' is vague.
COMMENT END:
SUGGESTED CHANGES START:
Replace with "describing"
SUGGESTED CHANGES END:

Proposed disposition of comment 89

Accept.

Comment 90 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.4.3
PAGE: 105
LINE: 34
COMMENT START:
Should this be a) and b) ?
COMMENT END:
SUGGESTED CHANGES START:
Restart lettering.
SUGGESTED CHANGES END:

Proposed disposition of comment 90

Reject. Lettering is correct.

Comment 91 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.4.7
PAGE: 106
LINE: 42

COMMENT START:
Wording.
COMMENT END:
SUGGESTED CHANGES START:
A MIP contains two MIP Half Functions (MHF) that operate identically.
SUGGESTED CHANGES END:

Proposed disposition of comment 91

Accept.

Comment 92 Bob Sultan

COMMENT TYPE: E
CLAUSE: 18.8
PAGE: 113
LINE: 53
COMMENT START:
Editorial: Extra “be”.
COMMENT END:
SUGGESTED CHANGES START:
Delete.
SUGGESTED CHANGES END:

Proposed disposition of comment 92

Accept.

Comment 93 Bob Sultan

COMMENT TYPE: E
CLAUSE: 19.2.2
PAGE: 116
LINE:
COMMENT START:
missing word
COMMENT END:
SUGGESTED CHANGES START:
add ‘be’
SUGGESTED CHANGES END:

Proposed disposition of comment 93

Accept.

Comment 94 Bob Sultan

COMMENT TYPE: E
CLAUSE: 19.9.3
PAGE: 124
LINE: 1
COMMENT START:
This portion of the document is difficult to read because header levels 3, 4, and 5 all appear to use the same font, size, and type.
COMMENT END:
SUGGESTED CHANGES START:
Use fonts that allow header levels to be easily distinguished.
SUGGESTED CHANGES END:

Proposed disposition of comment 94

Accept if possible. Header formats may be defined by IEEE, and not changeable on a per-document basis. It is difficult to supply 5 or 6 levels of font, size, type, etc., that is obvious and meaningful to the reader.

Comment 95 Bob Sultan

COMMENT TYPE: E
CLAUSE: 19.12.2
PAGE: 128
LINE: 33
COMMENT START:
No arrowhead here. Is ME a defined term?
COMMENT END:
SUGGESTED CHANGES START:
Delete parenthesized text.
SUGGESTED CHANGES END:

Proposed disposition of comment 95

Accept in principle. Text is certainly vague.

Comment 96 Bob Sultan

COMMENT TYPE: E
CLAUSE: 12.3.2
PAGE: 30
LINE: 47
COMMENT START:
Typo
COMMENT END:

SUGGESTED CHANGES START:
associates --> associated
SUGGESTED CHANGES END:

Proposed disposition of comment 96

Accept.

Comment 97 Glenn Parsons

COMMENT TYPE: E
CLAUSE: all
PAGE:
LINE:
COMMENT START:
There is no need to start each clause on a left hand page - it creates many blank pages.
COMMENT END:
SUGGESTED CHANGES START:
Start each clause on a new page.
SUGGESTED CHANGES END:

Proposed disposition of comment 97

Accept.

Comment 98 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE:
PAGE: f,g
LINE:
COMMENT START:
Reference to Q3/13 should be changed to Q5/13
COMMENT END:
SUGGESTED CHANGES START:
Reference to Q3/13 should be changed to Q5/13
SUGGESTED CHANGES END:

Proposed disposition of comment 98

Accept.

Comment 99 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 3.18, others

PAGE: 6, others
LINE: 10-11
COMMENT START:
It has been observed that the convention to use acronyms and expanded form is still not being used consistently. For example, MEPs and MIPs are used in expanded form here while abbreviations are used in previous clauses e.g. 3.16, 3.17 etc. Similar occurrences have also been observed in other parts. Therefore, a consistent application between abbreviations and expanded forms, as per discussion in last round, must be applied in the document for better readability.
COMMENT END:
SUGGESTED CHANGES START:
Apply changes as suggested in the comment above to make consistent use of abbreviations and expanded forms.
SUGGESTED CHANGES END:

Proposed disposition of comment 99

Accept.

Comment 100 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 4
PAGE: 9-10
LINE:
COMMENT START:
Based on some earlier comments in Clause 3, remove abbreviations for ATM, CFF, ITU-T, MPLS, nCCM and tCCM
COMMENT END:
SUGGESTED CHANGES START:
Resolve previous comments related to clause 3 and consider removing abbreviations for ATM, CFF, ITU-T, MPLS, nCCM and tCCM
SUGGESTED CHANGES END:

Proposed disposition of comment 100

Accept.

Comment 101 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 12.3.4.1.3
PAGE: 34
LINE:
COMMENT START:

Change bullet g) from “EFF is generating AISs” to “EFF should or should not generate AISs”
COMMENT END:
SUGGESTED CHANGES START:
Change bullet g) from “EFF is generating AISs” to “EFF should or should not generate AISs”
SUGGESTED CHANGES END:

Proposed disposition of comment 101

Accept.

Comment 102 Norman Finn

COMMENT TYPE: E
CLAUSE: 19.14
PAGE: 134
LINE: 53
COMMENT START:
A subclause header should never be the last line of a page.
COMMENT END:
SUGGESTED CHANGES START:
Fix it.
SUGGESTED CHANGES END:

Proposed disposition of comment 102

Accept.

Comment 103 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 18.1.3
PAGE: 92
LINE: 35-42
COMMENT START:
The text and referenced figures do not seem to match completely. For example, the reference to “heavy diagonal hatched” in text is not obvious or missing in Figure 18-5 (at least in the black and white copy that I have)
COMMENT END:
SUGGESTED CHANGES START:
Align the text and figures (most likely will require modification in Figure 18-5 to make it applicable for black and white copy)
SUGGESTED CHANGES END:

Proposed disposition of comment 103

Accept in principle.

Comment 104 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 18.4
PAGE: 97
LINE: 22-27
COMMENT START:
Quite a bit of the text and figure 18-10 appears more like tutorial material that could be moved out of the main clause to an appendix to improve readability. Consider moving some text that is intended to highlight the concepts into an appendix.
COMMENT END:
SUGGESTED CHANGES START:
Consider moving some text and/or figures to an appendix if the intent for the text and/or figures is to clarify the concepts introduced earlier.
SUGGESTED CHANGES END:

Proposed disposition of comment 104

Accept in principle, but other major editorial comments may supersede this comment.

Comment 105 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 18.7.1
PAGE: 111
LINE:
COMMENT START:
Figure 18-19 has some missing arrows
COMMENT END:
SUGGESTED CHANGES START:
Add the arrows (the commenter can point out the missing arrows during discussion or comment resolution).
SUGGESTED CHANGES END:

Proposed disposition of comment 105

Accept.

Comment 106 Dinesh Mohan

COMMENT TYPE: ER
CLAUSE: 19.2.2

PAGE: 116
LINE: 16
COMMENT START:
Change “shall not used” to “shall not be used”
COMMENT END:
SUGGESTED CHANGES START:
Change “shall not used” to “shall not be used”
SUGGESTED CHANGES END:

Proposed disposition of comment 106

Accept.

Comment 107 Muneyoshi Suzuki

COMMENT TYPE: E
CLAUSE: 8
PAGE: 17
LINE: 50
COMMENT START:
“Insert the following clause after clause 8.13.” seems to me incorrect description, because clause title of 8.13 in Q-rev/ad is “Addressing”.
COMMENT END:
SUGGESTED CHANGES START:
Replace to, “Insert the following clause after clause 8.12 and renumbering the remainder of Clause 5 appropriately.” And renumber all clauses in 8.15 of .1ag to 8.14.
SUGGESTED CHANGES END:

Proposed disposition of comment 107

Accept.

Comment 108 Tony Jeffree

COMMENT TYPE: G
CLAUSE:
PAGE:
LINE:
COMMENT START:
It is clear that the ideas behind this standard are getting pretty well consolidated in this draft; however, there are still several significant holes that need filling. (Sorry Norm - I haven’t got suggested text...) If we are reasonably confident at the end of this balloting round that those holes are fillable in the next draft, I would suggest that it is time we moved to formal WG balloting.
COMMENT END:
SUGGESTED CHANGES START:

SUGGESTED CHANGES END:

Proposed disposition of comment 108

Accept.

4. Technical ballot comments on Draft 4.1

Comment 109 Norman Finn

COMMENT TYPE: ER
CLAUSE: 18.2.4
PAGE: 95
LINE: 21-41
COMMENT START:
There is no mention of how the operator deals with fault alarms. The process must be explained.
COMMENT END:
SUGGESTED CHANGES START:
Explain that: A Fault Alarm is sent when certain state machines enter the fault state and alarms are enabled. No further Fault Alarms are transmitted until either 1) alarms are re-enabled and the state machine is in the fault state, or b) the state machine exits the fault state, either because the fault condition goes away, a timer expires, or the operator resets the state machine. The normal operator procedure upon receiving a fault alarm is to inspect the reporting MEP's state, diagnose the fault, correct the fault, examine the MEP state to see whether the state machine is still in the fault state, and repeat those steps until the state machine no longer in the fault state.
SUGGESTED CHANGES END:

Proposed disposition of comment 109

Accept.

Comment 110 Norman Finn

COMMENT TYPE: ER
CLAUSE: 19.15.2
PAGE: 136f
LINE:
COMMENT START:
There is no mention about sending AISs if a VLAN is not being used on a port.
COMMENT END:
SUGGESTED CHANGES START:
The Member Set and Dynamic VLAN Registration Entries should affect the operation of the MEP state machines. For example, if GVRP has is neither requesting nor registering a given VLAN, then the AIG state machine should be inhibited from transmitting AISs.
SUGGESTED CHANGES END:

Proposed disposition of comment 110

Accept.

Comment 111 Norman Finn

COMMENT TYPE: ER
CLAUSE: 18.4.7
PAGE: 106f
LINE:
COMMENT START:
It needs to be explained that one need not explicitly create a MIP on every port. The relationship between VLANs and MIPs and GVRP needs to be explained.
COMMENT END:
SUGGESTED CHANGES START:
A given bridge must know, for each port, the MA Level (and at present, the MAID, though that may change) of the MA at the most inferior MA Level superior to the MA Level of the most-superior MEP on that port, for each VLAN that is allowed to pass through that port. Armed with that information, a bridge may configure a MIP for each VLAN on each port.
SUGGESTED CHANGES END:

Proposed disposition of comment 111

Accept.

Comment 112 Norman Finn

COMMENT TYPE: ER
CLAUSE: 19
PAGE:
LINE:
COMMENT START:
There is very little said about GVRP in this document. It is more important than that. In particular, what happens when a MEP is configured on a port and GVRP says that VLAN is no longer needed?
COMMENT END:
SUGGESTED CHANGES START:
A MIP is no problem; its state machine is unaffected. Every MEP must know whether its VLAN is or is not being filtered by the Member Set and the Dynamic VLAN Registration Entries (configuration and GVRP). If its VLAN is blocked, it enters an “available” state in which it advertises itself (and its state) with CCs, but does not expect to receive CCs. Those MEPs that are active but not in this half-alive “available” state know that the available MEP is present. When the available MEP’s port again has the VLAN registered and flowing, the MEP behaves very much like it was just turned on, as it starts receiving the other MEPs’ CCs. Altered state diagrams are required (and will be offered in a contribution). Also, a place in the CCM is needed for the MEP state.
SUGGESTED CHANGES END:

Proposed disposition of comment 112

Accept.

Comment 113 Norman Finn

COMMENT TYPE: ER
CLAUSE: many
PAGE:
LINE:
COMMENT START:
Distinguish clearly between “defects” and “faults”. Reception of a frame (or a timeout without receiving a frame) may trigger setting a “defect”. This is a variable with the name whateverDefect. If a defect persists for 2.5 seconds, it may generate a fault. This is a variable with the name somethingOrOtherFault. Faults feed the Fault Alarm state machine.
COMMENT END:
SUGGESTED CHANGES START:
Make it so.
SUGGESTED CHANGES END:

Proposed disposition of comment 113

Accept.

Comment 114 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.2.8
PAGE: 117
LINE: 21-25
COMMENT START:
It appears from the text that a valid time stamp must be set in the Time Originated field. There is no way to say, “I don’t know when this was sent.” This is an unnecessary burden on those commands, such as CCM, that do not require this function.
COMMENT END:
SUGGESTED CHANGES START:
Add text to state that the value 0 means that no time stamp is present.
SUGGESTED CHANGES END:

Proposed disposition of comment 114

Accept.

Comment 115 Norman Finn

COMMENT TYPE: TR

CLAUSE: 19.15.2.3 Figure 19-1
PAGE: 137
LINE: 1-20
COMMENT START:
AIS Generation never ceases, but goes on forever.
COMMENT END:
SUGGESTED CHANGES START:
Add a UCT from AIG_TRANSMIT_2 to a new AIG_AIS_SENT state. That state waits for (! someRMEPfailed) to transition to AIG_NO_FAILURE.
SUGGESTED CHANGES END:

Proposed disposition of comment 115

Accept in principle. Much easier to change the UCT from AIG_TRANSMIT_2 to be conditioned on (! someRMEPfailed).

Comment 116 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.2.3
PAGE: 103
LINE: 21-32
COMMENT START:
CFM frames at inferior MA Levels are counted and discarded. This simple handling fails to detect two important classes of error: Missing MEPs and cross-connected services at different MA Levels. Suppose a MEP at MA Level 3 receives a CCM at MA Level 4. That should never happen. If it does happen, it could be caused by 1) a MEP should be configured on this port at MA Level 4, but it has not been configured; 2) This Level 3 MEP should have been configured for Level 4; 3) The MA Level of this MA is in the process of being changed; 5) There has been a cross-connect between this service and a service that operates at MA Level 4. In case 5), you have a serious error that will go undetected if there are no MEPs at any higher layers.
COMMENT END:
SUGGESTED CHANGES START:
Reception of CCM (only) in a MEP at an inferior MA Level should raise a Fault Alarm. This will require a state machine (see following comment), and should be handled in much the same way as a cross-connect error.
SUGGESTED CHANGES END:

Proposed disposition of comment 116

Accept.

Comment 117 Norman Finn

COMMENT TYPE: TR

CLAUSE: 19.15.3
PAGE: 136ff
LINE:
COMMENT START:
What happens when a cross-connect is received? How is the fault alarm handled?
COMMENT END:
SUGGESTED CHANGES START:
There must be one state machine for receiving error CCMs. This state machine should be similar to Figure 19-3, IFF Remote MEP State Machine. rMEPwhile should use the greater of rMEPwhile and the recvdLifetime to reset rMEPwhile. A single bad CCM (inferior MA Level, cross-connect, etc.) should throw the machine into a fault condition, which is reset by the expiry of rMEPwhile. Entering the fault condition causes a Fault Alarm to be sent. Appropriate managed objects to report the error fault are required. This state machine should also have a "reset" function, in case a received CCM has a very long lifetime.
SUGGESTED CHANGES END:

Proposed disposition of comment 117

Accept.

Comment 118 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.2
PAGE: 115ff
LINE:
COMMENT START:
There is no way for ITU-T, vendors, or providers to extend CFM.
COMMENT END:
SUGGESTED CHANGES START:
Add a 3-byte OUI field to the header in front of the OpCode. Use IEEE 802 OUI in our OpCodes. Add a section of text describing what restrictions there are on adding new OpCodes.
SUGGESTED CHANGES END:

Proposed disposition of comment 118

Discuss. OUI, or split the OpCode field?

Comment 119 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.2.1
PAGE: 116
LINE: 1-9
COMMENT START:

There a number of reasons to use a multicast or unicast destination MAC address on a CCM. There are reasons to use the destination MAC address as a filter and allow multiple MEPs on a single VLAN. Backbone bridges are one example. There are XYZ-over-Ethernet protocols that provider other examples. A general rule needs to be expressed on the restrictions on MAC addresses.
COMMENT END:
SUGGESTED CHANGES START:
This standard provides only for protecting VLANs, not sub-domains within VLANs defined by multicast or unicast MAC addresses. When protecting VLANs, the provided destination multicast MAC addresses shall be used. The principle that shall be followed when this restriction is relaxed (and it will, in the future, be relaxed) is that 1) the technique used to identify to which Service Instance a data frame belongs must be exactly the same technique used to identify to which Maintenance Association a CFM frame belongs. (The implication, which may or may not be included in the text, is that the mutually exclusive VLAN filters on the EISS SAPs bracketing a CFM Sublayers in Figure 18-12 may in the future be extended to include mutually exclusive destination MAC address filters.)
SUGGESTED CHANGES END:

Proposed disposition of comment 119

Accept.

Comment 120 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.15.3.5, 19.15.3.6
PAGE: 138ff
LINE:
COMMENT START:
Remote MEP state machine should use only rMTPstartTime, and not recvdLifetime. The dynamic range available to the Lifetime TLV means that a large number of bits per remote MEP must be devoted to remote MEP timers in a hardware implementation. Demanding that all remote MEPs have the same Lifetime TLV value means that only 1 or 2 bits need be devoted to each remote MEP timer.
COMMENT END:
SUGGESTED CHANGES START:
The Lifetime TLV should only be compared to the expected value, and a mismatch should generate a CCM receive error that is handled just like the inferior MA Level error or the cross-connect error.
SUGGESTED CHANGES END:

Proposed disposition of comment 120

Accept.

Comment 121 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 5
PAGE: 11
LINE:
COMMENT START:
The proposed changes to the conformance clause need to be updated to reflect the progress of .1Q-REV and .1ad. Application of the current changes as an amendment to .1Q base text that comprises .1Q-REV D4.0 and .1ad D6.0 results in a rather indeterminate relationship between CFM and the VLAN-aware Bridge whose conformance is being specified. If we don't correct this it will have unfortunate consequences when the PICS is constructed.
Note that the current position of the CFM Requirements subclause does not help its application to end-stations, such as routers, that may well require MEP functionality. That is the subject of another comment. In any case the CFM end station requirements are likely to differ enough from those in a bridge to make their separate presentation useful and more maintainable.
(In passing I regret the necessity of following .1Q-REV in nesting options under requirements for VLAN-aware Bridges, as deep nesting of clauses hinders rather than helps readability.)
COMMENT END:
SUGGESTED CHANGES START:
Add the following as required changes to .1ag (the text to be modified is currently in .1Q-REV D4-P802.1ad/D6.0):
"In subclause 5.3.1 VLAN-aware Bridge options insert the following additional bullet, after current bullet (b).
c) Support CFM operation (5.3.1.3);"
Change the current editing instruction which reads:
"Insert the following clause before Clause 5.4, and renumbering the remainder of Clause 5 appropriately."
to
"Insert the following clause after Clause 5.3.1."
and renumber 5.4 as 5.3.1.2, removing the heading 5.5 and use the same editorial way as of moving from the required elements to the optional ones as has been adopted in .1Q-REV 5.3.1.1. as detailed below.
Replace the introductory sentence that reads:
"An implementation of Connectivity Fault Management shall:"
with
"A VLAN-aware Bridge implementation that conforms to the provisions of this standard for Connectivity Fault Management shall:"
Replace the introductory sentence that reads:
"An implementation of Connectivity Fault Management may:"
with
"A VLAN-aware Bridge implementation that conformance to the provisions of this standard for Connectivity Fault Management may:"

SUGGESTED CHANGES END:

Proposed disposition of comment 121

Accept.

Comment 122 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 5
PAGE: 11
LINE:
COMMENT START:
The purpose of .1ag is to specify that which is necessary to allow the implementation of interoperable connectivity fault management between bridges implemented by different vendors and operated by multiple independent organizations. The conformance clause and PIC(s) need to state requirements and ask questions about those stated requirements that are sufficient to assure that expected interoperability will occur and to identify cases where interoperability will or may not occur. In consequence CFM conformance needs to state not just the design of the protocols and the management controls available, but also the relationship of CFM entities to the rest of the bridge architecture. In particular where and how CFM entities are contained within Bridge Ports needs to be clear in the cases of each of the types of bridge component, and of VLAN Bridges, S-VLAN Bridges, and Provider Edge Bridges. This is only partially done in the proposed changes to clause 8 (see particularly the proposed Figure 8-8) as is apparent from Figure 18-13 which shows a MEP split across the Bridge Port Transmit and Receive Function and across a P802.1AE SecY. It is not just the SecY that causes this difficulty, as the much discussed handling of AIS by 'per VLAN' functions elsewhere in the document shows.
I would note that the SecY in Figure 18-13 is mispositioned, unless there is much other information that has not been provided. Apart from creating the problem indicated there is no reason to put the SecY above the lower CFM IFF since the SecY operates hop-by-hop.
The Key Agreement protocols under development as part of .1af necessarily have the task of ensure they know what connectivity between SecYs has to be, and providing that knowledge is an secure way that is not easily disrupted. The positioning shown in Fig 18-13 opens the whole network to disruptive attacks by allowing attacks on the CFM in clear to create message above the level of the SecY without policy filtering by an appropriate handler/user. It is much better to protect all messages with MACsec if that can conceivably be done, and it is easy to do so in this case.
To arrive at an interoperable specification, then, we need a place in the document that describes one or more ways in which CFM is incorporated within the interface stack that comprises a Bridge Port. There may or may not be differences in how this is done for the various types of bridges.
COMMENT END:
SUGGESTED CHANGES START:
Add a new clause 22. 'CFM in Systems' that shows CFMs preferred relationship to other media independent functions in order to assure interoperability. 802.1AE Clause 11 illus-

trates a number of scenarios for SecY placement, it needs to be clear how CFM would fit into everyone of these (at a minimum).
Replace Figure 18-13 with something more plausible, preferably not involving security.
SUGGESTED CHANGES END:

Proposed disposition of comment 122

Accept.

Comment 123 Mick Seaman

COMMENT TYPE: T
CLAUSE: 5
PAGE: 11
LINE:
COMMENT START:
We should not neglect the fact that CFM, or most particularly MEP functionality, is also valuable in a LAN end station as well as a bridge. Another, perhaps less obvious need is to allow CFM to be implemented in bridges that are not VLAN-aware, either by design, or by selection of options. There are enterprise scenarios where CFM could be useful to network administrators who have decided not to deploy VLANs.
This comment does not ask for an extension of the current .1ag scope, but suggests how the above needs should be met in the future. It has been submitted in the hope that having a well considered plan will remove the risk of adopting alternatives that would make CFM conformance vaguer in the misguided belief that those would cover the above needs with a minimum of change.
Part of the reason for the plan is to ensure that we do not find ourselves in difficulties with the PICS at a late stage in the development of .1ag. The PICS in Annex A is most definitely a PICS for a single VLAN-aware Bridge. It should stay that way. End-station implementation of .1Q related protocols should be the subject of a future separate PICS, possibly as a new Annex D. The protocols included might include end station VLAN and priority tagging. The unattractive alternative would be a new PICS per protocol, with references to that PICS from the VLAN-aware Bridge PICS and other PICS, including a possible end station PICS.
Since the conformance requirements for end stations are likely to differ significantly for CFM, and possibly for other future protocols, stating them separately at the outset rather than trying to share a requirements statement with bridges is probably simpler, and easier to maintain.
The future changes are illustrated here by reference to .1Q-REV D4 as amended by P802.1ad/D6.0. The proposed structure can be extended easily, with the addition of further suitable 5.x clauses and additions to the Annex B PICs, to accommodate end station implementations of other .1Q protocols.
Change the first paragraph of 5.2 as follows:
The supplier of a bridge implementation that is claimed to conform to this standard shall complete a copy of the PICS proforma provided in Annex A and shall provide the information necessary to identify both the supplier and the implementation.

Add the following paragraph after the initial paragraph of 5.2:
The supplier of an end-station implementation of protocols that are claimed to conform to this standard shall complete a copy of the PICS proforma provided in Annex B and shall provide the information necessary to identify both the supplier and the implementation.
Change the first paragraph of 5.3 as follows:
A claim of conformance specifies implementation of a C-VLAN component, or an S-VLAN component, or a specific bridge system, or protocol components within an end station system. A component or system can support multiple claims for a range of possible behaviors.
Add a new clause after clause 5.8 Provider Bridge Conformance as follows:
5.9 End station Connectivity Fault Management Requirements
An end station implementation in conformance to the provisions of this standard for Connectivity Fault Management shall:
<detail omitted as irrelevant to this comment>
<Add NOTE that end stations do not need to implement CFM for CFM in bridges to be used and be useful, but that such end station implementation extends fault coverage etc.>
COMMENT END:
SUGGESTED CHANGES START:
No changes to .1ag are requested at present. However I request that the proposed plan be considered as part of the ballot resolution. If Accepted this, i.e. the existence of this plan, could serve as the basis of future rejections of comments suggesting extension of the .1ag conformance scope. Given the need to complete .1ag in a timely manner I would prefer that we not construct the required Annex B PICS at this time, but leave that to a future project that has
SUGGESTED CHANGES END:

Proposed disposition of comment 123

Accept.

Comment 124 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18, 19
PAGE: 89-147
LINE:
COMMENT START:
This draft has been developed through a detailed bottoms up analysis, as is only reasonable for a project where consideration of the feasibility and impact of the result is bound to dominate the exchange of ideas whatever the formally declared ritual. However the fact that large parts of the draft are driven by consideration of lowest common denominator of interoperability, i.e. frame formats (including message types), together with miscellaneous points arising makes it hard to (a) know where points of functionality should actually be described (b) check that the complete functionality required is both present and described in way that the readers of the document will agree upon it.

Two examples to substantiate the above: (1) the description of the Loopback functionality that can be invoked by a system administrator occurs in 18.7.2, under 18.7 CFM Message Types; (2) the use of CCM to detect accidental cross-connects is missing from the current draft.

A more formal tops-down approach is needed, proceeding from an introduction of architectural concepts and ideas, through a declaration of goals and functionality, to state machine detail. A lot of what is required is editorial, I have marked this comment TR because I consider the absence of a clear place to discuss detailed functionality (as opposed to mechanism) hinders the development of a final standard of technical integrity.

This comment was itself a result of preparing detailed comments on existing clauses, and is intended to make completion of a high quality standard easier, not harder. As such it is accompanied by detailed proposals (some of which may be useful even if this comment is rejected) that are intended to be sensitive to, and make good use of, the existing text.

At the top level I suggest that clauses 18 and 19 be split into four (just possibly five) separate clauses as follows.

18. Principles of Connectivity Fault Management Operation
19. Connectivity Fault Management Protocols
20. Encoding of CFM protocol data units
21. CFM Entity Operation
(22. CFM in Systems)

The reason for strongly preferring this split, rather than making do with just two clauses, is that this appears to be a level of granularity that enables a coherent introduction to be written for each clause--establishing a clear purpose, setting the readers expectations as to what will be found in the detail, and making it reasonably clear what is yet to be include and what should be looked for in other clauses. This is never easy during draft development as most commenters want their chief concern expounded as close to the front of the document as possible, and repeated as frequently possible, but without attempting it we will create a standard that is both bulky and incomplete.

A further comment suggests introductory text for clause 18 (per the above) at least. The purpose and suggested content of each of the suggested clauses is as follows.

Clause 18, Principles of Connectivity Fault Management Operation, should provide a top-level architectural overview with at least some flavour of the scaling goals of the design and its partitioning, together with statements of the functionality provided. A detailed suggested introduction which expands and clarifies this comment is provided below. This means that clause 18 would comprise (in addition to the new introduction) the material presently found in clauses 18.1 (which is really network architecture not introduction), 18.3, and 18.2. The material currently in 18.2 should be expanded out into separate 18.x level subclauses for each of Fault detection, verification, isolation, and notification, and should be principally concerned with the functionality offered to the network administrator. It should provide the link to the CFM Protocols (Connectivity Check, Loopback, Linktrace, and Alarm Indication Signalling) but should not describe the operation of those protocols in detail. For example, it is a CFM function to detect loss of connectivity to another MEP in the same MA within a given time, but the fact that that is done by sending CCMs at a certain rate with certain parameters is a detail that belongs elsewhere. All the other present subclauses of 18 belong elsewhere, with the possible exception of 18.4.1 which is in part an architectural mistake (I think).

Clause 19, Connectivity Management Protocols (Connectivity Check, Loopback, Linktrace, and Alarm Indication Signalling), should contain mechanistic descriptions of each of the protocols and their associated data, and the state machines and procedures that formally define them. Each of the protocols can be perfectly well described on its own, without any need to describe their packing into an IFF (or any other xFF) and the existence of a parameter of the protocol doesn't mean that the description has to be cluttered with its formatting into information elements in PDUs. Note that it is protocols, not messages that are to be described, which should make the linkage between the protocol description and the operation of the state machines a little clearer - as these too should be grouped by protocol. This means that the proposed clause 19 would cover existing clause 19.9 through 19.15, with the removal of some information and the reorganization of the rest under the four protocol subclauses. Note that this organization will get rid of some superfluous detail and distinction, such as identifying 19.15.4 as a MEP/MIP common state machine--there is no reason to talk about MEPs and MIPs in this subclause at all. Note that the introduction provided by clause 18 should be sufficient advance warning that protocol machines that originate CFM PDU exchanges won't be found in MIPs, etc. The formal organization of state machines into MIP and MEP functions is to be in Clause 21.

Clause 20, Encoding of CFM protocol data units, should contain all the details of message encoding and formatting, from encoding rules for flags, numbers, messages types, up through protocol identification, TLVS, to basic validation procedures i.e. everything from clause 19.1 through 19.7, plus the encoding specific parts of 19.8 through 19.13.

Clause 21, CFM Entity Operation, should describe the detail of the CFM shim, and all the parts that compose it, including its configuration to contain MIP and/or MEP functionality at various MA levels, and the partitioning of that functionality into IFFs, EFFs, CFFs including the multiplexing functionality that the current draft notes is absent, together with other missing elements such as the LMI. This clause would naturally contain what is currently in 18.4 and would instantiate protocol state machines and databases by reference to clause 19, thus avoiding some of the repetition of functionality currently in clause 18.4 (e.g. 18.4.7 (d) "respond to LBMs with LBRs as defined in subclause 19.11.2"). The things in the rectangular boxes in, for example, Fig 18-16 would just be the state machines specified in clause 19, and the arrows in and out of those boxes would correspond to events/procedures defined in clause 19 (adding cross-references (19.x.x) to the current figures will suffice for that).

Clause 22, CFM in Systems, should tackle all the difficulties of establishing an interoperable CFM stack - such as the split entity described in Fig 18-13, plus the discussion(s) relating to bridges in Fig 18-11 and elsewhere. It may be that this can be part of clause 21. That's not clear at present. 802.1AE Clause 11 provides an example of the sort of thing that is required.

The above organization simplifies constructing a water tight conformance statement. Essentially conformance involves implementing a Clause 21 CFM Entity (with appropriate choices and options) that can be placed in a system as defined in Clause 22 (again there may be options).

COMMENT END:

SUGGESTED CHANGES START:

No changes to .1ag are requested at present. However I request that the proposed plan be considered as part of the ballot resolution. If Accepted this, i.e. the existence of this plan,

could serve as the basis of future rejections of comments suggesting extension of the .1ag conformance scope. Given the need to complete .1ag in a timely manner I would prefer that we not construct the required Annex B PICS at this time, but leave that to a future project that has
SUGGESTED CHANGES END:

Proposed disposition of comment 124

Accept.

Comment 125 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.2
PAGE: 93-95
LINE:
COMMENT START:
This clause and text elsewhere in the document mixes the concepts of functions, protocols, and messages indiscriminately. This makes it hard to detect any structure that determines what aspects (and hence what comments) belong where in the document. Elsewhere the bottom up exposition of protocol as a consequence of PDU formats and encoding compounds the problem. While it is true that any aspect of an agreement can be called a protocol, and any aspect of an agreement provides some functionality, equating functions, protocols, messages, and formats will only lead to having to state everything everywhere - a non-terminating expansion process.
The document attempts correctly to do far more than simply providing a worm's eye view of how to generate and process individual messages. I suggest that the following structured use of the terms "functions", "protocols", "messages", and "formats/encoding" would help to determine what form of rationale needs to be stated and explored where in the document.
The term "functions", with some inevitable exceptions, but certainly when used in the context of "CFM functions", should be applied to the functionality as perceived by the users of CFM (operators, customer, administrator). Thus the functions of CFM are Fault Detection, Verification, Isolation, and Notification. The requirements for functionality delivered to those users should be discussed under those headings. Now in 18.2, proposed to be in 18.4 through 18.8 in a prior comment. The requirements that lead to that partitioning should be discussed under the proposed 18.4.
The term "protocols" should be applied to the exchange of information in CFM PDUs. An earlier comment suggest that this information, loosely corresponding to that in existing clauses 19.9 through 19.15, be placed in its own clause 19 (the rest of the existing information should be moved). Specifically the protocols that support the CFM functions comprise Connectivity Check, Loopback, Linktrace, and Alarm Indication Signalling. Discussion of each under its own heading to show how it meets the requirements of the CFM functions is appropriate.
The term "messages" should be applied to the information content of CFM PDUs. The requirements for information elements in messages should be introduced in the discussion

of the protocols (proposed in clause 19). These requirement should not contain low-level formatting driven items like getting things on octet boundaries, attempting to make sure that all messages can run through a similar parser etc. since those "requirements" are often illusory and can compromise real functionality.
Actual messages and encoding should be in a separate clause (proposed 20). This is an appropriate place to make any statement, if any is needed, that the formats support the encoding of information that is or may be required by Clause 19. This is also the appropriate place to state requirements about ease of handling, versioning etc.
COMMENT END:
SUGGESTED CHANGES START:
Use the terms "functions", "protocols", and "messages" in a way that is consistent with the comment.
SUGGESTED CHANGES END:

Proposed disposition of comment 125

Accept.

Comment 126 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.2.4
PAGE: 95
LINE: 31-36
COMMENT START:
The aside "typically, one per Service Instance carried on the failed MA." is confused and confusing. MAs don't carry service instances, they monitor them. If this is intended to mean "typically, one per Service Instance multiplexed over the Service Instance monitored by the failed MA" it is deeply confused. CFM has no business deciding what is being carried over a customer's service instance. What is more if MACsec intervenes then it will not know what multiplexing lies above.
Further analysis, supported by other comments on this draft, will show that the description of the purpose of AIS in the preceding paragraph that discusses SNMP Notification suppression for 4094 VLANs is also slightly short of the mark. The reason for substituting AIS for SNMP Notification is to communicate rapidly to the user of the Service Instance in a message that can be trapped by that user (at one of its MEPs), as opposed to generating SNMP Notifications that flow to a network management station and then require third party interference by that (possibly overwhelmed) network management station. Since the network management station probably has no easy way of communicating appropriately to the service instance user, such a network management relationship is both difficult to configure as well as slow (because it doesn't get from the location of the fault to the service instance user directly). However the first paragraph can stand at the moment until the other flaws in the document with respect to AIS have been sorted out.
COMMENT END:
SUGGESTED CHANGES START:
Delete the following sentence fragment:

"typically, one per Service Instance carried on the failed MA."
SUGGESTED CHANGES END:

Proposed disposition of comment 126

Accept.

Comment 127 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.2.4
PAGE: 95
LINE: 30-41
COMMENT START:
The text of these paragraphs and bullets (running from "Each AIS may serve either or both of two purposes" to "from sending out its own AISs, if so configured" confuses MEPs and Service Instance users, and a MEP at one level with a MEP at the next highest level.
Part of the confusion here, and throughout the discussion of AIS in the current draft, arises from the fact that the service users that we have defined to provided relay and multiplexing functions are quite dumb. Their intelligence is provided by control protocol entities that setup data that controls the operation of each service users. As an example, GVRP/MVRP is not thought of as being within the MAC Relay Entity or indeed within the mapping of the EISS to ISS. If it were this part of our network protocol analysis would have been clearer (though other issues would be more obscure).
What should happen is that a MEP that detects a connectivity fault should contact its the user of the Service Instance that it (the MEP) is monitoring, and that service user (which is a potential multiplexer) should then decide whether it wants to tickle MIPs in the (potentially multiplexed) services that it is providing.
Where the user is a simple relay function with no multiplexing or other added value, then the usual simple answer is "yes, tickle the MIP". In this case the behavior observed is exactly the same as if the MEP did the MIP tickling itself. In other cases we may have more complex behavior.
Consider, for example, the provision of a single simple Service Instance that is the MAC Service supported without the use of VLAN tags (we should be able to handle this, at least). This is being relayed, between one operator (A, say), to an identical Service Instance (B). The relay function (a .1D MAC Bridge) is enhanced by ".1D CFM Handler". What this does is provide an LMI interface to the CFM Entity within each Bridge Port. When the CFM Entity for the Bridge Port interfacing to A detects loss of connectivity through A--either because CCMs have stopped (at level 5, say, using Figure 18-18 to support this discussion) or because MAC_Operational has transitioned false--then it notifies its LMI, which in turn causes an LMI notification to the CFM Handler, which in turn can prod the MIP which then generates the (level 3, say) AIS which travels through B.
Further suppose that on the other side of this simple service instance supported by B, there is a .1Q bridge that is using the link through B and A as a simple LAN, and that this .1Q Bridge is multiplexing service instances using S-VLANs with the extent of each S-VLAN being controlled by MVRP/GVRP. The (level 3) MEP receives the AIS and notifies its

CFM Handler (through the LMI). That CFM Handler notifies MVRP/GVRP that the interface is effectively down. Then MVRP/GVRP withdraws declarations (of I want to receive this S-VLAN) on other Bridge Ports as appropriate. Assume for the moment that every S-VLAN flowing through the .1Q bridge is supporting a point-to-point Service Instance (a.k.a a circuit), then eventually through MVRP/GVRP the bridges that originate each of those circuits will find that there is no-one at the other end who is interested in them. If MVRP is being used this communication of information can be very efficient even if all 4094 VLANs go down.

So in the above case AIS has been used to signal failure to the user of the Service Instance, in the sense that MVRP/GVRP is an aspect of the .1Q relay function that is the service user. Moreover, by modelling at this level of detail one can see that AIS is always used to signal failure to the user of the service instance. So the text on pg 95, lines 32 through 41 should have read:

"Each AIS signals a failure to the user of a Service Instance. An AIS can be used in addition to the generation of faults notifications (e.g. SNMP Notification messages) or can be substituted for those notifications. The recipient of an AIS can in turn decide to send a fault notification, or to send further AIS, or to engage in other protocol exchanges particular to that recipient to handle or communicate the failure."

The network scenario described above can also be used to point out some interesting alternatives and opportunities. If the .1D bridge between A and B were a TMR (Two Port MAC Relay, as per .1aj) then the CFM Handler could translate a MAC_Operational into an AIS or a .3 level Fault End Fault, or a Fault End Fault into an AIS or Fault End Fault. If the .1Q bridge was supporting a mix of point-to-point and multi-point service instances then MVRP could handle the point-to-points completely while AISs might be sent on the multi-point service instances. Note that only knowledge of whether the service instance is point-to-point or multi-point at the particular bridge is required for this mix of techniques to deliver the most efficient notification over an entire network.

COMMENT END:

SUGGESTED CHANGES START:

Replace the text from "Each AIS may serve either or both of two purposes" through "from sending out its own AISs, if so configured" with the following:

"Each AIS signals a failure to the user of a Service Instance. An AIS can be used in addition to the generation of faults notifications (e.g. SNMP Notification messages) or can be substituted for those notifications. The recipient of an AIS can in turn decide to send a fault notification, or to send further AIS, or to engage in other protocol exchanges particular to that recipient to handle or communicate the failure."

SUGGESTED CHANGES END:

Proposed disposition of comment 127

Discuss. The AIS is at the MA Level of the receiving MEP, not that of the transmitting MEP, or it cannot reach its intended destination.

Comment 128 **Mick Seaman**

COMMENT TYPE: TR

CLAUSE: 18.4.1
PAGE: 97
LINE: 44-54
COMMENT START:
The term CFM Sublayer is used in this subclause (18.4.1) as a substitute for a Maintenance Association and as a substitute for identifying MP (MEP or MIP) functionality associated with or supporting that MA. There is no reason to introduce the term, and it is quite vague, as it is equated to an MA and to the functionality of local entity within a few lines on the other. Layers and sub-layers in OSI terminology describe the protocols between systems and are strictly ordered, which is not the case with MAs.
18.4.1 needs to be reworded in terms of MAs and MPs. There is also absolutely no reason to introduce the gratuitous reference to Figure 18-6 (the other inaccuracies of Figure 18-6 can be left to other comments). Further it is not true that an MP consists of an instance of a CFM Sublayer (pg 96, line 22) any more than a X.25 state machine consists of an instance of Layer 3 of the OSI Reference Model.
The whole of the above confusion and some others seems to spring from the failure to include a proper architecture for a CFM Entity within the draft. An earlier comment suggests that be done as a separate clause 21 "CFM Entity Operation" (if that were done we would have no need for Fig 18-6 at all). Then the functionality to support MIPs and MEPs could be housed within the CFM Entity, which would also provided support for demultiplexing from the EISS to functions as required. The interface for each of the functions for a single MP (MEP or MIP) is simply the ISS.
Once this has been sorted out there would seem to be no need for clause 18.4.1, in its current form at least.
COMMENT END:
SUGGESTED CHANGES START:
Delete 18.4.1 entirely.
Add a new Clause 21 "CFM Entity Operation", which begins by describing a CFM Entity as a whole with options to have ISS and EISS interfaces. The EISS version provides a demultiplexing function for MAs that have been instantiated for particular VID values. Each of the functions (IFF, etc.) that support a given MA has a simple ISS interface (top and bottom).
Remove all references to the term "CFM Sublayer" throughout the draft.
SUGGESTED CHANGES END:

Proposed disposition of comment 128

Accept.

Comment 129 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.4.1
PAGE: 98
LINE: 38-41
COMMENT START:

This comment addresses the editor's note. The relationship between the elements shown by the arrows is indeed unsatisfactory. This can all be solved by defining a CFM Entity properly as suggested in a prior comment and having the version of the entity that has EISS interfaces contain demultiplexing apparatus to each of the MP functions that have ISS interfaces. Once that is done it should not be necessary to mention the EISS anywhere else in the document.
COMMENT END:
SUGGESTED CHANGES START:
Delete 18.4.1 entirely including the figure 18-12. Any successor to the figure should be as part of a new clause 21. But I suspect that even that will not be required since each of the vertical stack of boxes in Fig 18-12 can probably be given a name, so the ISS/EISS difference can probably be accommodated at that level. The each vertical stack can just be described once.
SUGGESTED CHANGES END:

Proposed disposition of comment 129

Accept in Principle, but further discussion is needed to clarify the solution.

Comment 130 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.4.1
PAGE: 98
LINE: 47-52
COMMENT START:
This discussion is confused or confusing or both, and is best sorted out by the deletion of the entire subclause. The Service Instance over which the VLANs are multiplexed has one MA and hence one MAID. Each VLAN may support service instances on their own independent account, which means that each of those may be protected by an MA, each of those MAs also having its MAID.
What the text actually shows is that AIS messages (and not others) should carry the MAID of the service whose failure is being reported, if any. Each of the other CFM messages that transport information about the MA associated with each VLAN's Service Instance should naturally carry the MAID of the relevant MA.
This appears to be a bad case of "design by packet format". The first thing to do is to decide whether AIS really needs to transport a MAID or not, by discussing that aspect of its reporting in the successor to clause 18.2.4 (another comment proposes putting this in a clause to be numbered 18.8. Is the MAID information whose leakage outside the Maintenance Domain is to be suppressed, or is it very useful information for the recipient of the AIS to subsequently provide to the domain's operator as part of raising a fault report?
If a MAID is required in an AIS it should clearly be the MAID assigned by the failing domain (that needs stating in 18.2.4/18.8). This is a relief since it means that there doesn't have to be knowledge of every potentially multiplexed VLAN's MAID everywhere in the network. It means by the way that a single MIP suffices for any MEP, there is not a MIP

per multiplexed MA (or at the very least there is no data that distinguishes one of these MIPs from the others).
Assuming that a MAID in an AIS is useful and to be required then the domain failure can clearly be reported to one user who is monitoring the failed domain, or by handing an indication of the error to the service user (see my prior comment on 18.2.4, pg 95, lines 30-41) who then decides which (if any) of the higher level multiplexed services an AIS is to be transmitted on.
It should be clear that it is not just a question, where multiplexed services are involved, of the IFF handing information to its EFF. In Figure 18-13 we require an indeterminate number of EFFs, and the number can't possibly be every possible service instance that could be multiplexed through the bridge. That would involve sending 4094 AISs every time for VLANs, and potentially millions of AISs for .1ag. Clearly the error report from the IFF needs to be handed to some entity that knows how many multiplexed service instances are involved, and what optimizations are valid in this network. The EFF is not really part of a MEP, EFFs are AIS generating entities that are located anywhere convenient and that transmit when someone who knows the relationship between the IFF indicating failure and the reports to be generated says so.
COMMENT END:
SUGGESTED CHANGES START:
Delete 18.4.1 entirely including the text discussed.
SUGGESTED CHANGES END:

Proposed disposition of comment 130

Discuss. Again, there is confusion over the MA to which an AIS is attached.

Comment 131 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.4
PAGE: 96
LINE: 21
COMMENT START:
The text says "the functional components of Connectivity Fault Management are Maintenance Points". This is clearly not true as the rest of the text makes clear. The functional components of CFM are IFFs, EFFs, MHFs, and possibly CFFs. These components provide the functionality needed to provide Maintenance Points.
COMMENT END:
SUGGESTED CHANGES START:
Other comments provide more detail on the suggested changes. The description at this point needs to start with the CFM Entity and then break that down into the functions that support MAs, and in doing so provide the functionality required by Maintenance Points. Starting with Maintenance Points would be a "middle out" description of detail which is always hard to do successfully.
SUGGESTED CHANGES END:

Proposed disposition of comment 131

Accept.

Comment 132 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.4.2
PAGE: 101
LINE: 6
COMMENT START:
The text says that an IFF may be created as an element in a MEP. The prior discussion (18.4.1, Fig 180-13) about a split MEP makes it clear that a MEP is not a thing (at least not as currently defined) but an abstraction that expresses certain functionality. The real tangible configurable things we have to deal with are CFM Entities and configuration of their functional elements IFF, EFF, MHF, CFF, and few other minor bits.
An alternative would have been to redefine a MEP so that it was just the IFF functionality, but the same strategy of having MIPs and MEPs as things rather than functionality to be fulfilled by collections of things doesn't work so well with MIP/MHFs and with free-floating EFFs and CFFs. On the other hand I am by not means sure that an EFF really exists, all it is permission to send an AIS at the level of a MIP. It should not even contain the parameters of the AIS to be sent.
If we keep IFFs and EFFs then it is only when we are at the general introductory level or consciously using short-hand that we should refer to MEPs as things that are created.
I also believe that it will be much easier to complete a satisfactory specification of a CFM Entity if it contains a fixed number of actual or configurable functions, with a fixed relationship between them, rather than using a object creation paradigm. The 'split' entity, if it exists, is actually two separate CFM Entities. The basic CFM Entity appears to consist of the following (from top to bottom):
-- an IFF pointing up
-- an EFF, pointing up, but of course transmitting AISs downward
-- the upper MHF
-- the lower MHF
-- an EFF, pointing down, but of course transmitting up
-- an IFF pointing down
If any of these are not configured they simply pass through data. I am not sure how the CFF should be represented, if at all. The functionality might be provided by one of the other functions configured with an appropriate level, but not configured to do anything else. Perhaps.
In any event there is no need to create an IFF in a MEP because the MEP can't exist without its IFF (the DSAP can but that's different).
COMMENT END:
SUGGESTED CHANGES START:
Relocate the entirety of the discussion in 18.4 i to a new Clause 21 CFM Entity Operation, and begin by describing the CFM Entity as being between EISS/ISSAPs and then identifying part of that entity as potentially providing MIP and MEP functionality for a single MA

(this allows the description of multiplexing on VIDs etc. to be left out of the subsequent discussion). It might help to give this MA functionality a name, on the other hand we seem to have enough objects of different types.
SUGGESTED CHANGES END:

Proposed disposition of comment 132

Discuss. A MEP can have a "VIFF" instead of an IFF. There can be multiple MEPs stacked up.

Comment 133 Mick Seaman

COMMENT TYPE: TR
CLAUSE: 18.9
PAGE: 114
LINE:
COMMENT START:
I regard the current text of this clause as a simple red rag and a statement of the failure to make the scalability goals of CFM clear. The text I have suggested in a prior comment (for replacement introductory text for clause 18) should go some way to clarifying the situation here.
While the number of CCMs may be high they are only generated by MEPs and not processed (apart from type and level checking) by anything else other than MEPs. The toughest thing is going to be that filtering CFM PDUs passing through MIPs, but this clause doesn't state that.
There is no indication as to what is being multiplied by what to generate the number 6,550,400. It is 4094 times 1600. Guessing the 1600 might be 8 (for MA level) times 200. I can't find the number 200 anywhere in the document, nor the time 5 milliseconds, but that might be a maximum CCM transmission rate. However there are not 8 levels of VLAN nesting so there cannot be MEPs at every level for every VLAN.
The statement also makes it clear that there is a missing elements of functionality in respect of controlling transmission rate on multi-point instances.
I do not believe it is reasonable to expect anyone who has not been in every discussion in both 802.1 and the ITU to be able to write a comment that could clearly indicate how this clause (and probably others) could be changed to generate a reasonable standard. Given that then it is clearly not possible to approve sending 802.1ag to Working Group ballot without prior consideration and vote upon the next draft (not just following the resolution of the current ballot).
COMMENT END:
SUGGESTED CHANGES START:
Replace the subclause by a proper analysis of the load imposed by CFM. Reexamine each of the CFM protocols for missing functionality, including transmission rate feedback to make sure the load is kept reasonable. Present a statement of implementation assumptions, e.g. line rate MA level checking of forwarded data, that will serve not only as a set of rules that characterize a reasonable response to the load analysis, but which serve as a set of probable boundaries for the introduction of functionality. It could be argued that analyzing

the current document to determine imposed load is simply a matter of implementation, however that can't be said about its future extension, including its possible use with .1ah.
SUGGESTED CHANGES END:

Proposed disposition of comment 133

Accept.

Comment 134 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 3.1
PAGE: 5
LINE: 7
COMMENT START:
The definition AIS is confusing. It used acronym of IFF or EFF before they are defined. In addition, the definition should focus on the function of AIS, instead of whether it is multi-cast, or periodic message.
COMMENT END:
SUGGESTED CHANGES START:
Alarm Indication Signal (AIS): AIS is a message to propagate faults from provider domain to its user domain indicating faults have happened within the provider domain. AIS can be used by recipients to suppress alarm notifications for faults caused by loss of connectivity within the provider domain.
SUGGESTED CHANGES END:

Proposed disposition of comment 134

Accept in principle, but AIS may change significantly due to other comments.

Comment 135 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.4
PAGE: 95
LINE: 21
COMMENT START:
The description under this section (Fault Notification and Alarm Suppression) contradicts with what the AIS is designed for. The AIS defined in later sections is for propagating alarms from service instance to its users. In addition, when there is a LAN failure, it is not necessary to send out AIS in the direction away from the failure if the MEP/MIP still gets CCM from other LAN.
COMMENT END:
SUGGESTED CHANGES START:
18.2.4 Alarm Suppression for Optimized Fault Notification

Normally, when a MEP detects a continuity failure through the loss of CCMs, it will send an alarm or event notification (e.g. SNMP Notification) to the network management system (NMS). However, in some cases, a single service instance failure may result in the detection of a large number of user connectivity failures, as depicted in the following diagram. If X<->Y within the provider loses connectivity, all its users will loss connectivity among A<->C, A<->D, B<->C, and B<->D.
In such cases, when a large number of alarms result from a single underlying cause, problem determination can be simplified by reporting only the alarm representing the root cause of the problem, and suppressing the secondary alarms. Being able to suppress secondary alarms may significantly improve the performance of Network Management Systems.
Alarm Indication Signal (AIS) is a message which is used to propagate alarms. AIS can be used to signal a failure of a service instance to its users. AIS can also be used to propagate alarms from one level to its dependent level, e.g. LAN failure to VLAN failures. Recipient of AIS can use the information to suppress any unnecessary alarm notifications.
SUGGESTED CHANGES END:

Proposed disposition of comment 135

Accept in principle. Function if AIS is in flux, if other comments are correct. AIS is not of use in the bridge environment.

Comment 136 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 12.3.3
PAGE: 31
LINE: 9-22
COMMENT START:
There is no mention of the management operations that can be performed and are related to the CFF
COMMENT END:
SUGGESTED CHANGES START:
Update the text accordingly so that it accommodates also the CFF. Include two new more items at the end of the Clause " f) Create CFM Filtering Function Managed Object (12.3.3.6) g) Delete CFM Filtering Function Managed Object (12.3.3.7)" Describe the new Managed Objects in the corresponding new subclauses
SUGGESTED CHANGES END:

Proposed disposition of comment 136

Accept in principle. CFF is being deleted, according to other comments.

Comment 137 Panagiotis Saltsidis

COMMENT TYPE: T

CLAUSE: 12.3.3.1.3
PAGE: 31
LINE: 38
COMMENT START:
As it is anticipated that certain types of Service Instances will be implemented using multiple VIDs the output of the Read Maintenance Association Managed Object should allow for more then one VID
COMMENT END:
SUGGESTED CHANGES START:
Replace “VID” by “VID(s)”
SUGGESTED CHANGES END:

Proposed disposition of comment 137

Reject. Sentence is correct.

Comment 138 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 12.3.3.2.2
PAGE: 32
LINE: 3-10
COMMENT START:
A MEP may contain a number of EFFs each identified by its MAID. The Create MEP Managed Object should also account for the corresponding EFFs.
COMMENT END:
SUGGESTED CHANGES START:
Include the corresponding EFF parameters
SUGGESTED CHANGES END:

Proposed disposition of comment 138

Accept in principle. EFF no longer needs a MAID.

Comment 139 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 12.3.3.2.3
PAGE: 32
LINE: 14-19
COMMENT START:
The corresponding output is incorrect. The contents of subclause 12.3.3.2.3 should be exchanged with the contents of subclause 12.3.3.4.3. The contents of the third line should also be updated as at present it implies a rejection of more then one MEPs at the same MA Level on the Bridge Port.
COMMENT END:

SUGGESTED CHANGES START:
Exchange the contents of 12.3.3.2.3 with the contents of 12.3.3.4.3. In addition change line 3) from "3) Operation rejected due to the existence of a MIP at the specified MA Level, of a MEP at the specified MA Level and facing in the same direction, on that Port;" with "3) Operation rejected due to the existence of a MIP at the specified MA, or of a MEP at the specified MA and facing in the same direction, on that Port;"
SUGGESTED CHANGES END:

Proposed disposition of comment 139

Accept.

Comment 140 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 12.3.3.4.3
PAGE: 33
LINE: 3-9
COMMENT START:
The corresponding output is incorrect. The contents of subclause 12.3.3.4.3 should be exchanged with the contents of subclause 12.3.3.2.3. Care should also be taken in the case where a MIP is created and no MEP exists at an inferior level
COMMENT END:
SUGGESTED CHANGES START:
Exchange the contents of 12.3.3.2.3 with the contents of 12.3.3.4.3. Erase line 3) and include the following lines "3) Operation rejected due to the existence of an MP at the specified MA on this Port; 4) Operation rejected due to the existence of a MIP at an inferior MA Level, or of a MEP at a superior MA Level, on that Port; 5) Operation rejected due to the non existence of a MEP at an inferior MA Level, on that Port;" Update the index to the Operation accepted item accordingly.
SUGGESTED CHANGES END:

Proposed disposition of comment 140

Accept.

Comment 141 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 12.3.4.3.2
PAGE: 35
LINE: 18
COMMENT START:
The system administrator should also provide the unicast MAC address of the receiver.
COMMENT END:
SUGGESTED CHANGES START:

Insert a new item “d) An indication of the MAC Address field of the receiving MP, either: 1) The MEPID of another MEP in the same Maintenance Association; or 2) A unicast destination MAC address;” Update the indices of the following items accordingly.
SUGGESTED CHANGES END:

Proposed disposition of comment 141

Accept.

Comment 142 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.2.1
PAGE: 103
LINE: 10
COMMENT START:
The explicit mention of two Type Demux Functions is confusing. The function provided by the Type Demux Function is the same whether the frames enter through the External SAP or through the Internal SAP.
COMMENT END:
SUGGESTED CHANGES START:
Replace line 10 by “The Type Demux Function separates the data frames ...”
SUGGESTED CHANGES END:

Proposed disposition of comment 142

Accept.

Comment 143 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.2.3
PAGE: 103
LINE: 21-33
COMMENT START:
There are two different MP Level Demux Functions. One for frames entering from the Internal SAP and one for frames entering through the External SAP.
COMMENT END:
SUGGESTED CHANGES START:
Divide the Clause into two Subclauses each describing one of the MP Level Demux Functions Suggested structure: “There are two MP Level Demux Functions: a) Type 1 MP Level Demux Function (18.4.2.3.1)”(or some other more appropriate name) “b) Type 2 MP Level Demux Function (18.4.2.3.2)”(or some other more appropriate name) 18.4.2.3.1 Type 1 MP Level Demux Function” Include the contents of the original 18.4.2.3 Clause replacing the “Level Demux Function” of LDF with the appropriate new name “18.4.2.3.2 Type 2 MP Level Demux Function The Type 2 Level Demux Function (T2LDF) separates

CFM Messages into multiple streams according to the MA Level contained within the Message, and the MA Level configured in the IFF. Specifically: a) Any frame received whose mac_service_data_unit is too short to contain an MA Level header field, or whose MA Level header field contains a value that is inferior or equal to that configured for the T2LDF is counted and discarded (see subclause 12.3.4.1.3, point t and point t). b) Any frame received whose MA Level header field contains a value that is superior to that configured for the LDF is directed to the other output port." Update the Figure 18-14 accordingly.
SUGGESTED CHANGES END:

Proposed disposition of comment 143

Accept in principle. The two demux functions operate identically. The description or diagrams should be improved to reflect this. There is no need for two separate functions, merely because one distinguishes <, =, and >, while the other only distinguishes < and >=. Showing three arrows on the diagram that now has only two is probably a better solution.

Comment 144 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.2.12 (New)
PAGE: 104
LINE: 34
COMMENT START:
The Alarm Indication Signal Receiver Function is not described
COMMENT END:
SUGGESTED CHANGES START:
Insert a new Subclause (18.4.2.12) describing the AIS Receiver
SUGGESTED CHANGES END:

Proposed disposition of comment 144

Accept in principle. The function goes away, according to other comments.

Comment 145 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.3.3
PAGE: 105
LINE: 50
COMMENT START:
The reference should be to the Type 2 LDF (see previous comment)
COMMENT END:
SUGGESTED CHANGES START:
Erase line 50 and replace with "Identical to the Type 2 MP Multiplex Function described in subclause 18.4.2.3.2 on page 103". Update the Figure 18-15 accordingly.

SUGGESTED CHANGES END:

Proposed disposition of comment 145

Accept in principle. (see other comment)

Comment 146 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.7
PAGE: 107
LINE: Figure 18-16
COMMENT START:
There are a number of changes that need to be made
COMMENT END:
SUGGESTED CHANGES START:
1) On the left side of the Loopback Forwarder replace “LBM” with “LBR” 2) Change the name of the Linktrace Forwarder to “MHF Linktrace Forwarder” 3) Change the name of the OpCode Demux Function to “MHF OpCode Demux Function” 4) Change the name of the Level Demux Function to “MHF Level Demux Function” 5) Change the name of the Continuity Check Receiver to “MHF Continuity Check Receiver” 6) Indicate that the MIP CCM Database is optional
SUGGESTED CHANGES END:

Proposed disposition of comment 146

Accept in principle. This diagram is seriously flawed. See other comments.

Comment 147 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.7.3
PAGE: 107
LINE: 44
COMMENT START:
The operation of the MHF OpCode Demux Function is not presented
COMMENT END:
SUGGESTED CHANGES START:
Introduce a new subclause 18.4.7.3 in order to describe the operation of the MHF OpCode Demux Function. Use the present clauses 18.4.7.3 and 18.4.7.4 as subclauses of the new MHF OpCode Demux Clause. Introduce a new subclause to explain the operation of the CCM duplication function.
SUGGESTED CHANGES END:

Proposed disposition of comment 147

Accept in principle. Diagram has several flaws.

Comment 148 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.7.7 (New)
PAGE: 108
LINE: 10
COMMENT START:
The operation of the MHF Continuity Check Receiver is not presented
COMMENT END:
SUGGESTED CHANGES START:
Introduce a new subclause 18.4.7.7 to describe the operation of the MHF Continuity Check Receiver Function.
SUGGESTED CHANGES END:

Proposed disposition of comment 148

Accept.

Comment 149 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.4.8.3
PAGE: 109
LINE: 11
COMMENT START:
The operation of the CFF EFF Level is the same as the Type 2 MP LDF.
COMMENT END:
SUGGESTED CHANGES START:
Refer to the Type 2 LDF (see previous comment)
SUGGESTED CHANGES END:

Proposed disposition of comment 149

Accept in principle.

Comment 150 Panagiotis Saltsidis

COMMENT TYPE: T
CLAUSE: 18.8
PAGE: 113
LINE: 43
COMMENT START:

The sentence is elusive
COMMENT END:
SUGGESTED CHANGES START:
Erase the sentence and replace with "In Port x of Provider Bridge 2, the physical failure generates an AIS."
SUGGESTED CHANGES END:

Proposed disposition of comment 150

Accept.

Comment 151 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 90
LINE: 50
COMMENT START:
This clause talks about nested maintenance domains, but doesn't address whether or not maintenance domains can be overlapping, which it looks like, is not permitted.
COMMENT END:
SUGGESTED CHANGES START:
Add somewhere in the text that "Overlapping maintenance domains are not permitted."
SUGGESTED CHANGES END:

Proposed disposition of comment 151

Accept in principle.

Comment 152 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 18.2.1
PAGE: 94
LINE: 20
COMMENT START:
Something should be said about when the validity timer is started.
COMMENT END:
SUGGESTED CHANGES START:
Say that validity timer is started for the first time on receipt of a CCM message.
SUGGESTED CHANGES END:

Proposed disposition of comment 152

Accept in principle. See other comments on state machine. Timer is started immediately.

Comment 153 Anoop Ghanwani

COMMENT TYPE: TR
CLAUSE: 18.2.3
PAGE: 95
LINE: 9
COMMENT START:
There are 3 methods specified for dealing with aging of MAC addresses after a failure. To allow interoperability, we should pick one and specify that. Otherwise we could get in the situation where an edge switch expects the core to do something, e.g. b, and the core doesn't do it. (a) has the problem of being too time-sensitive. (b) has the problem of requiring too much memory everywhere. If I had to vote for one, I'd pick (c), but I am open to other resolutions for this. I just think we must pick one to ensure interoperability.
COMMENT END:
SUGGESTED CHANGES START:
Address the ageout problem using mechanism (c). Remove (a) and (b).
SUGGESTED CHANGES END:

Proposed disposition of comment 153

Discuss.

Comment 154 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 18.4.2.3
PAGE: 103
LINE: 30
COMMENT START:
"...directed to one of the output ports." Which of the output ports is it directed to and what is the criteria?
COMMENT END:
SUGGESTED CHANGES START:
Specify the criteria for output port selection.
SUGGESTED CHANGES END:

Proposed disposition of comment 154

Accept in principle. Text is likely to be rewritten considerable due to other comments.

Comment 155 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 18.4.2.3
PAGE: 103
LINE: 32

COMMENT START:
"...the other output port." It seems like there could be multiple output ports so why is only one specified?
COMMENT END:
SUGGESTED CHANGES START:
Clarify what is meant by "other port."
SUGGESTED CHANGES END:

Proposed disposition of comment 155

Accept in principle.

Comment 156 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 18.9
PAGE: 114
LINE: 7
COMMENT START:
6550400 CCMs per second, at 72 bytes/CCM message gives us a bandwidth of 3.7 Gbps. Is this realistic? I think we need to better address the scaling issue and explain why this is not a problem.
COMMENT END:
SUGGESTED CHANGES START:
I don't have a specific suggestion. But with the way things are explained in this clause, scaling looks like a big problem.
SUGGESTED CHANGES END:

Proposed disposition of comment 156

Accept in principle. See also other comments on this same section.

Comment 157 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 19.2.2
PAGE: 116
LINE: 20
COMMENT START:
Validation criteria should also require checking that the source MAC address is "universal."
COMMENT END:
SUGGESTED CHANGES START:
Add check for universal source MAC address.
SUGGESTED CHANGES END:

Proposed disposition of comment 157

Reject. There is no reason to prohibit the use of locally administered MAC addresses.

Comment 158 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 19.7.2
PAGE: 121
LINE: 41
COMMENT START:
When retransmissing a message (e.g. LTM) what do we do with reserved/unused fields? (a) set to zero. (b) leave the same as when received.
COMMENT END:
SUGGESTED CHANGES START:
The conservative thing would be use (a).
SUGGESTED CHANGES END:

Proposed disposition of comment 158

Discuss. What versioning should be used for forwarded LTM?

Comment 159 Anoop Ghanwani

COMMENT TYPE: TR
CLAUSE: 19.9.1
PAGE: 123
LINE: 22
COMMENT START:
Given the scaling considerations, the standard must specify default values for the transmission interval of CCMs. We should probably also specify a certain minimum number of VLANs that must be supported at that rate, so an implementation can lower the rate if the number of VLANs is larger.
COMMENT END:
SUGGESTED CHANGES START:
Specify a default value. I'm worried about requiring every 802.1Q switch to support a 10 msec transmission interval for CCMs. This will be a problem for the receiver if this is implemented in software.
SUGGESTED CHANGES END:

Proposed disposition of comment 159

Discuss. Can an appropriate default be chosen? (See also other comments on CCM periodicity.)

Comment 160 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 19.11.2
PAGE: 126
LINE: 50
COMMENT START:
Isn't MA level also part of the source identification?
COMMENT END:
SUGGESTED CHANGES START:
Change "source MAC address" to "source MAC address and MA level."
SUGGESTED CHANGES END:

Proposed disposition of comment 160

Reject. MA level is not checked by the turnaround MP, so it cannot identify that entity.

Comment 161 Anoop Ghanwani

COMMENT TYPE: T
CLAUSE: 19.12.4.2.1
PAGE: 132
LINE: 52
COMMENT START:
Should the message be dropped if the port is blocked?
COMMENT END:
SUGGESTED CHANGES START:
Clarify.
SUGGESTED CHANGES END:

Proposed disposition of comment 161

Accept in principle. The MIP or outward-facing MEP is encountered before that part of the bridge that blocks a port, so no, the message should not be dropped. Reference to a diagram should be provided.

Comment 162 Dirceu Cavendish

COMMENT TYPE: T
CLAUSE: 3.4 / 3.16
PAGE: 5/6
LINE:
COMMENT START:
CFF and LDF definitions look too similar.
COMMENT END:
SUGGESTED CHANGES START:

Clarify difference between these functions.
SUGGESTED CHANGES END:

Proposed disposition of comment 162

Accept in principle. CFF will be discarded.

Comment 163 Dirceu Cavendish

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 92
LINE: Fig 18.4
COMMENT START:
Fig. 18.4 adds a Layer 3 interconnect that is irrelevant to all explanatory text of clause 18.1. In addition, it would be appropriate that the topology is congruent with Fig. 18-18.
COMMENT END:
SUGGESTED CHANGES START:
Replace Fig 18-4 with:
SUGGESTED CHANGES END:

Proposed disposition of comment 163

Discuss one last time. Future comments of this form will be rejected.

Comment 164 Dan Romascanu

COMMENT TYPE: TR
CLAUSE: 12.2
PAGE: 27
LINE: 37
COMMENT START:
It is obvious that this section will introduce new management objects. Without the completion of Clause 12.2, this specification cannot be considered complete
COMMENT END:
SUGGESTED CHANGES START:
Add management objects related to CFM in 12.2
SUGGESTED CHANGES END:

Proposed disposition of comment 164

Accept.

Comment 165 Dan Romascanu

COMMENT TYPE: TR

CLAUSE: 12.3
PAGE: 27
LINE: 46
COMMENT START:
There seems to be a lack of consistency between the management objects defined in 12.3, and the messages and TLVs defined in clause 19. For example I could not find managed objects corresponding to the Continuity Check Message mad Alarm Indication Signals
COMMENT END:
SUGGESTED CHANGES START:
Include respective sections in 12.3
SUGGESTED CHANGES END:

Proposed disposition of comment 165

Accept.

Comment 166 Dan Romascanu

COMMENT TYPE: T
CLAUSE: 12.3.4.3.1
PAGE: 35
LINE: 10
COMMENT START:
The purpose speaks about ‘detect the reception (or lack thereof) of corresponding loopback replies’, while the following subclauses seem to deal only with loopback transmission commands.
COMMENT END:
SUGGESTED CHANGES START:
Either delete the purpose part dealing with reception, or add this functionality to the subclauses that follow
SUGGESTED CHANGES END:

Proposed disposition of comment 166

Accept.

Comment 167 Dan Romascanu

COMMENT TYPE: T
CLAUSE: 12.3.4.4.1
PAGE: 35
LINE: 37
COMMENT START:
The purpose speaks about ‘detect the reception (or lack thereof) of corresponding Linktrace Replies’, while the following subclauses seem to deal only with linktrace transmission commands.

COMMENT END:
SUGGESTED CHANGES START:
Either delete the purpose part dealing with reception, or add this functionality to the sub-clauses that follow, possibly merge with 12.3.4.5
SUGGESTED CHANGES END:

Proposed disposition of comment 167

Accept.

Comment 168 Dan Romascanu

COMMENT TYPE: TR
CLAUSE: 17
PAGE: 47
LINE: 3
COMMENT START:
The MIB definition is practically missing. The specification is incomplete without the MIB definition. This is true for all 802.1 projects, but I believe that it's more critical for 802.1ag as I do not see how CFM can be used without a management access interface.
COMMENT END:
SUGGESTED CHANGES START:
Fill in the content of Section 17
SUGGESTED CHANGES END:

Proposed disposition of comment 168

Accept in principle. IA first draft was supplied.

Comment 169 Dan Romascanu

COMMENT TYPE: TR
CLAUSE: 17.3
PAGE: 47
LINE: 23
COMMENT START:
The section mentions that the specification makes no changes to Section 17.2. It is meant probably to be 17.3. In any case, this cannot be true, as CFM introduces a lot of security issues, being an active management protocol that generates traffic in the network. I expect that the Security Considerations sections be rather consistent, including, but not limited to: - list of read-write objects that may be a part of the CFM threat model - for example all objects that control generation of traffic in the network - list of read-only objectors that may include security sensitive information and need to be protected - for example all objects including path, health, behavior or performance operation related to a customer or a domain, but in need to be protected from other customers and domains - access rights control

- for example by using per-domain MIB views - traffic throttling methods to prevent DoS attacks, or even exceeding normal traffic levels by mis-configuration
COMMENT END:
SUGGESTED CHANGES START:
Edit and include appropriate Security Considerations section
SUGGESTED CHANGES END:

Proposed disposition of comment 169

Discuss. None of the above is present for BPDUs, which are far more critical to the operation of the network.

Comment 170 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.1.1
PAGE: 89
LINE: 20
COMMENT START:
The intent of this paragraph is not clear. Is it trying to define the definition of ISAP? The figure 18-1 shows that internal bridge ports are ISAP. Then why not just have a simple sentence to say that any internal SAPs are ISAPs, through which the data flow from one DSAP to another?
COMMENT END:
SUGGESTED CHANGES START:
If ISAP is internal SAP, then have a simple sentence stating it. If ISAP is for connecting to superior maintenance domain, then have a simple sentence stating it.
SUGGESTED CHANGES END:

Proposed disposition of comment 170

Accept in principle. It is an internal SAP that is made visible to the higher MA Level.

Comment 171 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.1.3
PAGE: 91
LINE: 30
COMMENT START:
The previous section defines ISAP as intermediate node for DSAP to pass data flow. Here it is defining “declare DSAP as ISAP”. The two sections contradict with each other.
COMMENT END:
SUGGESTED CHANGES START:
The MIP should be defined as DSAP visible to customer domain.
SUGGESTED CHANGES END:

Proposed disposition of comment 171

Accept in principle. See previous comment.

Comment 172 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.1.3
PAGE: 91
LINE: 33
COMMENT START:
MIP actually provides a demarcation between provider and customer. I don't see how the MIP is to isolate faults to smaller segments.
COMMENT END:
SUGGESTED CHANGES START:
Replace the sentence with: "MIP provides a demarcation between provider and customer. MIP can be used as reference point to isolate the fault to be within provider domain or customer domain."
SUGGESTED CHANGES END:

Proposed disposition of comment 172

MIP is not a provider/customer demarc. It is an internal SAP made visible. A better choice of diagram references is needed.

Comment 173 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2
PAGE: 93
LINE: 42
COMMENT START:
Fault notification has been used throughout the document as notification from bridge to Network Management Systems, like SNMP report. Here the Fault Notification is stated as notification from upstream node to downstream node, which has been described as alarm propagation in other sections.
COMMENT END:
SUGGESTED CHANGES START:
Change the sentence to: "Fault notification can be used by entity to report alarms or events to network management systems. Proper alarm suppression has been identified to optimize the fault notification process to avoid duplicated notifications for faults which are caused by other faults."
SUGGESTED CHANGES END:

Proposed disposition of comment 173

Accept in principle. This section is likely to be heavily rewritten due to other comments.

Comment 174 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.1
PAGE: 94
LINE: 3
COMMENT START:
The statement is mis-leading. CCM only detects connectivity failure. It couldn't detect if it is hard, soft, or configuration failure.
COMMENT END:
SUGGESTED CHANGES START:
Suggest changing the sentence to the following: "The Continuity Check Message (CCM) provides a mean of detecting connectivity failure between Maintenance association End Points (MEP)."
SUGGESTED CHANGES END:

Proposed disposition of comment 174

Accept.

Comment 175 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.1
PAGE: 94
LINE: 26
COMMENT START:
The statement is mis-leading. CFM doesn't actually provide an alarm suppression mechanism. What CFM provides is actually a propagation of faults so that dependent service instances or MEPs can choose to suppress unnecessary alarm notifications for faults which are caused by faults happened somewhere else in the network.
COMMENT END:
SUGGESTED CHANGES START:
Suggest changing the sentence to the following: "CFM provides a mechanism to propagate faults so that dependent service instances or MEPs can choose to suppress unnecessary alarm notifications for faults which are caused by faults happened somewhere else in the network."
SUGGESTED CHANGES END:

Proposed disposition of comment 175

Accept in principle.

Comment 176 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.1
PAGE: 94
LINE: 46
COMMENT START:
The sentence stated that the reason of Ethernet fault isolation being difficult is MAC table's aging out (timeout in several minutes). The MAC table's aging out only makes an uni-cast message to a broadcast message. How is it related to fault isolation being difficult?
COMMENT END:
SUGGESTED CHANGES START:
Ethernet fault isolation can be very challenging because many reasons can contribute to the fault, such as hard fault, soft fault, configuration faults, etc.
SUGGESTED CHANGES END:

Proposed disposition of comment 176

Accept in principle. Explanation of why age-out is a problem is needed.

Comment 177 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.1
PAGE: 94
LINE: 49
COMMENT START:
When describing maintenance association levels, using the term of Operator, Provider and User don't scale well. When you have more than 4 layers of maintenance association, it is messy to use user, operator, and provider.
COMMENT END:
SUGGESTED CHANGES START:
Should limit to two terms: Provider and User, just like client and server which has been commonly used everywhere else. Each entity can be a provider to another entity or user of another entity.
SUGGESTED CHANGES END:

Proposed disposition of comment 177

Accept in principle. Use of the Operator, Provider, and Customer levels can be limited to diagrams that show more than two levels. Many diagrams could be limited to show only two levels, in which case this comment becomes more important. Discuss.

Comment 178 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.1
PAGE: 95
LINE: 1
COMMENT START:
The second row of Table 18-1 is confusing.COMMENT END:
SUGGESTED CHANGES START:
It is not necessary to use a table. Suggest using the following simple sentence: "3 bits (number 0~7) are reserved to represent the maintenance association levels. The maintenance association level N is the provider to maintenance association level N-1. At the same time, the maintenance association level N is the user of maintenance association level N+1"
SUGGESTED CHANGES END:

Proposed disposition of comment 178

Reject. This information is presented in a table in 802.1Q-REV-2005, and is maintained in a table for compatibility with that document.

Comment 179 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.7.4
PAGE: 112
LINE: 28
COMMENT START:
There is a serious issue of Multi-cast of AIS message. It is very common for customers to buy redundant paths from service providers. The AIS multicast can be flooded to areas which AIS are not intended to, as shown in the following example:
COMMENT END:
SUGGESTED CHANGES START:
AIS should be uni-cast message. Since P1 and P2 has to keep track of who is behind in order to achieve proper alarm suppression, P1 and P2 should have the knowledge of the affected MEP due to the connectivity failure.
SUGGESTED CHANGES END:

Proposed disposition of comment 179

Reject. AIS cannot enter incorrect Domains, because it carries an MA Level, which restricts it to the Domain into which it is transmitted. It must be a multicast, because there is no reliable, efficient means for the transmitting EFF to know to what unicast MAC address to send the AIS.

Comment 180 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.7.4
PAGE: 112
LINE: 39
COMMENT START:
The example is not appropriate. The physical link failure doesn't trigger the generation of AIS. It is connectivity failure that triggers AIS generation.
COMMENT END:
SUGGESTED CHANGES START:
Use another example where connectivity failure which trigger the AIS generation.
SUGGESTED CHANGES END:

Proposed disposition of comment 180

Accept in principle. A physical link failure may, through a VIFF, trigger AIS generation. A MEP-detected connectivity failure is perhaps more useful, however.

Comment 181 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 3.1
PAGE: 5
LINE: 7
COMMENT START:
The definition AIS is confusing. It used acronym of IFF or EFF before they are defined. In addition, the definition should focus on the function of AIS, instead of whether it is multi-cast, or periodic message.
COMMENT END:
SUGGESTED CHANGES START:
Alarm Indication Signal (AIS): AIS is a message to propagate faults from provider domain to its user domain indicating faults have happened within the provider domain. AIS can be used by recipients to suppress alarm notifications for faults caused by loss of connectivity within the provider domain.
SUGGESTED CHANGES END:

Proposed disposition of comment 181

Accept in principle, subject to major AIS changes from other comments.

Comment 182 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.2.4
PAGE: 95

LINE: 21
COMMENT START:
The description under this section (Fault Notification and Alarm Suppression) contradicts with what the AIS is designed for. The AIS defined in later sections is for propagating alarms from service instance to its users. In addition, when there is a LAN failure, it is not necessary to send out AIS in the direction away from the failure if the MEP/MIP still gets CCM from other LAN.
COMMENT END:
SUGGESTED CHANGES START:
18.2.4 Alarm Suppression for Optimized Fault Notification Normally, when a MEP detects a continuity failure through the loss of CCMs, it will send an alarm or event notification (e.g. SNMP Notification) to the network management system (NMS). However, in some cases, a single service instance failure may result in the detection of a large number of user connectivity failures, as depicted in the following diagram. If X<->Y within the provider loses connectivity, all its users will loss connectivity among A<->C, A<->D, B<->C, and B<->D. In such cases, when a large number of alarms result from a single underlying cause, problem determination can be simplified by reporting only the alarm representing the root cause of the problem, and suppressing the secondary alarms. Being able to suppress secondary alarms may significantly improve the performance of Network Management Systems. Alarm Indication Signal (AIS) is a message which is used to propagate alarms. AIS can be used to signal a failure of a service instance to its users. AIS can also be used to propagate alarms from one level to its dependent level, e.g. LAN failure to VLAN failures. Recipient of AIS can use the information to suppress any unnecessary alarm notifications.

Proposed disposition of comment 182

Discuss, relative to other AIS comments. Should we keep an alarm suppression message for spanning tree domains?

Comment 183 David W. Martin

COMMENT TYPE: T
CLAUSE: 12.3.4.5.3
PAGE: 36
LINE: 29
COMMENT START:
Need to fill in this clause.
COMMENT END:
SUGGESTED CHANGES START:
Fill in the list of Outputs based on the LTR format described in clause 19.12.4.
SUGGESTED CHANGES END:

Proposed disposition of comment 183

Accept.

Comment 184 David W. Martin

COMMENT TYPE: T
CLAUSE: 12.3.6
PAGE: 37
LINE: 30
COMMENT START:
How is the CFF managed object created?
COMMENT END:
SUGGESTED CHANGES START:
I think the CFF managed object should be created either within the CFM MO or the MD MO. Needs some discussion - I note that there is a similar comment from Paul Congdon in Annex Z.
SUGGESTED CHANGES END:

Proposed disposition of comment 184

Accept in principle. CFF is being deleted.

Comment 185 David W. Martin

COMMENT TYPE: T
CLAUSE: 18.4.7
PAGE: 107
LINE: Figure 18-16 and associated subclauses
COMMENT START:
The Figure 18-16 blocks Level Demux Function and OpCode Demux Function do not have matching subclause descriptions, but subclauses 18.4.7.3 and 18.4.7.4 do describe what may be portions of the blocks in the figure.
COMMENT END:
SUGGESTED CHANGES START:
Align Figure 18-16 blocks Level Demux Function and OpCode Demux Function with matching subclause descriptions.
SUGGESTED CHANGES END:

Proposed disposition of comment 185

Accept.

Comment 186 David W. Martin

COMMENT TYPE: T
CLAUSE: 18.4.7
PAGE: 107
LINE: Figure 18-16 and associated subclauses
COMMENT START:

The Figure 18-16 block Continuity Check Receiver does not have a matching subclause description.
COMMENT END:
SUGGESTED CHANGES START:
Add a matching subclause description of the Figure 18-16 block Continuity Check Receiver.
SUGGESTED CHANGES END:

Proposed disposition of comment 186

Accept.

Comment 187 David W. Martin

COMMENT TYPE: T
CLAUSE: 18.7.2
PAGE: 112
LINE: 12-13
COMMENT START:
The text alludes to “certain performance measurement tools” piggybacked on the LBM / LBR, but there is no reference.
COMMENT END:
SUGGESTED CHANGES START:
Add some clarifying sentence like the last sentence in clause 19.11.6 (page 128, lines 6-8).
SUGGESTED CHANGES END:

Proposed disposition of comment 187

Accept.

Comment 188 David W. Martin

COMMENT TYPE: T
CLAUSE: 19.4.2
PAGE: 119
LINE: 20-21
COMMENT START:
The text states that the End TLV is Required, but that the lack thereof doesn’t invalidate a message. To me this is confusing.
COMMENT END:
SUGGESTED CHANGES START:
Change “Required” to “Recommended”.
SUGGESTED CHANGES END:

Proposed disposition of comment 188

Discuss.

Comment 189 Bob Sultan

COMMENT TYPE: E
CLAUSE: 19.9.3.1.1
PAGE: 124
LINE: 34
COMMENT START:
Should be NOTE-, not <<editors note>>
COMMENT END:
SUGGESTED CHANGES START:
Move to "NOTE"
SUGGESTED CHANGES END:

Proposed disposition of comment 189

Accept in principle. There is no longer any instance of a list of MEPIDs, so the reason has disappeared. Perhaps the 8k limit should, also. Discuss.

Comment 190 Bob Sultan

COMMENT TYPE: T
CLAUSE: 1.1
PAGE: 2
LINE: 1
COMMENT START:
The text on lines 1 - 12 provides a level of detail greater than text of page 1 802.1Q-2003 into which it is inserted. Information in n - p cannot be interpreted without explanation of terms.
COMMENT END:
SUGGESTED CHANGES START:
Replace 1-12 by: "n)Defines the operation of a Connectivity Fault Management (CFM) protocol supporting the detection and isolation of connectivity faults.
SUGGESTED CHANGES END:

Proposed disposition of comment 190

Accept in principle. See other comments on same subject.

Comment 191 Bob Sultan

COMMENT TYPE: T
CLAUSE: 1.1

PAGE: 2
LINE: 10
COMMENT START:
Statement implies “protocols and procedures ..... maintain connectivity faults”
COMMENT END:
SUGGESTED CHANGES START:
Change “maintain and diagnose” to “monitor connectivity and diagnose”.
SUGGESTED CHANGES END:

Proposed disposition of comment 191

Accept in principle. See other comments on same subject.

Comment 192 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.6
PAGE: 5
LINE: 28
COMMENT START:
Not clear what is implied by “potential”.
COMMENT END:
SUGGESTED CHANGES START:
Remove (preferred) or explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 192

Accept in principle. See other comment on same section.

Comment 193 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.8
PAGE: 5
LINE: 34
COMMENT START:
Circular definition.
COMMENT END:
SUGGESTED CHANGES START:
Remedy: Replace with “Exterior Facing Function (EFF): MEP component performing CFM protocol functions in the direction away from the MD with which it is associated.”
SUGGESTED CHANGES END:

Proposed disposition of comment 193

Accept in principle. Current definition needs work; it is too simple.

Comment 194 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.9
PAGE: 5
LINE: 36
COMMENT START:
SAP doesn't 'bound' the MP.
COMMENT END:
SUGGESTED CHANGES START:
"Internal SAP: SAP referenced by user lying outside the CFM sublayer"
SUGGESTED CHANGES END:

Proposed disposition of comment 194

Accept in principle.

Comment 195 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.10
PAGE: 5
LINE: 39
COMMENT START:
The Fault Alarm does not signal a CFM failure. it signals a connectivity failure.
COMMENT END:
SUGGESTED CHANGES START:
Change "CFM" to connectivity.
SUGGESTED CHANGES END:

Proposed disposition of comment 195

Accept.

Comment 196 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.11
PAGE: 5
LINE: 42
COMMENT START:

The phrase "domain for which CFM is to protect against accidental concatenation" is awkward. If this is a domain different from the Maintenance Domain, then it should be clearly defined. Not clear why a fully-qualified MAID is a MEP. Is this fully-qualified MEPID? The phrase "(to that same extent)" is unclear.
COMMENT END:
SUGGESTED CHANGES START:
Replace with "FQMEPID: A global MEP identifier formed by the concatenation of the MEPID and the MAID.
SUGGESTED CHANGES END:

Proposed disposition of comment 196

Accept in principle.

Comment 197 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.12
PAGE: 5
LINE: 47
COMMENT START:
Circular definition.
COMMENT END:
SUGGESTED CHANGES START:
Interior Facing Function (IFF): MEP component performing CFM protocol functions in the direction of the MD with which it is associated.
SUGGESTED CHANGES END:

Proposed disposition of comment 197

Discuss. Editor prefers the current definition.

Comment 198 Bob Sultan

COMMENT TYPE: T
CLAUSE: 3.13
PAGE: 5
LINE: 50
COMMENT START:
SAP doesn't 'bound' the MP.
COMMENT END:
SUGGESTED CHANGES START:
"Internal SAP: SAP referenced by user within the CFM sublayer"
SUGGESTED CHANGES END:

Proposed disposition of comment 198

Accept in principle.

Comment 199 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 3
PAGE: 5
LINE:
COMMENT START:
Missing definition for Inward Facing MEP.
COMMENT END:
SUGGESTED CHANGES START:
Insert “Inward Facing MEP: A MEP whose IFF faces away from the relay function of the containing switch. See figure 18-11.”
SUGGESTED CHANGES END:

Proposed disposition of comment 199

Accept in principle.

Comment 200 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 3
PAGE: 7
LINE: 40
COMMENT START:
Missing definition
COMMENT END:
SUGGESTED CHANGES START:
“Outward Facing MEP: A MEP whose IFF faces towards the relay function of the containing switch. See figure 18-11.”
SUGGESTED CHANGES END:

Proposed disposition of comment 200

Accept in principle.

Comment 201 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 5.4
PAGE: 11
LINE: 7

COMMENT START:
Not clear why “Requirements” are “(optional)”
COMMENT END:
SUGGESTED CHANGES START:
Remove “(optional)” or explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 201

Some requirements are optional. That is, one has options, and if one selects a given option, that imposes requirements.

Comment 202 Bob Sultan

COMMENT TYPE: T
CLAUSE: 5.4
PAGE: 11
LINE: 17
COMMENT START:
Why seven? Eight MA levels are supported.
COMMENT END:
SUGGESTED CHANGES START:
Change to “eight” or explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 202

Accept.

Comment 203 Bob Sultan

COMMENT TYPE: T
CLAUSE: 12.1.2
PAGE: 27
LINE: 21
COMMENT START:
These items not consistent with items in 802.1Q 2003 section 12.1
COMMENT END:
SUGGESTED CHANGES START:
replace with:
b) The ability to detect and report network connectivity faults (CCM, AIS, and alarm).
c) The ability to determine the path followed by frames addressed to, but not necessarily arriving at, a given destination (linktrace).
d) The ability to send a test message, optionally including data, to a given destination and, in the absence of faults, to receive a reply (ie., non-intrusive loopback).

e) The ability to request that traffic sourced by a given MAC be reflected back to that MAC by the local switch (ie., local operator initiated instructive loopback).
f) The ability to request that traffic sourced by a given MAC be reflected back to that MAC by a remote bridge and the communication of between the local and remote bridges is via CFM messaging (ie., inband instrusive loopback).
SUGGESTED CHANGES END:

Proposed disposition of comment 203

Accept in principle, along with other comments on this same section. Discuss remote loopback.

Comment 204 Bob Sultan

COMMENT TYPE: T
CLAUSE: 15.10
PAGE: 43
LINE: 10
COMMENT START:
Clause 15 describes features of the MAC Service supporting specific functions associated with the bridged network.
COMMENT END:
SUGGESTED CHANGES START:
Omit section 15.10 or specify clearly 802.1ag functions that are relevent to the MAC service.
SUGGESTED CHANGES END:

Proposed disposition of comment 204

Accept in principle.

Comment 205 Bob Sultan

COMMENT TYPE: T
CLAUSE: 17.6
PAGE: 62
LINE: 48
COMMENT START:
The FQMAID is not the globally-unique name for a MEP.
COMMENT END:
SUGGESTED CHANGES START:
Replace with “Together with the MAID, will form the FQMEPID; the globally unique name for a MEP????”
SUGGESTED CHANGES END:

Proposed disposition of comment 205

Accept.

Comment 206 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 17
COMMENT START:
Knowing ‘intention’ is difficult, if not impossible.
COMMENT END:
SUGGESTED CHANGES START:
Replace “is capable of or intended to offer” with “offers”.
SUGGESTED CHANGES END:

Proposed disposition of comment 206

Accept in principle. Suggested fix is incorrect, since, if the service always offered the connectivity, CFM would not be needed. Perhaps a solution lies along the principle that intentions are defined by configuration of CFM.

Comment 207 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 18
COMMENT START:
Are there cases in which the DSAP is contained in something other than a bridge (e.g. a LAN port).? What is the DSAP in this case?
COMMENT END:
SUGGESTED CHANGES START:
Remove last sentence or add text describing the other possible cases.
SUGGESTED CHANGES END:

Proposed disposition of comment 207

Accept. A DSAP can be located inside customer equipment, in an outward-facing MEP.

Comment 208 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89

LINE: 20
COMMENT START:
The phrase “or is intended to be,” suggests knowledge of ‘intention’. Also, the statement “the maintenance domain is fully connected internally” is ambiguous.
COMMENT END:
SUGGESTED CHANGES START:
Change to “In the absence of faults, a DSAP associated with a Maintenance Domain can communicate with every other DSAP in the Maintenance Domain.”
SUGGESTED CHANGES END:

Proposed disposition of comment 208

Accept in principle. Perhaps this wording is applicable to the previous comment regarding intentions.

Comment 209 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 20
COMMENT START:
The phrase “in principle at least” is vague. The term “second-order” is not well defined in this context. The list of factors preventing connectivity is not needed.
COMMENT END:
SUGGESTED CHANGES START:
Remove text from “It is, in principle” to “connection configuration, etc.”.
SUGGESTED CHANGES END:

Proposed disposition of comment 209

Discuss.

Comment 210 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 25
COMMENT START:
Technical: The definition of ISAP is unclear because it is not stated how, generally, to identify SAPs within a Maintenance Domain. This is particularly confusing because an ISAP does not offer the service of the Maintenance Domain but is instead a SAP associated with an inferior Maintenance Domain.
COMMENT END:
SUGGESTED CHANGES START:

"A point internal to a Maintenance Domain that is not a DSAP, but through which data flowing from DSAP to DSAP may pass, is termed an Intermediate SAP (ISAP)." OR "A point internal to a Maintenance Domain that is not a DSAP associated with the Maintenance Domain, but is a DSAP associated with an inferior Maintenance Domain, is termed an Intermediate SAP (ISAP)." The second alternative can only be used only if placed after the definition of an inferior Maintenance Domain.
SUGGESTED CHANGES END:

Proposed disposition of comment 210

Accept in principle. There are several comments on this subject.

Comment 211 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.8.1
PAGE: 89
LINE: 31
COMMENT START:
Technical: It isn't clear why showing ISAPs implies that the MD is implemented using Bridges. It isn't clear this statement adds anything.
COMMENT END:
SUGGESTED CHANGES START:
Remove the sentence "ISAPs (in this case, Bridge Ports) are shown in this diagram in order to make it clear that this Maintenance Domain is implemented using Bridges."
SUGGESTED CHANGES END:

Proposed disposition of comment 211

Accept in principle. This diagram is an example of a bridged network that has ISAPs. It does not imply that only bridged networks may have ISAPs. However, P802.1ag is an ammendment to 802.1Q, and as such, is primarily a bridge document.

Comment 212 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 44
COMMENT START:
The phrase "In principle" suggests there are cases in which Maintenance Domains cannot be separately administered.
COMMENT END:
SUGGESTED CHANGES START:
Change to "Each maintenance domain can be independently administered" OR specify the implied exceptions.

SUGGESTED CHANGES END:

Proposed disposition of comment 212

Accept in principle. The wording is not intended to suggest that there are cases in which MDs cannot be separately administered, but that there may be cases where the MDs are not separately administered. This section is not normative text, it is introductory, but its meaning is evidently not clear, and should be improved.

Comment 213 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 45
COMMENT START:
Technical: The phrase “used or available” introduces ambiguity. Which is it? What does it mean to be “available”? The phrase “service provider or operator” omits the possibility of an MD named by the customer (Levels 0-2). The comma following the word “operator” should be removed as it makes the sentence difficult to parse. The phrase “and to facilitate easy identification of administrative responsibility for the Maintenance Domain.” is unclear. If the MD name is structured to embed the identity of the administrator, then something like an ‘administrator name’ should be defined. The paragraph is ambiguous as to whether the MD name is unique within the ‘service provider or operator’ or is unique ‘over the domain for which CFM is to protect against accidental concatenation of Service Instances.’
COMMENT END:
SUGGESTED CHANGES START:
Replace with “A Maintenance Domain is assigned an MD name unique within the xxxx” OR “A Maintenance Domain is assigned a globally unique MD name”. In the former case, the term xxxx should be clearly defined.
SUGGESTED CHANGES END:

Proposed disposition of comment 213

Accept in principle. Better wording is needed, in spite of the fact that there is no clearly definable domain smaller than “global”.

Comment 214 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 89
LINE: 50
COMMENT START:

Technical: It is not clear what is meant by "kept separate". Does this refer to data path? control? management? The idea that two methods are "provided" but three are listed is not clear.
COMMENT END:
SUGGESTED CHANGES START:
Change text lines 51-52 to "An MD shall be one of the following:"
SUGGESTED CHANGES END:

Proposed disposition of comment 214

Accept.

Comment 215 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 90
LINE: 2
COMMENT START:
"by configuring the MOs controlling the CIST topology" is very vague.
COMMENT END:
SUGGESTED CHANGES START:
Explain exactly how separation is achieved by control of the CIST topology.
SUGGESTED CHANGES END:

Proposed disposition of comment 215

Accept.

Comment 216 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.1
PAGE: 90
LINE: 3
COMMENT START:
Item c) needs further explanation.
COMMENT END:
SUGGESTED CHANGES START:
Explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 216

Accept.

Comment 217 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 8
COMMENT START:
Paragraph is unclear.
COMMENT END:
SUGGESTED CHANGES START:
Change to "The administrator of an MD defines an SI by associating each member DSAP with the VID used to distinguish traffic associated with that SI. Each member DSAP may be further configured with other service properties (e.g., bandwidth profiles)."
SUGGESTED CHANGES END:

Proposed disposition of comment 217

Accept in principle.

Comment 218 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 13
COMMENT START:
This sentence does not provide information beyond what is stated in the previous paragraph.
COMMENT END:
SUGGESTED CHANGES START:
Change to "Creation of a Service Instance establishes connectivity among the selected DSAPs." Move sentence to the end of previous paragraph as it describes the SI.
SUGGESTED CHANGES END:

Proposed disposition of comment 218

Accept in principle.

Comment 219 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 15
COMMENT START:
The phrase "connectionless connectivity." is problematic.

COMMENT END:
SUGGESTED CHANGES START:
Replace with "A Maintenance Association (MA) identifies the set of SAPs within the SI that participate in maintenance activities associated with the SI. A DSAP associated with an MA is known as a Maintenance association End Point (MEP). An ISAP associated with an MA is known as a Maintenance association Intermediate Point (MIP).
SUGGESTED CHANGES END:

Proposed disposition of comment 219

Accept in principle. A MEP is a functional element placed adjacent to a DSAP in order to monitor the SI for which the DSAP is a boundary; a MEP is not a DSAP. See also other comments regarding the ISAP.

Comment 220 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 16
COMMENT START:
Is there some difference between this name and other types of names such that this name is "chosen to facilitate easy identification of the Service Instance."
COMMENT END:
SUGGESTED CHANGES START:
Omit portion of sentence after "...within the MD"
SUGGESTED CHANGES END:

Proposed disposition of comment 220

Accept in principle.

Comment 221 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 18
COMMENT START:
Not clear what 'incorrect connectivity' means.
COMMENT END:
SUGGESTED CHANGES START:
"...that is carried..." with "that provides globally unique identification of the MA".
SUGGESTED CHANGES END:

Proposed disposition of comment 221

Accept in principle. Better wording of "incorrect connectivity" is perhaps needed. The point is that the name enables one to detect cross-connections between services. The suggested wording states "what", not "why".

Comment 222 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 15
COMMENT START:
Use of the term "Short MA Name" implies that it is being distinguished from some other 'MA Name'. That's not the case. There is an MA Identifier (MAID), but that's not an MA Name.
COMMENT END:
SUGGESTED CHANGES START:
Change "Short MA Name" to "MA Name". Establish a rule as to what is a "name" and what is an "identifier". Establish a rule as to how to distinguish locally unique names or identifiers from more globally unique versions of those identifiers (e.g. fully-qualified something).
SUGGESTED CHANGES END:

Proposed disposition of comment 222

Accept in principle. A diagram may be in order.

Comment 223 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 23
COMMENT START:
The figure or text should make it clear that the MEPIDs are 1,2,3,4 and not a, b, c, d, e, f.
COMMENT END:
SUGGESTED CHANGES START:
Change "It offers four DSAPs to a Customer (C1). Each DSAP is marked with its MEP-ID." to "The SI offers four DSAPs (a, c, e, f) to the Customer (C1). Each DSAP is marked with its MEPID (1, 2, 3, 4)."
SUGGESTED CHANGES END:

Proposed disposition of comment 223

Accept.

Comment 224 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 20
COMMENT START:
Uniqueness not explicitly stated.
COMMENT END:
SUGGESTED CHANGES START:
A small integer, the MEP Identifier (MEPID) uniquely distinguishes each MEP within an MA.
SUGGESTED CHANGES END:

Proposed disposition of comment 224

Accept.

Comment 225 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.2
PAGE: 90
LINE: 42
COMMENT START:
Sentence open to misinterpretation.
COMMENT END:
SUGGESTED CHANGES START:
Change to "The customer has one item of Customer Equipment attached to each of the four DSAPs"
SUGGESTED CHANGES END:

Proposed disposition of comment 225

Reject.

Comment 226 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 90
LINE: 53
COMMENT START:
The portion of this sentence following the word "because" is difficult to interpret. This section of the document should be restricted to the definition and explanation of CFM en-

tities. What entities are, or are not, included in the CFM Message is not relevant here and should be discussed in the section describing message formats.
COMMENT END:
SUGGESTED CHANGES START:
Omit sentence entirely OR end sentence after "...among maintenance domains".
SUGGESTED CHANGES END:

Proposed disposition of comment 226

Accept in principle. The wording can be change. The purpose of this section is to explain why, as well as what and how.

Comment 227 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 91
LINE: 18
COMMENT START:
A 'nested decomposition facility' has not been defined. If superior and inferior have been defined, the parenthetic explanations are not needed. Paragraph could be expressed more simply.
COMMENT END:
SUGGESTED CHANGES START:
Replace paragraph with "Elements within an MD are not visible to another MD, except that DSAPs associated with an MD are visible to an immediately superior MD."
SUGGESTED CHANGES END:

Proposed disposition of comment 227

Accept in principle. Editor will try to find alternatives. "Nested decomposition facility" is not capitalized. It is not a defined term. The remainder of the paragraph explains what is meant by the term.

Comment 228 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 91
LINE: 30
COMMENT START:
Previous text leads the reader to believe that the DSAP is always visible to the immediately superior MD. The administrator of the immediately superior MD can choose to identify the DSAP as an ISAP in its domain.
COMMENT END:
SUGGESTED CHANGES START:

Replace with "An administrator may make a DSAP of an immediately inferior MD visible as an ISAP the superior MD by configuring the DSAP as a Maintenance association Intermediate Point (MIP)."
SUGGESTED CHANGES END:

Proposed disposition of comment 228

Accept in principle. See other comments on ISAPs.

Comment 229 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 91
LINE: 34
COMMENT START:
Since a MIP is instantiated by a SAP, wouldn't it generally be configured on an individual bridge port (at any level).
COMMENT END:
SUGGESTED CHANGES START:
Change to: "In the most inferior Maintenance Domains, the MIPs may be configured on ports of the same bridge.
SUGGESTED CHANGES END:

Proposed disposition of comment 229

Accept in principle. "In the most inferior Maintenance Domains, the MIPs may be configured on every Bridge Ports along a path between MEPs."

Comment 230 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 92
LINE: 18
COMMENT START:
Figure 18-4 shows an "L3 Interconnect" and "Routers emulating LAN". The information that routers are used to emulate a LAN is not relevant. What is shown in the figure is a LAN (emulated or physical).
COMMENT END:
SUGGESTED CHANGES START:
Change L3 Interconnect to WAN (or Long Haul, or similar). The "Routers Emulating LAN" should be removed from the figure and from the paragraph below the figure." The symbol for a LAN should be shown in the figure where "Routers Emulating a LAN" is currently shown.
SUGGESTED CHANGES END:

Proposed disposition of comment 230

See other comment on same subject.

Comment 231 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.1.3
PAGE: 93
LINE: 9
COMMENT START:
Figures 18-4 and 18-5 and accompanying text are confusing because it is not made clear whether the numbering represents MEPIDs or switch ports. The numbering schemes used in the two figures appear to be different.
COMMENT END:
SUGGESTED CHANGES START:
Clarify interpretation of numbering. Ideally make them consistent.
SUGGESTED CHANGES END:

Proposed disposition of comment 231

Accept.

Comment 232 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.1
PAGE: 94
LINE: 4
COMMENT START:
CCM will probably detect “some” hard failures and “some” soft failures. It is, however, guaranteed to detect “connectivity failures”.
COMMENT END:
SUGGESTED CHANGES START:
Change to: “The Continuity Check Message (CCM) provides a means to detect connectivity failures among the MEPs within an MA.”
SUGGESTED CHANGES END:

Proposed disposition of comment 232

Accept.

Comment 233 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.1

PAGE: 94
LINE: 7
COMMENT START:
Text shifts from reference to “MEP” reference to “edge bridge”.
COMMENT END:
SUGGESTED CHANGES START:
Use MEP consistently OR explain why the CCM transmission is viewed as an exchange among bridges rather than MEPs (very likely this is intentional, but explanation would make this clearer).
SUGGESTED CHANGES END:

Proposed disposition of comment 233

Accept.

Comment 234 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.1
PAGE: 94
LINE: 13
COMMENT START:
Technical: What happens if, during the heartbeat, the bridge transitions from administratively-unavailable to administratively-available, but there is no connectivity due to a failure? And ‘heartbeat’ is not defined.
COMMENT END:
SUGGESTED CHANGES START:
Change to: “A MEP can be placed in an administratively-unavailable state by the operator. The detection of a connectivity failure can then be suppressed when the MEP is unavailable”.
SUGGESTED CHANGES END:

Proposed disposition of comment 234

Accept in principle. Other comments suggest removing this capability.

Comment 235 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.2
PAGE: 94
LINE: 36
COMMENT START:
The text references “The peer MEP” but there may be many peer MEPs”. Rewording in remedy is an editorial suggestion. (ie., Current text not incorrect).
COMMENT END:

SUGGESTED CHANGES START:
A unicast Loopback Message (LBM), optionally carrying data, is sent on operator request from a local MEP to an MP within the MD. In the presence of connectivity between the source and destinations MPs, the source MEP receives a unicast Loopback Reply (LBR) from the destination MP.
SUGGESTED CHANGES END:

Proposed disposition of comment 235

Accept.

Comment 236 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 18.2.3
PAGE: 94
LINE: 41
COMMENT START:
Text does not include description of intrusive Loopback function.
COMMENT END:
SUGGESTED CHANGES START:
Add the following: A local operator request to perform intrusive-loopback causes the local bridge to identify frames received from a specified source MAC address, reverse the DA and SA field values of the frame header, and reflect the frame towards the source via the bridge port on which it was received. An operator can request that intrusive-loopback be performed for a given source MAC address at a remote with a specified MAC address bridge. This function is supported by an Inband Intrusive Loopback (IIL) protocol and the exchange of associated IIL protocol messages.
SUGGESTED CHANGES END:

Proposed disposition of comment 236

Discuss.

Comment 237 **Bob Sultan**

COMMENT TYPE: T
CLAUSE: 18.2.3
PAGE: 94
LINE: 43
COMMENT START:
Faults need not be “visible at Ethernet MAC layer”. A fault occurs when connectivity is broken. The fault need not be associated with a customer SI, it could be any operator SI, provider SI.
COMMENT END:
SUGGESTED CHANGES START:

Replace with "The Linktrace function allows the operator to determine the path followed by frames addressed to, but not necessarily arriving at, a given destination. Provide a 'NOTE' indicating that Linktrace should be performed before entries age out.
SUGGESTED CHANGES END:

Proposed disposition of comment 237

Accept in principle. This comment is related to others regarding use of "operator" "provider" and "customer", and the customer-provider pair relationship. Perhaps the terms "user" and "server" would be better when referring to the binary relationship, or perhaps "service provider" needs to be changed to another name.

Comment 238 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.3
PAGE: 95
LINE: 5
COMMENT START:
The text of lines 5 - 7 has been previously stated (and it was suggested that this information be move to a NOTE). The three bullet items look like they are possibilities under consideration for inclusion in the draft..
COMMENT END:
SUGGESTED CHANGES START:
Remove lines 5 - 7. Move bullet items to an Editorial Note.
SUGGESTED CHANGES END:

Proposed disposition of comment 238

Accept in principle. This section is likely to be altered significantly due to other comments, as well.

Comment 239 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.3
PAGE: 95
LINE: 17
COMMENT START:
What are these rare instances and what additional useful information does the LBM yield in this case.
COMMENT END:
SUGGESTED CHANGES START:
Move this paragraph to a NOTE and provide more specific explanation.
SUGGESTED CHANGES END:

Proposed disposition of comment 239

Accept in principle.

Comment 240 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.4
PAGE: 95
LINE: 23
COMMENT START:
Not necessary to argue in the draft that "The volume of error reports could overwhelm a network's management capabilities" It is useful to suppress alarms from 'secondary' causes even if the management system is not overwelmed.
COMMENT END:
SUGGESTED CHANGES START:
Replace paragraph with "CFM supports suppression of alarms resulting from a fault at an inferior MA level."
SUGGESTED CHANGES END:

Proposed disposition of comment 240

Accept in principle. AIS is changing; see other comments on AIS.

Comment 241 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.4
PAGE: 95
LINE: 30
COMMENT START:
"For this reason" is vague.
COMMENT END:
SUGGESTED CHANGES START:
Replace with "A MEP, detecting a connectivity failure between itself and a peer MEP, multicasts an Alarm Indication Signal (AIS) message in the direction away from the failure using the multicast address associated with the next superior MA level. When received by a MEP at the superior MA level, the AIS is interpreted as an indication that connectivity has failed between the near-end MIP and a specific far-end MIP. The MEP receiving the AIS infers that it can suppress alarms associated with CC-timeout of local-remote MEP pairs that depend on the failed MIP pair for connectivity.
SUGGESTED CHANGES END:

Proposed disposition of comment 241

Accept in principle. “For this reason” is a perfectly clear reference to the preceeding sentence. Again, this is a “why” section, as well as a “what” section. Suggested words have considerable merit.

Comment 242 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.2.4
PAGE: 95
LINE: 30
COMMENT START:
It is not described how a local MEP learns the identity of remote peer MEPs reached via the near-end MIP and a particular far-end MIP.
COMMENT END:
SUGGESTED CHANGES START:
Add text corresponding to the solution outlined in ag-sultan-alarm-suppression-0905.
SUGGESTED CHANGES END:

Proposed disposition of comment 242

Discuss.

Comment 243 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.3
PAGE: 95
LINE: 46
COMMENT START:
As suggested by the NOTE on page 90, line 44, there is no way to distinguish a Service Provider from an Operator. Service Provider A can provide the service of an Operator for Service Provider B. In other cases Service Provider A acts as a Service Provider. It can only be stated that level 0 should be reserved for cases when the MA is clearly at the level of the end user (e.g., desktops) and that level 7 should be reserved for ‘physical’ LANs. The remaining six levels are assigned so that a Service Provider / Operator must be assigned a lower numbered level than a Service Provider / Operator that it uses to provide services.
COMMENT END:
SUGGESTED CHANGES START:
Replace text p95 line 46 to p96 line line 16 as follows: “Eight MA Levels are defined as shown in Table 18-1. The administrators must agree on MA level assignments for service providers / operators such that, in any particular switch, a service provider / operator using the services of another service provider / operator is assigned an MA level numerically lower than that service provider / operator. Also modify Figure18-1 as follows: column 2 -

customer - level 0; column 3 - service provider - levels 1- 6; column 4 - physical network - level 7.
SUGGESTED CHANGES END:

Proposed disposition of comment 243

Discuss. There are other proposals for changing this allocation, also.

Comment 244 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4
PAGE: 96
LINE: 23
COMMENT START:
Much text earlier in this section describes MEPs and MIPs, but there is no mention of CFF, nor does CFF appear in figure 18-6.
COMMENT END:
SUGGESTED CHANGES START:
Explain CFF. Add to figure 18-6. Introduce CFF in earlier sections.
SUGGESTED CHANGES END:

Proposed disposition of comment 244

Accept in principle. CFF is being deleted.

Comment 245 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4
PAGE: 97
LINE: 23
COMMENT START:
Technical: “monitored Maintenance Domain is not a defined term”.
COMMENT END:
SUGGESTED CHANGES START:
Remove “monitored” or explain why this qualification is needed.
SUGGESTED CHANGES END:

Proposed disposition of comment 245

Accept in principle. Should be a “Maintenance Association”. See also other comments on this subclause.

Comment 246 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.1
PAGE: 97
LINE: 45
COMMENT START:
The CFM sublayer doesn't actually 'maintain' a service instance, it 'provides maintenance for' a service instance.
COMMENT END:
SUGGESTED CHANGES START:
Change 'maintains' to 'provides maintenance for'.
SUGGESTED CHANGES END:

Proposed disposition of comment 246

Reject.

Comment 247 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.1
PAGE: 97
LINE: 44
COMMENT START:
Control function associated with rMEPok is not explained. Specific variable names are not used elsewhere in this section.
COMMENT END:
SUGGESTED CHANGES START:
Explain what this function is without necessarily specifying the variable name.
SUGGESTED CHANGES END:

Proposed disposition of comment 247

Accept in principle. At the very least, a reference is required, but the suggestion sounds better.

Comment 248 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.1
PAGE: 98
LINE: 50
COMMENT START:
The previous text makes it clear that multiple VIDs could map to a single service instance, but this sentence is entirely unclear.

COMMENT END:
SUGGESTED CHANGES START:
Clarify
SUGGESTED CHANGES END:

Proposed disposition of comment 248

Accept in principle. It must be made clear that multiple VIDs can be a part of a single service instance. It is difficult to give examples, but the editor will try.

Comment 249 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.1
PAGE: 99
LINE: 43
COMMENT START:
This is a very helpful figure. It would be useful to see the MA Level of the MPs. In order to avoid cluttering the picture, I'd suggest removing the D and IS indications which don't add much to the figure.
COMMENT END:
SUGGESTED CHANGES START:
Show MA Level of each MP in figure.
SUGGESTED CHANGES END:

Proposed disposition of comment 249

Discuss. This is the only place where the DSAP and ISAP positions are clearly spelled out. Are two diagrams needed?

Comment 250 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.1
PAGE: 100
LINE: 21
COMMENT START:
What component is providing the MUX function implied by these converging arrows?
COMMENT END:
SUGGESTED CHANGES START:
Indicate the component providing the MUX function.
SUGGESTED CHANGES END:

Proposed disposition of comment 250

Accept in principle. This is the rMTPok variable to which you were objecting. :)

Comment 251 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.1
PAGE: 100
LINE: 51
COMMENT START:
These seem like two equally important reasons to split the MEP. Why is one in parenthesis.
COMMENT END:
SUGGESTED CHANGES START:
Change wording to make it clear that there are two distinct reasons to split the MEP.
SUGGESTED CHANGES END:

Proposed disposition of comment 251

Accept.

Comment 252 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2
PAGE: 101
LINE: 15
COMMENT START:
Cannot know intention.
COMMENT END:
SUGGESTED CHANGES START:
The set of MEPs configured with an identical MAID value is an MA. The MA provides maintenance services for a single SI.
SUGGESTED CHANGES END:

Proposed disposition of comment 252

Accept. Intentions are best left to earlier, introductory, subclauses.

Comment 253 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2
PAGE: 101
LINE: 18
COMMENT START:
Current wording may suggest that MEP is associated with more than one MA level.
COMMENT END:
SUGGESTED CHANGES START:

Each MEP within an MA is assigned the MA Level associated with that MA.
SUGGESTED CHANGES END:

Proposed disposition of comment 253

Reject. At present, a MEP may have two MA Levels, one for the IFF and one for the EFF.

Comment 254 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2
PAGE: 101
LINE: 21
COMMENT START:
Previous text suggests that MAID is local to the MD and a fully-qualified MAID is formed by the concatenation of the MD name and the MAID.
COMMENT END:
SUGGESTED CHANGES START:
Either “The MAID is assigned a globally unique value” or “The MAID is assigned a value local to the MD. A fully qualified MAID is formed by the concatenation of the MD name and the MAID.”
SUGGESTED CHANGES END:

Proposed disposition of comment 254

Accept.

Comment 255 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2
PAGE: 101
LINE: 21
COMMENT START:
The entity “the domain for which CFM is to provide such protection” seems to be used frequently in the document.
COMMENT END:
SUGGESTED CHANGES START:
Provide a term to conveniently represent this entity.
SUGGESTED CHANGES END:

Proposed disposition of comment 255

Discuss. Shall we simply say, “global”??

Comment 256 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2
PAGE: 101
LINE: 42
COMMENT START:
"Inward Facing IFF" on p101, line 41 may not make sense. Was the intention just "IFF" or is this correct as it is?
COMMENT END:
SUGGESTED CHANGES START:
clarify or verify that this is intended
SUGGESTED CHANGES END:

Proposed disposition of comment 256

Accept in principle. See other comments on same section.

Comment 257 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2.3
PAGE: 103
LINE: 30
COMMENT START:
Would be useful to distinguish these output ports.
COMMENT END:
SUGGESTED CHANGES START:
for b) replace "one of the output ports" with "the current-level output port" and for c) replace with "the other-level output port" (or equivalent).
SUGGESTED CHANGES END:

Proposed disposition of comment 257

Accept. See also other comments on this section.

Comment 258 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2.4
PAGE: 103
LINE: 39
COMMENT START:
Appears to be first time a Lifetime Field is referenced. Needs definition.
COMMENT END:
SUGGESTED CHANGES START:

Define “Lifetime Field”.
SUGGESTED CHANGES END:

Proposed disposition of comment 258

Accept in principle. Needs reference.

Comment 259 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2.5
PAGE: 103
LINE: 51
COMMENT START:
Incorrect wording.
COMMENT END:
SUGGESTED CHANGES START:
Replace “other” with “peer” or “remote”.
SUGGESTED CHANGES END:

Proposed disposition of comment 259

Accept in principle. MEPs must be in same MA.

Comment 260 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.2.5
PAGE: 103
LINE: 50
COMMENT START:
Incorrect wording.
COMMENT END:
SUGGESTED CHANGES START:
Replace “example” with “instance”.
SUGGESTED CHANGES END:

Proposed disposition of comment 260

Accept.

Comment 261 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.3
PAGE: 105

LINE: 34
COMMENT START:
This figure contains boxes for demux of Type and Level, but the MUX box does not have qualifiers.
COMMENT END:
SUGGESTED CHANGES START:
Label MUX as Type/Level MUX OR show two boxes, OR provide other explantion.
SUGGESTED CHANGES END:

Proposed disposition of comment 261

Reject. Explanation is in subclause 18.4.3.2 MEP EFF Multiplex Function.

Comment 262 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.3
PAGE: 105
LINE: 35
COMMENT START:
Does the AIG contain the Alarm Supression function?
COMMENT END:
SUGGESTED CHANGES START:
State whether AIG contains Alarm Supression Function.
SUGGESTED CHANGES END:

Proposed disposition of comment 262

Reject. This is a list of what AIG does, not what it does not do. It does not do Alarm Suppression.

Comment 263 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.3.4
PAGE: 106
LINE: 4
COMMENT START:
This paragraph exactly duplicates bullet item c) above.
COMMENT END:
SUGGESTED CHANGES START:
Remove c) OR make a higher-level statement. Also indicate here whether Alarm Suppression is supported here.
SUGGESTED CHANGES END:

Proposed disposition of comment 263

Reject. Alarm Suppression is covered in another section. This section is on alarm generation. Bullet c) is a list of what the EFF does. This section describes the specific functional element that does it. The nearby subclauses are all in parallel. See other comments on how to arrange these sections, as well.

Comment 264 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.6
PAGE: 106
LINE: 35
COMMENT START:
It isn't clear whether the Multiplexing described here is VID MUX, MA level MUX, or both. Line 37-38 makes it sound like both. Why is the reference to "split MEP" provided?
COMMENT END:
SUGGESTED CHANGES START:
Clarify.
SUGGESTED CHANGES END:

Proposed disposition of comment 264

Accept in principle. The term "multiplexing" has confused the reader. A better term is perhaps needed. This section is not talking about a frame stream multiplex function, such as one of the functional elements making up a MEP. This is talking about using one IFF to drive a number of EFFs.

Comment 265 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.7
PAGE: 106
LINE: 43
COMMENT START:
Sentence confusing.
COMMENT END:
SUGGESTED CHANGES START:
Replace with "An MHF is associated with exactly one MA and MA Level. The two MHFs within a MIP are both associated with the same MA and MA Level."
SUGGESTED CHANGES END:

Proposed disposition of comment 265

Accept.

Comment 266 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.7
PAGE: 106
LINE: 45
COMMENT START:
Sentence beginning "A MIP's MHFs are...." and the two bullet items have already been stated.
COMMENT END:
SUGGESTED CHANGES START:
Omit
SUGGESTED CHANGES END:

Proposed disposition of comment 266

Comment 267 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.7.3
PAGE: 107
LINE: 46
COMMENT START:
LRF not shown in figure 18-16. It looks like this is a combination of Type and Level DE-MUX? Why is this given distinct name in MIP but not MEP?
COMMENT END:
SUGGESTED CHANGES START:
Show LRF in figure if described as component in text... or rename to be consistent with other sections of the document.
SUGGESTED CHANGES END:

Proposed disposition of comment 267

Accept. LRF should be present, as diagram does not work, as shown. See other comments on same diagram.

Comment 268 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.7.4
PAGE: 107
LINE: 46
COMMENT START:
Why is this function only in the MHF and not in the EFF/IFF?
COMMENT END:
SUGGESTED CHANGES START:

Explain and show function in figure 18-16.
SUGGESTED CHANGES END:

Proposed disposition of comment 268

Accept.

Comment 269 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.4.8
PAGE: 108
LINE: 13
COMMENT START:
Filtering data at the boundary of the SI is outside the scope of CFM. It isn't clear to me why CFM messages require a filtering function to prevent forwarding to inactive MPs. It would seem instead that the MHF/IFF/EFF state machines would only forward CFM frames when there is an active component to which they can be forwarded. That is, this "filtering" function is implicitly part of the other state machines.
COMMENT END:
SUGGESTED CHANGES START:
Remove or explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 269

Accept. See other comment(s) to the same effect. The CFF is not needed.

Comment 270 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.5
PAGE: 109
LINE: 16
COMMENT START:
Organization of the document becomes very unclear at this point. A detailed description of IFF/EFF/MHF/CCF functions has just been completed, but now we return to a high-level description of MPs, stations, etc. Some of this material is clearer than material presented earlier. It looks like another version of the document was pasted here.
COMMENT END:
SUGGESTED CHANGES START:
Harmonize document structure.
SUGGESTED CHANGES END:

Proposed disposition of comment 270

Accept.

Comment 271 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.6
PAGE: 110
LINE: 20
COMMENT START:
upward or outward? inward or downward?
COMMENT END:
SUGGESTED CHANGES START:
Change to outward or explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 271

Accept.

Comment 272 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.7
PAGE: 110
LINE: 30
COMMENT START:
CFM messages types were already covered in 18.2 but this explanation is significantly clearer.
COMMENT END:
SUGGESTED CHANGES START:
Revise earlier material to make sure it is only a high-level summary of this material.
SUGGESTED CHANGES END:

Proposed disposition of comment 272

Accept. See other comments on same subject.

Comment 273 Bob Sultan

COMMENT TYPE: T
CLAUSE: 18.7.2
PAGE: 112
LINE: 13
COMMENT START:

Tools not carried in CCM.
COMMENT END:
SUGGESTED CHANGES START:
"Parameters".
SUGGESTED CHANGES END:

Proposed disposition of comment 273

Accept.

Comment 274 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.2.2
PAGE: 116
LINE: 14
COMMENT START:
Sentence may be misinterpreted.
COMMENT END:
SUGGESTED CHANGES START:
MPs configured on the same Bridge Port may share a common MAC address. MPs configured on different Bridge Ports shall not share a common MAC address. A universally unique MAC addresses (ie., U/L bit = 0, See IEEE Std. 802-2001 Clause 9.2) assigned to an MP must be that of the associate bridge port or of the bridge. MPs within a Bridge may be assigned a common local MAC address (ie., U/L bit = 1) but MPs associated with different bridges must be assigned distinct MAC addresses.
SUGGESTED CHANGES END:

Proposed disposition of comment 274

Reject. Different MAC addresses need not be used for MEPs on different bridge ports, as is pointed out is other subclauses.

Comment 275 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.2.2
PAGE: 116
LINE: 17
COMMENT START:
Incorrect page reference.
COMMENT END:
SUGGESTED CHANGES START:
Supply correct page reference.
SUGGESTED CHANGES END:

Proposed disposition of comment 275

Accept.

Comment 276 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.2.4
PAGE: 116
LINE: 29
COMMENT START:
Previous sentence says MA, but next sentence says MD. Should be consistent.
COMMENT END:
SUGGESTED CHANGES START:
Replace MD with MA.
SUGGESTED CHANGES END:

Proposed disposition of comment 276

Accept.

Comment 277 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.2.7
PAGE: 117
LINE: 18
COMMENT START:
Sentence difficult to interpret. Separate from what?
COMMENT END:
SUGGESTED CHANGES START:
State more clearly.
SUGGESTED CHANGES END:

Proposed disposition of comment 277

Accept in principle. Independent?

Comment 278 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.8
PAGE: 122
LINE: 48
COMMENT START:
Why exception for LTM. LTM is multicast and should follow same rule.

COMMENT END:
SUGGESTED CHANGES START:
Explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 278

Accept. LTM is received by a MIP or MEP.

Comment 279 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.8
PAGE: 123
LINE: 9
COMMENT START:
Technical: So why allow the “Master Model’?
COMMENT END:
SUGGESTED CHANGES START:
Explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 279

Accept in principle. Provide reference to Annex N.5.

Comment 280 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.9.1
PAGE: 123
LINE: 24
COMMENT START:
Has lifetime field been previously discussed?
COMMENT END:
SUGGESTED CHANGES START:
Define.
SUGGESTED CHANGES END:

Proposed disposition of comment 280

Accept in principle. A forward reference is needed.

Comment 281 Bob Sultan

COMMENT TYPE: T

CLAUSE: 19.10
PAGE: 125
LINE: 38
COMMENT START:
Why isn't this covered in 19.9?
COMMENT END:
SUGGESTED CHANGES START:
Place this material in 19.9.
SUGGESTED CHANGES END:

Proposed disposition of comment 281

Discuss. It is here because earlier comments requested that it be separated. There are other comments about this field.

Comment 282 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.10
PAGE: 125
LINE: 40
COMMENT START:
Why is it necessary to associate MAs at the same MA Level? How is this achieved by this proposal?
COMMENT END:
SUGGESTED CHANGES START:
Explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 282

Accept in principle. This is explained in Clause 18. A reference is needed.

Comment 283 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.10
PAGE: 125
LINE: 41
COMMENT START:
Which bridge port are we talking about? If the port associated with a MEP is psDown, how do you send a CCM?
COMMENT END:
SUGGESTED CHANGES START:
explain
SUGGESTED CHANGES END:

Proposed disposition of comment 283

Accept in principle. The relationship to the blocking function (currently in the Relay Entity) is described in subclause 18.5. A reference is needed, here. Subclause 18.8 describes the "why" of subclause 19.10's "what". Again, cross-references are needed.

Comment 284 Bob Sultan

COMMENT TYPE: T
CLAUSE: 9.11.3.1
PAGE: 127
LINE: 28
COMMENT START:
Technical: Wording unclear.
COMMENT END:
SUGGESTED CHANGES START:
Remedy: Change "the error is counted" to an error count is incremented (specify name)"
SUGGESTED CHANGES END:

Proposed disposition of comment 284

Accept.

Comment 285 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.11.4
PAGE: 127
LINE: 30
COMMENT START:
Wording.
COMMENT END:
SUGGESTED CHANGES START:
Change "the error is counted" to "an appropriate error count is incremented." Change "If not, an error is generated." to "If not, an error indication is generated".
SUGGESTED CHANGES END:

Proposed disposition of comment 285

Accept.

Comment 286 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.11.4
PAGE: 127

LINE: 32
COMMENT START:
Technical: It is unclear why this “Master Port” should be an issue. The model described in this document clearly shows the MEP function “residing” in the port associated with the monitored traffic. There is no “Master Port”. 802 standards generally provide a reference model. You can implement the standard as you like, provided the result is functionally the same as the reference model.
COMMENT END:
SUGGESTED CHANGES START:
Remove references to “Master Port” throughout document (except maybe for an informative annex). Apply remedy also to p129, lines 15-19.
SUGGESTED CHANGES END:

Proposed disposition of comment 286

Reject. The Master Port model is perfectly viable for system administrators who wish to use CFM to operate at the level of bridges as whole entities, instead of individual Bridge Ports, simply because there can easily be a hundred times as many ports as bridges. Furthermore, software implementations may find the Master Port model to allow a much more efficient implementation.

Comment 287 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.12.2
PAGE: 128
LINE: 42
COMMENT START:
not the “data frame” that is targeted.
COMMENT END:
SUGGESTED CHANGES START:
Change to “if a data frame sent by the target MAC of the LTM would...” Also fix same problem in 4). Also p. 131 line 41.
SUGGESTED CHANGES END:

Proposed disposition of comment 287

Accept in principle. It is, “a data frame sent ***to*** the target MAC of the LTM”

Comment 288 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.12.2
PAGE: 129
LINE: 1
COMMENT START:

Does the MEP at the termination of the MA also forward the LTR towards the target?
COMMENT END:
SUGGESTED CHANGES START:
Fix if incorrect.
SUGGESTED CHANGES END:

Proposed disposition of comment 288

Accept. No, it doesn't.

Comment 289 Bob Sultan

COMMENT TYPE: T
CLAUSE: 21
PAGE: 130
LINE: 21
COMMENT START:
Each MIP, not each Bridge.
COMMENT END:
SUGGESTED CHANGES START:
Replace "Bridge" with "MIP".
SUGGESTED CHANGES END:

Proposed disposition of comment 289

Discuss. It is the bridge that formulates the reply, and transmits it. It may not be a MIP's address in the LTR, at this time. Certainly the MIP->bridge brain->MIP path needs to be illustrated.

Comment 290 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.12.4.2.1
PAGE: 132
LINE: 48
COMMENT START:
Why is this limited to the receiving MIP? I had assumed that the far-end MEP also responds to a LTM.
COMMENT END:
SUGGESTED CHANGES START:
Change to MP or explain.
SUGGESTED CHANGES END:

Proposed disposition of comment 290

Accept. Should be MP.

Comment 291 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.12.4.3.1
PAGE: 133
LINE: 35
COMMENT START:
Statement is ambiguous.
COMMENT END:
SUGGESTED CHANGES START:
"A next hop for the LTM was identified, but ifOperStatus of the associated port is not UP."
SUGGESTED CHANGES END:

Proposed disposition of comment 291

Accept.

Comment 292 Bob Sultan

COMMENT TYPE: T
CLAUSE: 19.12.4.3.1
PAGE: 133
LINE: 36
COMMENT START:
"in software" is inappropriate restriction.
COMMENT END:
SUGGESTED CHANGES START:
Delete "in software" in 4) and 5).
SUGGESTED CHANGES END:

Proposed disposition of comment 292

Accept.

Comment 293 Bob Sultan

COMMENT TYPE: T
CLAUSE: 12.3.2.2.2
PAGE: 30
LINE: 32
COMMENT START:
If the "Service Instance" is that identified by the 802.1ah I-SID, then the VID does not uniquely identify a Service Instance and the statment should read "The I-SID of the Service Instance monitored by this MA."
If the "Service Instance" is not that identified by the 802.1ah I-SID, then the text should read "The VID of the VLAN Instance monitored by this MA." or "The SVID of the SV-

LAN Instance monitored by this MA. In this case, also, the term Service Instance should be removed from the amendment as it simply identifies a VLAN (or SVLAN).
COMMENT END:
SUGGESTED CHANGES START:
Change statement to "The I-SID of the Service Instance monitored by this MA." and make it clear that the Service Instance is that defined by 802.1ah OR change statement to "The VID of the VLAN monitored by this MA." or "The SVID of the SVLAN Instance monitored by this MA" and remove references to Service Instance from the document. Fix same problem in 12.3.3.1.3.
SUGGESTED CHANGES END:

Proposed disposition of comment 293

Reject. This document takes no account of P802.1ah, as that document is not far enough along. P802.1ag may be amended in the future, either as a part of P802.1ah, or as a separate project.

Comment 294 Bob Sultan

COMMENT TYPE: T
CLAUSE: 12.3.2
PAGE: 29
LINE: 25
COMMENT START:
"c) A value indicating the direction in which the MP faces on the Bridge Port, either:
1) Outward (sends Continuity Check Messages (CCMs) away from the MAC Relay Entity); or
2) Inward (sends CCMs towards the MAC Relay Entity);"
These definitions of Outward and Inward are counterintuitive. An MP is said to be Outward if it sends CCM away from (i.e., outward with respect to) the bridge relay, but intuitively, a CCM message is always sent "into" the MA. So, the idea is to distinguish between (1) a MEP whose CCM crosses the local bridge relay when it is sent and (2) a MEP whose CCM does not cross the local bridge relay when it is sent. Intuitively, (1) is the "outer" MP and (2) is the "inner" MP.
COMMENT END:
SUGGESTED CHANGES START:
outward --> inner; inward --> outer
SUGGESTED CHANGES END:

Proposed disposition of comment 294

Discuss. This is as bad as "input" and "output". One interfaces input is another's output.

Comment 295 Bob Sultan

COMMENT TYPE: T

CLAUSE: 12.3.1.4
PAGE: 29
LINE: 11
COMMENT START:
12.3.1.4 says there is one CFM Stack Managed Object per Bridge. 12.3.1.4.1 implies there is one CFM Stack Managed Object per Bridge Port.
COMMENT END:
SUGGESTED CHANGES START:
Bridge --> Bridge Port
SUGGESTED CHANGES END:

Proposed disposition of comment 295

Accept.

Comment 296 Bob Sultan

COMMENT TYPE: T
CLAUSE: 12.3.4.1.3
PAGE: 34
LINE: 25
COMMENT START:
"The total number of CCMs received that triggered Fault Alarms". Isn't it the absense of CCMs that triggers alarms?
COMMENT END:
SUGGESTED CHANGES START:
explain
SUGGESTED CHANGES END:

Proposed disposition of comment 296

Accept in principle. A *stream* CCM for the wrong MAID can trigger a fault alarm. *One* CCM by itself may not.

Comment 297 Bob Sultan

COMMENT TYPE: T
CLAUSE: 8.15.11
PAGE: 20
LINE: 1
COMMENT START:
Is there a restriction associated with the with the 01-80-C2-xx-xx-xy address that prevents CFM multicast frames from travel outside the MA? Outside the MD? Not all paths in and out of an MD necessarily contain MPs. Is there anything that prevents the multicasts from propagating outside the MD when there is no intervening MP? Is there a possibility that such a propagated multicast might be interpreted by a different MD?

COMMENT END:
SUGGESTED CHANGES START:
explain
SUGGESTED CHANGES END:

Proposed disposition of comment 297

This is explained in N.7. Perhaps a reference is in order. Ultimately, it is the MA Level encoded in every CFM message that prevents crossings, and if MEPs are not configured, "leaking" CCMs cause alarms.

Comment 298 Paul Bottorff

COMMENT TYPE: T
CLAUSE:
PAGE: 94
LINE: 6
COMMENT START:
This non-normative text states that the MEPs are configured with a list of all the MEPs in the MA. Even though I agree that configuring all the MEPs is a desirable option, another alternative is for the MEP to learn all the remote MEPs in the MA through the CC messages. This places the burden of checking that the MA sees all the MEPs on the NMS rather than the MEP. In this case the MEP can inform the NMS when new MEPs appear and when existing MEPs disappear. Though this alternate behavior limits some of the detection capabilities of the MEP it also greatly reduces the amount of configuration required at startup.
COMMENT END:
SUGGESTED CHANGES START:
Add text for learned remote MEPs as an alternative to configured remote MEPs.
SUGGESTED CHANGES END:

Proposed disposition of comment 298

Reject. This entire exercise is premised on the idea that CFM is able to detect 100% of connectivity errors, given that the CFM configuration is the definition of correct connectivity. This is 100% -- not 99.99999999999999%, but 100%. To give this perfection up merely to gain flexibility is a bad tradeoff.

Comment 299 Paul Bottorff

COMMENT TYPE: T
CLAUSE:
PAGE: 103
LINE: 42
COMMENT START:

Both a going away and a remote fault indication should be carrier in the CC message. Use of zero lifetime for one of them seems, however an additional bit (or so) should be set aside for indication of a remote fault.
COMMENT END:
SUGGESTED CHANGES START:
Add a remote fault indication bit to the CC message.
SUGGESTED CHANGES END:

Proposed disposition of comment 299

Accept. See other comments, as well.

Comment 300 Paul Bottorff

COMMENT TYPE: T
CLAUSE:
PAGE: 114
LINE: 3
COMMENT START:
The minimum bound on CC transmit time is too long. The lifetime field should be allowed to reach .01 second so detection can occur in 10 msec. The CC transmit time should then be 10msec/3.5.
COMMENT END:
SUGGESTED CHANGES START:
Change CC transmit timer minimum to 10msec/3.5.
SUGGESTED CHANGES END:

Proposed disposition of comment 300

Accept in principle. See other comments, based on Q.5/13 inputs.

Comment 301 Glenn Parsons

COMMENT TYPE: T
CLAUSE: A
PAGE: 153
LINE: 1
COMMENT START:
There is no PICS yet...
COMMENT END:
SUGGESTED CHANGES START:
Prepare an PICS based on the new items in clause 5.
SUGGESTED CHANGES END:

Proposed disposition of comment 301

Accept in principle. PICS will be prepared in Working Group Ballot process.

Comment 302 Glenn Parsons

COMMENT TYPE: TR
CLAUSE: 19.9.1
PAGE: 123
LINE: 22
COMMENT START:
'as often as configured' disagrees with 'every 10ms' in 18.9. A maximum number of CCMs seems like a good idea.
COMMENT END:
SUGGESTED CHANGES START:
Decide on every 10ms vs. whenever vs. some other number.
SUGGESTED CHANGES END:

Proposed disposition of comment 302

Reject. There is not disagreement. 18.9 states a maximum rate, not the only rate. (which other comments propose to make even faster). 19.9.1 states that it is configurable. Since the number of MEPs per service is so large, and since software implementations are expected, at least in early deployment, and since some uses want CFM to support failover in less than 10 ms, it is impossible to pick just one number. See other comments that pick a few values.

Comment 303 Glenn Parsons

COMMENT TYPE: T
CLAUSE: 19.9.1
PAGE: 123
LINE: 23
COMMENT START:
Where does 655.35s come from? It seems arbitrary.
COMMENT END:
SUGGESTED CHANGES START:
Indicate source of number.
SUGGESTED CHANGES END:

Proposed disposition of comment 303

16 bits times 1 centisecond.

Comment 304 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: x,1,1.1
PAGE: i,1,2
LINE: x,46,3
COMMENT START:
Since AIS is included as an OAM functionality which is associated with the fault notification, notification should be added to the current detection, verification and isolation functionalities.
COMMENT END:
SUGGESTED CHANGES START:
Add notification to current list of capabilities provided by this standard.
SUGGESTED CHANGES END:

Proposed disposition of comment 304

Accept in principle. We must distinguish between Fault Alarms and AIS.

Comment 305 Dinesh Mohan

COMMENT TYPE: T
CLAUSE: 1.1
PAGE: 2
LINE: 8-9
COMMENT START:
Since .1ag can be applied across Provider Backbone Bridges (PBB) besides VLAN-aware bridges and Provider Bridges, consider making the text generic such that it is not limited to only VLAN-aware and Provider Bridges, since in terms of timing, this amendment may not be able to discuss PBB.
COMMENT END:
SUGGESTED CHANGES START:
Consider making the text generic such that it is not limited to only VLAN-aware and Provider Bridges
SUGGESTED CHANGES END:

Proposed disposition of comment 305

Reject. Assuming that we stay on schedule, P802.1ah will not be sufficiently stable for P802.1ag to depend on it. P802.1ah will either have to include amendments to 802.1ag, or a new PAR will be required to harmonize the two. The editor will make every attempt to not put anything in P802.1ag that conflicts with the direction of P802.1ah, insofar as that is known.

Comment 306 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.1
PAGE: 5
LINE: 7-9
COMMENT START:
Definition of AIS is not really a definition of AIS since it does not indicate why AIS is needed in first place. Something like "AIS is a frame emitted by MEP EFF to notify superior MEs for the purposes of alarm suppression in superior maintenance domains" is desirable.
COMMENT END:
SUGGESTED CHANGES START:
Consider changing the definition as per the proposed modification.
SUGGESTED CHANGES END:

Proposed disposition of comment 306

Accept in principle.

Comment 307 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.2, 3.14, 3.35
PAGE: 5-8
LINE:
COMMENT START:
It is unclear why the standard technologies or bodies need to be defined in this recommendation.
COMMENT END:
SUGGESTED CHANGES START:
It is proposed to remove 3.2, 3.14, 3.35 since otherwise we could likely get caught up in ensuring the correctness of these definitions.
SUGGESTED CHANGES END:

Proposed disposition of comment 307

Accept. See othe rcomments to same effect.

Comment 308 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.9, 3.13
PAGE: 5
LINE: 36-37, 50-51
COMMENT START:

The definitions of External/Internal SAP as definitions are quite ambiguous. It is suggested that the definitions be clarified/simplified.
COMMENT END:
SUGGESTED CHANGES START:
Simplify/clarify the definitions for External/External SAP.
SUGGESTED CHANGES END:

Proposed disposition of comment 308

Accept in principle. Suggestions?

Comment 309 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.11
PAGE: 5
LINE: 42-45
COMMENT START:
It Fully-Qualified MAID really a MA ID or is it fully qualified MEP ID. It is proposed to change Fully-Qualified MAID to Fully-Qualified MEPID
COMMENT END:
SUGGESTED CHANGES START:
Change Fully-Qualified MAID to Fully-Qualified MEPID
SUGGESTED CHANGES END:

Proposed disposition of comment 309

Accept in principle. See other comments on same point.

Comment 310 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.16
PAGE: 6
LINE: 3-4
COMMENT START:
LDF should only be present in MEP since MEPs have been considered as being responsible to ensure that boundaries for maintenance domains are protected.
COMMENT END:
SUGGESTED CHANGES START:
Remove MIP, or CFF from the definition.
SUGGESTED CHANGES END:

Proposed disposition of comment 310

Accept.

Comment 311 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.21
PAGE: 6
LINE: 19-20
COMMENT START:
The definition of MA as defined currently is quite ambiguous. Given the current direction of CFM constructs, it might be worth considering an alternate definition "The portion of a service instance, inside a maintenance domain, maintained by CFM. It consists of a full mesh of point-to-point Maintenance Entities."
COMMENT END:
SUGGESTED CHANGES START:
Consider the alternate definition of MA.
SUGGESTED CHANGES END:

Proposed disposition of comment 311

Accept in principle.

Comment 312 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 3.36, 3.43
PAGE: 7,8
LINE: 22, 1
COMMENT START:
The terms and concept behind Normal CCM and Terminal CCM is confusing. For example, calling a CCM as Normal simply because it has non-zero Lifetime Field while it might have incorrect ME Level or MAID or MEP ID etc seems unreasonable. It is proposed to remove 3.36 and 3.43 since these are not commonly used in the document requiring a definition.
COMMENT END:
SUGGESTED CHANGES START:
Remove 3.36 and 3.43.
SUGGESTED CHANGES END:

Proposed disposition of comment 312

Accept in principle. If a CCM that announces "I'm going to lunch" is eliminated, then the definition can be eliminated. The editor found it useful to include that phrase in the definitions, because the phrase is used in the text. See other comments about the terminal CCM.

Comment 313 Dinesh Mohan

COMMENT TYPE: TR

CLAUSE: 3.4, others
PAGE: 5, others
LINE: 19-20
COMMENT START:
The requirement for CFF is not clear. When the MEPs are considered to be responsible for maintaining and providing the boundary for CFM maintenance domains, CFF is redundant. Where a CFF is realized, a MEP is more appropriate and if a MEP cannot be realized/created/instantiated, why is CFF needed. If CFF is default, then what ME level does it base the filtering on?
COMMENT END:
SUGGESTED CHANGES START:
Remove CFF throughout the document.
SUGGESTED CHANGES END:

Proposed disposition of comment 313

Accept.

Comment 314 Dinesh Mohan

COMMENT TYPE: T
CLAUSE: 4
PAGE: 9
LINE: 52
COMMENT START:
MSAP is not defined and is not used in the document.
COMMENT END:
SUGGESTED CHANGES START:
Either define MSAP in Clause 3 or remove MSAP.
SUGGESTED CHANGES END:

Proposed disposition of comment 314

Accept.

Comment 315 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 5.4
PAGE: 11
LINE: 17
COMMENT START:
Though it is unlikely that all 8 MA Levels will be used across a single port for each VLAN, however, there seems to be no justification for why “seven” and not “eight” MEPs could be created on each VLAN on each port. Change “seven” to “eight”
COMMENT END:

SUGGESTED CHANGES START:
Change “seven” to “eight” or provide justification for “seven”
SUGGESTED CHANGES END:

Proposed disposition of comment 315

Accept. See other comments on the same point.

Comment 316 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 8.15.11
PAGE: 19
LINE: 10
COMMENT START:
The limitation for two Group MAC addresses is not justified. Further it is noted that the treatment for different multicast destination MAC addresses in Table 8-9 and Table 8-10 is confusing unless the reader goes through the LTM functional implementation, later in the document. Also since the encoding of the MA level in multicast DA is purely for the purposes of easing the filtering in current equipments, it is proposed to instead consider specifying two different groups of multicast MAC address groups each with 8 MA Levels encoding, where one group could simply be associated with MEPs (for the purposes of CCM, etc.) while the other could be associated with MIPs and MEPs (for the purposes of LTMs).
COMMENT END:
SUGGESTED CHANGES START:
Add some text to provide justification for two group MAC address configuration limitation or remove the limitation in the statement. Also consider the proposal to include two explicit multicast MAC address groups as discussed above.
SUGGESTED CHANGES END:

Proposed disposition of comment 316

Accept in principle. See other comments on MAC addresses. The split into two groups seems justified. The reason for one I and two G addresses is to support the Individual MAC address of the MEP and one Group address each for CCM/AIS and Linktrace.

Comment 317 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.1.4.3
PAGE: 29
LINE: 36-41
COMMENT START:

A MIP does not need to be configured with a Maintenance Domain name and similarly a short MA name. Therefore, b) and c) should specifically indicate MEP instead of a generic MP.
COMMENT END:
SUGGESTED CHANGES START:
Change MP to MEP in b) and c)
SUGGESTED CHANGES END:

Proposed disposition of comment 317

Accept. See other comments, as well.

Comment 318 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.3.2.2, 12.3.4.1.3
PAGE: 32, 34
LINE:
COMMENT START:
It is unclear how the MA Level at which EFF of MEP is required to generate AIS is configured.
COMMENT END:
SUGGESTED CHANGES START:
Add configurable parameter to specify superior MA Level at which MEP EFF should issue AIS.
SUGGESTED CHANGES END:

Proposed disposition of comment 318

Accept.

Comment 319 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.4.1.3
PAGE: 34
LINE:
COMMENT START:
Bullet e), where does the default value come from?
COMMENT END:
SUGGESTED CHANGES START:
Specify where the default value for priority comes from.
SUGGESTED CHANGES END:

Proposed disposition of comment 319

Accept in principle. It is configured.

Comment 320 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.4.1.3
PAGE: 34
LINE:
COMMENT START:
Bullet h), The requirement for such a control is unclear. This almost negates the purpose of AIS function.
COMMENT END:
SUGGESTED CHANGES START:
Remove bullet h) or justify the requirement for such a control.
SUGGESTED CHANGES END:

Proposed disposition of comment 320

Accept in principle. See other comments on AIS. AIS is not required and should not be present inside a spanning tree environment. If the environment of the network enclosing the EFF is spanning tree, this variable should indicate “no AIS”. If the environment of the network enclosing the EFF is Protection Switched, then “AIS” may be in order. This configuration parameter is available to ITU-T, since they are defining protection switching.

Comment 321 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.4.1.3
PAGE: 34
LINE:
COMMENT START:
Bullets j), k), l), p), q), r), s), t), It was discussed in the last meeting that the requirement for statistics being maintained on different maintenance entities will need to be justified to include in the standard. The requirement is not yet clear on these statistics.
COMMENT END:
SUGGESTED CHANGES START:
Remove bullets j), k), l), p), q), r), s), t) or justify the requirements for such statistics.
SUGGESTED CHANGES END:

Proposed disposition of comment 321

Accept in principle. The statistics should be tied directly to the state machines and/or procedures called by the state machines. Making these congruent will change the bullets in 12.3.4.1.3 significantly.

Comment 322 John Sauer

COMMENT TYPE: TR
CLAUSE: 17.6
PAGE: 68
LINE: 4
COMMENT START:
The TransmitLoopbackEntry does not have the DestAddress to send the messages to (page 68). In the description of the TransmitLoopbackTable, it says "Entries in this table are created/removed at the same time the entries in the MEP table are created/removed. It will signal the MEP that it should transmit some number of Loopback messages …"
One would assume the MEP referred here is the local MEP rather than a discovered MEP. So, the DestAddress (for which the Loopback messages should be sent to) is missing in TransmitLoopbackEntry.
Also, we believe TransmitLinktraceEntry has been defined the same way. We see a DestAddress in that.
COMMENT END:
SUGGESTED CHANGES START:
Add DestAddress to TransmitLoopbackEntry.
SUGGESTED CHANGES END:

Proposed disposition of comment 322

Accept in principle. The MIB was written to Draft 3.0, instead of Draft 4.1. It needs to be updated.

Comment 323 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4 (and others)
PAGE: 96
LINE: 23-24
COMMENT START:
The CFM Filtering Function (CFF) should not exist. Its only function, at present, is to mask errors that could otherwise be detected by CFM.
COMMENT END:
SUGGESTED CHANGES START:
Remove the CFF from the document.
SUGGESTED CHANGES END:

Proposed disposition of comment 323

Accept. See other comments to same purpose.

Comment 324 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.13.1
PAGE: 134 (and other places)
LINE: 32
COMMENT START:
The AIS does not need an MAID. It is the job of the CCM to detect cross-connect errors and the job of the MEP to defend against the intrusion of CFM messages at the wrong MA Level. Therefore, the MAID in the AIS serves no function.
COMMENT END:
SUGGESTED CHANGES START:
Remove the MAID from the AIS message.
SUGGESTED CHANGES END:

Proposed disposition of comment 324

Accept. See other comments to same purpose.

Comment 325 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.3
PAGE: 104
LINE: 48
COMMENT START:
A MEP's EFF does not need to be configured with an MAID, because its only function is to transmit AISs, which do not require an MAID.
COMMENT END:
SUGGESTED CHANGES START:
Remove the MAID from the EFF configuration.
SUGGESTED CHANGES END:

Proposed disposition of comment 325

Accept.

Comment 326 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.15.3
PAGE: 136ff
LINE:
COMMENT START:
Receipt of a CCM with the wrong lifetime is a defect (which can become a fault).
COMMENT END:

SUGGESTED CHANGES START:
Include “wrong lifetime value” in the list of things that cause a CCM to trigger the error state machine instead of the remote MEP state machine. That is, wrong lifetime == invalid CCM.
SUGGESTED CHANGES END:

Proposed disposition of comment 326

Accept.

Comment 327 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.9
PAGE: 123ff
LINE:
COMMENT START:
Add an RDI (Remote Defect Indication) bit to CCM so that the examination of a single MEP gives a positive indication as to whether the MA is free of connectivity defects or not.
COMMENT END:
SUGGESTED CHANGES START:
Add a bit to the CCM. This bit is set whenever the Fault Alarm state machine is in the fault state. The RDI bit is saved along with the MAC address at the receiver’s end. The OR of all RDI bits is a managed object available for inspection.
SUGGESTED CHANGES END:

Proposed disposition of comment 327

Accept. See other comments to same purpose.

Comment 328 Norman Finn

COMMENT TYPE: T
CLAUSE: 19.14, 19.15
PAGE: 134f
LINE:
COMMENT START:
Fault Alarm should be transmitted by a 2.5 second Fault Alarm state machine that reports all problems (except RDI reception). Fault must clear for 10 seconds before Fault Alarms can be re-triggered.
COMMENT END:
SUGGESTED CHANGES START:
Add a state machine, variables, etc. as per the figures uploaded to docs2005/ag-d4-1-comment-figures.pdf.
SUGGESTED CHANGES END:

Proposed disposition of comment 328

Accept.

Comment 329 Norman Finn

COMMENT TYPE: T
CLAUSE: 19.15.3.6
PAGE: 140
LINE:
COMMENT START:
Not clear that we need the RMEP_FOUND_ONE state. If you say that "wrong lifetime" == "no CCM", then there is no bounce problem, and you don't need two CCMs to declare up. The MEP should start in a non-errored state, and generate a defect if it times out. See the figures uploaded to docs2005/ag-d4-1-comment-figures.pdf.
COMMENT END:
SUGGESTED CHANGES START:
Change to uploaded state machine and supporting variables.
SUGGESTED CHANGES END:

Proposed disposition of comment 329

Accept.

Comment 330 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.7 and others
PAGE: 106 and others
LINE:
COMMENT START:
A MIP or MEP must not validate the MAID of an LBMs or LTR. It is the job of the (other) MEPs to prevent such messages from entering the MA accidentally, the job of CCMs to detect connection errors, and the job of MACsec to ensure that improper CFM messages cannot be injected by an unauthorized intruder.
COMMENT END:
SUGGESTED CHANGES START:
Remove MAID validation from the MEP's and MIP's duties, except for checking the MAID in a CCM by a MEP.
SUGGESTED CHANGES END:

Proposed disposition of comment 330

Accept. See other comments to same purpose.

Comment 331 Norman Finn

COMMENT TYPE: TR
CLAUSE: all
PAGE:
LINE:
COMMENT START:
As it turns out, ITU-T SG13 Q5 has decided that the former opinion that the MA levels should be numbered with 7 as the "phyward" and 0 as the "custward" levels was not necessary, after all. It would greatly simplify the reader's task if 0 were the closest to the physical level, and 7 the closest to the customers' levels.
COMMENT END:
SUGGESTED CHANGES START:
Reverse the numbering of MA Levels.
SUGGESTED CHANGES END:

Proposed disposition of comment 331

Discuss.

Comment 332 Norman Finn

COMMENT TYPE: TR
CLAUSE: 8.15.11
PAGE: 19f
LINE:
COMMENT START:
There is a problem with addressing. :) if a MIP does not maintain a CCM database, then that MIP does not need to see the CCMs in the next superior layer. If one implements a MIP in software in currently available bridges, that implementation is dependant on destination multicast MAC addresses to identify the frames in which it is interested. In this case, the overlap of Linktrace and CCM addresses is not desirable. Especially if the following comment is also accepted, splitting Linktrace and CCM into separate destination multicast address spaces is better, even though it could, in some cases, increase the number of MAC address entries in one's filtering database.
COMMENT END:
SUGGESTED CHANGES START:
Use a separate set of MAC addresses, one for LTM and one for CCM/AIS.
SUGGESTED CHANGES END:

Proposed disposition of comment 332

Discuss.

Comment 333 Norman Finn

COMMENT TYPE: T
CLAUSE: 18.3
PAGE: 95f
LINE:
COMMENT START:
Eliminate Figure 18-1 and the associated text. Encourage the use of the most-phyward MA levels available. This minimizes the number of MAC addresses required. Negotiation of MA Levels between customers and providers is a small part of the configuration necessary to set up services.
COMMENT END:
SUGGESTED CHANGES START:
Make it so.
SUGGESTED CHANGES END:

Proposed disposition of comment 333

Discuss. See other comments on same issue.

Comment 334 Norman Finn

COMMENT TYPE: T
CLAUSE: 19.9.3.1
PAGE: 124
LINE: 8-28
COMMENT START:
To assist both hardware implementation and ease of configuration, limit the lifetime to 8 values. ITU-T suggests 3.3 ms, 10 ms, 100 ms, 1 s, and 60 s. We must not have undefined values, to preserve extensibility. With a limited range, the lifetime field can be better packed into the header.
COMMENT END:
SUGGESTED CHANGES START:
Limit lifetime to 1, 3.3, 10, 33, 100, 333, 1,000, 3,333, 10,000, 33,333, and 1,000,000 ms.
SUGGESTED CHANGES END:

Proposed disposition of comment 334

Discuss. See related comments.

Comment 335 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.13
PAGE: 134
LINE: 26-52

COMMENT START:
The function of AIS is confused between alarm suppression within the spanning tree and alarm notification outside the spanning tree. Resolve this. AIS is simply not needed inside the spanning tree except, perhaps, as an inaccurate alarm suppression mechanism. Because of its inaccuracies, perhaps it should be eliminated for this purpose.
COMMENT END:
SUGGESTED CHANGES START:
Eliminate AIS from P802.1ag except as in the following comment. If the group feels that the inaccurate alarm suppression is worth keeping, then add a "Spanning Tree Alarm Suppression" OpCode that works similarly to the way AIS works in Draft 4.1.
SUGGESTED CHANGES END:

Proposed disposition of comment 335

Discuss. See other comments on same subject.

Comment 336 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.3 (and others)
PAGE: 104ff
LINE:
COMMENT START:
MEP EFF generation of AIS is not required, unless the enclosing domain wants AIS as an alarm signal. In that case, the AIS generation must be periodic at a rate of either 1s or 60s (the latter value for software implementations). The relationship between AIS generation and spanning tree needs to be clarified.
COMMENT END:
SUGGESTED CHANGES START:
AIS is generated only if the superior MA wants it. AIS is received by a state machine using timers, very similar to the remote MEP state machine, and really applies only to end stations, not to bridges, which we may assume are running some variant of spanning tree.
SUGGESTED CHANGES END:

Proposed disposition of comment 336

Accept. See also other comments on AIS.

Comment 337 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.7
PAGE: 106ff
LINE:
COMMENT START:

The MIP diagram in Figure 18-16 is wrong; LTMs must be treated differently from CCMs and LBMs in that LTMs must be stopped, CCMs must not be, and LBMs should be discussed. Right now, the diagram treats them all the same.
COMMENT END:
SUGGESTED CHANGES START:
Fix diagram to stop LTMs, pass CCMs and LBMs.
SUGGESTED CHANGES END:

Proposed disposition of comment 337

Accept. See other comments on same subject.

Comment 338 Norman Finn

COMMENT TYPE: TR
CLAUSE: 19.15.2.3
PAGE: 136
LINE: 38-43
COMMENT START:
Nothing is said about what fault to report in the alarm if there are multiple ones.
COMMENT END:
SUGGESTED CHANGES START:
Faults must be prioritized, most important sent, and perhaps, the presence of others indicated.
SUGGESTED CHANGES END:

Proposed disposition of comment 338

Accept.

Comment 339 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.1
PAGE: 97ff
LINE:
COMMENT START:
You cannot place only one side of a SecY between two CFM entities that communicate via CFM messages. So, for example, you cannot put the SecY between a superior IFF and an inferior EFF in the same pants leg in Figure 18-13. You can put it between an IFF and its own EFF(s).
COMMENT END:
SUGGESTED CHANGES START:
Make clear the allow positioning of the SecY.
SUGGESTED CHANGES END:

Proposed disposition of comment 339

Accept.

Comment 340 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.2
PAGE: 101ff
LINE:
COMMENT START:
The relationship between an outward-facing MEP that discovers a problem and the bridge port state must be clarified. How is the failure signaled to the bridge state machines?
COMMENT END:
SUGGESTED CHANGES START:
There can be only one outward-facing MEP in a bridge pants leg. If and only if connectivity is lost to all remote MEPs, the bridge state machines are signaled and transition to the disabled state.
SUGGESTED CHANGES END:

Proposed disposition of comment 340

Accept.

Comment 341 Norman Finn

COMMENT TYPE: T
CLAUSE: 19.9
PAGE: 123ff
LINE:
COMMENT START:
Q.5/13 would like to include three counters in each CCM. This allows continuous monitoring of frame loss rates for point-to-point services.
COMMENT END:
SUGGESTED CHANGES START:
Add counters.
SUGGESTED CHANGES END:

Proposed disposition of comment 341

Discuss.

Comment 342 Norman Finn

COMMENT TYPE: T
CLAUSE: 19.9.2

PAGE: 123
LINE: 43-44
COMMENT START:
It is true that no number of counters transmitted can measure unintentional packet loss rates for a multipoint-to-multipoint network. However, with the transaction ID eliminated, it is even impossible to accurately measure the loss rate of CCMs.
COMMENT END:
SUGGESTED CHANGES START:
Restore a steadily incremented transaction ID in the CCM, along with a “reboot” bit that must be set for the first three transmission times. This will enable the proper measurement of CCM loss rates.
SUGGESTED CHANGES END:

Proposed disposition of comment 342

Discuss.

Comment 343 Norman Finn

COMMENT TYPE: TR
CLAUSE: 18.4.7
PAGE: 106ff
LINE:
COMMENT START:
It is not clear how the MIP half function handles Linktrace Messages. It needs a path to the higher-layer entities, if only because the resultant forwarded LTM may be issued from a MIP half function on another port.
COMMENT END:
SUGGESTED CHANGES START:
Describe LTM handling in terms of a function in the bridge brain and shunts in/out of the MHFs.
SUGGESTED CHANGES END:

Proposed disposition of comment 343

Accept. See also other comments on same subject.

Comment 344 Norman Finn

COMMENT TYPE: T
CLAUSE: 19.2.5
PAGE: 116f
LINE:
COMMENT START:
It would be helpful to hardware that returns queries if the difference between a message and a reply is confined to one bit of the OpCode.

COMMENT END:
SUGGESTED CHANGES START:
Reserve the low-order bit of the OpCode to distinguish between message/reply pairs.
SUGGESTED CHANGES END:

Proposed disposition of comment 344

Accept.

Comment 345 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.4.3
PAGE: 35
LINE:
COMMENT START:
The concept of "some number of" i.e. more than one Loopback Message and request makes this functionality complex. For example, what is the periodicity when more than one is requested? Loopback is a diagnostic tool, so within the protocol, the utility of more than one request is unclear. Suggest, make the functionality simple and similar to Link-trace, and associate it with one request and response, which will also simplify the outputs in clause 12.3.4.3.3
COMMENT END:
SUGGESTED CHANGES START:
Make changes as suggested i.e. remove concept of more than one Loopback requests e.g. bullet d) in 12.3.4.3.2.
SUGGESTED CHANGES END:

Proposed disposition of comment 345

Discuss. Is it acceptable that the maximum data rate for Loopback is that which can be supported by the maximum rate at which SNMP variables can be set?

Comment 346 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.4.3.2
PAGE: 35
LINE: 17
COMMENT START:
In addition to a MEPID of a MEP, it might be worthwhile to also allow specification of a Unicast DA.
COMMENT END:
SUGGESTED CHANGES START:
Add the option to specify the Unicast DA in addition to MEPID of a MEP.
SUGGESTED CHANGES END:

Proposed disposition of comment 346

Accept in principle. Is this perhaps not always freely writeable? (E.g. if the hardware insists that it not be.)

Comment 347 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 12.3.4.6.2
PAGE: 36
LINE: 43
COMMENT START:
Option to retrieve the MEP Database associated with specific MEP should be allowed without specific information on the remote MEPs to be expected. Therefore d) should be optional input parameter, in which case the output in clause 12.3.4.6.3 needs to be adjusted to allow retrieval of more than one entry corresponding to remote MEPs.
COMMENT END:
SUGGESTED CHANGES START:
Make d) as optional and therefore adjust outputs per clause 12.3.4.6.3 accordingly.
SUGGESTED CHANGES END:

Proposed disposition of comment 347

Discuss. The MEPIDs must be configured, so why not retrieve them that way? Keep in mind that SNMP can do “GetNext”.

Comment 348 Dinesh Mohan

COMMENT TYPE: T
CLAUSE: 17.6
PAGE:
LINE:
COMMENT START:
The MIB would obviously need to be updated and synchronized with the changes since D3.0. However, it is already noted in the editor’s comments and it is expected that this would be updated before moving to the task group ballot. Is this assumption correct?
COMMENT END:
SUGGESTED CHANGES START:
No specific changes suggested at this time.
SUGGESTED CHANGES END:

Proposed disposition of comment 348

The editor is hopeful that the MIB in Draft 5.0 will be coordinated with Draft 5.0, perhaps as a separate document (for now).

Comment 349 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.1.3
PAGE: 91
LINE: 18-28
COMMENT START:
The concept and application of inferior and/or superior maintenance domains is being used for the first time here, however, inferior and superior domains have not been defined in the document explicitly. For the reader who is not familiar with the past discussions on the MA levels, and the rationale for these terms, it would help to define these in Clause 3. It is certainly more widely used than the nCCM and tCCM currently defined in Clause 3 (as per another comment related to nCCM and tCCM)
COMMENT END:
SUGGESTED CHANGES START:
Define Inferior and Superior maintenance domains in Clause 3
SUGGESTED CHANGES END:

Proposed disposition of comment 349

Accept. (See also other comments on level numbering.)

Comment 350 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.4
PAGE: 96
LINE: 50-52
COMMENT START:
Reference to Figure 18-12 in text is quite vague and looking at 18-12, it is not clear what is intended with the reference to MEPs and SAPs in both directions. Further, 18-12 does not necessarily highlight the MEPs explicitly. Clarify the text and/or Figure 18-12 to specifically point out to the variations intended to be highlighted by the text.
COMMENT END:
SUGGESTED CHANGES START:
Clarify the text and/or Figure 18-12.
SUGGESTED CHANGES END:

Proposed disposition of comment 350

Accept in principle. See also other comments on structure of document from Mick Seaman.

Comment 351 Dinesh Mohan

COMMENT TYPE: TR

CLAUSE: 18.4
PAGE: 97, 98
LINE: 53-54, 45
COMMENT START:
Where is rMEPok and what is it?
COMMENT END:
SUGGESTED CHANGES START:
Either clarify rMEPok or remove it.
SUGGESTED CHANGES END:

Proposed disposition of comment 351

Accept in principle. A forward reference is needed, at least. There is another comment on the same subject.

Comment 352 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.4.3
PAGE: 104
LINE: 44-46
COMMENT START:
The optional behavior to have one or more EFFs is not captured as an optional behavior in clause 12.3.3.2 (i.e. create MEP)
COMMENT END:
SUGGESTED CHANGES START:
Align 12.3.3.2 with 18.4.3 regarding optional aspects of EFF.
SUGGESTED CHANGES END:

Proposed disposition of comment 352

Accept.

Comment 353 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.4.4, 18.4.5
PAGE: 106
LINE:
COMMENT START:
It is unclear if both VEFF and VIFF are needed. It seems that in context of the .1ag work, a VEFF may be desired when the IFF function is server technology dependent. The functionality and utility of the VEFF would be to allow generation of AIS signals and nothing more.
COMMENT END:
SUGGESTED CHANGES START:

Discuss if both VIFF and VEFF are required and also discuss the specific CFM functions that need to be supported across them.
SUGGESTED CHANGES END:

Proposed disposition of comment 353

Accept in principle. One may have an IFF -> n * VEFF when using the VEFF to generate E-LMI. One may have a VIFF -> n * EFF when the physical state of the wire controls per-VLAN AIS output. One may argue as to whether VIFF -> n * VEFF has a place in this document, but as long as the pieces are here, we would have to go out of our way to disallow this combination.

Comment 354 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.6
PAGE: 110
LINE: 19-20
COMMENT START:
The terms downward facing and upward facing MEPs besides inward facing and outward facing MEPs is causing lot of confusion (at least at this time). Is it possible to use consistently the inward and outward facing MEPs throughout the document rather than introduce yet another dimension for the reader to struggle with?
COMMENT END:
SUGGESTED CHANGES START:
Avoid using upward and downward facing MEPs terms and maintain consistency with inward and outward as used earlier.
SUGGESTED CHANGES END:

Proposed disposition of comment 354

Accept in principle. Certainly the two sets of terms need to be consolodated. See also other comments on the same subject.

Comment 355 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.7.1
PAGE: 110
LINE: 45-46
COMMENT START:
Clarify that comparison of list of MEPs is not with the list of CCMs received but with the MEPs from whom CCMs are received and complain when CCMs from one or more MEPs are missing.
COMMENT END:
SUGGESTED CHANGES START:

Clarify the text as per the suggestion.
SUGGESTED CHANGES END:

Proposed disposition of comment 355

Accept.

Comment 356 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.7.1
PAGE: 110
LINE: 46-48
COMMENT START:
The purpose for the last state is unclear. Why should the EFF be configured at next-inferior MA level? If anything, the EFF should be configured with the next-superior MA Levels.
COMMENT END:
SUGGESTED CHANGES START:
Remove the last statement.
SUGGESTED CHANGES END:

Proposed disposition of comment 356

Accept.

Comment 357 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.7.2
PAGE: 112
LINE:
COMMENT START:
The need for carrying MAID is questionable if the validation of LBM is going to be purely based on MA Level as discussed recently in Q.5/13. Remove requirement that LBM must carry MAID.
COMMENT END:
SUGGESTED CHANGES START:
Remove requirement that LBM must carry MAID.
SUGGESTED CHANGES END:

Proposed disposition of comment 357

Discuss. As pointed out in Q.5.13 (and I thought, accepted) the MAID is a very handy tool for the system administrator with a sniffer to tell from what MEP a stream of LBMs is being generated.

Comment 358 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.7.4
PAGE: 112
LINE: 46-48
COMMENT START:
Relaying of AIS may be acceptable when CCM are not being used. Add option to allow relaying AIS when CC monitoring is not turned ON.
COMMENT END:
SUGGESTED CHANGES START:
Add option to relay the AIS from inferior MA level to superior MA level when CCM are not being used at the inferior MA level.
SUGGESTED CHANGES END:

Proposed disposition of comment 358

Discuss. Under what circumstances is this needed? Other comments point out that AIS should not be genearated within a bridged network.

Comment 359 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 18.9
PAGE: 114
LINE:
COMMENT START:
Reflect the recent agreements at Q.5/13 regarding the periodicity of CCM. The options discussed included 3.3ms, 10ms, 100ms, 1s, and 1 minute.
COMMENT END:
SUGGESTED CHANGES START:
Modify the text to specifically indicate that the specific periodicity to be supported are 3.3ms, 10ms, 100ms, 1s, and 1 minute.
SUGGESTED CHANGES END:

Proposed disposition of comment 359

Accept in principle. See other comments on this subject.

Comment 360 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 19.2
PAGE: 115
LINE:
COMMENT START:

Table 19-3, swap Version and MA Level fields as per recent agreement in Q.5/13 to allow MA Level (which is sub-EtherType equivalent) to follow CFM EtherType.
COMMENT END:
SUGGESTED CHANGES START:
Swap Version and MA Level in the frame format.
SUGGESTED CHANGES END:

Proposed disposition of comment 360

Accept.

Comment 361 Dinesh Mohan

COMMENT TYPE: T
CLAUSE: 19.2.5
PAGE: 116
LINE:
COMMENT START:
It is proposed that a editor's note be added as guidance during the OpCode assignments such that pairwise OpCode assignments may be carried out where those CFM frames that involve a request and response may get OpCode values which differ in either MSB (most significant bit) or LSB (least significant bit)
COMMENT END:
SUGGESTED CHANGES START:
Add an editor's note as per suggestion.
SUGGESTED CHANGES END:

Proposed disposition of comment 361

Accept. See other comment to same effect.

Comment 362 Dinesh Mohan

COMMENT TYPE: TR
CLAUSE: 19.12.1
PAGE: 128
LINE: 21-23
COMMENT START:
This statement is not clear. For example, when is a Unicast DA used vs. multicast DA.
COMMENT END:
SUGGESTED CHANGES START:
Please clarify this statement.
SUGGESTED CHANGES END:

Proposed disposition of comment 362

Accept in principle. Statement should be removed.

Comment 363 Linda Dunbar

COMMENT TYPE: TR
CLAUSE: 18.7.4
PAGE: 112
LINE:
COMMENT START:
The current multicast mechanism of AIS causes a lot of OAM messages flooding in the network when MIP detects failure. It is not a very efficient way to achieve alarm suppression because: 1) It is difficult for MIP to determine if its failure will affect other MEPs. 2) Some MEPs may choose not to suppress any secondary alarms. In this case, all the AIS serve no purpose.
COMMENT END:
SUGGESTED CHANGES START:
If a MEP needs to suppress secondary alarm, the MEP sends an "AIS Request" to its supporting MIP when it detect connectivity failure. See the attached suggestion.
SUGGESTED CHANGES END:

Proposed disposition of comment 363

Discuss. Attached suggestion not found.