



Question(s): 5/13; 9, 11, 12/15

Source: ITU-T Joint Q.9, 11 and 12/15 and Q.5/13 Rapporteur Groups (Naperville, USA, 28 November – 2 December 2005)

Title: Reply to Liaison Statements from IEEE 802.1 on various 802.1ag and Y.17ethoam issues

LIAISON STATEMENT

To: IEEE WG 802.1

Approval: Agreed to at the joint Rapporteur Group meeting

For: Action/comment

Deadline: 16 January 2006

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A joint meeting of Q.5/13 and Q.9, 11 & 12/15 was held in Naperville (IL, USA) during the period 28 November - 2 December 2005. Your Liaison Statements have been examined with great interest, during the discussions on Ethernet issues.

Regarding the ME levels, we have decided to go on specifying the fixed allocation approach. We also decided to come back to the assignment of levels that we had in a previous version of Y.17ethoam. Value "0" is now associated to the lowest ME level and value "7" corresponds to the highest one. This is now aligned with draft 5 of 802.1ag.

We acknowledge your allocation of 32 OpCodes for usage by ITU. We recommend that "ITU-T Rec. Y.1731" (*) is indicated as the owner of those codes, in IEEE documentation.

(*) *This is the reference that Y.17ethoam will receive when approved.*

At our next meeting, we will allocate some of those codes to the OAM frame types that we defined and that are not identified in your standard. Would it be possible, that you communicate the OpCode values that will be common to both standards, to Q.5/13 in time for the consent of Y.17ethoam (please refer to (f) below).

We studied the fragment of Clause 21 of the current working draft of 802.1ag. In particular, we noted the following:

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1. The CFM PDU common message format has been reduced to an MA Level field, a Version field, an OpCode field, a Flags field (including RDI and Lifetime fields), a pointer to the location of the first TLV, and two Time Stamp fields.
2. As a minimum an End TLV is required.
3. A format for Organization-Specific TLVs has been defined
4. A maximum required frame size of 255 (excluding the header) to 512 octets; the liaison attachment is a little ambiguous here (page 138).

Q.9/15 and Q.5/13 find it of utmost importance for the successful implementation of ETH OAM that it be possible to implement a minimum implementation size function for pro-active monitoring, i.e. a function supporting CCM. To this end we have the following requests:

- a. For CCM we request that the fields shown in Annex A.1 be included as fixed fields before any optional TLVs start.
- b. As we do not see Delay Measurement to be pro-active we request that the Time Stamp fields be removed from the CFM PDU.
- c. We do not require the terminal CCM function and therefore request that the Lifetime values be assigned as shown in Annex A.1 for period field.
- d. The CCM frame format should be reduced to the minimum size possible. Currently we have determined that 256 maximum size can be supported. However, we have a strong preference to reduce it to 128 bytes maximum size.
 - a. We discussed that the MEG/MA ID can be fixed to a maximum of 64 bytes to accommodate enterprise requirements to carry DNS names or other formats. However, for ITU-T, 20 bytes maximum would suffice. Can the MEG/MA ID be reduced to a value lower than 64 bytes?
- e. We request that IEEE 802.1ag allocates two pairs of OpCodes, one pair for 'Organisation specific' frame types, and another pair for 'Experimental' frame types.
- f. We also request that IEEE 802.1ag identifies the OpCode Values to be used for CCM, LBM, LBR, LTM, and LTR, and the 2 OpCode pairs as identified in e), given we are scheduled to consent Y.17ethoam in January 2006.

Note that the next meeting of Q.5/13 will be held from the 16th to the 27th of January 2006 in Geneva. The consent of Draft Y.1731 on Ethernet OAM is planned during this meeting.

Annex A – Frame Types and Information Fields

A.1 CCM

- **Period field**

- 3 bits in common flag
- we should have no reserved bits
- no need to have a value indicating that the terminal CC

<u>Bits Value</u>	<u>Periodicity</u>
0x00	non-periodic indication
0x01	1ms (frequency: 1000 frames per second)
0x02	3.33ms (frequency: 300 frames per second)
0x03	10ms (frequency: 100 frames per second)
0x04	100ms (frequency: 10 frames per second)
0x05	1s (frequency: 1 frame per second)
0x06	10s (frequency: 6 frames per minute)
0x07	1 min (frequency: 1 frame per minute)

- **MEG ID**

- 64 bytes where the first Octet indicates the type of the format. Can this be reduced 32 or 48 bytes?

- **MEP ID**

- 2 bytes with 13 bits used – numerical value

- **RDI**

- 1 bit in common flag

- **TxFCf, TxFCb, RxFCb**

- 32-bit values

A.2 LBM/LBR

- **TxID**

- 4 bytes – numeric value

- **Data**

- Max length permissible
- content might include a checksum
- This is completely determined by the sender, it could include the PRBS, etc

A.3 ETH-Test (One way)

- **Sequence Number**

- 4 bytes – numeric value

- **Data**

- Indication for type of pattern
- Data content – pattern itself
- Which includes checksum

A.4 LTM/LTR

- **Transaction Identifier:** 4 bytes
- **TTL:** 1 byte
- **TargetMAC, Origin MAC:** 6 bytes each

A.5 AIS

- **Period field**

- Only two values are valid for AIS

<u>Bits Value</u>	<u>Periodicity</u>	
0x05	1s	(frequency: 1 frame per second)
0x07	1 min	(frequency: 1 frame per minute)

A.6 LMM/LMR (Single ended Loss Measurement)

- **Transaction Identifier:** 4 bytes
- **Frame Counts (TxFCf, RxFCb, TxFCb):** 4 bytes each

A.7 DMM/DMR (Single ended Delay Measurement)

- **Timestamp:** 8 bytes as per IEEE 1588
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