# Possible Resolution of Comments 54, 55, 56, 57, and 83 Against 802.1AS-Rev/D7.0

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*IEEE 802.1 TSN TG*
2018.05.23

# Outline

- This presentation describes possible resolutions for comments 54, 55, 56, 57, and 83
- Comments 54, 55, 56, and 57 relate to the setting of the message rates for Announce, Sync, Gptp Capable, and Pdelay_Req messages, respectively, via the respective TLVs, in the case where a requested interval (rate) is not supported
  - The possible resolution for these comments is described for comment #54 (Announce)
  - The resolutions for Sync, Gptp Capable, and Pdelay_Req are similar
- Comment 83 relates to the addition of the domainNumber field to the EPON TIMESYNC message (sent using the Ethernet slow protocol)

# Possible resolution for comment #54

- Make the changes on the following slide to the code in the SET_INTERVALS state of the AnounceIntervalSetting state machine

# Possible resolution for comment #54

```
if (!useMgtSettableLogAnnounceInterval ~~&&~~
      ~~isSupportedLogAnnounceInterval (rcvdSignalingPtrAIS->announceInterval)~~))
{
   switch (rcvdSignalingPtrAIS->announceInterval)
   {
      case (-128): /* don't change the interval */
        break;
      case 126: /* set interval to initial value */
        currentLogAnnounceInterval = initialLogAnnounceInterval;
        TEMP = 16+initialLogAnnounceInterval;
        announceInterval = (10^9)*2^TEMP;
        break;
      default: /* use indicated value; note that the value of 127 instructs the receiving
                * port to stop sending, in accordance with Table 10-15. */
        TEMP = 16+supportedInterval (rcvdSignalingPtrAIS->announceInterval);
        announceInterval = (10^9)*2^TEMP;
        currentLogAnnounceInterval = supportedInterval
                    (rcvdSignalingPtrAIS>announceInterval);
        break;
   }
   If (announceInterval < oldAnnounceInterval)
      announceSlowdown = TRUE;
   else
      announceSlowdown = FALSE;
}
 rcvdSignalingMsg2 = FALSE;
```

# Possible resolution for comment #54

- In 10.3.17.2 (State machine functions), add:

"**supportedInterval (logRequestedInterval):** A function that accepts the argument logRequestedInterval, for the logarithm to base 2 of the interval requested by signaling, in ns, and returns the supported value. The argument requestedInterval has the same data type and format as the field announceInterval of the message interval request TLV (see 10.6.4.3.8).

If the logRequestedInterval is supported, this function returns the logRequestedInterval. Otherwise, if an interval longer than that corresponding to the logRequestedInterval is supported (i.e., the corresponding rate is slower), this function returns the shortest interval (i.e., corresponding to the fastest supported rate) that is longer (i.e., corresponding to a slower rate) than the requested supported interval. Otherwise, if an interval shorter than that corresponding to the logRequestedInterval is supported (i.e., the corresponding rate is faster), this function returns the longest interval (i.e., corresponding to the slowest supported rate) that is shorter (i.e., corresponding to a faster rate) than the requested supported interval.

NOTE – In the final case, where only shorter intervals (i.e., faster rates) than the requested interval are supported, the returned interval cannot be shorter than the default interval, because the default interval is supported (see 10.7.2.2).

<<Editor's Note: The case where no interval is supported is not covered in the conditions of supportedInterval(), because at least the default interval must supported.>>

# Possible resolution for comment #83

- The current proposed resolution is:
- PROPOSED ACCEPT IN PRINCIPLE. DISCUSS. Group 83, 141, 142.

The editor will check with the clause 13 editor's on what a 2011 device will do if it receives a TIMESYNC message with fields after the last field in the 2011 version; will it parse up to what it understands and ignore the rest, or will it throw away the whole frame because it is too long? (Hopefully the former.)

If the former, or if there have been no (or negligible) 2011 implementations of this, we could do the following:

domain Number can be added to the end of the message, as shown. Per comment 141, sdoId can be added after domainNumber. Then add a variable-length reserved field after sdoId, before FCS. The frame shall be transmitted with zero length reserved field. Any bytes between the sdoId and the FCS shall be ignored on receipt. The offset value for the FCS row will be removed.

# Possible resolution for comment #83

- An offline discussion between the Editor and one of the Clause 13 (Transport over EPON) clause editors for 802.1AS-2011 indicated the following:
  - The addition of the domainNumber field (and sdoId field per comment #141) impacts only the ONU, because the TIMESYNC message (of the Ethernet slow protocol) is sent only from OLT to ONU
    - This is because the state of an OLT port is always master, and the state of an ONU port is always slave; this is enforced via the acceptable master table feature of 1588
    - As a result, timing always flows from OLT to ONU, and never in the reverse direction
  - The upgrade of an ONU to support parsing the TIMESYNC message with the additional fields is a software upgrade, and not a hardware upgrade
  - If an OLT were upgraded, it would discover the ONU version at the EPON layer (i.e., below 802.1AS) and, if necessary, send the relevant software upgrade to the ONU
    - This applies to EPON in general; it is not specific to 802.1AS-related software
  - If, for some reason, it were not possible to upgrade the ONU, the ONU would not join the network (this is irrespective of whether the network is using 802.1AS)

# Possible resolution for comment #83

- Based on the above, the final part of the current proposed comment resolution can be used:
  - domainNumber can be added to the end of the message, as shown. Per comment 141, sdoId can be added after domainNumber. Then add a variable-length reserved field after sdoId, before FCS. The frame shall be transmitted with zero length reserved field. Any bytes between the sdoId and the FCS shall be ignored on receipt. The offset value for the FCS row will be removed.
- For comment #141, sdoId can be added to the TIMESYNC message after domainNumber

Thank you