Comment #29 SIGNAL.indication

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Introduction

Comment #255 against D2.0 was:

CI **118**	*SC* **118.1.2**	*P* **128**	*L* **15**	# 255
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Comment Type **T**   *Comment Status* **A**

200GXS and 400GXS must be different from 200GBASE-R PCS and 400GBASE-R PCS regarding to IS_SIGNAL.indication.
However, such a difference is not described anywhere.

SuggestedRemedy

Change the paragraph in 118.1.2 to include the exception about SIGNAL.indication.

Add a new subclause for IS_SIGNAL.indication for 200GXS/400GXS sublayer. For PHY 200GXS and PHY 400GXS, the direction of IS_SIGNAL.indication is opposite to PCS. For DTE 200GXS and DTE 400GXS, the direction of IS_SIGNAL.indication is same as PCS.
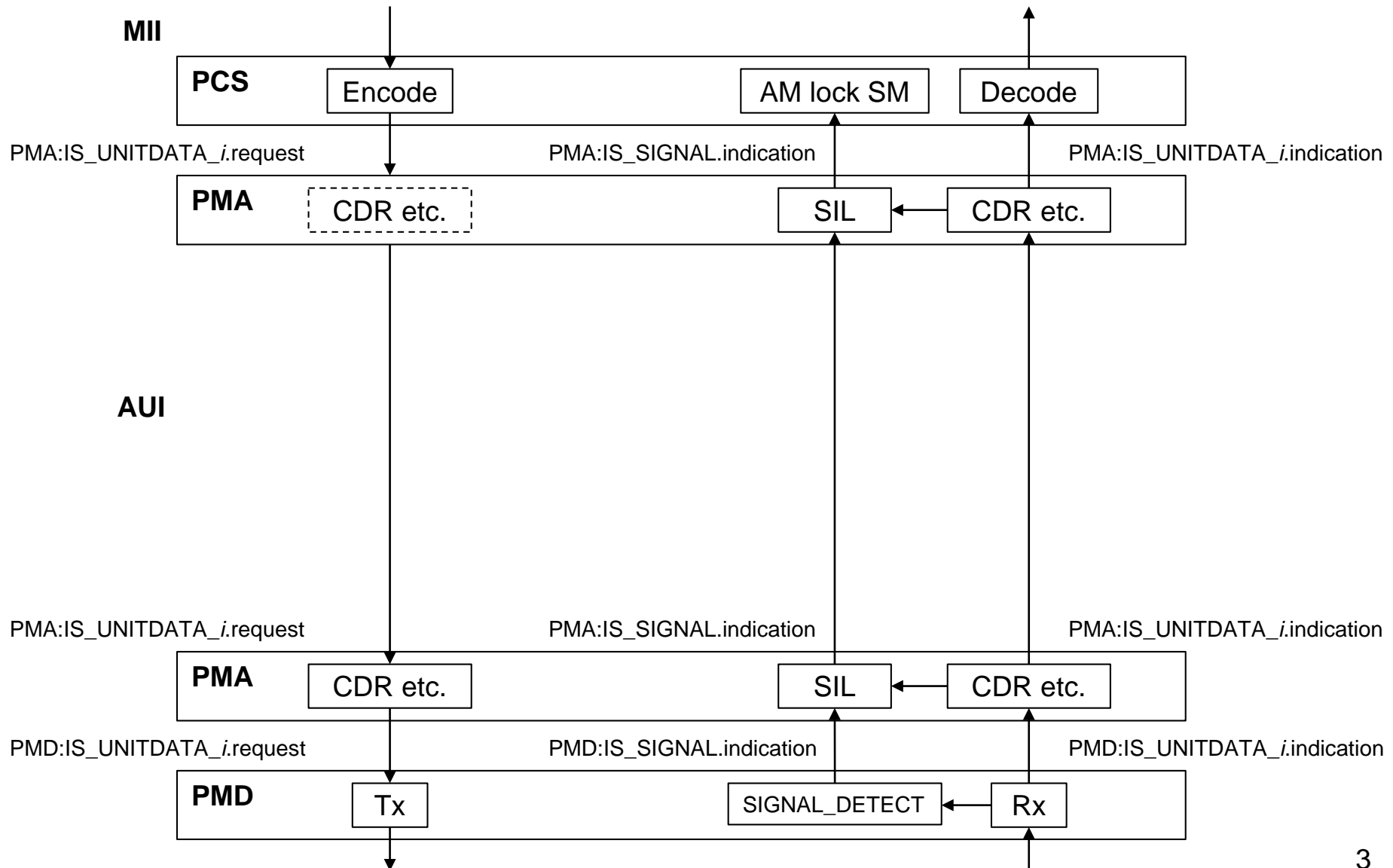
Or, add a new subclause to define the PHY XS service interface that is identical to the PMA service interface except the direction of IS_SIGNAL.indication that the PMA service interface.

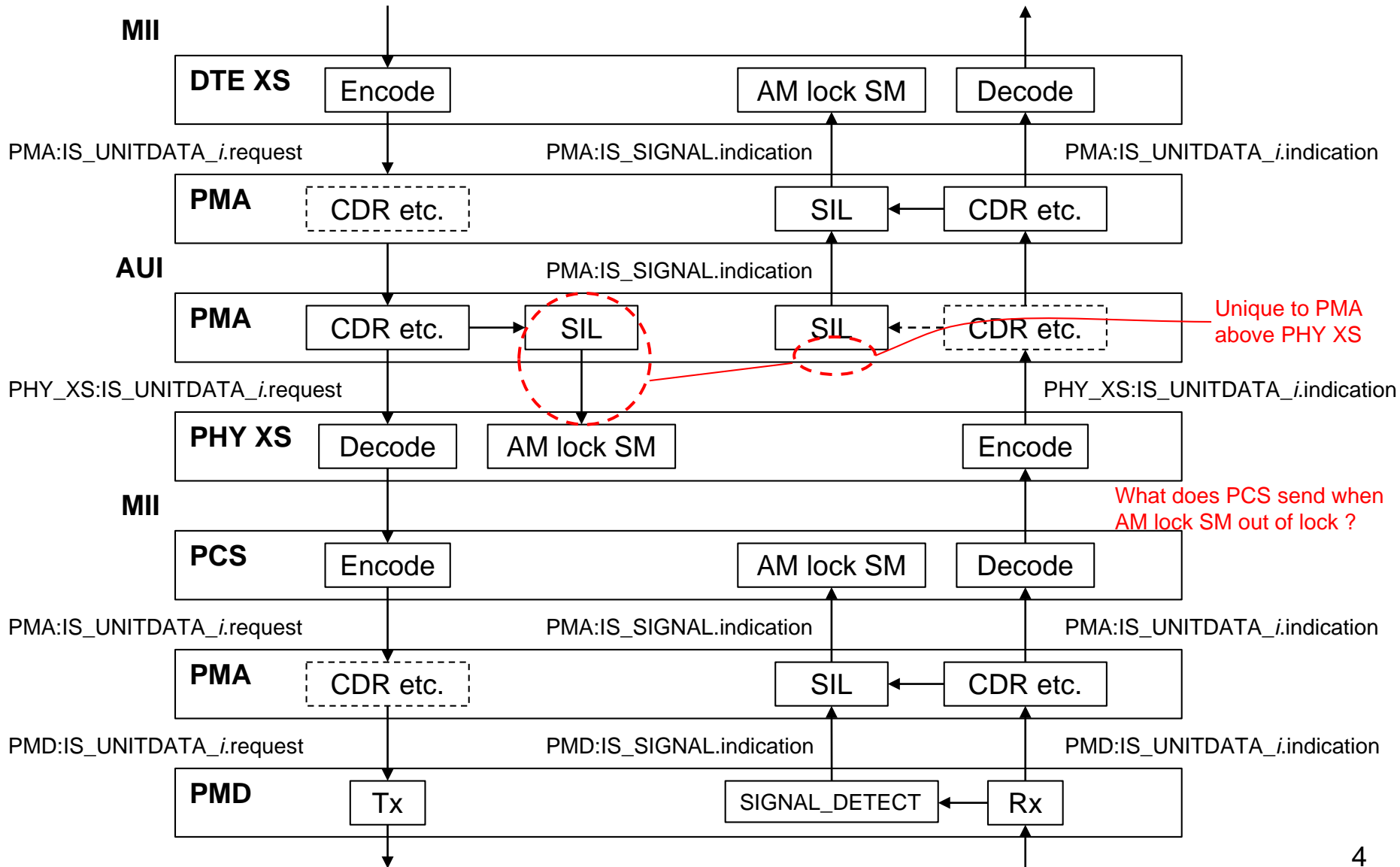*Response*   *Response Status* **C**

ACCEPT IN PRINCIPLE.
While it is recognised that the SIGNAL.indication behavior of a PHY XS sublayer is somewhat different from that of a PCS sublayer, suitable text to describe the precise difference is requested.

SIGNAL.indication in stack without extender

MII

PCS | Encode | | AM lock SM | Decode |

PMA:IS_UNITDATA_*i*.request   PMA:IS_SIGNAL.indication   PMA:IS_UNITDATA_*i*.indication

PMA | CDR etc. | | SIL | ← | CDR etc. |

AUI

PMA:IS_UNITDATA_*i*.request   PMA:IS_SIGNAL.indication   PMA:IS_UNITDATA_*i*.indication

PMA | CDR etc. | | SIL | ← | CDR etc. |

PMD:IS_UNITDATA_*i*.request   PMD:IS_SIGNAL.indication   PMD:IS_UNITDATA_*i*.indication

PMD | Tx | | SIGNAL_DETECT | ← | Rx |

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SIGNAL.indication in stack with extender

MII

DTE XS | Encode | AM lock SM | Decode

PMA:IS_UNITDATA_i.request   PMA:IS_SIGNAL.indication   PMA:IS_UNITDATA_i.indication

PMA | CDR etc. | SIL ← CDR etc.

AUI   PMA:IS_SIGNAL.indication

PMA | CDR etc. → SIL | SIL ← CDR etc.

Unique to PMA above PHY XS

PHY_XS:IS_UNITDATA_i.request   PHY_XS:IS_UNITDATA_i.indication

PHY XS | Decode | AM lock SM | Encode

MII

What does PCS send when AM lock SM out of lock ?

PCS | Encode | AM lock SM | Decode

PMA:IS_UNITDATA_i.request   PMA:IS_SIGNAL.indication   PMA:IS_UNITDATA_i.indication

PMA | CDR etc. | SIL ← CDR etc.

PMD:IS_UNITDATA_i.request   PMD:IS_SIGNAL.indication   PMD:IS_UNITDATA_i.indication

PMD | Tx | SIGNAL_DETECT ← Rx

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Conclusion

Comparing the signals to and from the PCS on slide 3 with those to and from the PHY XS on slide 4, they are the same except that the PHY XS is an "upside down" version of the PCS.

However, comparing the signals to and from the PMA sublayer above the PHY XS, these are different to a normal PMA in that it does not receive an IS_SIGNAL.indication from the layer below but it should provide an IS_SIGNAL.request to the layer below.

Thanks!