training_status variable

In support of proposed response to comments #459 and #626

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Comments

Cl **178B** *SC* **178B.14.2.1** *P* **804** *L* **32** # 459

Slavick, Jeff Broadcom

Comment Type **TR** *Comment Status* **X**

Training status can not be both a AUI component variable and a per-lane training variable. Local_rts is an equivalent status to it and is mapped to a MDIO register bit.

SuggestedRemedy

Move the definition of training_status to 178B14.3.1
Remove the enumeration of "READY" from its definition.
Delete training_status <= READY from Figyre 178B-7

Proposed Response *Response Status* **O**

Cl **178B** *SC* **178B.14.3.5** *P* **810** *L* **7** # 626

Law, David HPE

Comment Type **TR** *Comment Status* **X**

The variable training_status is used by the 'Training control state diagram' in subclause 178B.14.3.5 'State diagram figures' but is not defined in the associated subclause 178B.14.3.1 'Variables'.

In addition, it appears that the training_status is a per-interface variable based on the definition found in 178B.14.2.1 'Variables', yet it appears to be driven by both the per-interface 'RTS update state diagram' (Figure 178B–7) and the per-lane 'Training control state diagram' (Figure 178B–8). I'm not sure how this would operate.

As an example, if the Training control state diagram on one lane in an interface enters the FAIL state, it would set training_status for the interface to FAIL. If, however, the Training control state diagram on another lane in the same interface enters the PATH_UP state immediately afterwards, training_status for the interface would then be set to OK. This doesn't seem to be correct.

SuggestedRemedy

Provide a definition for the training_status variable used in Figure 178B–8 'Training control state diagram' in its associated subclause 178B.14.3.1 'Variables'. In addition, clarify the operation of training_status regarding it being driven by both the per-interface 'RTS update state diagram' (Figure 178B–7) and the per-lane 'Training control state diagram'.

Proposed Response *Response Status* **O**

training_status variable in D2.0

- Defined in 178B.14.2.1 per-interface variables
- training_status
  - Enumerated variable that indicates the status of the ILT function. This variable may be assigned one of the following values: IN_PROGRESS, READY, OK, FAIL.
- This variable is used to set SIGNAL_OK in the PMD clauses (178, 179, 180, 181, 182, 183)
  - An example from 178.4:
    - The SIGNAL_OK parameter of the PMD:IS_SIGNAL.indication primitive corresponds to the variable training_status of the inter-sublayer training function, as defined in 178B.14.2.1. When SIGNAL_OK is either IN_PROGRESS or FAIL, the rx_symbol parameters of PMD:IS_UNITDATA_i.indication on all lanes are unspecified.
- D2.0 add also the following text to 116.3.3.3.1 Semantics of the service primitive:
  - The SIGNAL_OK parameter takes on one of four values: OK, FAIL, IN_PROGRESS, or READY. The values IN_PROGRESS and READY are defined only for Physical Layer implementations that use the ILT function defined in Annex 178B.

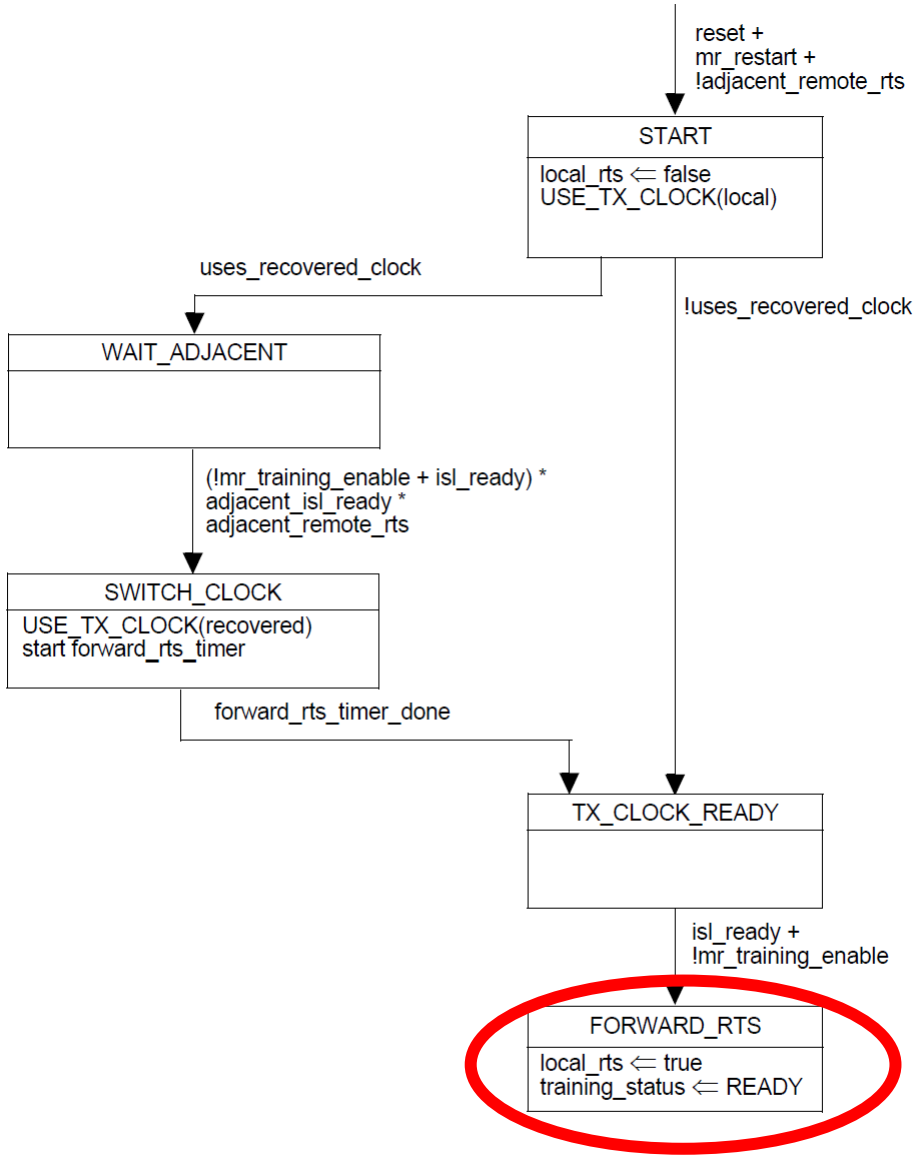

Figure 178B–7—RTS update state diagram

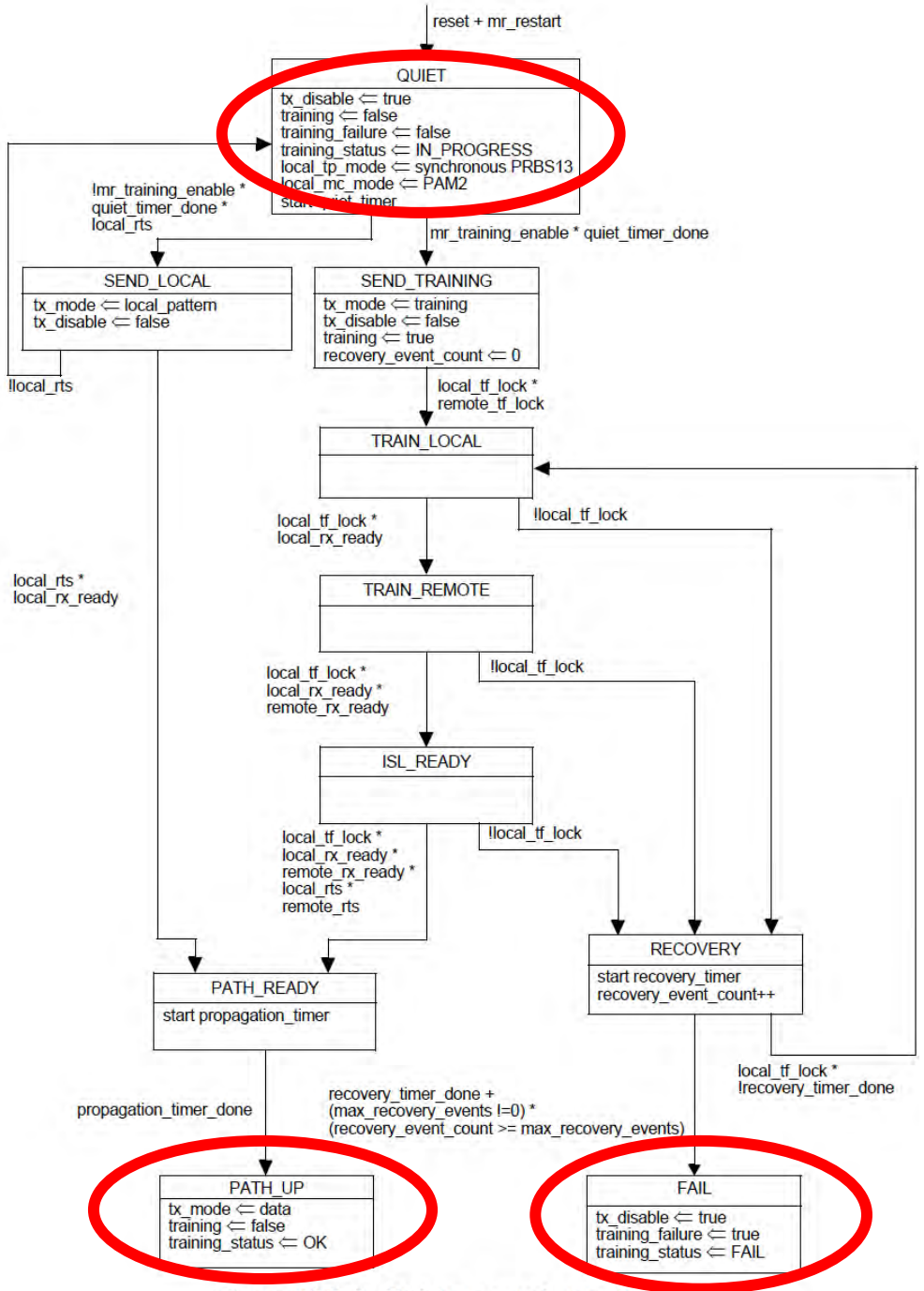

Figure 178B–8—Training control state diagram

Proposed response

- Define a new variable in 178B.14.3.1 per-lane variables, to be used in the per-lane state diagrams instead of training_status.:
- lane_training_status
  - Enumerated variable that indicates the status of the per-lane ILT function. This variable may be assigned one of the following values: IN_PROGRESS, OK, FAIL
- Change the definition of training_status in 178B.14.2.1 per-interface variables, to:
  - This variable may be assigned one of the following values: IN_PROGRESS, READY, OK, FAIL. The value READY is assigned by the RTS update state diagram (Figure 178B-8) and other values are assigned according to the lane_training_status variables (see 178B.14.3.1):
    - IN_PROGRESS - if all the lane_training_status variables have the value IN_PROGRESS and local_rts has the value false
    - OK - if all the lane_training_status variables have the value OK.
    - FAIL - if any of the lane_training_status variables has the value FAIL

Unchanged

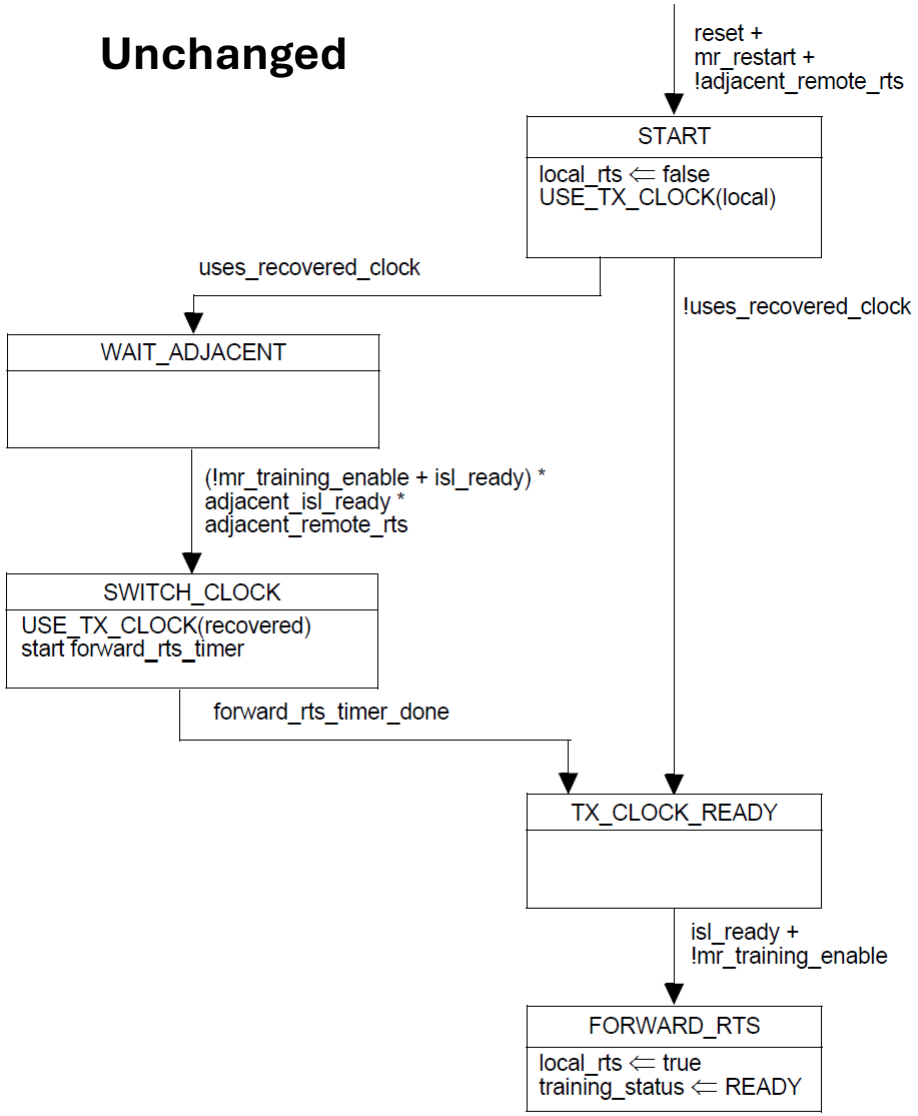

Figure 178B–7—RTS update state diagram

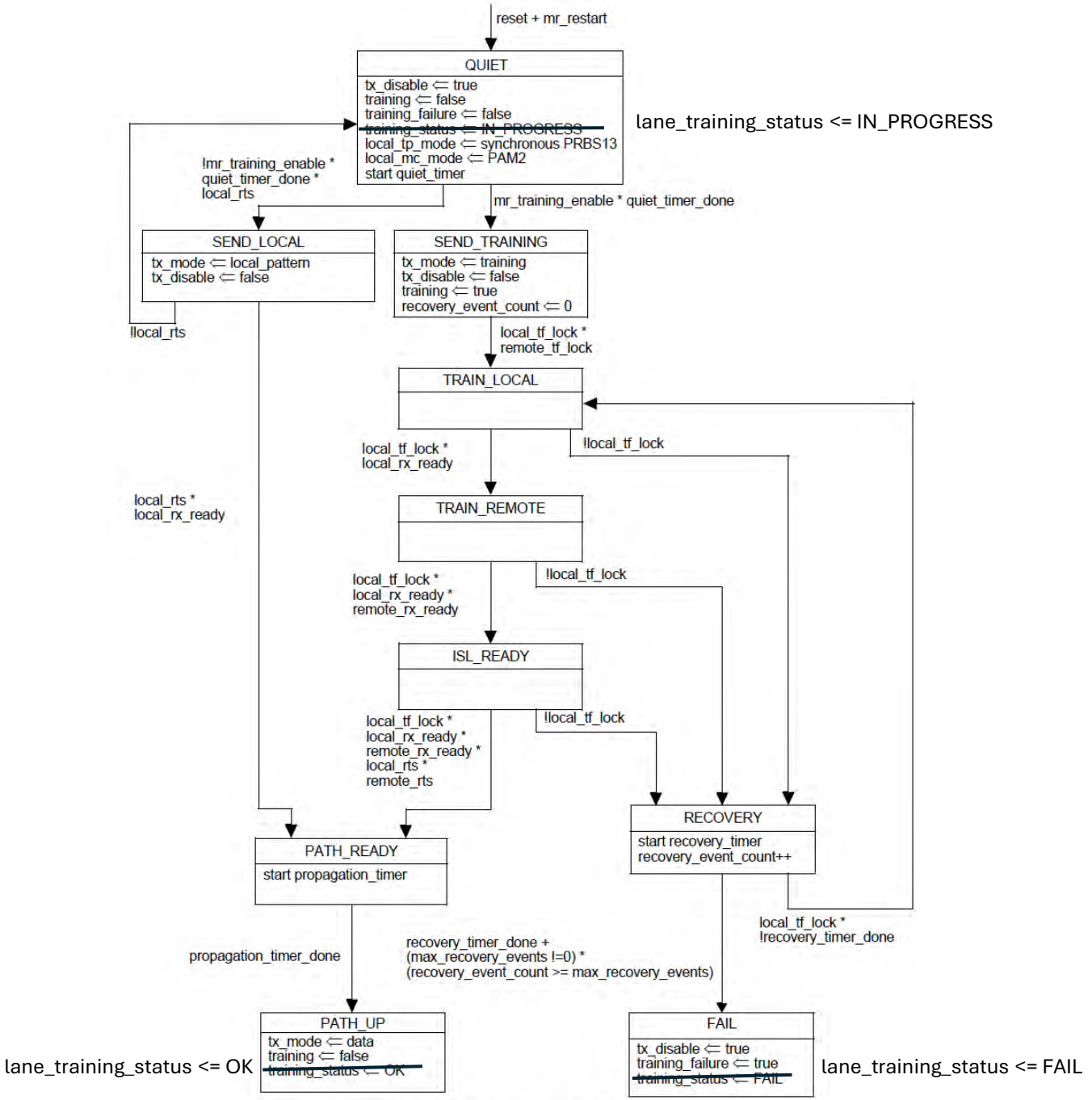

Figure 178B–8—Training control state diagram