

13.4.4 Timing requirements

Some eOAMPDUs require a response from the ONU. In order to guarantee timely delivery of such responses, the ONU shall generate a response within 1 second of the OLT's transmission toward the destination ONU. This requirement covers all types of management requests issued by the OLT for the specific ONU: reading data from specific variable(s), setting values to specific variable(s), performing indicated action(s). The OLT may discard all ONU responses received after the expiration of the 1-second window without processing.

If an ONU cannot respond to the OLT request before the expiration of 1-second window, the ONU shall generate the ONU Busy alarm (see 13.4.1.3.2.6). The reception of the ONU Busy alarm at the OLT represents an error condition. The handling of this error is implementation specific. The raise of the ONU Busy alarm is generally not a reason to deregister that ONU, with the exception of the ONU's failure to respond to a ~~The OLT shall not deregister the ONU generating the ONU Busy alarm with the exception of the~~ critical TLVs, as defined 14.4.7.

In an example implementation, an OLT maintains a watchdog timer (*remote_response_timer*) for each eOAM request sent to any of the connected ONUs. Upon transmission of a request eOAMPDU to the given ONU, the *remote_response_timer* is enabled, allowing the OLT to track the status of the given request. Upon reception of the corresponding response from the ONU, the *remote_response_timer* is disabled; otherwise the *remote_response_timer* times out, generating warning indications sent to the NMS. If the *remote_response_timer* times out for a request associated with a critical TLV, the OLT proceeds to deregister the associated ONU.

14.4.7 Critical TLVs

From all the TLVs defined in 14.4.1 through 14.4.6, only a few are considered critical for the operation of the ONU. The ability to exchange these specific critical TLVs is essential for the operation of the data link between the OLT and the ONU. An ONU that fails to respond to or acknowledge any of the critical TLVs is considered to operate incorrectly and subsequently deregistered by the OLT, as defined in 13.4.4.

Critical TLVs defined in Table 14-282 are exchanged immediately after the eOAM discovery process as part of the ONU capability discovery and initial configuration, but may be also exchanged at any time during the regular ONU operation.

Table 14-282—Critical TLVs

Name	Branch/Leaf	Notes
ONU ID TLV	0xD7/0x00-02	Provides the unique physical ONU identification number
ONU L-ONU Count TLV	0xD7/0x00-07	Identifies the maximum number of supported L-ONUs
REPORT Threshold TLV	0xD7/0x00-0B	Controls the format of REPORT MPCPDU
OAM Frame Rate TLV	0xD7/0x00-0D	Modifies the maximum allowed OAMPDU rate

