

## Clarification Request

**References:** BTL Specified Tests 2.2.2

**Date of BTL-WG Response:** Dec 12, 2012

### Background:

In **BTL Specified Tests 12.0** there is longstanding test (underlined in the step 1 in BTL Specified Tests for emphasis, not just here)

#### 2.2.2 Verify $T_{\text{frame\_gap}}$ w/ Oscilloscope

Reason for Change: No test exists for this functionality. This test is included in CLB-014.

**Test Concept:** Verify that the maximum idle time between data octets when transmitting a frame is 20 bit times or less.

**Setup:** Run the IUT and a Reference Master (or Router) on the same MS/TP network.

#### Procedure:

1. Elicit the transmission of any data frame from the IUT.
2. With an oscilloscope, measure the longest EIA-485 idle time that appears between octets within the data frame transmitted by the IUT. If there is no idle time between octets, pass the IUT.
3. Fail the IUT if the time measured in step 2 is greater than the time intervals shown below for each baud rate.

9600 baud:	fail if interval is greater than 2,083 uSeconds
19200 baud:	fail if interval is greater than 1,042 uSeconds
38400 baud:	fail if interval is greater than 521 uSeconds
76800 baud:	fail if interval is greater than 261 uSeconds
x baud:	fail if interval is greater than (20/x) seconds

### In 135, Clause 9.5.3

#### 9.5.3 Parameters

Parameter values used in the description:

$T_{\text{frame\_gap}}$  The maximum idle time a sending node may allow to elapse between octets of a frame the node is transmitting: 20 bit times.

### In 135, Clauses 9.3.1 through 9.3.9

#### Frame Type 00: Token

The Token frame is used to pass network mastership to the destination node. The use of the Token frame is described in detail in 9.5.

There are no data octets in Token frames. **Frame Type 01:**

**Poll For Master**

The Poll For Master frame is transmitted by master nodes during configuration and periodically during normal network operation. It is used to discover the presence of other master nodes on the network and to determine a successor node in the token ring. The use of the Poll For Master frame in the token network is described in detail in 9.5.

There are no data octets in Poll For Master frames.

Both master and slave nodes shall expect to receive Poll For Master frames. Master nodes shall respond to Poll For Master Frames as described in 9.5.6.2. Slave nodes shall ignore Poll For Master frames, as described in 9.5.7.2.

**Frame Type 02: Reply To Poll For Master**

This frame is transmitted as a reply to the Poll For Master frame. It is used to indicate that the node sending the frame wishes to enter the token ring. The use of this frame in the token network is described in detail in 9.5.

There are no data octets in Reply To Poll For Master frames.

**Frame Type 03: Test\_Request**

This frame is used to initiate a loopback test of the MS/TP to MS/TP transmission path. The use of this frame in the token network is described in detail in 9.1.3. The length of the data portion of a Test\_Request frame may range from 0 to 501 octets.

**Frame Type 04: Test\_Response**

This frame is used to reply to Test\_Request frames. The use of this frame in the token network is described in detail in 9.1.3. The length of the data portion of a Test\_Response frame may range from 0 to 501 octets. The data, if present, shall be that which was present in the initiating Test\_Request.

**Frame Type 05: BACnet Data Expecting Reply**

This frame is used by master nodes to convey the data parameter of a DL\_UNITDATA.request whose DER parameter is TRUE. The length of the data portion of a BACnet Data Expecting Reply frame may range from 0 to 501 octets.

**Frame Type 06: BACnet Data Not Expecting Reply**

This frame is used to convey the data parameter of a DL\_UNITDATA.request whose DER parameter is FALSE. The length of the data portion of a BACnet Data Not Expecting Reply frame may range from 0 to 501 octets.

**Frame Type 07: Reply Postponed**

This frame is used by master nodes to defer sending a reply to a previously received BACnet Data Expecting Reply frame. The use of this frame in the token network is described in detail in 9.5.6.

There are no data octets in Reply Postponed frames.

**Frame Types 128 through 255: Proprietary Frames**

These frames are available to vendors as proprietary (non-BACnet) frames. The first two octets of the Data field shall specify the unique vendor identification code, most significant octet first, for the type of vendor-proprietary frame to be conveyed. The length of the data portion of a Proprietary frame shall be in the range of 2 to 501 octets.

**Question:**

Should the word “data” in step 1 and in step 2 be stricken, leaving the term simply: frame? And in Test Concept instead of “data octets” should that be simply: octets?

**Response:**

Yes. The test was originally written to focus the tester on data frames instead of MS/TP maintenance frames with the intent to find the most likely source of excessive delay. This has resulted in a test that is overly narrow as applied. The test and Test Directives will be modified to ensure that both data and maintenance frames are compliant.