

Clarification Request

References: BTL Specified Tests 5.0

Background / Proposed Solution:

Setup:

1 reference router (A), 1 other MSTP device (B), and the IUT (C). The Max master is 127 for all devices in the network, where the address of $A < B < C$.

1. All devices are communicating on the MSTP network.
2. Device C starts its PFM cycle, when it reaches address D, which is $> C$.
3. Device A sends a ReadProperty request to device B.
4. Device B is powered off before replying Complex Ack.
5. After only 35 milliseconds, Device C passes Token to the A, without first receiving the Token. Is this correct?
6. Without receiving the token, device C starts PFM to A+1, Shouldn't it continue the PFM at D+1?

We also noticed a discrepancy in the definition of the following in 135-2008 standards (Page 80)

Treply_timeout - The minimum time without a DataAvailable or ReceiveError event that a node must wait for a station to begin replying to a confirmed request: 255 ms

Tusage_timeout- The minimum time without a DataAvailable or ReceiveError event that a node must wait for a remote node to begin using a token or replying to a PFM : 20 ms

Question:

In step 5 of the above series, should device have waited 255 ms or just 20 ms?

When device C starts its PFM should it have started at D+1 instead of A+1?

Response:

Device C should not do anything for 500 ms ($T_{no-token} + T_{slot}$).

Device C should never send a PFM to A+1, if A is active on the network. The PFM cycle for Device C should be from C+1 to A.

Proposed new test:

2.2.18 Verify T_{no_token} w/ Serial Analyzer

Reason for Change: No test exists for this functionality.

Purpose: Verify that the IUT waits at least 500 before declaration of loss of token and start behaving as sole master

Test Concept: A network of two reference masters and IUT is constructed and all are turned on. Once the network achieves normal network operation, make one reference master (A) to send a Confirmed Request (Read Property or Read Property Multiple) to the other reference master (B). B is powered off or removed from the network before sending the reply. The network is monitored to verify that the IUT (C) does not take token in hand within 500 milliseconds.

Setup: The test starts with an MS/TP network comprised of two reference master devices and IUT that has achieved normal network operation. Normal network operation should be verified using a serial analyzer. If the IUT does not autobaud, then it shall be configured with the same baud rate of the operating network. The IUT shall be configured with a valid MAC address (0-127) which is not in use by any of the other devices on the network and is less than the Max_Master value in use by the reference masters. The IUT shall be configured with the same Max_Master in use by the reference masters.

Test Steps:

1. VERIFY two reference masters (A & B) and IUT (C) achieved normal network operation
2. MAKE one reference master device (A) to send Confirmed request, either Read Property or Read Property Multiple to other reference master device (B).
3. Power Off or remove the reference Master B from the network before sending the reply.
4. CHECK (verify with the serial analyzer that IUT does not take token in hand and start passing Poll For Master or pass token within 500 millisecond)
5. If the IUT does exhibit the behavior described in step4, fail the IUT.