

Clarification Request

References: BTL Test Package 20.0.1

Date of BTL-WG Response: July 14, 2022

Background: ASHRAE Standard 135-2020 and Addendum cc

MS/TP Device that claim protocol revision 17 and higher should support the Network Port Object properties Max_Master and Max_Info_Frames.
 These two properties are required to be present and writable if Network_Type is MS/TP, the device is an MS/TP master node, and the device supports the WriteProperty service.
 In clear MS/TP Max_Master and Max_Info_Frames shall support configuration through Network Port object

BTL Checklist-20.0.1

Support	Listing	Option
Data Link Layer - MS/TP - Master Node		
	R	Base Requirements
	C ¹	Supports writable Max_Master property
X	C ¹	Supports read only Max_Master property
X	C ²	Contains configurable Max_Info_Frames property
	C ²	Contains non-configurable Max_Info_Frames property
	O	Is a BACnet router
	C ^{3,4}	Supports extended MS/TP frames (over 501 octets)
X	C ⁵	Supports configuration through Network Port object
¹ Exactly one of these options is required in order to claim conformance to this BIBB. ² Exactly one of these options is required in order to claim conformance to this BIBB. ³ Protocol_Revision 16 or higher must be claimed. ⁴ Required if the device is a router and claims Protocol_Revision 16 or higher. ⁵ Required for devices which claim Protocol_Revision 17 or higher and which support DS-WP-B.		

BTL Test Plan-20.0.1

9.2 Data Link Layer - MS/TP - Slave Node

9.1.2 Supports Writable Max_Master Property

The IUT contains the Max_Master property and it is writable.

135.1-2019 - 12.1.3.10 - Max_Master Test	
Test Conditionality	Must be executed.
Test Directives	
Testing Hints	

9.1.3 Supports Read Only Max_Master Property

The IUT contains the Max_Master property that is read-only.

135.1-2019 - 12.1.3.10 - Max_Master Test	
Test Conditionality	Must be executed.
Test Directives	
Testing Hints	

9.1.8 Supports Configuration Through Network Port Object

The IUT supports full, or partial, configuration of the data link through the Network Port object. Specifically, at least 1 property in the Network Port object which changes the behavior of the data link is writable.

BTL - 7.3.2.X62.1.1 - Configure Network Through Network Port Object Test	
Test Conditionality	Must be executed.
Test Directives	Perform at least once. Repeat each time the network is reconfigured for a test.
Testing Hints	

135-1 2019 12.1.3.10 Max_Master Test

Purpose: Verify that Max_Master is writable, or that it is 127.

Configuration Requirements: The IUT shall be configured with an MS/TP MAC address less than 127.

Test Steps:

1. VERIFY Max_Master = (any valid value, V1)
2. IF Max_Master is writable THEN
WRITE Max_Master = (any other valid value, with V2 greater than or equal to the IUT's address)
3. ELSE
VERIFY Max_Master = 127

7.3.2.X62.1.1 Configure Network Through Network Port Object Test

Reason for Change: New test per Addendum 135-2012ai.

Purpose: This test verifies that Network Port properties control aspects of the network configuration as expected.

Test Concept: Given the complexity of the Network Port object, and the impact changes to the Network Port has on the test network, this test is provided to allow testing of the Network Port functionality as the network is reconfigured for other tests. The Network Port object is modified to meet the conditions of the new test network setup. The changes are activated, the TD is reconfigured to match, and communication with the IUT is re-verified. The configuration of the network is expected to be tested in more detail as the other datalink tests are applied.

Configuration Requirements: The test network is configured such that the TD and IUT can communicate, but the configuration does not match the target network configuration. P1 through PN are Network Port properties that need to be written in order to provide the transition of the network from the current setup to the target network setup. This set of properties shall be selected from the set of the properties that are writable in the IUT.

Test Steps:

1. REPEAT P = P1 ... PN {
 - WRITE P = (NV: the value required for the target network setup)
 - VERIFY P = NV
2. VERIFY Changes_Pending = TRUE
3. REPEAT P = P1 ... PN {
 - CHECK (the new value for P is not in use by the network port, unless the new value is the same as the old value)
4. TRANSMIT ReinitializeDevice-Request
 - 'Reinitialized State of Device' = WARMSTART | ACTIVATE_CHANGES
 - 'Password' = (any valid password)
5. RECEIVE BACnet-SimpleACK-PDU
6. MAKE (change the TD network setup and the network setup of all other devices on the network to match the
 - target network setup)
7. WAIT Activate Changes Fail Time
8. VERIFY Changes_Pending = FALSE

Problem:

I admit that 135-1 2019 12.1.3.10 Max_Master Test historically provides for the Device object.

MS/TP Device that Supports configuration through Network Port object and that have Device object property Max Master read only will fail the test 135-1 2019 12.1.3.10 Max_Master Test in Step 3 because Device object property Max Master is still configurable by Network Port and will not always have the value 127

Question:

Is it allowed to skip the test 135-1 2019 12.1.3.10 Max_Master Test for a Device that Supports configuration through Network Port object and that have Device object property Max Master read only?

RESPONSE:

Yes. The Test Conditionality for test 12.1.3.10 will be changed to “This test shall be skipped if the device claims PR-17 or later.” in section 9.1.3.