BACnet® TESTING LABORATORIES
ADDENDA

Addendum n to
BTL Test Package 15.2

Revision 5.0
Revised 4/2/2019

Approved by the BTL Working Group on 21-March-2019
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[This foreword and the "Overview" on the following pages are not part of this Test Package. They are merely informative and do not contain requirements necessary for conformance to the Test Package.]

FOREWORD

The purpose of this addendum is to present current changes being made to the BTL Test Package. These modifications are the result of change proposals made pursuant to the continuous maintenance procedures and of deliberations within the BTL-WG Committee. The changes are summarized below.

In the following document, language to be added to existing clauses within the BTL Test Package 15.2 is indicated through the use of *italics*, while deletions are indicated by ~~strikethrough~~. Where entirely new subclauses are proposed to be added, plain type is used throughout

In addition, changes to BTL Specified Tests also contain a yellow highlight to indicate the changes made by this addendum.

When this addendum is applied, all highlighting will be removed. Change markings on tests will remain to indicate the difference between the new test and an existing 135.1 test. If a test being modified has never existed in 135.1, the applied result should not contain any change markings. When this is the case, square brackets will be used to describe the changes required for this test.

Each addendum can stand independently unless specifically noted via dependency within the addendum. If multiple addenda change the same test or section, each future released addendum that changes the same test or section will note in square brackets whether or not those changes are reflected.

BTL-15.2n-1: Apply Test 14.1.10 With a Different Source Port in the Forwarded-NPDU [BTLWG-442]

Overview:
This test was developed to verify that devices properly handle a forwarded NPDU from a device using a different UDP port.

Changes:

[In Test Plan, add to section 9.3 as shown]

9.3 BACnet/IP - Annex J - non-BBMD Functionality

9.3.1 Base Requirements

Base requirements must be met by any IUT that can act, or can be made to act, as a BACnet/IP device in a non-BBMD mode.

…		
BTL - 14.1.X11 - Processing Forwarded-NPDU request initiated from different port		
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	

9.3.2 Is Able to Register as a Foreign Device

The IUT can register as a foreign device with a BBMD.

This functionality is required by all BACnet/IP devices that can act in a non-BBMD mode. Requiring this functionality ensures that the IUT will be able to participate in a BACnet/IP network even if there are no other BACnet/IP devices on the same IP subnet without the addition of a BBMD onto the subnet.

…		
BTL - 14.1.X12 - Processing Forwarded-NPDU request initiated from different port when registered as a Foreign Device into a BBMD		
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	

[In Test Plan, add to section 9.4 as shown]

9.4 BACnet/IP - Annex J - BBMD Functionality

9.4.1 Base Requirements

The IUT acts, or can be made to act, as a BBMD device.

These base requirements must be met by any IUT that claims to support the Annex J BACnet/IP BBMD functionality.

…		
BTL - 14.1.X11 - Processing Forwarded-NPDU request initiated from different port		
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	

9.4.7 Is Able to Register as a Foreign Device While Configured as a BBMD, the IUT is Able to Register as a Foreign Device with Another BBMD.

…		
BTL - 14.1.X12 - Processing Forwarded-NPDU request initiated from different port when registered as a Foreign Device into a BBMD		
	Test Conditionality	Must be executed.
	Test Directives	
	Testing Hints	

[In BTL Specified Tests in section 14.1 add two new tests as shown]

14.1.X11 Processing Forwarded-NPDU request initiated from different port

Purpose: To verify that an IUT will correctly process a Forwarded-NPDU message received from a device located at an address where it has a different UDP port number from those in the source and destination of a Forwarded-NPDU.

Test Concept: The IUT and the TD (acting as a BBMD) are configured such that they have the same UDP port number (P1). The originating device (D2) is selected having different UDP port number (P2) than the IUT and TD. The behavior of the IUT is verified when it correctly responds to the Forwarded-NPDU message from the device having different UDP number.

Configuration Requirements: The IUT is on the same subnet as the TD and on the same port number (P1). D2 is a device on a different subnet and has an address using port P2.

Test Steps:

1. TRANSMIT Forwarded-NPDU,
   Originating-Device = D2 -- (with UDP port P2)
   NPDU = Who-Is
2. IF (the IUT responds with Unicast I-Am) THEN
   RECEIVE Original-Unicast-NPDU,
   DESTINATION = D2, -- (with UDP port P2)
   NPDU = I-Am
   ELSE
   RECEIVE Original-Broadcast-NPDU -- (with UDP port P1.)
   NPDU = I-Am

14.1.X12 Processing Forwarded-NPDU request initiated from different port when registered as a Foreign Device into a BBMD.

Purpose: To verify that an IUT when configured as a Foreign Device into a BBMD, will correctly process a Forwarded-NPDU message received from a device located at an address where it has a different UDP port number from those in the source and destination of a Forwarded-NPDU when registered as a Foreign Device.

Test Concept: The IUT and the TD, acting as the BBMD are configured such that they have the same UDP port number (P1). The IUT must be on a different IP subnet than the BBMD. The IUT is registered as a Foreign Device with the BBMD. The originating device (D2) is selected having different UDP port number (P2) than the IUT and BBMD. The behavior of the IUT is verified when it correctly responds to the Forwarded-NPDU message from the device having different UDP number.

Configuration Requirements: TD is acting as a BBMD with port P1. D2 is a device at an address using a different port P2.

Test Steps:

1. TRANSMIT Forwarded-NPDU,
   Originating-Device = D2 -- (with UDP port P2)
   NPDU = Who-Is
2. IF (the IUT responds with Unicast I-Am) THEN
   RECEIVE Original-Unicast-NPDU,

```
                DESTINATION = D2, -- (with UDP port P2)
                NPDU = I-Am
    ELSE
        RECEIVE Distribute-Broadcast-to-Network
                DESTINATION = TD, -- (with UDP port P1)
                NPDU = I-Am,
```