

## Clarification Request

### References:

**12.5.1.1.16: Heartbeat-Request Initiation Test**

**12.5.1.2.X1 Node Heartbeat-Request Initialization Failure Test**

**12.5.2.2.X1 Hub Heartbeat-Request Initialization Failure Test**

**Date of BTL-WG Response:** December 4, 2025

### Background:

#### 12.5.1.1.16 Heartbeat-Request Initiation Test

Reason for Change: modified per Addendum 135-2020cc-1.

Purpose: To verify that the device initiates heartbeats as per its config.

Test Concept: With the IUT connected to the BACnet/SC network, wait the IUT's configured heart-beat interval plus 10 seconds and verify that the IUT sent a Heartbeat-Request, ensuring that no BVLCs are sent to the IUT during that period. If the IUT claims Protocol\_Revision 24 or greater heartbeat interval is the Network Port object, SC\_Heartbeat\_Timeout property.

Configuration Requirements: Place the IUT in a mode where it will not initiate requests for a period longer than the heartbeat interval (except for the heartbeat request). If the IUT does not support DM-DCC-B and cannot be otherwise configured to behave in this manner, this test shall be skipped.

### Test Steps:

1. REPEAT N = (1..Z) DO {
2. TRANSMIT Encapsulated-NPDU,  
    'Message ID' = (M1: any valid value),  
    'Originating Virtual Address' = (OVA: any valid value, including absent),  
    -- 'Destination Virtual Address' absent  
    'Destination Options' (absent or any valid value),  
    'Data Options' = ({ X'41' }), -- Secure Path  
    'BACnet NPDU' =  
        ReadProperty-Request,  
        'Object Identifier' = (the IUT's Device object),  
        'Property Identifier' = Object\_Name
3. RECEIVE Encapsulated-NPDU,  
    'Message ID' = M1,  
    -- 'Originating Virtual Address' absent  
    'Destination Virtual Address' = OVA,  
    'Destination Options' (absent or any valid value),  
    'Data Options' = ({ X'41' or a list of valid header options  
including Secure Path}),  
    'BACnet NPDU' =  
        ReadProperty-ACK,  
        'Object Identifier' = (the IUT's Device object),  
        'Property Identifier' = Object\_Name,  
        'Property Value' = (the IUT's device object name)
- }
4. BEFORE ~~1/2 of~~ IUT's heartbeat interval + 10s

5. RECEIVE Heartbeat-Request,  
    'Message ID' = (M2: any valid value),  
    -- 'Originating Virtual Address' absent  
    -- 'Destination Virtual Address' absent  
    'Destination Options' = (absent or any valid value),  
    -- 'Data Options' absent
6. TRANSMIT Heartbeat-ACK,  
    'Message ID' = M2,  
    -- 'Originating Virtual Address' absent  
    -- 'Destination Virtual Address' absent  
    'Destination Options' = (absent or any valid value),  
    -- 'Data Options' absent

**Problem:**

The **Step-1** of the test expects the same **`Message ID`** for both ReadProperty-Request and ReadProperty-ACK within **Encapsulated-NPDU** messages, which violates the BACnet/SC standard. As Per ASHRAE 135-2024, Encapsulated-NPDU request and Encapsulated-NPDU response messages must use independent Message IDs.

The test Contains a fundamental error by incorrectly applying Heartbeat correlation rules to Encapsulated-NPDU messages.

Same is applicable for test step-1 in test cases

12.5.1.2.X1: Node Heartbeat-Request Initialization Failure Test (135.1-2025 - 12.5.1.2.10) and  
12.5.2.2.X1 Hub Heartbeat-Request Initialization Failure Test (135.1-2025 - 12.5.2.2.6)

**Question:**

Correct **`Message ID`** usage in test steps for **`Encapsulated-NPDU`** messages in Heartbeat-related tests. Replace **single Message ID** reference with **two distinct IDs** (M1 for request, M3 for response) in:

- 12.5.1.1.16 Heartbeat-Request Initiation Test
- 12.5.1.2.X1 Node Heartbeat-Request Initialization Failure Test
- 12.5.2.2.X1 Hub Heartbeat-Request Initialization Failure Test

**Response:**

**Yes. However, M1 and M3 can be the same or different.**