Clarification Request

References: "e.g" <u>Specified Tests 18.0 - 14.YY.1.1.12</u>

Date of BTL-WG Response: <u>2021-02-04</u>

☒All Actions Necessitated have been Completed

Definition of Proprietary Header Options:

YY.2.3.2 Proprietary Header Options

Vendors may define and use proprietary header options. In order to distinguish vendor specific header options, the first two octets of the header data shall contain the vendor identifier code of the defining organization. See Clause 23.

Any proprietary header option shall consist of the following fields:

Header Marker	1-octet	'More Options' = 0 or 1, 'Must Understand' = 0 or 1, 'Header Data Flag' = 1, 'Header Option Type' = 31
Header Length	2-octets	Length of 'Header Data' field, in octets.
Header Data	3-N octets	Required to include:
Vendor Identifier	2-octets	Vendor Identifier, with most significant octet first, of the organization defining this option.
Proprietary Option Type	1-octet	An indication of the proprietary header option type.
Proprietary Header Data	Variable	A proprietary string of octets. Can be zero length.

For BVLC messages received, the processing of proprietary header options is a local matter.

For BVLC messages sent, the insertion of proprietary header options in the BVLC message is a local matter.

Sample Test in question:

14.YY.1.1.12 Unknown 'Must Understand' is True Message Test

Reference: YY.2.3, YY.3.1.4

Purpose: To verify that a unicast message is not ignored if the 'Must Understand' flag is set and the option is unknown or not supported.

Test Concept: With the IUT connected to the BACnet/SC network, send a ReadProperty request with a set of header options with one that the IUT does not know marked as 'Must Understand'. Verify that the IUT responds with a NAK and error class of COMMUNICATION and an error code of HEADER_NOT_UNDERSTOOD correctly identifying the option marked as 'Must Understand'. Verify that the IUT does not send a ReadProperty-ACK. Repeat with a globally broadcast Who-Is request.

Test Steps:

1. TRANSMIT Encapsulated-NPDU,
   'Message ID' =   (M1: any valid value),
   'Originating Virtual Address' =   (OVA: any valid value, including absent),
   -- 'Destination Virtual Address' absent
   'Destination Options' =   ({X'BF00*0003*000012', --proprietary,more,not M.U.,len=0,ven=0, opt=x12
                                       X'FF00*0003*000000', --proprietary, more,M.U.,len=0,ven=0, opt=x00
                                       X'3F00*0003*000034'}), --proprietary,not more,not

M.U.,len=0,ven=0,opt=x34

      'Data Options' =   ({ X'41' }),   -- Secure Path
      'BACnet NPDU' =
          ReadProperty-Request,
          'Object Identifier' =   (the IUT's Device object),
          'Property Identifier' =   Object_Name

2.   RECEIVE BVLC-Result,
      'Message ID' =   M1,
      -- 'Originating Virtual Address' absent
      'Destination Virtual Address' =   (OVA),
      'Destination Options' =   (absent or a valid list of options),
      -- 'Data Options' absent
      'Result for BVLC Function' = X'01',   -- Encapsulated-NPDU
      'Result Code' =   X'01',   -- NAK
      'Error Header Marker' =   X'02',   -- second header option
      'Error Class' =   COMMUNICATION,
      'Error Code' =   HEADER_NOT_UNDERSTOOD

3.   CHECK(that the IUT does not send a ReadProperty-ACK)

4.   TRANSMIT Encapsulated-NPDU,
      'Message ID' =   (M2: any valid value),
      'Originating Virtual Address' =   (OVA: any valid value, including absent),
      'Destination Virtual Address' =   (X'FFFFFFFF', the local broadcast VMAC),
      'Destination Options' =   ({X'BF00~~0000~~*03*000012'},--proprietary,more,not M.U.,len=0,ven=0, opt=x12
                       X'FF00~~0000~~*03*000000', --proprietary, more,M.U.,len=0,ven=0, opt=x00
                       X'3F00~~0000~~*03*000034'}),--proprietary,not more,not

M.U.,len=0,ven=0,opt=x34
      'Data Options' =   ({ X'41'}),   -- Secure Path
      'BACnet NPDU' =
          WhoIs-Request

5.   CHECK(that the IUT does not route the message, send a BVLC-Result nor send an IAm-Request)

Problem:

The proprietary header options (destination or data) definition requires header data and therefore the header length must be at minimum 3. The test above has the header length = 0.

Tests that are affected:
14.YY.1.1.12 (shown in this clarification request)
14.YY.1.1.13
14.YY.1.1.14
14.YY.1.2.2

Question:

Is proposed change to the test correct?

Proposed Response:

Yes. The change to the encoding is correct. The comment should also be changed to indicate a length of 3.