

Clarification Request

Request From: "Carl Neilson" <technicaladvisor@bacnetinternational.org>

References: 135.1.2013 13.5.3

Stage: Request, Listed, Analysis, Resolved

Actions Necessitated: Checklist/Test Plan Change, BTL Specified Tests Change,

 SSPC Interpretation Required, Implementation Guidelines Change,

Date of BTL-WG Response: 19-December-2019

All Actions Necessitated have been Completed

Background:

Problem:

The slave proxy test 13.5.3, in its Test Concept, states "Issue Who-Is requests in all forms to ensure that the IUT correctly proxies the I-Am responses...". The 6 test steps then can be separated in to 3 pairs:

A) Global Broadcast Whols Test

1. TRANSMIT DESTINATION = GLOBAL BROADCAST, Who-Is
2. BEFORE **Unconfirmed Response Fail Time**
 RECEIVE
 DESTINATION = GLOBAL BROADCAST | LOCAL BROADCAST | TD
 SOURCE = A1
 I-Am-Request,
 'I Am Device Identifier' = (the slave's Device object's Object_Identifier),
 'Max APDU Length Accepted' = (the slave's value for this property),
 'Segmentation Supported' = FALSE,
 'Vendor Identifier' = (the slave's value for this property)

B) Unicast Whols Test

3. TRANSMIT DESTINATION = A1, Who-Is
4. BEFORE **Unconfirmed Response Fail Time**
 RECEIVE
 DESTINATION = GLOBAL BROADCAST | LOCAL BROADCAST | TD
 SOURCE = A1
 I-Am-Request,
 'I Am Device Identifier' = (the slave's Device object's Object_Identifier),
 'Max APDU Length Accepted' = (the slave's value for this property),
 'Segmentation Supported' = FALSE,
 'Vendor Identifier' = (the slave's value for this property)

C) Global Broadcast Whols Test

5. TRANSMIT DESTINATION = GLOBAL BROADCAST, Who-Is
6. BEFORE **Unconfirmed Response Fail Time**

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RECEIVE
  DESTINATION =          GLOBAL BROADCAST | LOCAL BROADCAST | TD
  SOURCE =              A1
  I-Am-Request,
  'I Am Device Identifier' = (the slave's Device object's Object_Identifier),
  'Max APDU Length Accepted' = (the slave's value for this property),
  'Segmentation Supported' = FALSE,
  'Vendor Identifier' = (the slave's value for this property)

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The first problem is that group A is the same as group C, instead of one these being the 3rd type of Whols, a remote broadcast.

The second problem is that the functionality in group B assumes that the slave proxy is contained in a router between the source of the message and the target slave, or the slave proxy is operating in promiscuous mode examining all traffic on the MS/TP network.

The description of a slave proxy in the standard is such that it does not appear to require that slave proxy be either a router or run in promiscuous mode. The description of a slave proxy is in 16.10.2:

If the receiving BACnet-user has a Slave_Proxy_Enable property and the Slave_Proxy_Enable for the receiving port is TRUE, then the BACnet-user shall respond with an I-Am unconfirmed request for each of the slave devices on the MS/TP network that are present in the Slave_Address_Binding property and that match the device range parameters. The I-Am unconfirmed requests that are generated shall be generated as if the slave device originated the service. If the I-Am unconfirmed request is to be placed onto the MS/TP network on which the slave resides, then the MAC address included in the packet shall be that of the slave device. In the case where the I-Am unconfirmed request is to be placed onto a network other than that on which the slave resides, then the network layer shall contain SLEN and SNET filled in with the slave's MAC address as if it were routing a packet originally generated by the slave device.

Question:

- 1) Should step 5 send the Whols as a remote broadcast instead of a global broadcast?
- 2) Should steps 3 & 4 only be performed if the slave proxy is contained in a router and only be performed with the TD connected on a remote network, or are all slave proxy devices expected to be promiscuous on the MS/TP network?

Response:

- 1) **Yes. Step 5 should be a remote broadcast. BTL-WG will change the test.**
- 2) **The standard is unclear. Until the SSPC provides clarity, steps 3 & 4 shall be skipped if proxy is not in the router to MS/TP. If the proxy is in the router, TD shall not be on the MS/TP network for steps 3 & 4.**

BTL-WG will submit an Interpretation Request to the SSPC to clarify when steps 3 & 4 should be applied.