Clarification Request

References:
Specified Tests 18.0 final - 9.22.2.X2 Resizing a writable fixed size array property
Standard 135 - 12.1.5.1 Array Properties

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

⊠All Actions Necessitated have been Completed

Background:

An A-side device can try to modify the size of an array in a B-side device, but not all arrays can be resized. The BACnet Standard does not clearly define the expected error codes if the array cannot be resized because the array has a fixed length. BTL test 9.22.2.X2 effectively specifies the permitted responses of a B-side device in the absence of guidance in the BACnet Standard.

The one situation that we are focusing on in this CR is if the A-side device attempts to modify the length of an array in a B-side device by writing to element 0 (zero) of the array. According to clause 12.1.5.1 Array Properties: "If the size of an array may be changed by writing to the array, then array element 0 shall be writable." The question is which error codes should be permitted if array element 0 is <u>not</u> writable because the size of an array may not be changed. Our proposal is that test 9.22.2.X2 should also permit the B-side device to return the error code WRITE_ACCESS_DENIED in addition to the error codes that are already permitted, as shown below.

9.22.2.X2 Resizing a writable fixed size array property

Purpose: This test case verifies that the IUT correctly responds to an attempt to resize a writable fixed size array property using WriteProperty service.

Test Concept: Select an object (O1) in the IUT that contains a writable array property of a fixed size. This property is designated P1. If no suitable object can be found, then this test shall be omitted.

Test Steps:
1. READ X = (O1), P1 ARRAY INDEX = 0
2. WRITE P1= (Entire Array with any valid value greater than Array Size X)
3. RECEIVE BACnet-Error-PDU,
'Error Class' = PROPERTY,
'Error Code' = INVALID_ARRAY_INDEX | VALUE_OUT_OF_RANGE
4. VERIFY (O1), P1= X, ARRAY INDEX = 0
5. WRITE P1= (Entire Array with any valid value less than Array Size X)
6. RECEIVE BACnet-Error PDU,
'Error Class' = PROPERTY,
'Error Code' = INVALID_ARRAY_INDEX | VALUE_OUT_OF_RANGE
7. VERIFY (O1), P1= X, ARRAY INDEX = 0
8. WRITE P1 = (any valid value greater than Array Size X), ARRAY INDEX=0
9. RECEIVE BACnet-Error PDU,
'Error Class' = PROPERTY,
'Error Code' = INVALID_ARRAY_INDEX | VALUE_OUT_OF_RANGE |
WRITE_ACCESS_DENIED

10. VERIFY (O1), P1= X, ARRAY INDEX = 0,
11. WRITE P1 = (any valid value less than Array Size X), ARRAY INDEX=0
12. RECEIVE BACnet-Error PDU,
'Error Class' = PROPERTY,
'Error Code' = INVALID_ARRAY_INDEX | VALUE_OUT_OF_RANGE | ==WRITE_ACCESS_DENIED==
13. VERIFY (O1), P1= X, ARRAY INDEX = 0

Question:
Is the proposal acceptable?

Response:

YES.