

Clarification Request

References: BACnet 135-2012 clause 13.14.1.3.1, BTL - 9.10.2.X3

Date of BTL-WG Response: __19-Feb-2015__

☒ All actions necessitated have been completed

Background:

From 135-2012, clause 13.14.1.3.1

This parameter shall consist of two component parameters: (1) the 'Error Class' and (2) the 'Error Code'.
See Clause 18.

The 'Error Class' and 'Error Code' to be returned for specific situations are as follows:

<u>Situation</u>	<u>Error Class</u>	<u>Error Code</u>
Specified object does not exist	OBJECT	UNKNOWN_OBJECT
Specified object does not support COV notifications	OBJECT	OPTIONAL_FUNCTIONALITY_NOT_SUPPORTED
No context can be created due to resource limitations	RESOURCES	NO_SPACE_TO_ADD_LIST_ELEMENT
The Lifetime parameter is out of the range supported by the device	SERVICES	VALUE_OUT_OF_RANGE

Test BTL - 9.10.2.X3 The Lifetime Parameter is Out of Range

Reason for Change: 135-2008h.5. Modified to relax allowed rejection response.

Purpose: To verify that the IUT correctly responds to a SubscribeCOV request to establish a subscription when the Lifetime parameter is out of range.

Test Steps:

1. TRANSMIT SubscribeCOV-Request,
 'Subscriber Process Identifier' = (any valid process identifier),
 'Monitored Object Identifier' = (any object in the IUT that supports COV),
 'Issue Confirmed Notifications' = TRUE,
 'Lifetime' = (a value larger than that supported by the IUT)
2. IF (Protocol_Revision is present and Protocol_Revision >= 10) THEN
 RECEIVE BACnet-Error-PDU,
 Error Class = SERVICES,
 Error Code = VALUE_OUT_OF_RANGE
 ELSE
 RECEIVE BACnet-Error-PDU,
 Error Class = SERVICES,
 Error Code = VALUE_OUT_OF_RANGE
 SERVICE_REQUEST_DENIED | OTHER
 | (RECEIVE BACnet-Reject-PDU,
 Reject Reason = PARAMETER_OUT_OF_RANGE)

Discussion:

This test was added in Test Plan 12.0, and accepts just one mandated error code pair when IUT claims Protocol_Revision 10 or higher. The test is designed to ensure graceful return of Result(-) at time of

SubscribeCOV Service Execution, in order to avoid later graceless failure to maintain and return a valid value during read operations on Active_COV_Subscriptions property.

During testing, the labs have found no device that doesn't by choosing sufficiently large 'Lifetime' values, eventually have some value observed to either return Result(-) or fail to maintain and return a valid value during read operations on Active_COV_Subscriptions property after accepting that large 'Lifetime' value.

For about 3 out of 4 devices, however, the smallest such value is an Unsigned that is larger than 4 bytes in length, and corresponds to a 'Lifetime' value that is more than 124 years. A Lifetime in excess of 124 years is stupid, but it is legal BACnet to encode an Unsigned larger than 4 bytes.

I'd happily accept instruction from BTL-WG that the range of 'Lifetime' values permitted to be used during test 9.10.2.X3 get reined in. It's a negative test, and for interoperability all that centrally matters is that a server indicates Result(-) when it can't do what it is asked. The attention to which code, is a matter of BTL-WG applying the tables in the standard to any and all situations where they think that is a mandate.

Applicant supplying the germane device that brought this clarification asks for the right to: "At the parsing stage we can determine that the value is greater than a valid value should be (your buffer overflow concern), and we can REJECT it right then and there." Alerton did prevail when asking for that right to "REJECT it right then and there." in test 9.22.2.3 via <http://www.bacnet.org/Interpretations/IC%20135-2004-28.pdf>

Question:

Is the intent to conduct test 9.10.2.X3, passing relentlessly ever larger 'Lifetime' values until observing return of Result(-)?

Is enforcing which code is returned when a Result(-) at time of SubscribeCOV Service Execution is caused by a 'Lifetime' value larger than 4 bytes in length, still required to match the mandated error code pairs stated in test 9.10.2.X3?

Response:

No. The intent of this test does not include passing a 'Lifetime' larger than the IUT decoder handles. To the second question: the BTL-WG will be evaluating this problem with respect to all tests.